

A computer in every home to play, work with

By JOHN F. SIMS
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NEW YORK — Industry promoters would have us believe that in five years nine out of every 10 homes in America will have their own minicomputers.

The electronics industry sees the idea of the home computer — the latest in a long line of spinoffs from America's space exploration program — as one whose time has come.

But once you've linked a small computer to your TV set and you've played Star Trek or Pong and you've calculated your income tax — what then?

According to the industry, an awful lot.

Changes in your lifestyle through the use of computers in the home could be as revolutionary as you want them to be, or can afford.

On the other hand, you could just ignore the whole trend and probably save yourself a lot of technological anguish.

Ryal R. Poppa, chairman of Per-tec Computer Corp., recently told

an electronics industry seminar: "To many people, electronics already seems pervasive. But we've only scratched the surface."

"In offices, homes and industry; in cars, planes and trains; in schools, universities and churches; even in leisure time activities, electronics will improve our lives with an almost insignificant increase in cost."

"Only a few months ago I projected that sales of microcomputers, the new generation of tiny computers, would reach \$100 million by 1980. With the enormous interest and acceptance of our MITS Altair microcomputer, the first to reach the market, and what I now see being accomplished by others in the field, today I'd have to raise that projection substantially. We're now looking for industry sales of microcomputers to hit \$150 million in 1980."

The first store specializing in small computers opened in Los Angeles in 1975. Now there are more than 500 such stores scattered across the country.

Personal computing exhibitions, each one displaying a larger range of available hardware and software, have been held in several major cities.

Carl T. Helmers, editor of the specialist magazine Byte (a byte is a unit of memory in a computer), said: "Personal computing is in its adolescence now, but growth within the next few years should be rapid and exciting."

Some 50,000 minicomputers have already been sold. Most were nomi-

penses and working out income tax. ✓ storing names and addresses of friends to ease working out invitation lists for parties.

✓ converting recipes to fit the size of your dinner party.

✓ all kinds of games, from ping pong up to and including a machine that plays master-level chess.

computers work such a computer could tell you how much the family spent for groceries last month and compare it with the amount spent in the same month last year," he said. "More importantly, it would permit more efficient regulation of the heating, air conditioning, lights, pool temperature and even the

Children brought up to regard computers as mere tools will not experience the "future shock" that leaves many people baffled by the mystique that has grown around computers.

Erik Sandberg-Diment, editor and publisher of another computer magazine called ROM, said he had problems breaking that language barrier.

"Computerland seemed to be walled in completely by gibberish," he wrote in an editorial. "I knew it wasn't really gibberish; it all meant something. But even those who tried to explain the jargon to me used the same language to describe terms as the terms themselves did."

How will people survive if they don't computerize their lives?

Obviously not too badly. Household accounts and taxes can be worked out on a hand-held calculator, or even just with pencil and paper. A parent can teach a child math and games at home need not be electronic.

The human memory still can compete with the computer for reminding people of day-to-day things like birthdays, anniversaries and dental appointments.

Perhaps a minicomputer sitting in the corner of the living room could make life a little easier. It perhaps, also, it will have a de-humanizing effect.

Theodor Nelson, a researcher at Swarthmore College's department of mathematics and author of several works on computers, has high hopes.

"We are on the brink of the home computer age," he said recently. "By 1980 there will be personal computers, I believe, in some 70 million American homes..."

"The new developments in computer usage will cause convulsions, not merely among users but within the computer community itself," Nelson said. "There will be painful dislocations but we can get to a world where the messy and taken care of automatically and information comes to us when, where and how we want it."

"A world with a lot more knowledge spread around in it — and a lot more fun. And it may be that access to information, real access, makes people's control, may yet make for a better world, may reverse the tides of apathy and illiteracy that rise daily."

Do-it-yourself minicomputer kits costing as little as \$300 are now available. Very sophisticated devices sell for less than \$3,000, and for \$5,000 you can

buy a computer not much bigger than a filing cabinet that is as capable as machines that cost \$1 million only 10 years ago.

nally for use in the home, but in fact many have wound up being pressed in to service in small businesses.

Industry experts predict 1978 will be a boom year in which 150,000 or more minicomputers will be sold.

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What are the attractions of small computers?

The industry's promoters offer a wide range of applications, including:

✓ calculating household ex-

✓ a program that allows a small computer to compose quartets and quintets

✓ computers to help the handicapped.

✓ a very patient computer that teaches children math.

Computer buffs say it may not be long before the average homeowner goes to his local electronics store to buy a tape or disc specially designed to program his home computer to keep an inventory of family possessions, balance the checkbook, or tell the microwave oven when to start and stop.

But a major problem for the manufacturers of small computers is overcoming popular suspicion of computers in general and the glazed look that most people adopt when confronted with computer jargon.

According to Poppa, the day is coming when new homes will have computers built in.

"With appropriate software jargon for the programs that make

sprinklers, based on the amount of moisture in the soil," he said. "That will lower utility bills and help preserve precious natural resources at the same time — well worth the relatively low cost of the micro-computer."

The technology is available now, Poppa said, but America is not quite ready.

"The present school-age generation is being trained with computers and by the time these people are ready for their own homes, the built-in computer will be widely accepted," he said.

Small public school districts might lose new HEW funds

WASHINGTON — The Department of Health, Education and Welfare Tuesday told 27 small public school districts, including Leander I.S.D. and Refugio in Texas, they will be ineligible for new HEW funds effective Jan. 12.

The elementary and high school systems in 13 states failed to submit to HEW legally required forms stating they do not discriminate against female students and employees, HEW said.

The statements are required under the Title IX federal sex discrimination law. Title IX, a section of education law, bans sex discrimination in schools receiving federal funds.

Among the 27 school systems are 11 that receive no federal aid from HEW. However, statements from them are necessary if they decide to apply for school subsidies or other HEW funds in the future.

HEW also conceded that some of the 12 school systems and colleges similarly notified last week as being ineligible for federal aid were not receiving any HEW funds.

However, many colleges that receive no federal aid still might have to file nondiscrimination assurances if students attending the colleges benefit from federal student loan

programs or receive assistance under the Veterans' Educational Assistance Act, the announcement said.

In addition, some schools could be receiving funds from federal agencies other than HEW — the revenue sharing funds — that could become the subject of separate civil rights enforcement proceedings, a spokesman said.

The 27 newly identified school systems were told in letters that effective Jan. 12, they will be ineligible for new HEW grants, and administrative enforcement proceedings will be launched that could lead to a cutoff of existing federal aid.

None of the school districts are likely to lose existing federal aid during the current school year. Enforcement proceedings can take year or more.

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