Steve Wozniak was born in 1950
Steve Jobs in 1955, both attended
Homestead High School, Los Altos, California,

Wozniak dropped out of Berkeley,
took a job at Hewlett-Packard as an engineer.

They met at HP in 1971.
Jobs was 16 and Wozniak 21.

1975
Wozniak and Jobs
in their garage working
on early computer
technologies

Together, they built and sold a device called a “blue box.” It could hack AT&T’s long-distance network so that phone calls could be made for free.

Jobs went to Oregon’s Reed College in 1972, quit in 1974, and took a job at Atari designing video games.

1974 Wozniak invited Jobs to join the 'Homebrew Computer Club' in Palo Alto, a group of electronics-enthusiasts who met at Stanford

1974 they began work on what would become the Apple I, essentially a circuit board, in Jobs' bedroom.

1976 chiefly by Wozniak's hand, they had a small, easy-to-use computer – smaller than a portable typewriter. In technical terms, this was the first single-board, microprocessor-based microcomputer (CPU, RAM, and basic textual-video chips) shown at the Homebrew Computer Club.

An Apple I computer with a custom-built wood housing with keyboard.

They took their new computer to the companies they were familiar with, Hewlett-Packard and Atari, but neither saw much demand for a “personal” computer.

Jobs proposed that he and Wozniak start their own company to sell the devices. They agreed to go for it and set up shop in the Jobs’ family garage.

Apple I

A main circuit board with a tape-interface sold separately, could use a TV as the display system, text only.

Most machines at that time had no display at all.

Text appeared on the screen at a fairly slow rate — 60 characters per second, faster than teletypes.

Apple Introduces the First Low Cost Microcomputer System with a Video Terminal and 8K Bytes of RAM on a Single PC Card.

The Apple Computer. A truly complete microcomputer system on a single PC board. Based on the MOS Technology 6502 microprocessor, the Apple also has a built-in video terminal and sockets for 8K bytes of on-board RAM memory. With the addition of a keyboard and video monitor, you'll have an extremely powerful computer system that can be used for anything from developing programs to playing games or running BASIC.

Combining the computer, video terminal and dynamic memory on a single board has resulted in a large reduction in chip count, which means more reliability and lowered cost. Since the Apple comes fully assembled, tested & burned-in and has a complete power supply on-board, initial set-up is essentially "hassle free" and you can be running within minutes. At $666.66 (including 4K bytes RAM) it opens many new possibilities for users and systems manufacturers.

You Don't Need an Expensive Teletype.

Using the built-in video terminal and keyboard interface, you avoid all the expense, noise and maintenance associated with a teletype. And the Apple video terminal is six times faster than a teletype, which means more throughput and less waiting. The Apple connects directly to a video monitor (or home TV with an inexpensive RF modulator) and displays 960 easy to read characters in 24 rows of 40 characters per line with automatic scrolling. The video display section contains its own 1K bytes of memory, so all the RAM memory is available for user programs. And the Keyboard interface lets you use almost any ASCII-encoded keyboard.

The Apple Computer makes it possible for many people with limited budgets to step up to a video terminal as an I/O device for their computer.

No More Switches, No More Lights.

Compared to switches and LED's, a video terminal can display vast amounts of information simultaneously. The Apple video terminal can display the contents of 192 memory locations at once on the screen. And the firmware in PROMS enables you to enter, display and debug programs (all in hex) from the keyboard, rendering a front panel unnecessary. The firmware also allows your programs to print characters on the display, and since you'll be looking at letters and numbers instead of just LED's, the door is open to all kinds of alphanumeric software (i.e., Games and BASIC).

8K Bytes RAM in 16 Chips!

The Apple Computer uses the new 16-pin 4K dynamic memory chips. They are faster and take ¼ the space and power of even the low power 2102's (the memory chip that everyone else uses). That means 8K bytes in sixteen chips. It also means no more 28 amp power supplies.

The system is fully expandable to 65K via an edge connector which carries both the address and data busses, power supplies and all timing signals. All dynamic memory refreshing for both on and off-board memory is done automatically. Also, the Apple Computer can be upgraded to use the 16K chips when they become available. That's 32K bytes on-board RAM in 16 IC's—the equivalent of 256 2102's!

A Little Cassette Board That Works!

Unlike many other cassette boards on the marketplace, ours works every time. It plugs directly into the upright connector on the main board and stands only 2" tall. And since it is very fast (1500 bits per second), you can read or write 4K bytes in about 20 seconds. All timing is done in software, which results in crystal-controlled accuracy and uniformity from unit to unit.

Unlike some other cassette interfaces which require an expensive tape recorder, the Apple Cassette Interface works reliably with almost any audio-grade cassette recorder.

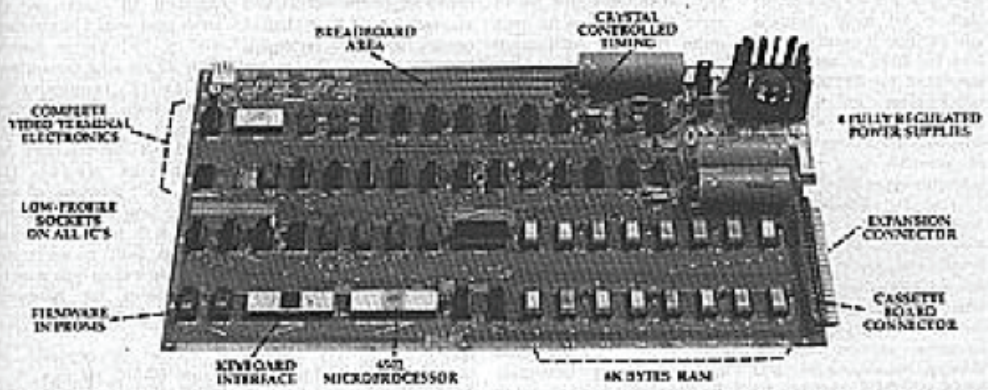
Software:

A tape of APPLE BASIC is included free with the Cassette Interface. Apple Basic features immediate error messages and fast execution, and lets you program in a higher level language immediately and without added cost. Also available now are a dis-assembler and many games, with many software packages, (including a macro assembler) in the works. And since our philosophy is to provide software for our machines free or at minimal cost, you won't be continually paying for access to this growing software library.

The Apple Computer is in stock at almost all major computer stores. (If your local computer store doesn't carry our products, encourage them or write us direct). Dealer inquiries invited.

Byte into an Apple $666.66*

*Includes 4K bytes RAM

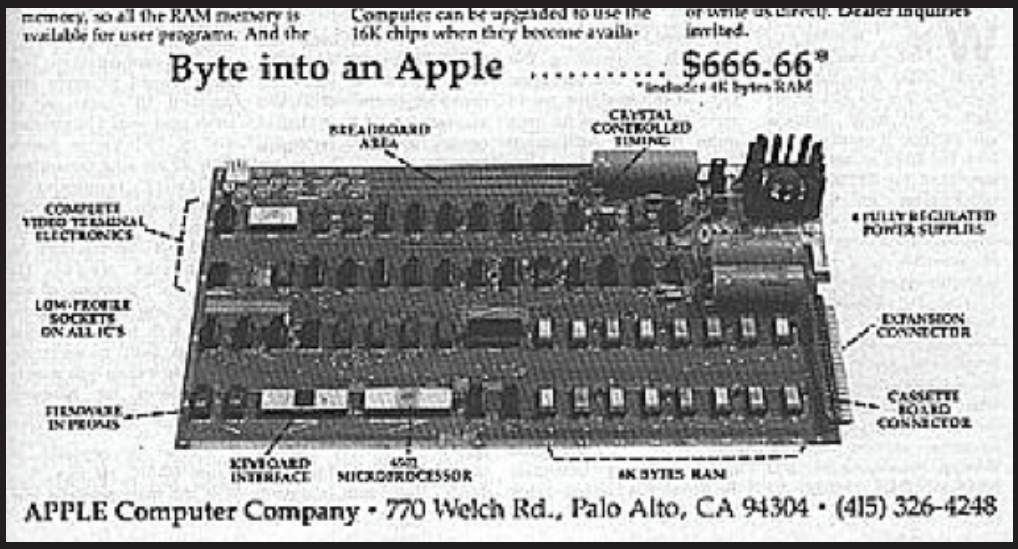


APPLE Computer Company • 770 Welch Rd., Palo Alto, CA 94304 • (415) 326-4248

In April, 1976, a local computer store, the 'Byte Shop,' placed the first order of 50 units for the "Apple I" —a fully assembled circuit board containing about 30 chips.

By then, Apple had a third partner, Ronald Wayne. They had a cash flow problem – it cost about $100 each to build the products , so the three Apple partners assembled them at night in Jobs' garage, filling their first order in 10 days.

Wayne decided to pull out of the venture and was given $800 for his stake in the company. The Apple I continued to be sold through several small retailers.



In the fall of 1976, Steve Wozniak was working on a newer version which would become the Apple II. They believed they were onto something that could become a major success, but lacked the funds to produce it in quantity.

They offered it to Commodore Computer Co., but were turned down.

Steve Wozniak and Steve Jobs in 1970s
with the motherboard of their Apple II computer.

November 1976,

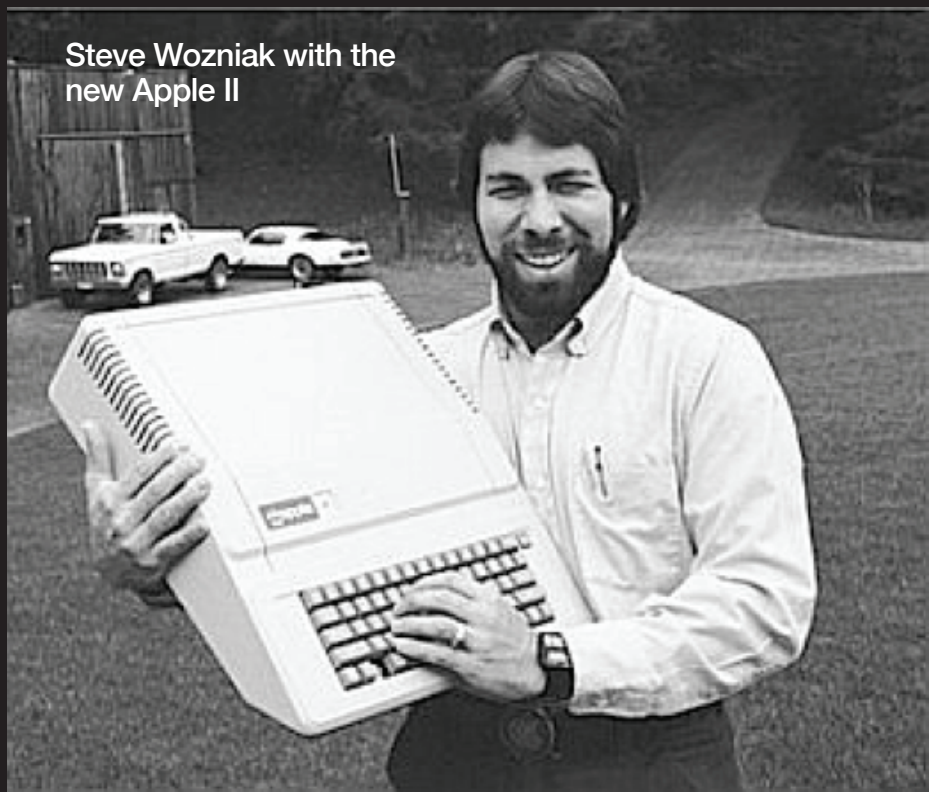
the young entrepreneurs received some help from a chip industry veteran and ex-Intel manager.

Mike Markkula helped Jobs write a business plan, predicting sales of $500 million for the new company in ten years.

In 1977, Apple

incorporated and hired its first ad agency, Regis McKenna, Palo Alto, where Rob Janov designed a new Apple logo.

Steve Jobs and Mike Markkula with a check for Apple financing in 1977.



Steve Wozniak with the new Apple II

The Apple II was mostly the product of Wozniak's technical skills, but it was Jobs who made it a marketing success. He decided to create a fully-assembled PC board and encase it in an attractive plastic housing. They also wrote clear, concise instruction manuals that made the machine easy for consumers to use.

Jobs also sought public relations help, and spent money on advertising to pitch the "personal computer."

They were the first computer company to advertise in consumer magazines.

Scientific American, September 1977

The Apple II with monitor and floppy drive mounted on computer box

From the late 1970s through the mid-1980s, Apple II computers, with various improvements and peripheral devices, were released nearly every year or two.

In 1979, Software Arts, Inc., released VisiCalc, the first commercial spreadsheet program for personal computers replacing desktop calculators and manual retabulation.
VisiCalc first ran exclusively on the Apple II, helping send Apple sales through the roof.

Also that year came the first commercially successful word-processing program for personal computers, called Word Star.

The home computer that's ready to work, play and grow with you.

Clear the kitchen table. Bring in the color T.V. Plug in your new Apple II,* and connect any standard cassette recorder/player. Now you're ready for an evening of discovery in the new world of personal computers.

Only Apple II makes it that easy. It's a complete, ready to use computer—not a kit. At $1298, it includes features you won't find on other personal computers costing twice as much.

Features such as video graphics in 15 colors. And a built-in memory capacity of 8K bytes ROM and 4K bytes RAM—with room for lots more. But you don't even need to know a RAM from a ROM to use and enjoy Apple II. It's the first personal computer with a fast version of BASIC—the English-like programming language—permanently built in. That means you can begin running your Apple II the first evening, entering your own instructions and watching them work, even if you've had no previous computer experience.

The familiar typewriter-style keyboard makes communication easy. And your programs and data can be stored on (and retrieved from) audio cassettes, using the built-in cassette interface, so you can swap with other Apple II users. This and other peripherals—optional equipment on most personal computers, at hundreds of dollars extra cost—are *built into* Apple II. And it's designed to keep up with changing technology, to expand easily whenever you need it to.

As an educational tool, Apple II is a sound investment. You can program it to tutor your children in most any subject, such as spelling, history or math. But the biggest benefit—no matter *how* you use Apple II—is that you and your family increase your familiarity with the computer itself. The more you experiment with it, the more you discover about its potential.

Start by playing PONG. Then invent your own games using the input keyboard, game paddles and built-in speaker. As you experiment you'll acquire new programming skills which will open up new ways to use your Apple II. You'll learn to "paint" dazzling color displays using the unique color graphics commands in Apple BASIC, and write programs to create beautiful kaleidoscopic designs.

As you master Apple BASIC, you'll be able to organize, index and store data on household finances, income tax, recipes, and record collections. You can learn to chart your biorhythms, balance your checking account, even control your home environment. Apple II will go as far as your imagination can take it.

Best of all, Apple II is designed to grow with you. As your skill and experience with computing increase, you may want to add new Apple peripherals. For example, a refined, more sophisticated BASIC language is being developed for advanced scientific and mathematical applications.

And in addition to the built-in audio, video and game interfaces, there's room for eight plug-in options such as a prototyping board for experimenting with interfaces to other equipment; a serial board for connecting teletype, printer and other terminals; a parallel interface for communicating with a printer or another computer; an EPROM board for storing programs permanently; and a modem board communications interface. A floppy disk interface with software and complete operating systems will be available at the end of 1977. And there are many more options to come, because Apple II was designed from the beginning to accommodate increased power and capability as your requirements change.

If you'd like to see for yourself how easy it is to use and enjoy Apple II, visit your local dealer for a demonstration and a copy of our detailed brochure. Or write Apple Computer Inc., 20863 Stevens Creek Blvd., Cupertino, California 95014.

Apple II™ is a completely self-contained computer system with BASIC in ROM, color graphics, ASCII keyboard, lightweight, efficient switching power supply and molded case. It is supplied with BASIC in ROM, up to 48K bytes of RAM, and with cassette tape, video and game I/O interfaces built-in. Also included are two game paddles and a demonstration cassette.

SPECIFICATIONS

- **Microprocessor:** 6502 (1 MHz).
- **Video Display:** Memory mapped, 5 modes—all Software-selectable:
  - Text—40 characters/line, 24 lines upper case.
  - Color graphics—40h x 48v, 15 colors
  - High-resolution graphics—280h x 192v; black, white, violet, green (16K RAM minimum required)
  - Both graphics modes can be selected to include 4 lines of text at the bottom of the display area.
  - Completely transparent memory access. All color generation done digitally.
- **Memory:** up to 48K bytes on-board RAM (4K supplied)
  - Uses either 4K or new 16K dynamic memory chips
  - Up to 12K ROM (8K supplied)
- **Software**
  - Fast extended Integer BASIC in ROM with color graphics commands
  - Extensive monitor in ROM
- **I/O**
  - 1500 bps cassette interface
  - 8-slot motherboard
  - Apple game I/O connector
  - ASCII keyboard port
  - Speaker
  - Composite video output

Apple II is also available in board-only form for the do-it-yourself hobbyist. Has all of the features of the Apple II system, but does not include case, keyboard, power supply or game paddles. $598.

PONG is a trademark of Atari Inc.

*Apple II plugs into any standard TV using an inexpensive modulator (not supplied).

apple computer inc.™

In the early 1970s, Xerox engineers at the Palo Alto Research Center in California had developed a computer they called the “Alto.”

This computer used a pointing device called a “mouse” and also employed icons on a screen to represent documents – a combination that became known as “graphical user interface,” or GUI. This system would dramatically change personal computing, but not immediately.
In fact, at Xerox in the 1970s it went
nowhere as a commercial product.

November 1979

Steve Jobs and software engineer Bill Atkinson visited the Xerox lab, and about that time Apple made a deal with Xerox. In return for a “look see” at Xerox’s GUI system, Apple agreed to give Xerox a $1 million slice of its company. As part of the deal, Apple engineers, at the Xerox research center in December 1979, learned about GUI.

What kind of man owns his own computer?

Rather revolutionary, the whole idea of owning your own computer? Not if you're a diplomat, printer, scientist, inventor ... or a kite designer, too. Today there's Apple Computer. It's designed to be a *personal* computer. To uncomplicate your life. And make you more effective.

It's a wise man who owns an Apple.

If your time means money, Apple can help you make more of it. In an age of specialists, the most successful specialists stay away from secretive drudgery. That's where Apple comes in.

Apple is a real computer, right in the room. No just like big computers, it manages data, crunches numbers, keeps records, processes your information and prints reports. You concentrate on what you do best. And let Apple do the rest. Apple makes that easy with three programming languages — including Pascal — that let you be your own software expert.

Apple, the computer worth not waiting for.

Time waiting for access to your company's big mainframe is time wasted. What you need is your department — or your desk — is a computer that answers only to you ... Apple Computer. It's less expensive than timesharing. More dependable than distributed processing. Far more flexible than centralized EDP. And, at less than $2500 (as shown), downright affordable.

Visit your local computer store.

You can join the personal computer revolution by visiting the Apple dealer in your neighborhood. We'll give you his name when you call our toll free number (800) 538-9696. In California, (800) 662-9238.

Apple Computer, 10260 Bandley Drive, Cupertino, CA 95014.

apple computer

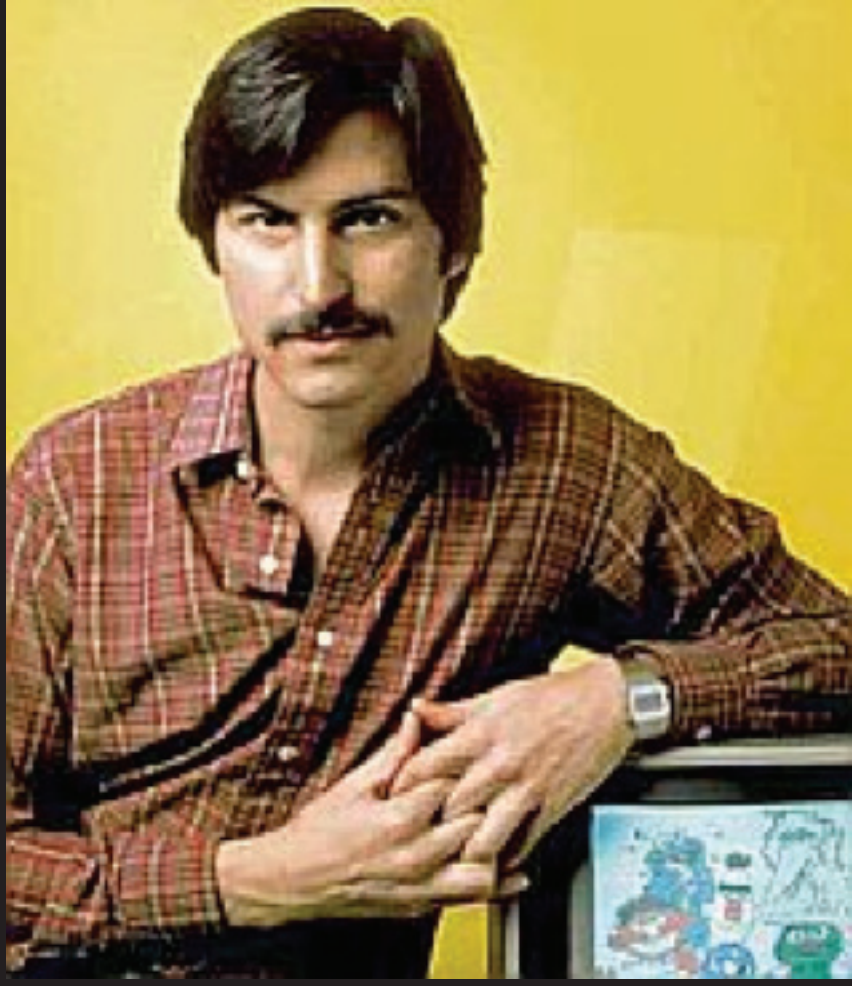
Later, Apple projects would exploit the GUI approach to computing and revolutionize the PC business. But this would not happen fully until the mid-1980s.

Meanwhile, in the business world of the late 1970s, Apple was now approaching a $200-million-a-year company.

But there was also new competition on the horizon. Office machine giant IBM had hired a young company named Microsoft, and was hatching a plan to enter the personal computer business. Apple had begun to court the office market. There, profit margins were fatter.

Scientific American, May 1980

Steve Jobs, early 1980s.



By late 1980, the partners decided to make Apple a publicly-held company.

At the nitial Public Offering (IPO) December 12, 1980, Apple shares were offered at a price of $14 each.

At the opening bell, the stock was priced $22 and sold all 4.6 million shares within minutes.

Apple's stock offering had created about 300 millionaires — more than any company in history to that point. I

Jobs would later summarize his early wealth in and interview for PBS as follows:
"I was worth over a million dollars when I was 23, over ten million when I was 24, and over a hundred million when I was 25… And it wasn't that important because I never did it for the money."

By July 1981 a staff shakeup had occurred with 40 employees let go. Mike Markkula became president and Steve Jobs, chairman. Apple's marketing and advertising, meanwhile, began reaching into new territory.

In August 1981, IBM introduced its first personal computer to the marketplace priced at $1,565. IBM had a formidable product launch, including a sophisticated TV ad campaign that used a Charlie Chaplin-esque figure who became their mascot.

August 1981 full-page ad by Apple in the Wall Street Journal welcoming IBM to the personal computer marketplace.

Welcome, IBM.

Seriously.

Welcome to the most exciting and important marketplace since the computer revolution began 35 years ago.

And congratulations on your first personal computer.

Putting real computer power in the hands of the individual is already improving the way people work, think, learn, communicate and spend their leisure hours.

Computer literacy is fast becoming as fundamental a skill as reading or writing.

When we invented the first personal computer system, we estimated that over 140,000,000 people worldwide could justify the purchase of one, if only they understood its benefits.

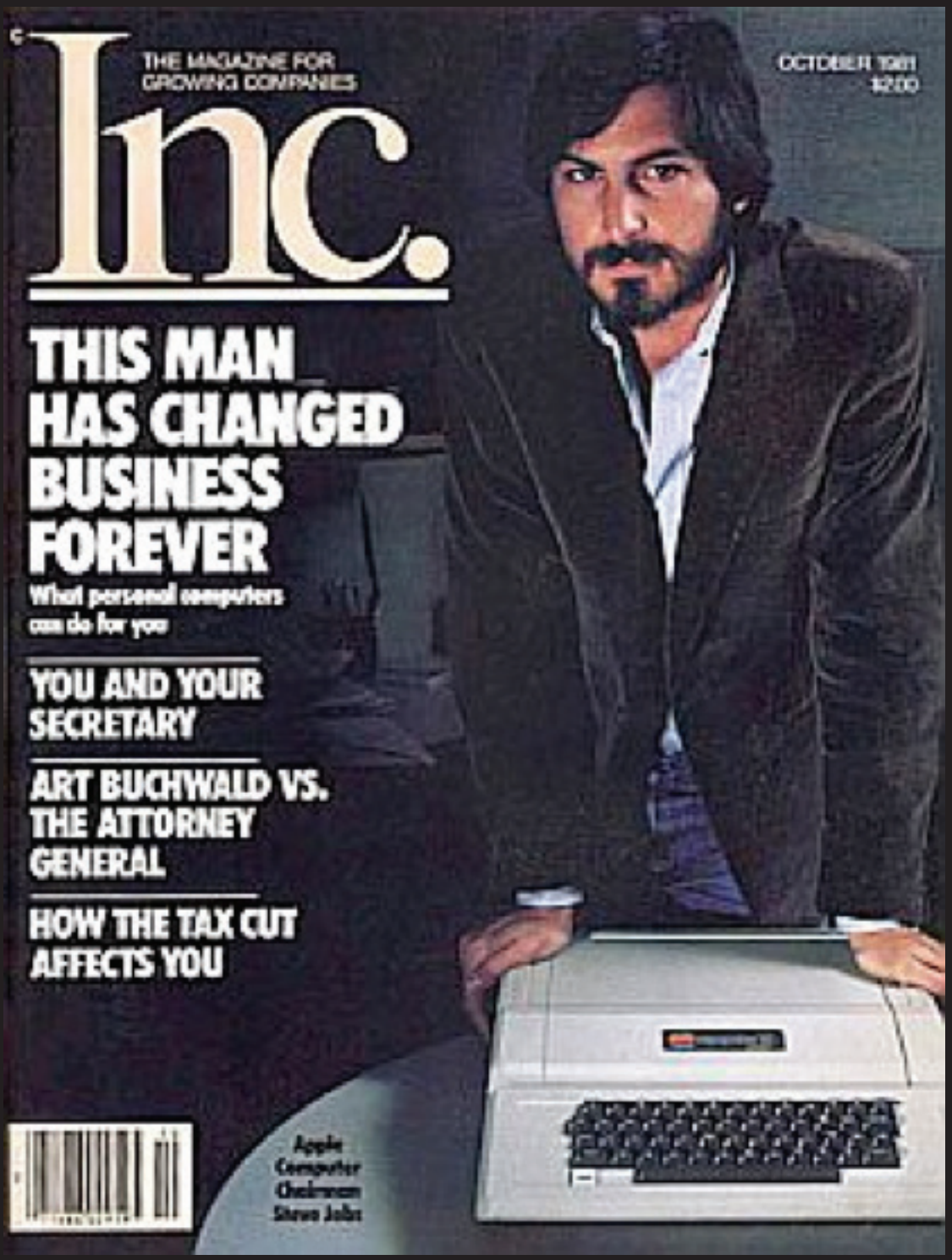
Next year alone, we project that well over 1,000,000 will come to that understanding. Over the next decade, the growth of the personal computer will continue in logarithmic leaps.

We look forward to responsible competition in the massive effort to distribute this American technology to the world. And we appreciate the magnitude of your commitment.

Because what we are doing is increasing social capital by enhancing individual productivity.

Welcome to the task.

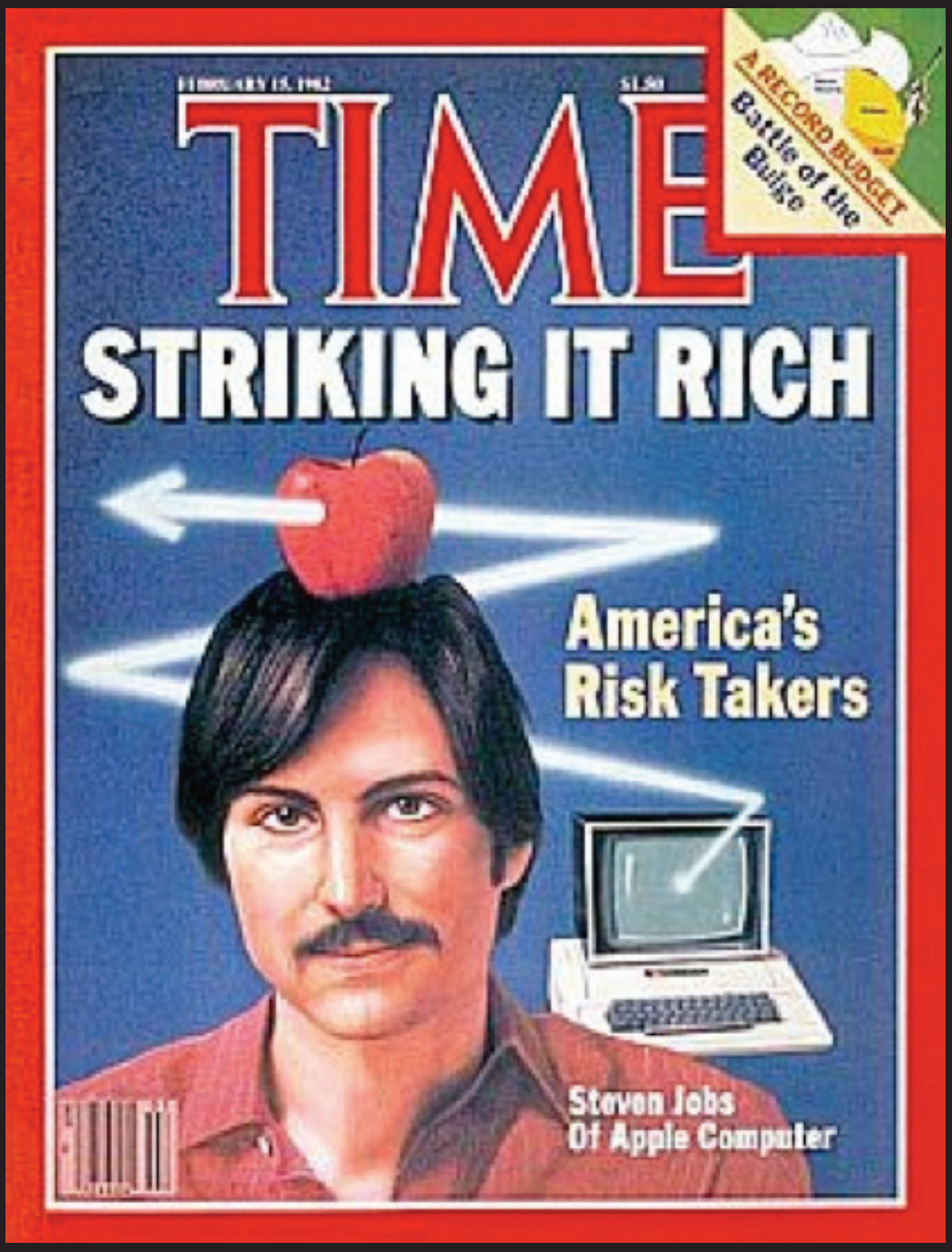
apple


THE MAGAZINE FOR GROWING COMPANIES
Inc.
OCTOBER 1981
$2.00
THIS MAN HAS CHANGED BUSINESS FOREVER
What personal computers can do for you
YOU AND YOUR SECRETARY
ART BUCHWALD VS. THE ATTORNEY GENERAL
HOW THE TAX CUT AFFECTS YOU
Apple Computer Chairman Steve Jobs

February 1982, Steve Jobs on the cover of Time in a story about “America’s Risk Takers”marked the first time the mainstream national media told the “two-guys-in-a-garage” story about Apple.

The company’s sales had surged from $2.7 million in 1977 to $200 million in 1980, with an expected $600 million by the end of 1982.

A company named Microsoft, meanwhile, was also developing mouse-based software applications – some for Apple’s Mac project, but also working on its own GUI system for the IBM PC, later known as Windows.



Elsewhere in the computer world of 1983, Microsoft introduced its word processing software, Word.

Another maker of a rival word processing program called Word Perfect, introduced Word Perfect 3.

Radio Shack offered one of the first popular laptop computers, the TRS-80 Model 100, while the Lotus 1-2-3 spreadsheet program provided a boost to IBM PC sales.

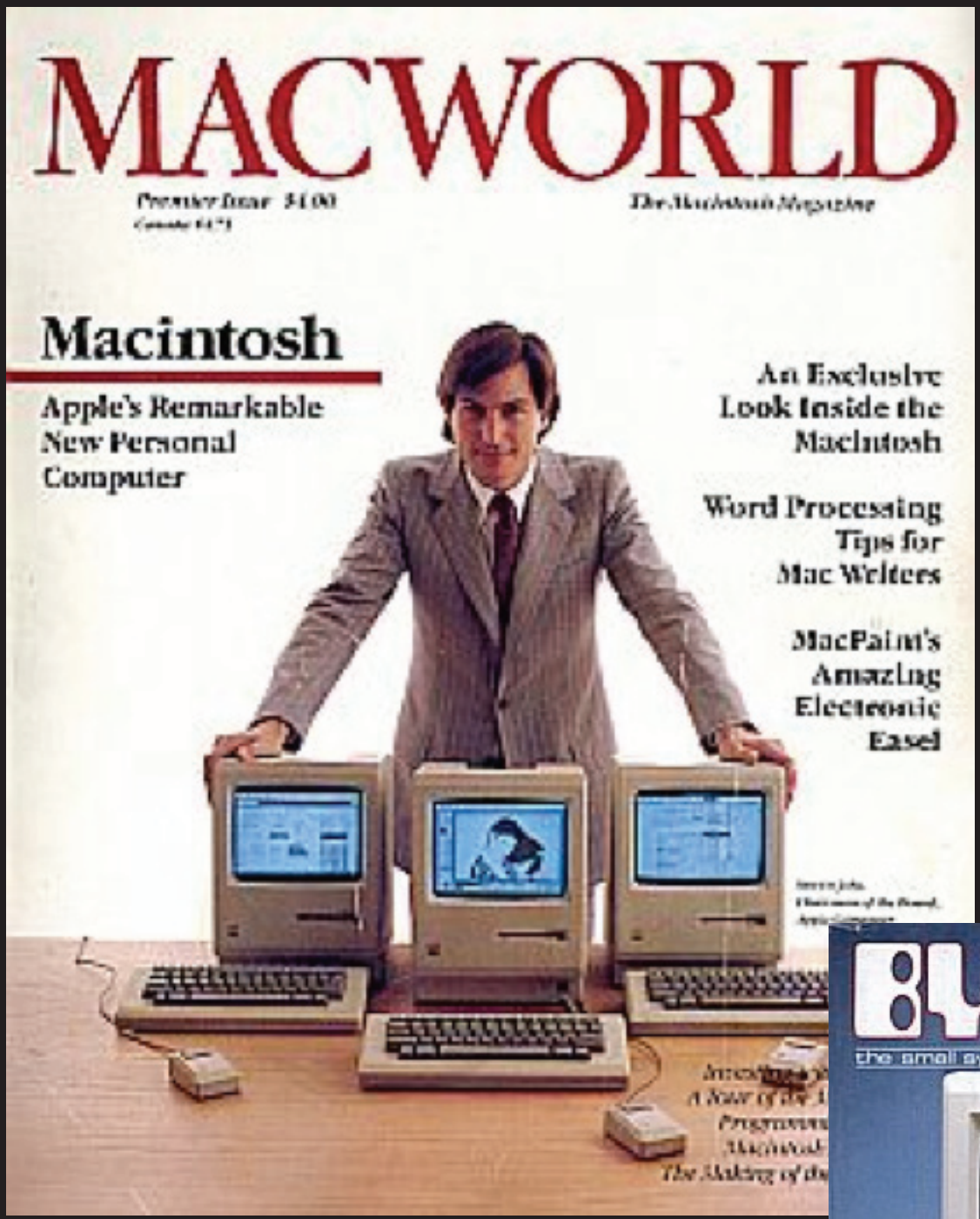
December 1983, Electronic Arts introduced the Julius Erving & Larry Bird Go One-On-One basketball game for the Apple II computer.

Apple launched its Macintosh computer with a television ad aired on Sunday, January 22, 1984 during the third quarter of the 1984 Superbowl.

The ad, known as “1984,” running 60 seconds at a cost of $1.5 million—had been produced by film director Ridley Scott.

Two days after the 1984 ad aired, the Macintosh computer went on sale. In his introduction of the Mac, with some 2,500 people in the audience, Jobs first quoted the 2nd verse of Bob Dylan’s “The Times They Are a Changin.’

Premier issue of Apple's "MacWorld" magazine, featuring Steve Jobs with computers, inaugurated at the Mac launch, January, 1984



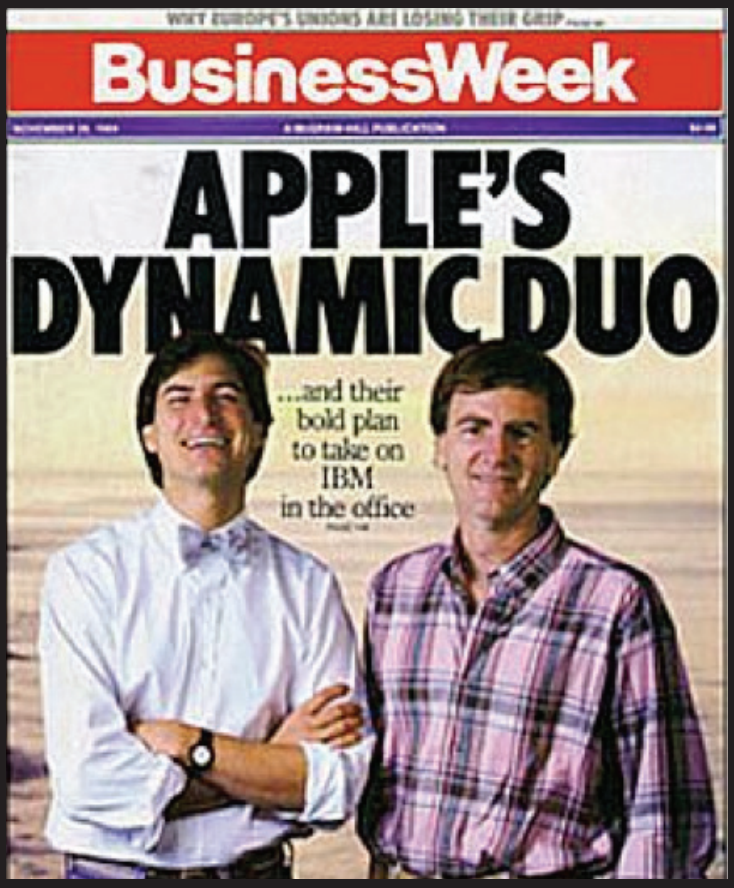
Billed as “the computer for the rest of us,” the Macintosh would become the first commercially successful small computer with “point-and-click” usability.

The Mac’s system of on-screen icons responsive to the hand-guided “mouse” made it a breakthrough in personal computing, especially for non-techies.

In late fall 1984, Apple sought to give the company and its computers more visibility with a $2.5 million advertising push.

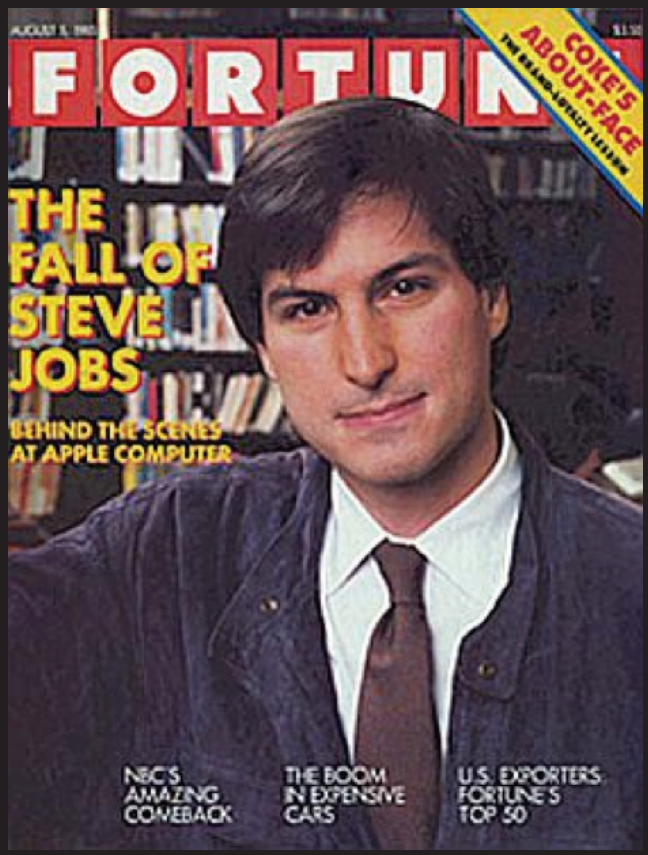
Two other corollary technologies would help Macintosh sales and Apple’s fortunes— a reasonably-priced printer and PageMaker, an early desktop publishing package.

In fact, all three parts together – the Mac, the printer, and Pagemaker, and particularly the Mac with its advanced graphics, would become the powerful combination that drove the desktop publishing revolution that began in the mid-1980s. In fact, with time, the Macintosh became the favored computer by those in the arts and arts industries.



Problems at Apple arose with its changing from a small company with decentralized divisions to more of a mainstream corporation – and Steve Jobs, John Sculley, and the Apple board of directors all became involved in that transformation.

The result was not a pretty picture, as a power struggle ensued between Jobs and Sculley with the Board siding with Sculley. At first, it appeared Jobs would remain as chairman of the company, though in more of an ambassadorial role. May 31, 1985, Jobs was stripped of his divisional and operational responsibilities when he became chairman.



In less than a decade, Apple had risen from the “two-guys in a garage” stage to become a Fortune 500 company and the world’s leading personal computer manufacturer.

Apple had changed business and culture in dramatic ways, and had set the stage for more change to come. Steve Jobs had been at the center of that change – helped initially and significantly by Steve Wozniak’s considerable genius.

And while Jobs may have lacked all the needed skills of a successful corporate manager as Apple grew to Fortune 500 stature, he was the visionary soul and power force at Apple who pushed personal computer technology into common and uncommon usage by making it easier and more attractive for masses of people to use.

Jack Doyle, “Apple, Rising:1976-1985,”

PopHistoryDig.com, May 10, 2010.