Background

As early as 1965, some experimental projects such as Jim Sutherland’s ECHO IV explored the possible utility of a computer in the home. In 1969, the Honeywell Kitchen Computer was marketed as a luxury gift item, and would have inaugurated the era of home computing, but none were sold.

Computers became affordable for the general public in the 1970s due to the mass production of the microprocessor starting in 1971. Early microcomputers such as the Altair 8800 had front-mounted switches and diagnostic lights (nicknamed "blinkenlights") to control and indicate internal system status, and were often sold in kit form to hobbyists. These kits would contain an empty printed circuit board which the buyer would fill with the integrated circuits, other individual electronic components, wires and connectors, and then hand-solder all the connections.

While two early home computers (Sinclair ZX80 and Acorn Atom) could be bought either in kit form or assembled, most home computers were only sold pre-assembled. They were enclosed in plastic or metal cases similar in appearance to typewriter or hi-fi equipment enclosures, which were more familiar and attractive to consumers than the industrial metal card-cage enclosures used by the Altair and similar computers. The keyboard - a feature lacking on the Altair - was usually built into the same case as the motherboard. Ports for plug-in peripheral devices such as a video display, cassette tape recorders, joysticks, and (later) disk drives were either built-in or available on expansion cards. Although the Apple II series had internal expansion slots, most other home computer models' expansion arrangements were through externally accessible 'expansion ports' that also served as a place to plug in cartridge-based games. Usually the manufacturer would sell peripheral devices designed to be compatible with their computers as extra cost accessories. Peripherals and software were not often interchangeable between different brands of home computer, or even between successive models of the same brand.

To save the cost of a dedicated monitor, the home computer would often connect through an RF modulator to the family TV set, which served as both video display and sound system.

By 1982, an estimated 621,000 home computers were in American households, at an average sales price of US$530 (equivalent to $1,376 in 2018).[17] After the success of the Radio Shack TRS-80, the Commodore PET and the Apple II in 1977, almost every manufacturer of consumer electronics rushed to introduce a home computer. Large numbers of new machines of all types began to appear during the late 1970s and early 1980s. Mattel, Coleco, Texas Instruments and Timex, none of which had any previous connection to the computer industry, all had short-lived
home computer lines in the early 1980s. Some home computers were more successful – the BBC Micro, Sinclair ZX Spectrum, Atari 800XL and Commodore 64, sold many units over several years and attracted third-party software development.

Almost universally, home computers had a BASIC interpreter combined with a line editor in permanent read-only memory which one could use to type in BASIC programs and execute them immediately or save them to tape or disk. In direct mode, the BASIC interpreter was also used as the user interface, and given tasks such as loading, saving, managing, and running files.[18] One exception was the Jupiter Ace, which had a Forth interpreter instead of BASIC. A built-in programming language was seen as a requirement for any computer of the era, and was the main feature setting home computers apart from video game consoles.

Still, home computers competed in the same market as the consoles. A home computer was often seen as simply as a higher end purchase than a console, adding abilities and productivity potential to what would still be mainly a gaming device. A common marketing tactic was to show a computer system and console playing games side by side, then emphasizing the computer's greater ability by showing it running user-created programs, education software, word processing, spreadsheet and other applications while the game console showed a blank screen or continued playing the same repetitive game. Another capability home computers had that game consoles of the time lacked was the ability to access remote services over telephone lines by adding a serial port interface, a modem, and communication software. Though it could be costly, it permitted the computer user to access services like Compuserve and private or corporate bulletin board systems to post or read messages, or to download or upload software. Some enthusiasts with computers equipped with large storage capacity and a dedicated phone line operated bulletin boards of their own. This capability anticipated the internet by nearly twenty years.

Some game consoles offered "programming packs" consisting of a version of BASIC in a ROM cartridge. Atari's BASIC Programming for the Atari 2600 was one of these. For the ColecoVision console, Coleco even announced an expansion module which would convert it into a full-fledged computer system. This never materialised, but a standalone computer, the Coleco Adam was eventually released.[19] The Magnavox Odyssey² game console had a built-in keyboard to support its C7420 Home Computer Module.

Books of type-in program listings like BASIC Computer Games were available dedicated for the BASICS of most models of computer with titles along the lines of 64 Amazing BASIC Games for the Commodore 64.[20] While most of the programs in these books were short and simple games or demos, some titles such as Compute!'s SpeedScript series, contained productivity software that rivaled commercial packages. To avoid the tedious process of typing in a program listing from a book, these books would sometimes include a mail-in offer from the author to obtain the programs on disk or cassette for a few dollars. Before the Internet, and before most computer owners had a modem, books were a popular and low-cost means of software distribution—one that had the advantage of incorporating its own documentation. These books also served a role in familiarizing new computer owners with the concepts of programming;
some titles added suggested modifications to the program listings for the user to carry out. Modifying software to be compatible with one's system or writing a utility program to fit one's needs was a skill every advanced computer owner was expected to have.

During the peak years of the home computer market, scores of models were produced, usually as individual design projects with little or no thought given to compatibility between different manufacturers or even within product lines of the same manufacturer. Except for the Japanese MSX standard, the concept of a computer platform was still forming, with most companies considering rudimentary BASIC language and disk format compatibility sufficient to claim a model as "compatible". Things were different in the business world, where cost-conscious small business owners had been using CP/M running on Z80 based computers from Osborne, Kaypro, Morrow Designs and a host of other manufacturers. For many of these businesses, the development of the microcomputer made computing and business software affordable where they had not been before.

Introduced in August 1981, the IBM Personal Computer would eventually supplant CP/M as the standard platform used in business. This was largely due to the IBM name and the system's 16 bit open architecture, which expanded maximum memory tenfold, and also encouraged production of third-party clones. In the late 1970s, the 6502-based Apple II series had carved out a niche for itself in business, thanks to the industry's first killer app, VisiCalc, released in 1979. However the Apple II would quickly be displaced for office use by IBM PC compatibles running Lotus 1-2-3.

Apple Computer's 1980 Apple III was underwhelming, and although the 1984 release of the Apple Macintosh introduced the modern GUI to the market, it wasn't common until IBM-compatible computers adopted it.[25] Throughout the 1980s, businesses large and small adopted the PC platform, leading, by the end of the decade, to sub-US$1000 IBM PC XT-class white box machines, usually built in Asia and sold by US companies like PCs Limited.

In 1980 Wayne Green, the publisher of Kilobaud Microcomputing, recommended that companies avoid the term "home computer" in their advertising as "I feel is self-limiting for sales ... I prefer the term "microcomputers" since it doesn't limit the uses of the equipment in the imagination of the prospective customers". With the exception of Tandy, most computer companies – even those with a majority of sales to home users – agreed, avoiding the term "home computer" because of its association with the image of, as Compute! wrote, "a low-powered, low-end machine primarily suited for playing games". Apple consistently avoided stating that it was a home-computer company, and described the IIc as "a serious computer for the serious home user" despite competing against IBM's PCjr home computer. John Sculley denied that his company sold home computers; rather, he said, Apple sold "computers for use in the home". In 1990 the company reportedly refused to support joysticks on its low-cost Macintosh LC and IIsi computers to prevent customers from considering them as "game machines".

Although the Apple II and Atari computers are functionally similar, Atari's home-oriented
marketing resulted in a game-heavy library with much less business software.[32] By the late 1980s, many mass merchants sold video game consoles like the Nintendo Entertainment System, but no longer sold home computers. [33] Toward the end of the 1980s, clones also became popular with non-corporate customers. Inexpensive, highly compatible clones succeeded where the PCjr had failed. Replacing the hobbyists who had made up the majority of the home computer market were, as Compute! described them, "people who want to take work home from the office now and then, play a game now and then, learn more about computers, and help educate their children". By 1986 industry experts predicted an "MS-DOS Christmas", and the magazine stated that clones threatened Commodore, Atari, and Apple's domination of the home-computer market.

The declining cost of IBM compatibles on the one hand, and the greatly increased graphics, sound, and storage abilities of fourth generation video game consoles such as the Sega Genesis and Super Nintendo Entertainment System on the other, combined to cause the market segment for home computers to vanish by the early 1990s in the US. In Europe, the home computer remained a distinct presence for a few years more, with the low-end models of the 16-bit Amiga and Atari ST families being the dominant players, but by the mid-1990s even the European market had dwindled. The Dutch government even ran a program that allowed businesses to sell computers tax-free to its employees, often accompanied by home training programs. Naturally, these businesses chose to equip their employees with the same systems they themselves were using. Today a computer bought for home use anywhere will be very similar to those used in offices – made by the same manufacturers, with compatible peripherals, operating systems, and application software.

Reception and sociological impact

See also: Microcomputer revolution

In 1977, referring to computers used in home automation at the dawn of the home computer era, Digital Equipment Corporation CEO Ken Olsen is quoted as saying "There is no reason for any individual to have a computer in his home." Despite Olsen's warning, in the late 1970s and early 1980s, from about 1977 to 1983, it was widely predicted that computers would soon revolutionize many aspects of home and family life as they had business practices in the previous decades.

Mothers would keep their recipe catalog in "kitchen computer" databases and turn to a medical database for help with child care, fathers would use the family's computer to manage family finances and track automobile maintenance. Children would use online encyclopedias for school work and would be avid video gamers. The computer would even be tasked with babysitting younger children. Home automation would bring about the intelligent home of the 1980s. Using Videotex, NAPLPS or some sort of vaguely conceptualized computer technology, television would gain interactivity. It would be possible to do the week's grocery shopping through the television. The "personalized newspaper" (to be displayed on the
television screen) was another commonly predicted application. Morning coffee would be brewed automatically under computer control. The same household computer would control the home's lighting and temperature. Robots would take the garbage out, and be programmed to perform new tasks via the home computer. Electronics were expensive, so it was generally assumed that each home would have only one computer for the entire family to use. Home control would be performed in a multitasking time-sharing arrangement, with interfaces to the various devices it was expected to control.

All this was predicted to be commonplace by the end of the 1980s, but by 1987 Dan Gutman wrote that the predicted revolution was "in shambles", with only 15% of American homes owning a computer. Virtually every aspect that was foreseen would be delayed to later years or would be entirely surpassed by later technological developments.
1975  September

- IBM's Entry Level Systems unit unveils the IBM 5100 Portable Computer. It is a briefcase-size minicomputer with BASIC, 16 kB RAM expandable to 64 kB, tape storage drive holding 204 kB per tape, keyboard, and built-in 5-inch screen. Price: US$8975-19975. Weight: 55 pounds. Code-name during development was Project Mercury. [9][197.xi] [606.22] [902.137] [1112.144] [1310] (Price over US$10,000 [203.10])

1976  May

- In Japan, IBM Japan announces the IBM 5100 desktop system, with 5-inch monochrome display. Price is about US$10,000. [902.146]

(month unknown)

- An IBM senior staff planning exercise forecasts the personal systems market in the 1990s would be worth US$100 billion. [606.83]

1978  January

- In Japan, IBM Japan announces the IBM 5110 desktop system, like the IBM 5100 but supporting floppy drives, and with built-in BASIC. [902.146]

1980  February

- In Japan, IBM Japan announces the IBM 5120 desktop system, like the IBM 5110 but with a 9-inch screen. [902.146] [1310]

July

- Bill Lowe, director of IBM's Boca Raton Labs, receives a proposal from Atari for IBM to market an Atari computer. [1299.150]
- William Lowe suggests to an IBM Corporate Management Committee that IBM buy a computer from Atari to sell under the IBM name. He is told this is "the dumbest thing we've ever heard of", and is told to begin development of IBM's own personal computer. He is to assemble a team and bring back a prototype machine in 30 days. [606.23] [620.110] [716.237] [1149.167] [1299.150]
- William Lowe assembles the members of "Project Chess", known as the "Dirty Dozen", the twelve engineers chosen to design and build a prototype personal computer, in Boca
Raton, Florida. Don Estridge is project manager, Jack Sams heads the software effort.

July 21

- Jack Sams of IBM's personal computer team first contacts Microsoft asking to talk about personal computers. [1149.168] [1299.151]

July 22

- IBM representatives meet with Microsoft's Bill Gates and Steve Ballmer to talk about Microsoft products, and home computers. [266.271] [346.70] [1298.163] [1299.151]

August 8

- The Project Chess task force at IBM shows a prototype microcomputer to the Corporate Management Committee. Specifications for the proposed computer are: 32 kB ROM, 16 kB RAM (up to 256 kB), six slots, color/mono display, 8-inch floppy disk drives, optional floating-point processor, joystick port, and printer port. Approval is given to build an operational microcomputer, code-named Acorn. They are given a deadline of one year to bring the new computer to market. [606.24] [620.110] [1149.170] [1256.139] [1299.152]

August 21

- IBM meets with Microsoft again, to talk in general terms about their planned personal computers. IBM asks if Microsoft will develop some programming language interpreters/compilers for it. Bill Gates agrees to supply BASIC and other software development tools. IBM also asks for CP/M, but Gates says Digital Research would have to supply that. [266.271] [346.71] [906.469] [1149.171] [1299.153] [2324.106]
- Bill Gates calls Gary Kildall, to arrange a meeting between IBM and Digital Research regarding CP/M. [1299.153] (September [1149.179])

August 22

- IBM's Project Chess task force meets with Digital Research about using CP/M-86 for IBM's upcoming microcomputer. (Gary Kildall claims he agreed to provide CP/M-86 for IBM. IBM sources state that Gary Kildall was not interested.) [346.74] [620.110] [1299.155] [2324.106] (September [1149.179])

August 28

- IBM representatives meet at Microsoft again. Bill Gates signs a consulting agreement for US$15,000 to develop the software specifications for IBM's personal computer. Jack Sams asks about alternatives to CP/M-86. Gates says he might find one. [266.272]
September 28

• At Microsoft, Bill Gates, Paul Allen and Kay Nishi make the final decision to accept the IBM contract to produce languages and an operating system for the new microcomputer. [1149.186]

September 30

• Bill Gates, Bob O'Rear, and Steve Ballmer meet with IBM in Boca Raton, Florida, to deliver a report to IBM. They propose that Microsoft be put in charge of the entire software development process for IBM's new microcomputer, including providing the main operating system to run on the computer. Bill Gates insists on maintaining rights to the DOS, receiving royalty payments rather than a lump sum. [266.272] [346.73,76] [1299.161] (October [1149.188])

(month unknown)

• At IBM, Don Estridge replaces Jack Sams on the Project Chess personal computer team. [1149.189]

November 6

• Microsoft and IBM sign a formal contract for Microsoft to develop certain software products for IBM's new microcomputer. Microsoft will receive US$200,000 to adapt the operating system to the IBM PC, and US$500,000 for DOS, BASIC, and compilers. Microsoft is to have an initial version of the operating system and BASIC working by mid-January. [41] [266.273] [346.77] [1149.190] [1299.163] [1701.158]

November

• IBM delivers the two PC prototypes to Microsoft, so they can begin developing BASIC and the machine's operating system. [346.78] [1149.190] (December [41])

(month unknown)

• IBM promotes William Lowe from the Entry Systems Division to Vice President of IBM's laboratory in Rochester, Minnesota. [618.135]
• Don Estridge replaces William Lowe in IBM's Entry Systems Division. [606.23] [618.135]
• Shipments of IBM desktop computers in the US during the year: 6,000. [1150.D1]

1981 January 12
- Microsoft does not meet the delivery date for initial version of DOS and BASIC for IBM's PC project. [1149.196]

**January**

- IBM shows Project Acorn to several members of ComputerLand, to get their suggestions. IBM informs them the computer name is IBM Personal Computer. [1702.125]

**February**

- Microsoft operates 86-DOS for the first time on IBM's prototype microcomputer. [346.81] [1149.196] (January [1299.169])

**March**

- IBM proposes to Matsushita Electric Industrial that they make small computers for IBM to sell. [1329.D6]

**June 8**

- *Info World* magazine runs an article with details of IBM's personal computer project. [1149.201]

**June**

- Microsoft persuades IBM to introduce its microcomputer with a minimum of 64 kB RAM. IBM had planned to only include 16 kB. [346.84]
- Microsoft completes most work on 86-DOS for IBM's PC. [1149.199]

**July**

- The first IBM PC computers roll off the assembly lines. [203.16]

**July 21**

- Digital Research's Gary Kildall tells IBM that its *PC-DOS* software infringes his *CP/M* copyright. He says he will not sue if IBM sells *CP/M* on the IBM PC in addition to *PC-DOS*. [2324.107]

**July 28**

- IBM's General Systems Division introduces its first desktop computer, the System 23 Datamaster. It uses a 16-bit 8086, and is a dedicated data processing machine. Price is US$9830. [41] [1149.201] [1237.34]

**August 12**


At the Waldorf-Astoria Hotel in New York City, and in Boca Raton, Florida, IBM announces the IBM Personal Computer, model 5150. The PC features a 4.77 MHz Intel 8088 CPU, 16 kB RAM (expandable to 256 kB), 40 kB ROM, one 5.25-inch floppy drive (160 kB capacity), for US$1565. A fully loaded version with color graphics costs US$6000. Also offered as options are PC-DOS 1.0 (Microsoft's MS-DOS) for US$40, Microsoft BASIC, VisiCalc, UCSD Pascal, CP/M-86 for US$240, and Easywriter 1.0. IBM will sell the new computer to consumers through Sears, Roebuck & Co. and ComputerLand. [9] [35] [41] [108] [120] [123] [146] [202.205] [205.28] [266.276] [277.14] [288.192] [346.86] [389.28] [415.48] [443.50] [606.27] [620.108,110] [716.237] [1128.25] [1150.D1] [1151.S3.1] [1149.204] [1239.38] [1256.139] [1298.188] [1644.149] [1702.155] [2324.107] [2605.94] (August 13 [862.170] [2442.86])

IBM introduces the Microsoft Adventure game for the IBM PC, Microsoft's first non-language non-OS software product. [1149.205]

August

IBM announces the CGA graphics card for the PC, giving 640x200 resolution with 16 colors. [117] [120]

Quote from Tandy president John Roach, regarding IBM's entry into the microcomputer field: "I don't think it's that significant". Quote from the financial vice-president of Tandy's Radio Shack division: "There definately is a new kid on the block, but there is nothing that IBM has presented that would blow the industry away". [346.87] [1239.38]

August 24

Apple Computer runs a full-page ad in the Wall Street Journal with a headline that reads "Welcome IBM. Seriously.". [46] [346.87] [606.26] [2605.68]

October

IBM begins shipping the IBM PC, ahead of schedule. [264.296] [606.26] [620.110] [1164.52] [1256.139] [1639.105]

November

At COMDEX, Tecmar introduces 20 add-on peripherals for the IBM PC. Tecmar is the first such third-party developer for the IBM PC. [203.19] (26 products [606.28])

Market share of personal computers: Radio Shack 20%, Apple Computer 17%, IBM 1.9%. [1316.S3.1]

Shipments of IBM PC computers to date: 13,533, valued at US$40-50 million. [606.28] [1060.S3.4] [1149.215] (20,000 [203.18]) (6500 [1702.157])

1982 January 8
• The US Justice Department decides to drop its antitrust suit against IBM, which was launched 13 years ago. One of its aims had been to break IBM up into several companies. [346.98] [930.186] [970.1] [1025.D3] [1041.D1] [1149.166] (June [606.11])

(month unknown)

• 3Com begins investigating the application of Ethernet computer networking technology to IBM PC computers. [902.274]

February

• IBM splits its Personal Computer development team into three groups: one to work on the PC XT, one to develop the PCjr, and one to start work on the PC AT. [41]

March

• Xedex introduces the Baby Blue card (a Z80B processor on a plug-in card), allowing the IBM PC to run standard CP/M programs. Price: US$600. [346.92] [396.10] (April [9]) (Vendex company[346.93])

(month unknown)

• At the West Coast Computer Faire, Davong Systems introduces its 5 MB Winchester Disk Drive for the IBM PC, for US$2000. [287.11]
• Six months after the introduction of the IBM PC, 50,000 units have been sold. [1112.136] (after eight months [218]

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