

by simson l. garfinkel

# the new apple computer

After 20 years, Apple is, to the surprise of many skeptics, still around. But they're more than just around. They've been out in front, leading the pack of computer makers, as they haven't dropped below the number three position in the world for years. But now, there's a new, maybe more aggressive, maybe hungrier, company that is marching forward, faster, and maybe, just maybe, marching to a new beat.



Apple started life as a high-technology company in 1975, selling the Apple I computer for \$666.66. Apple manufactured 220 of the single-board computer kits. It was an easy-to-use system that could be assembled at home. High tech!

Apple's next big move was the Apple II, an integrated computer system that came preassembled at a time when most other micro companies were still selling kits. The Apple II featured spectacular graphics, a zippy 6502 microprocessor, full-size keyboard, and BASIC in ROM. The system sold like hotcakes.

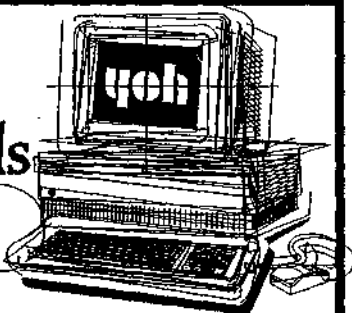
Nobody much wants to remember Apple's next two attempts at high technology: the Apple III and Lisa. Apple III was unreliable; Lisa was overpriced. Indeed, things

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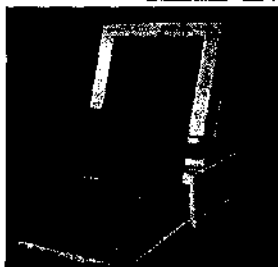
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weren't looking too good for Apple when Steve Jobs introduced the Macintosh in January 1984. Things weren't looking too good a year later, either, when critics were declaring the Macintosh a failure. It took Aldus PageMaker and the discovery of desktop publishing to turn things around. Even then, Mac found a home only among those creative types inside the art department; most serious business computing still churned through on PCs, or on the company mainframe.

Last year Apple followed its well-established pattern of technical breakthroughs followed by marketing blunders.

- Apple introduced the first Power Macintosh computers—the 6100, 7100, and 8100—and shocked the industry with seamless upward compatibility between its CISC and RISC computers. But Apple fell on its face when IBM surprised its partner and announced the PowerPC Reference Platform, leaving Apple once again holding the bag with a non-standard computer architecture. (Question for the reader: Why was IBM's PReP declared the "standard" if PReP wasn't shipping and Power Macintosh was?)

- Apple released two new versions of the Macintosh Operating System, System 7.1 for Power Macintosh and System 7.5. But Apple let Microsoft drop the ball, and the PowerPC versions of Microsoft Word and Excel—the two most popular applications on the platform—were delayed more than half a year. Meanwhile, Apple seemed more interested in telling people System 7.5's new name, Mac OS, than in telling people about its new features.

- Apple introduced the QuickTake 100, the first 24-bit digital color camera under \$1,000. Apple then mysteriously forgot about its revolutionary new product, didn't spend money on advertising, and fumbled the product's packaging. To this date, few computer users know that the QuickTake 100 is a camera.

- Apple released QuickDraw GX, a fundamentally new, state-of-the-art typography engine; PowerTalk, a "universal mailbox" protected with RSA digital signatures; and QuickTime VR, a revolutionary system for constructing virtual reality presentations. Does anybody know what these programs do? Does anybody have them installed on their computers? Does anybody care?

- Apple released a new version of its much-maligned Newton Message Pad. A little bit bigger than its predecessor, the Message Pad 110 featured a dramatically extended battery life. Nevertheless, the average computer user still considers the Newton another expensive Apple blunder, because the handwriting recognition is not 100% perfect. (Lack of handwriting recognition hasn't dampened the sales of the Casio BOSS; perhaps the folks at Apple should buy a few of the Casio machines to play with.)

Sources inside Apple say that the chronic product shortages in 1994 resulted from Apple's inability to correctly predict the product "mix" that customers would be purchasing several months down the line. Apparently, Apple's high-volume, low-margin factories in Singapore, Ireland, and Colorado simply can't

turn on a dime and change their product lines the way the old, computerized, and now-defunct plant at Fremont, Calif., could. Additionally, Apple's manufacturing of PowerBook has been complicated by being unable to get a steady supply of high-quality screens.

Nevertheless, despite laying off thousands of employees, 1994 was one of Apple's best years to date. With scaled-down profit margins that are finally in line with the rest of the computer industry, Apple was able to maintain low prices on its mainstream equipment. At the same time, Apple is ramping up its volume. Result: Apple placed a close second in the race for world's largest producer of computer systems, actually beating out the winner, Compaq Computer Corp., during the third quarter of 1994.

### Don't Worry: Be Happy

Things could be worse for most Macintosh users. They could, for example, have followed Intel's recommendations and bought a Pentium-based computer.

It is widely acknowledged that Intel hasn't done a good job of damage control since October 30, 1994, when Prof. Thomas Nicely at Lynchburg College discovered a flaw in the Pentium floating-point division routine. First, Intel said that the flaw was very minor and would only occur in one out of several billion floating-point divisions, or roughly once every 27,000 years. To make matters worse, Intel said that it would replace only chips that it had knowingly sold as defective, and only for users who were performing large amounts of floating-point calculations. Others were expected to simply grin and bear the occasional mathematical error.

Things got worse for Intel when IBM announced that it was halting the sale of Pentium-based machines. The official reason: IBM thought that the floating-point error might crop up much more often than Intel said it would—perhaps once every 24 days. The real reason? IBM makes both Intel-compatible 486 chips and noncompatible PowerPC chips, sales of both of which might be hurt by strong Pentium sales. On the other hand, IBM could simply have been telling the truth.

Apple should be capitalizing on Pentium's problems. Instead, as this article goes to press, Apple has been strangely silent.

One can imagine that if the division problem had cropped up in the PowerPC chip, rather than in the Pentium, Intel would have run full-page advertisements suggesting that Macintosh users switch. It certainly wouldn't be the first time.

### FUD Fills the Valley

In early 1994, Intel ran a series of attack advertisements aimed at scaring Macintosh users away from the Power Macintosh computers. The ads, placed in the front of prominent Macintosh magazines and on two giant billboards outside Apple's Cupertino offices, depicted a fork along a deserted country road. A sign pointing straight ahead was labeled "Pentium Processor;" a sign with the words

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"PowerPC" headed left into the shadows. "It's time to stop and ask directions," read the copy. "Everything you want to do on a Macintosh, you can do just as easily do on a PC. . . . So before you buy another Mac, stop and ask some questions. Find out where Apple is going, especially with the PowerPC. Then ask Intel about the Pentium processor. What you find out might put you on a whole new path."

The advertisements were an exercise in what industry insiders call FUD: Fear, Uncertainty, and Doubt. "Intel was betting on the fact that the transition to PowerPC would be very disruptive, would create problems of compatibility with people's software, and that there would be a rupture in the Macintosh installed base and user loyalty," says Michael Markman, Apple's director of advertising. "But we didn't take the bait."

Apple certainly didn't. When the Intel ads went up, Apple received numerous e-mail messages from its customers, begging for Apple to rebut Intel's perceived lies. "Our response was that 'Intel wants to get into a mudslinging war, and we don't think that is in the best interest of customers or the industry,'" says Michael Mace, who works in Apple's strategic analysis group.

Apple continues to take the high moral ground—an attitude that it shares with Motorola, which insiders say has always seen itself as a "gentleman's company." In a company that is dominated by engineers, Motorola's marketing managers would never dream of raising the price of a product in order to boost advertising.

What Apple still hasn't learned is that superior technology does not guarantee market success. Indeed, the dirty truth about the computer industry is that companies with leading-edge technology almost never gain market dominance. In an age where computers are increasingly sold like expensive shampoo, the ingredients for success are superior marketing and brand loyalty.

It is brand loyalty that has made Apple's PowerBook computers one of the best-selling laptop computers in history. Desktop Macintosh users want a mobile computer that duplicates the Macintosh experience. (It is sheer incompetence on the part of Apple's manufacturing division that Apple can't keep its dealers adequately stocked with the most popular PowerBook models.) Likewise, it is brand loyalty that has made the PowerPC the best-selling RISC microcomputer in the industry. Once again, those sales were to long-time Macintosh users moving to a new, more powerful platform.

Apple should be using its good name and perception in the market to make people feel good about buying Macintosh computers. It's worked before. It can work again.

Instead, Apple is making a full-court press to push the Power Macintosh into the business world. Advertisements appearing in major computer magazines and even on television are carrying the tag line "Power Macintosh. The business Macintosh." It's a surprising move, considering that Apple's strength

has traditionally been in the home, education, and graphic arts. Face it: Most MBAs don't take the Mac seriously. To their ears, Apple's advertising campaign calling Power Macintosh "the business Macintosh" is about as credible as *People* magazine calling itself "your source for financial news."

The push into the business market might even backfire for the PowerPC, by convincing would-be home buyers that they should purchase 68040-based machines instead of sleek new PowerPCs. These people won't be happy if they get left behind should Apple's next-

generation operating system not support the 68040, as has been rumored. Meanwhile, it's nearly impossible to find PowerPC-based Performa computers.

All of this is happening at a time when Intel is refocusing its marketing efforts on home buyers, says Steven McGready, vice president of the Intel Architecture Labs in Oregon. These days, McGready says, the most powerful computers aren't going into corporate offices; they're going into homes. "Individual buyers tend to buy more powerful machines than businesses do," says Steven

McGready. "They are spending their own money, and they don't want [the system they purchase] to be obsolete. Everybody is terrified that they are going to buy something that will be obsolete." The market research, McGready said, "surprised us as much as anybody."

Apple's PowerPC machines must strike fear into Intel's heart. After all, PowerPC offers users high-performance RISC computing, seamless transition from existing Macintosh programs, and the announced roadmap for

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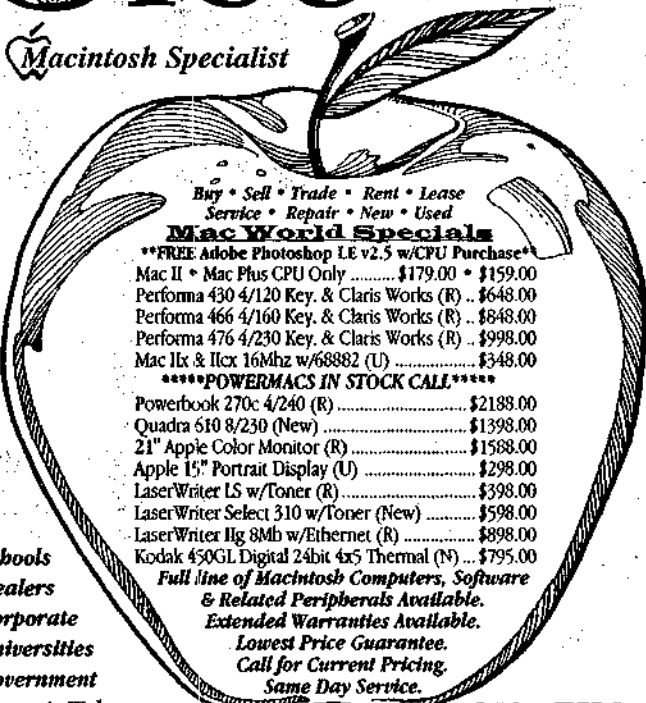
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the super-high-performance 604 and 620 computers. PowerPC is also backed by two industry giants, Motorola and IBM. Both have world-class production plants and are able to meet all anticipated demand for the processor.

The PowerPC also threatens Intel's position in ways that Intel's "clone" competitors—AMD and Cyrix—never could. That's because a person or a company going with an AMD clone might return to the Intel fold sometime in the future. Once an Intel customer is lost to PowerPC, that customer is lost for good.

### Full Speed Ahead in 1995

Thus the high technology that Apple is selling in 1995 is the same one it started selling in 1994: PowerPC RISC computers. Apple is betting the farm that the next generation of PowerPC processors, the 604 and 620, will beat the pants off Intel's P6 processor, which the company will probably announce in the second half of 1995.

What's not clear to this writer is why Apple doesn't boast about its other technologies. Apple refuses to make a big deal out of plug-and-play, under the misguided belief that plug-and-play is now widely available to PC users. But despite Intel "technology briefings" to the contrary, plug-and-play remains a mystery and an unrealized promise to most PC users.

Apple also seems to be running scared

of Windows 95—so scared that Apple seems to have stopped hyping the superior Macintosh user interface. Does Apple know something that we don't? I don't think so. Even if Microsoft delivers a Windows 95 that manages to work, it's doubtful that the system will be as easy to administer as Macintosh System 7. Face it: Microsoft doesn't have a good track record in this department.

Indeed, the one technology that Apple does seem to be hyping is SoftWindows. Why Apple thinks people are buying Macintosh machines to run Windows programs, I don't know. One of my friends inside Apple says that SoftWindows is a check-list item: It's there so that middle-level managers can buy Macs without being fired for purchasing computers that are not Windows-compatible. Perhaps so. That's certainly a more reassuring explanation than one I heard recently: that Apple has been doing its market projections using Pentium-based computers.

Simson L. Garfinkel is a contributing writer for WIRED Magazine and the author of four computing books, including The UNIX-HATERS Handbook (IDG, 1994), NeXTSTEP Programming (Springer-Verlag, 1993), Practical Unix Security (O'Reilly and Associates, 1991) and the forthcoming PGP: Pretty Good Privacy (O'Reilly and Associates, 1995). He wrote this article with Microsoft Word. This article originally ran in The Boston Globe.

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