Home Computers— So Near and Yet . . .

By WILLIAM BATES

SAN FRANCISCO—There is the dream. "In 10 years," says Dick Heiser, "50 million Americans are going to own two computers each—one at home and one at work." Mr. Heiser is an accredited dreamer: He opened the nation's first retail computer store in Santa Monica, Calif., in 1975.

And then there is the reality. The market for home-sized computers today stands at about $120 million, with—at most—80,000 sold to date. Some 800 retail stores carry the product, but they cater mainly to hobbyists, and they have had troubles with service backup, with customer training and with public resistance to high prices and to the very nature of computers.

All of which is not to say that the home computer's day of glory is not coming. Last fall, for example, the market experienced its first price breakthrough. Up to that time, a minimal system (consisting of a central microprocessor, keyboard, video display and tape cassette) cost over $2,000. Then Commodore, a Palo Alto, Calif., manufacturer of calculators and digital watches, and the Tandy Corporation of Fort Worth, which operates the Radio Shack chain, introduced fully assembled systems at $595.

Both companies say they have been deluged with orders. Commodore, which requires payment in advance and can promise delivery only within three months, has a backlog "in the thousands," according to Sam Bernstein, its marketing manager. The company has announced plans to produce 5,000 units a month by midsummer.

Tandy had originally planned to market its computer at $895 but decided on the lower price to test the depth of the market. "We found out," said John Ratliff, general manager of a new division called Tandy Computers. "It knocked us off the wall. We're still catching up."

Merchants cannot help but rub their hands as they contemplate the market for microcomputers. They cite scores of clever things these devices can do to make everyone's life easier and save people money. And besides computer sales there are potentially profitable sidelines—teaching people how to use them and selling the programs that control the computers' various tasks.

Retail stores have been cropping up all over the country with such names as Byte Shops, the Micro Store, the Computer Mart, Datamart and even (in Mountainview, Calif.,) the Digital Deli. A recent survey by a consulting firm, Image Resources of Westlake Village, Calif., puts their number at almost 400. In addition, 400 or so TV repair shops and phonograph-equipment stores have added a line of small computers.

But these stores are operating in a transitional period as the market for microcomputers sorts itself out. The boom in small computers today resembles the growth of the hi-fi and stereo market of the early 1950's.

The early computer systems were available only as kits and had to be assembled by patient purchasers—mostly hobbyists with a solid background in electronics like the hi-fi enthusiasts of old. In the last few years, however, sales have shifted dramatically toward fully assembled, fully integrated systems ready to take home, plug in and turn on. And the success of such systems could bring the giants of American retailing into the market.

What does one do with a computer in the home? It can prepare income tax returns, balance a checkbook, monitor a sleeping child's heartbeat, work out golf handicaps, play games, store recipes and shopping lists, plan the family budget, analyze investment portfolios, calculate interest rates, control sprinkler systems. In small businesses it can do billing, payroll, record-keeping, inventory control, profitability analysis and the like.

At the heart of each microcomputer is a tiny microprocessor, created by the same technology that has shrunk the size and price of electronic products from calculators to digital watches. Nearly all of the computer systems on the market have a typewriter-like keyboard that allows the operator to type information into the computer. Its answers to questions come back on a video display, which looks like the screen on a portable television set.

Computer programs—for example, a set of instructions for balancing a checkbook—are stored on ordinary-looking tape cassettes that can be connected to the computer. The number of these ready-made cassette programs is limited but is likely to grow with the sales of microcomputers—as did the stereo market with its assortment of records and tapes.

Today, however, the retailers have a few problems. Markups are low, averaging about 25 percent. Nearly all of the manufacturers undercut retailers with direct-mail sales, which account for about 50 percent of the microcomputer market.

Randy Jones

Retail stores multiply, prices drop, but there's trouble with quality and customer training.

Smaller retailers have found that technical troubleshooting and other support services (at one time offered without cost as an inducement to customers) have seriously eroded the earnings that can be made with the industry's low profit margin. As a result, many stores have begun to charge a diagnostic fee for even looking at a malfunctioning system, and some of them refuse to deal with a customer who bought his computer by mail.

Stanley Veit, who operates the Computer Mart in New York City, has his technicians examine a malfunctioning system free if it was bought at his store and is covered by a warranty. For other systems, however, he charges a $15 fee for diagnosis and for establishing the cost of repairs—which may be an additional $45 to $60.

Some stores, such as Bob Moody's Byte Shop in Palo Alto, are now charging for training customers in the use of the computer. Mr. Moody says of the sales approach adopted by some companies: "All they sell is a box with an instruction book. They don't want to see you after that. They're still going to come to me to learn, and I charge for that."

The service and support problem has so worried Tandy that it is considering a chain of some 200 Tandy Computer stores that would carry all lines of microcomputers and, more important, offer backup services to the customer.

Most manufacturers are trying to solve part of the problem by rapidly building up libraries of cassette computer programs so that untrained users —especially small businessmen—can avoid hiring expensive programming help.

Meanwhile, most retail stores have added staff members who customize computer systems for customers, and nearly all of them charge for the programming involved. Despite the fees thus gained, this extra payroll cost cuts seriously into the stores' profits.

The Micro Store in Dallas, operated by Portia Isaacson, a Ph.D. in computer science, has a staff that includes other university-trained technicians. Smaller stores keep referral files of freelance programmers to help users in need.

"The last thing you want is to make a guy alter his whole business operation just to fit a particular computer program he happens to buy," explains Lee Felsenstein, a Berkeley engineer.

To solve the service problem, at least one department-store chain, Foley's of Houston, is selling microcomputers in conjunction with a local repair center. Programming assistance at $20 an hour is available to purchasers of a $4,995 system for small businesses.

While many of these retailers are concentrating on the small-business field, several are plowing ahead in the home consumer market. "Ours is more of a brown-goods concept," says Preston Love, whose Datamart in Atlanta sells computer systems along with such items as Sony's Betamax video recorder and large-screen television. "We're not out to advertise particular boxes. We advertise, for instance, a checkbook-balancing program."

Mr. Love, a former executive with the International Business Machines Corporation, is aware of the sales resistance of prospective home-computer buyers. "We have perceived an initial ambivalent feeling toward computers," Mr. Love said in an analysis of the microcomputer industry issued in conjunction with the opening of his store. "Many mirror fears, make jokes about the information explosion and the 'big computer' somewhere that knows all. Then, as they begin to use a personal computer, they see they're really in command, that the computer is simply another sophisticated tool they can master."

But this is not a quick process. "We have noticed that it takes at least four store visits for the uninitiated lay person to make a buying decision," he said.

Meanwhile, the big retailing chains are treading gently. Last summer Sears, Roebuck & Company announced that it would test-market a computer by fall, but the announcement proved premature. Sears is still on the sidelines. "It's a fascinating market," a Sears executive said, "but we're sure now that when we have a computer—if we have a computer—we will service it ourselves. And we will be very, very careful about having our sales people trained. You don't explain one of these things on the back of an envelope."

Macy's in San Francisco planned to offer a general purpose computer with a color screen for less than $3,000 at Christmas. But the demonstrator model didn't work.

So the day of the home computer is perhaps a little remote, although it is estimated that there already are 40,000 to 80,000 general purpose computers in homes today. And it will require some reforms by manufacturers, not all of whom are used to the distinctive standards of the consumer market.

"They're accustomed to the electronics industry," says Jim Warren, editor of The Silicon Gulch Gazette, an informal trade paper focusing on the San Francisco area. "Everybody announces products six months before they're ready, nothing works properly in the first year of production and final debugging is done in the field. But the consumer market won't stand for that. People are used to walking in, buying a washing machine and having it run for 10 years."

Many electronics manufacturers have been badly burned by jumping feet first with calculators and other products into the fierce fire of the consumer market. For some, such as the Digital Equipment Corporation, the strategy is to stay out of that volatile market but to continue making electronic components for others to package. Digital sells a microcomputer module to the Heath Company for use in consumer computer kits.

Small manufacturers—such as Apple, Commodore, Compucolor, Processor Technology, Pertec, Imsai, Technical Design Labs and a host of regional companies—are in a position similar to that of the retail computer stores. The big guys—Texas Instruments Inc., the Intel Corporation and the Fairchild Camera and Instrument Corporation, to name a few—are in the wings, watching to see how the smaller companies do.

And if the big American producers are backstage, can the Japanese, with their technological and marketing brilliance, be far behind? Computers for the domestic market in Japan, of course, are made with Japanese-language characters. But computers designed for export are not out of the question.

Mr. Warren of The Gazette maintains that computers will infiltrate, rather than invade, the home. Microprocessing chips similar to those used in small computer systems are already being designed into a number of appliances such as microwave ovens. Mr. Warren feels that Americans will gradually grow accustomed to living in an environment of "intelligent machines."

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