

# If Ever a Wiz There Woz

In the beginning Woz created the Apple,  
and soon there were nearly a billion blossoms.

by Tim Falconer

**E**ven people who have never heard of a mouse, a modem or a megabyte know that Adam Osborne, Steve Jobs and Steve Wozniak have risen from the strange and forbidding world of computers to become celebrities in popular American culture.

Wozniak is the only one of those three wise men whose deeds are greater than his image. He does not dispense quotable quotes like Osborne or have his face splashed all over magazines like the photogenic Jobs. Yet, he is even more of an inventor than Osborne and even more of an idealist than Jobs.

In Room 678 of Canada's only five star hotel, Steve Wozniak, with his hair and beard neatly trimmed, appears comfortable and relaxed, dressed in blue jeans and an open shirt. A touch of gut rests on a huge belt buckle. He drinks Coke. He is the man they call the Woz, the idealist who lost millions on two US Festivals and the inventor who built the first Apple personal computer.

Despite coming from a different generation and from a different state, the Woz is every bit as American as Thomas Watson, the man who turned International Business Machines into one of the most powerful dynasties in business. Indeed, Wozniak is the personification of the American Dream, but with a hip, high tech, counter-culture reworking. It is a rendition of life, liberty and the pursuit of happiness for kids brought up on *Star Wars*, electropop and video games – the kids of the new technology who will be the first leaders of the Information Age.

Wozniak himself is one of the fathers of the Information Age. Although the Apple was not the first microcomputer – the MITS Altair was – it was one of the first that was not a kit. It was also the first to gain any real popular appeal. By creating the Apple he started a revolution which would deliver computers from the hands of data processing de-

partments into the hands of Everyman.

The company Wozniak co-founded in a garage in 1976 was just shy of the billion dollar mark in 1983, putting the firm into the Fortune 500 seven years after it was started. Apple Computer is the youngest company to ever join that corporate elite.

While original partner Steve Jobs, now chairman of Apple, keeps a high profile, Wozniak remains more of a cult figure. After a two year hiatus, during which he finished his Computer Science degree and put on the US (rock) Festivals, Wozniak is now Fellow of the

company, but he is trying to have his title changed back to engineer. He works in the Personal Computer Division (the Apple II and III division) because, "I have a better chance of being anonymous." He is not an officer or director of the company; directors meetings do not interest him: "My life is as a designer, not as a manager," he says.

The third largest shareholder in the company, he owns less than five per cent of it. All of his assets are in Apple stock except his house and his computers, which include those made by  
(Continued Page 26)



Steve Wozniak: delivering computers from data processing departments to Everyman.



IBM, Grid, Atari, Timex and, of course, Apple. Most of the money gained from the sale of stock went to financing the two huge concerts and a divorce. Still, the 33-year-old is said to be worth close to \$90 million.

The startling success that struck Apple Computer was "the furthest thing" from his mind when he started and he says it was "a lucky, chancey thing". A modest cult hero, he balks at the image of a brilliant engineer that has grown around him. "I'm just sort of a normal designer," he says.

Yet, stories continue to spread that challenge his modesty. When he returned to Apple last fall, three days after the second US Festival, company engineers were working on a mouse controller for the Apple II. Jobs was upset because the controller needed 11 chips while the one for the Macintosh needed only two. The engineer showed Wozniak the schematic and after two minutes he suggested running some wires in a certain way, allowing six chips to be dropped. His solution "satisfied Steve Jobs, and it satisfied the group working on it, because they didn't give up anything."

Calm, confident and candid, Wozniak appears happy with life – he even has a sense of humour, something not all computer people can boast. He works at Apple full-time again but half the time he is travelling and the pace is not as frenetic as it was at the beginning – he occasionally takes a day off to play with his child.

Born and raised in Silicon Valley – before the region earned that monicker, of course – Wozniak built his first personal computer in his apartment. That was back in 1975 when he was working for Hewlett-Packard and was a member of the Homebrew Computer Club, a club for people who built computers from kits.

These days at Apple are not like the early days. Now ideas have to be thrashed out at various levels of meetings, markets have to be considered and so on. But in the beginning, decisions were often more happenstance than anything else. Recalling how his first act of wizardry was committed, Wozniak says, "Basically I didn't have anything. I didn't have any assets and I couldn't afford a several hundred dollar microprocessor... If I could have, I would have (had) a hi-fi." But just then, a new chip – the 6502 – was introduced. It sold for only \$20 and was available over the counter at electronics shows, so a buyer didn't have to fill out forms with a parts distributor. "So myself and quite a few of my friends at HP bought our (6502's) at that time, because of the way it was marketed and it was the only affordable one."

With the new chip, Wozniak put together a homemade computer. "Originally, it was just built in my apartment and demonstrated at the computer club running BASIC. And then a few months later, Steve (Jobs) said, 'Well, why don't we make a PC (printed circuit) board, because then we can sell a

PC board to all the people who want 'em.'" Other members of the club had been interested in Wozniak's creation and had been asking for schematics but the handwiring was tricky and time-consuming. "So I told him," remembers Wozniak, "'Yeah, but we won't sell enough of the PC boards at the club to get our money back, so we'll lose money.' He said, 'Yeah, we'll lose money but we'll have a company for once in our lives.' And that was enough of a reason. I mean, just once in your life to sort of say you had it."

For a company that was started as an adventure, it turned out to be one of the most lucrative ventures in American corporate history. Wozniak credits Jobs with having "the drive to have a company, a successful company, like Atari, where he had worked. Later on, he had the product, when we got to the Apple II."

Jobs took Wozniak's wizardry and turned it into a great American product, "All I cared about was a PC board on my floor connected to a keyboard with a bunch of wires, and a cable that goes over to a monitor that's open on the back. That's fine. That's what I'm used to – I'm an engineer. Steve had the concept of a product that really is for other people...I was just into neat tricky designs that I could show off to the technical community at my club," says the Woz with a touch of modesty.

To help handle its remarkable growth, Apple hired John Sculley away from Pepsi-Cola, where he had

## IIc Latest in Apple's II Line

With the release of the IIc, a portable version of the IIe, Apple Computer has confirmed its commitment to the 8-bit computer line. The company has also shown confidence in its ability to sell what others call "old technology".

The IIc is the third and latest version of the the original Apple II, which has provided the core of Apple's profits for years by selling over 1.25 million units. Apple expects that total to reach 2 million by the end of 1984. As Bob Broenen, the company's International Product Marketing Manager, said, "Someone out there doesn't know the 8-bit market is dying."

Because the new portable, or 'carryable', is based on a CMOS (Complimentary Metal Oxide Semi-conductor) version of the 6502 microprocessor – the chip at the heart of the II line of computers – it will run 95 per cent of the software written for that line.

The 7½ pound IIc can connect to a televis-

ion or to an Apple monitor. In addition, an 80 column by 24 line flat panel, LCD (liquid crystal display) screen should be available in the fall. The new computer has 128K of RAM, Applesoft BASIC in ROM and 143K of storage in the single disk drive. It runs both DOS 3.3 and ProDOS operating systems, has an Apple IIc keyboard with a full ASCII character set and high resolution graphics. There are, however, no expansion slots.

### Features

Although the IIc has built-in ports and more standard RAM than the IIe, it does not allow the use of the CP/M operating system, the addition of a hard disk or the creation of local-area networks between machines – all popular features of the IIe.

An Input/Output port allows a mouse,

joystick or game paddles to be used with the machine, and an external disk drive with another 143K of memory can be added. Two serial ports allow a modem, a printer or a plotter to be supported. Apple's ImageWriter printer is available for it, as is the Scribe, a less expensive printer. The Scribe is a thermal printer allowing printing in eight colours, although thermal paper is not required.

Every IIc will come with a dual language keyboard. In Canada, three different versions will be available: English-French, French-English and English-Dvorak (the model being sold in the United States). Steve Wozniak, the engineer who designed the first Apple II, said the IIc keyboard would be best thing that ever happened to Dvorak keyboards.

Apple expects to sell 400,000 IIc's in the first year of production. Sixty-five per cent of those sales should come from the con-



taken the soft drink from an also-ran pop to the number one soda in store sales, although Coke still outsells Pepsi on the strength of its fountain sales. Legend has it that Jobs told Sculley that he could stay at Pepsi and in five years say he sold a lot of sugar to kids, or he could come to Apple and in five years say he helped change the world a little. Sculley is now president and CEO of Apple.

Sculley has brought a lot of discipline, as well as marketing and business acumen, to the company. Apple has had a reputation of being an unruly company and Wozniak says Sculley "brought order, and the discipline came out of that."

Still, Jobs "leads the company," says Wozniak. "John Sculley has a lot more experience and, really, control. Steve's not very well controlled... Steve is the technical leadership of the company. He's become very bright and so well educated... He's not perfect, but, boy, when you listen to him everything just makes so much sense and he's very persuasive."

Nonetheless, the signing of Sculley was vital for the continued strength of the company. He arrived to find that 80 per cent of the Personal Computer Division's budget was going to the Apple III, yet only 3 per cent of the sales were coming from that machine. Apple had spent \$100 million trying to prove that the Apple III was the finest computer in the world.

Moreover, says Wozniak, "We did

everything we could to make sure (the Apple III) had no competition from the Apple II in business. We would not support any such thing as more memory cards on an Apple II, or hard disks on an Apple II... Unfortunately, we just made it clear that the Apple II would not compete with the PC."

Sculley, having no sacred cows, refocused the attention on the Apple II, which continues to sell at a remarkable rate (110,000 units in December of 1983, after the public had seen IBM's PCjr). That commitment to the II line has led to the release of a portable, called the IIc.

The Apple III was not the company's only big mistake. Indeed, the ill-fated Apple III was followed shortly afterwards by the equally ill-fated Lisa.

Wozniak says when they released the Lisa, in January of 1983, every Apple executive "bought the idea that we would instantly have 20, 30 per cent of this huge market of such and such a size - in offices, for office computers. And you'd get that on day one, when you introduced the Lisa. Turns out it was a very difficult market to penetrate. They're heavily IBM-oriented, they work with IBM in their MIS departments anyway... They're safe, they're cautious, they're conservative - that's how they're run. They don't jump real fast on something... We expected to mass market to Fortune 500 companies by the tens of thousands, and we bought it every time we read the marketing reports."

One of the things Apple tried to do with the Lisa was develop a state-of-the-art disk drive for it. "When we started the project three years before, 1980 actually, we felt we were on top of the world, we were number one in microcomputers with the Apple II. And we were just so *brilliant*, and ahead of the rest of the world, we were going to design the best floppy disk ever. It was going to have one megabyte on a 5¼-inch floppy disk. Nobody else would come close. It was really a strive for a leadership position."

The project was plagued by problems and delays. By the time the drive was completed it didn't match the price-performance ratio of drives made by other companies. The problem was compounded by an increase in production to meet anticipated Lisa sales.

Apple now has ten years worth of Twiggy drives which will never be used since the new Lisa 2's use Sony microfloppy drives. Wozniak admits, "It was a horrible, expensive learning experience."

Still, the company maintains its sense of humour. "What we're going to do is take thousands of them and make a big, huge sculpture somewhere in the centre of the Apple headquarters."

Despite having occasionally displayed hubris fit for the hero of a Greek tragedy, the company has shown a remarkable resilience - and a penchant for technological excellence. In January of this year, the company released the (Continued Page 54)

sumer market, while 20 per cent of IIc sales are expected to be to the educational market and 15 per cent to the business market. Broenen said most of the business sales would go to one and two man operations.

A \$20 million dollar advertising campaign is expected to accompany the launch of the IIc.

With a price tag of \$1,895, the IIc is expected to be direct competition for IBM's PCjr, the recently released computer from IBM which reportedly has seen very poor sales. Broenen said the IIc has more available software and a real keyboard as opposed to the 'chiclet' keyboard found on the PCjr. The IIc also has true portability. Compared to the entry level PCjr, which sells for \$998, the IIc has twice the memory, as well as a disk drive and 80-column display on a monitor - two features available only on the enhanced PCjr.

According to the president of Apple, John Sculley, "The Apple IIc isn't a junior anything."

Steve Wozniak said simply, "It would kill the PCjr, but the PCjr is (already) dead forever."



T. F. The Apple IIc is expected to be direct competition for IBM's PCjr.



# The Woz

(Continued from Page 27)

revamped Lisas and the Macintosh.

Partly due to plentiful, and occasionally stunning, advertising, the Macintosh is one of the most talked about products — from any industry — in years. It is powerful, easy to use and fun. It just may be the product Apple was trying to create with the Apple III and the Lisa. It is almost certainly the one that will assure Apple a solid second place to Big Blue in the microcomputer market.

Estimates are that Apple can expect to sell 400,000 Macs in 1984. "Macintosh is going to be profitable in its first quarter of production. It's going to totally pay back all development costs by its second quarter," says Wozniak. "From what Steve (Jobs) tells me, it'll (have) possibly a billion dollars (in) revenues its first year."

However, Wozniak admits there is a problem with software. "Macintosh is weak (on software). People are going to discover that right away — that really what you've got is MacPaint and MacWrite. They're a lot of bugs in the Multiplan that's available for it and the Microsoft BASIC is really poor and not appreciated by the Apple group who have a really good BASIC done the Macintosh way. So the software's not going to be really in quantity enough to satisfy dealers until maybe late summer and it won't really be in the huge magnitudes that make people ap-

preciate the IBM PC and the Apple II until maybe a year later." Wozniak says software development is going to be slow because it is harder to write programs to work with the windows, pull-down menus and other features of the Mac.

## To the people in the corporate world, Apple has an image as a company run by California "flakes".

There has been some speculation that Apple has ceded the Fortune 500 turf to IBM and that they will concentrate on the small and medium-sized business market, the educational market and the high end of the home market. These rumours suggest that all the advertising that accompanied the release of the Mac was a smokescreen for the benefit of Wall Street. "It could be judged later on that the advertising — the tens of millions of dollars that went into advertising it for the last three months — was a smokescreen to the extent that it guarantees sell-out for a period of time," suggests Wozniak.

If the advertising campaign was for Wall Street, however, it doesn't seemed to have worked. Both Apple and the financial community were off by an order of magnitude when projecting sales figures for the Apple III and the original Lisa. Both announce-

ments caused the stock to rise. When the Mac was introduced, "the price of Apple stock stayed at a dismal level. It didn't do anything," says Wozniak. "Every article I could read, in a computer magazines ... in business magazines, anywhere I could read 'em, they were very cautious: it's got this, but doesn't have that. It's only got a nine-inch screen. Or, it doesn't work well with bifocals. I read the dumbest things." Clearly, Wall Street is taking a twice-burned-thrice-shy approach.

Nevertheless, Wozniak seems bemused by Wall Street's reaction to the Mac. He says with the Mac set to bring in a billion dollars in revenue, "this company's total financial picture is doubling this year. And I have no idea when it's going to show up in (the) stock price... Everybody in Apple bought all the stock they could on margin. Everybody knows how incredible a machine it is."

Yet, Wozniak admits it will take time to make inroads into the corporate market with the Mac-Lisa line. "I think that the office community, the Fortune 500 community will be reluctant, will change slowly. It's a market that'll be penetrated slowly by Macintosh and Lisa. And it will be driven from the ground up...it'll be successful, but only in the long term."

One of the problems for Apple appears to be image. To the people in the corporate world, Apple has an image as a company run by Californian "flakes" who run around in blue jeans, lacking discipline and losing millions on concepts. It is an image that does not inspire confidence in the conservative, cautious minds of corporate America.

5% OFF WITH THIS AD

## BOOKS

The most complete selection of books about dBASE II, Lotus 1-2-3, and WORDSTAR

Business • Personal • Educational

## THE END USER

COMPUTER BOOKS AND SUPPLIES

1280 Bay St. 8M (at Yorkville)  
Toronto, Ontario, Canada M5R 3L1  
(416) 968-2880

Booksearch Service Available



Phone and mail orders welcome.  
Ask about our catalogue.



## IBM PC-XT SOFTWARE SPECIALS

Lotus 1-2-3 Version 1A .....	\$425
Multimate .....	\$499
Project Scheduler (Scitor) .....	\$495
dBase II Version 2.4 .....	\$549
Micro/SPF (Phaser) .....	\$399
Quickcode .....	\$299
dGraph .....	\$299
WordStar Professional .....	\$529
Microsoft Word/Mouse .....	\$499
Knowledgeman 1.06 .....	\$399
DB Plus .....	\$ 99
dUtil .....	\$ 99
Keychart .....	\$386
ProKey 3.0 .....	\$ 99
Qunix (Quantum) .....	\$749
Canadian Payroll .....	\$499
Pelada Scientific Word Processor .....	\$200



Limited time special. Mail & Phone  
Orders Accepted



System Builders Limited  
128 Atlantic Ave.  
Toronto, Ontario  
M6K 1X9

CALL (416) 537-2611 for more information or come  
in to our store for a FREE  
Hands-on demonstration.

## InfoAge Spots

At \$195. the low  
budget advertising  
alternative

James Markis  
(416) 497-9562

Circle 130 on Inquiry Card

Circle 131 on Inquiry Card



Although Wozniak agrees the company's image has hurt them a little, he says, "They're the ones that missed something that's happening. They're the ones, not the guys running around in jeans. The guys running around in jeans knew this was the most incredible computer of all time... Why did these very brilliant marketing, business, engineering types in the Fortune 500 companies not catch something was so major and so big and so successful?"

One of the things that enhanced the Apple's counter-culture image was the 1984 television ad that was shown sparingly but seen by many during last January's Super Bowl. The ad depicts a world similar to the one portrayed in George Orwell's anti-totalitarian novel. "Proles" march emotionlessly into a room where Big Brother's face spews propaganda from a screen. A woman in a track suit, pursued by armed troops, throws a sledgehammer into the screen, exploding it. The caption reads, "On Jan. 24, Apple will introduce the Macintosh. And you'll see why 1984 won't be like 1984."

Wozniak sums up the meaning of the ad as "Macintosh challenge to IBM, challenge for freedom, challenge for diversity and new technology ap-

proaches." When he talks about the ad, he begins to talk faster. He is noticeably enthusiastic. "I thought it was the most incredible commercial ever done for American TV and then I heard that the board had decided not to show it." One reason was that the board felt the image was wrong. The other was that it was around October of 1983 and Apple was going through some hard times financially. There had been cutbacks in other parts of the company and it was hard to justify spending \$3 million to show that commercial. "I was shocked," says Wozniak.

## Arrogance

After several conversations about the ad with Jobs, Wozniak finally said, "Look, I'll pay half the money to show it if you will." Jobs agreed, but when the story got around Apple, the board of directors reconsidered and agreed to show the ad. Wozniak's commitment to the ad is further testament to his idealism. He will do something just because he thinks it is "amazing", regardless of what other people will think of him.

The pinnacle of Wozniak's idealism, however, must be his involvement with the US Festivals. Asked if it was

true that he had lost \$14 million on the festivals, Wozniak replied, "I don't want to talk about numbers that large... They lost out financially, however, a good product was delivered."

It is said that he wanted to put on a Woodstock for the 80's. Yet, Wozniak says, "I just wanted the US Festival to be a great, magnanimous, big, three-day - the only nationally marketed - rock concert in a decade." He says he was successful in doing that as people came to it from every state and from Canada.

The US Festivals are something else Wozniak talks about with obvious enthusiasm and he says there will be more of them, "I've got to keep my wife reasonably satisfied because of the huge losses that we suffered... Her rule is that if Apple reaches a certain price - the stock - then I can do another."

The inventor side of Steve Wozniak has made him rich, and will continue to keep him busy. The idealistic side of Steve Wozniak keeps him happy and will probably keep him sane. Listening to him talk, it is easy to get the impression that success has not changed him much. And perhaps it hasn't. Yet he admits, "Apple's very arrogant... I think the arrogance remains as long as we're very successful." □

## A Will? I took care of that years ago.

Exactly. The children were starting high school, you were paying off a mortgage and thinking about a career change. Lots of things were different then.

Now, the children are finishing school, the house is yours, and you're in solid with the company. But your Will hasn't changed to reflect all of this.

This is the time to get everything straight. To incorporate all your plans into a document that guarantees that everything develops in accordance with your wishes.

When you do look over your Will, remember us. The Canadian Cancer Society needs your bequest. The Marathon of Hope laid the foundation for new research inconceivable a few years ago, but to keep it going, we need your help.

Then, one of these days, we'll win the fight against cancer.



## Computer Mail Order

### COMPUTERS

SANYO 550: 555	CALL
FRANKLIN	CALL
COMPAQ	\$4299
IBM	CALL
EAGLE	CALL

### MONITORS

ZENITH GREEN	\$149
ZENITH AMBER	\$161
ZENITH COLOUR	CALL
GORILLA	CALL
AMDEK 310A	\$249
AMDEK COLOR 1+	\$443
PRINCETON GRAPHICS	\$789

### MODEMS

SIGNALMAN MARK 12	\$489
HAYES SMART MODEM 300	\$348
HAYES SMART MODEM 1200	\$789
HAYES SMART MODEM 1200B	\$749

### CARDS

AST	CALL
QUADRAM	CALL
HERCULES	CALL

### DISK DRIVES

TANDON 5 1/4" 320K	\$339
PERCOM HARD DISK	CALL
MSD INDUS TRAK RANA	CALL

### PRINTERS

INTERFACES & BUFFERS	CALL
OKI 82, 83, 92, 93	CALL
MANN TALLY 160L	\$886
MANN TALLY 180L	\$1197
MANN TALLY SPIRIT 80	\$449
EPSON	CALL
JUKI	\$749
SMITH CORONA L1000	\$589
TOSHIBA 1351	CALL
BROTHER	CALL

### SOFTWARE

WE CARRY A COMPLETE LINE OF SOFTWARE FOR MOST COMPUTERS IBM SANYO MACINTOSH APPLE COMMODORE AND ATARI.

### HAND HELD COMPUTERS

HP12C, 15C, 16C	\$143.99
HP41CX	\$349.99



ONTARIO/QUEBEC: 800-268-3974

OTHER PROVINCES: 800-268-4559

IN TORONTO CALL (416) 828-0866

Computer Mail Order Canada

2505 Dunwin Drive, Unit 3 • Mississauga, Ontario L5L 1T1

