

COMPUTER INDUSTRY RETOOLS FOR FUTURE

IBM's new PC vision: Personal communication

Unit developed in 14 weeks

If you think IBM won't be venturing into personal communications, think again.

At the mammoth Comdex computer show here, the hottest products are hand-held computers that act as phones and vice versa. Phone giant AT&T is showing its \$3,000 per-

REPORTER'S NOTEBOOK

FROM THE COMPUTER DEALER EXPOSITION IN LAS VEGAS

By JOHN SCHNEIDAWIND

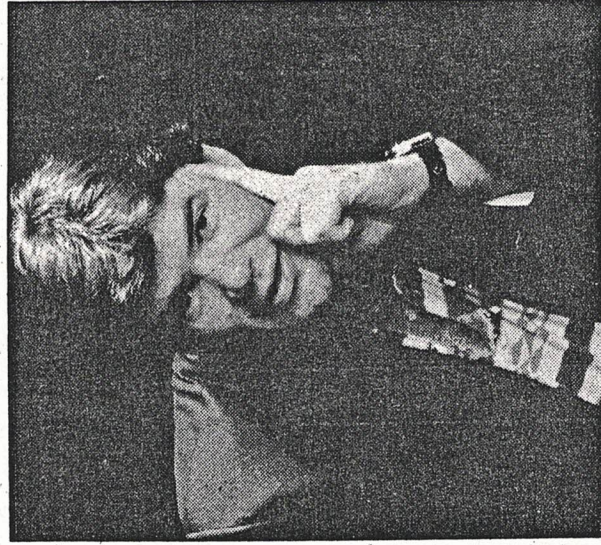
sonal-communications device and dozens of other companies are showing similar machines that combine personal-computer technology and communications.

IBM showed a prototype device that features an on-screen keypad and runs on MS/DOS, the basic software found in most PCs.

Weighing 16 ounces, the PS/2 personal communicator is run by a secret IBM chip that has the power of the first PCs IBM made in the early 1980s. But it also functions as a cellular phone, fax machine and PC. It can't run Lotus 1-2-3 yet.

Borland CEO Kahn presses for a software

This year has been one big roller-coaster ride for Philippe Kahn, the CEO at personal computer software maker Borland International. Kahn finalized the acquisition of competitor Ashton-Tate and saw the company through two costly product delays. Despite his reputation as the enfant terrible of the software business, Kahn is hailed as one of its great visionaries. Kahn presented the keynote address Monday at the Comdex computer trade show. He discussed trends in the PC software arena with USA TODAY technology reporter John Schneidawind.



KAHN: Software firms must enlarge audience.

Q: You say the PC software industry is at its first major crossroads since the PC was invented almost 20 years ago. Why?

A: We're still using the software development methodology we used in the 1980s. But there's no way we can solve all the problems — like building the next generation airline reservation systems — using it.

Q: Can you describe the scope of the challenge facing software firms today?

A: Imagine trying to build massive skyscrapers with horses and carts. They were perfect for building cathedrals. What we're

trying to do is build a new Manhattan in a decade for software so that the software kind of runs everything. The (computer) hardware will be the skeleton; the software will be the brain.

Q: But can PCs handle all the software power that you want to put in them?

A: The kind of PC hardware you can buy per \$1,000 is almost on an exponential rise. In fact, it doubles every 18 months. You can argue that the state-of-the-art computer chip, which has 2.8 million transistors on it, by the turn of the century will have 100 million transistors. That's astounding. So the hardware is going to give us the power. Now we need to find out how to build the software.

Q: What else must software firms do?

A: We need to make sure that the software we build is useful for customers. We've sold 60 million computers, but we've sold six PCs to the same 10 people. We haven't been able to enlarge the audience because there hasn't been a radical change in the way computers are designed. First we had character-based software like Lotus 1-2-3. Then we had graphical user interface software in Apple Macintoshes and in Microsoft Windows. Now we're

tionary desktop PC that weighs just four pounds. The prototype consumes only 51 watts of power compared with the 250 watts used by conventional PCs with a 486 chip. Dubbed the Green Machine because of its environmental qualities, the PC's monitor emits little radiation.

ogy, is that Big Blue developed the unit in 14 weeks at its Boca Raton, Fla., facility.

"We proved to ourselves that we could make a usable handheld device," says Bruce Claffin, IBM's general manager of mobile computing.

IBM also showed a revolu-

The product comes out in the first half of next year and should sell for about \$3,500.

Also at the show: SimGraphics Engineering, a small Los Angeles firm, is showing VACtor Performer, a machine that turns a human voice into the voice of Bugs Bunny or other

cartoon characters.

The machine, which costs \$350,000 to \$400,000, will be the gadget the Wizard of Oz used. You can hide it, put on a headset, and word you speak is spoken by the character appearing on the TV screen in the voice