

■ THE PUBLISHER'S VIEW

Computers Move into the Living Room

PCs Will Have a Profound Effect on Consumer Electronics—and Vice Versa

During the past two years, personal computers have moved into people's homes in a big way. The real invasion, however, is only just beginning: in the next two years, PCs will make major strides toward becoming true consumer electronics products.

That PCs are as successful as they are as consumer devices says a lot about how intensely consumers are interested in PCs—they are far more difficult to use than any other device that routinely finds its way into everyday homes. This success has been driven by several factors: the ability to take work home from the office, the potential educational benefit for children, games, and the exploding interest in on-line services and the Internet.

Despite this success, PCs remain computer-like, not appliance-like. People without any prior exposure to computers find it a daunting task just to buy a PC, much less to get it working and learn enough to actually make it useful and enjoyable. The investment in learning required by PCs limits their ability to become a ubiquitous home appliance.

New hardware technologies that will reach the market in the next 12 months will make PCs far more compelling as consumer appliances. DVD drives will make PCs outstanding video players, with MPEG-2 video, Dolby AC-3 surround sound, and enough capacity to store a full-length movie on a single disk. Faster CPUs, better-tuned system architectures, and a new generation of graphics chips will give 3D performance a big boost, enabling an entirely new class of games. The Universal Serial Bus (USB) will make it trivial to attach user-interface peripherals, while IEEE-1394 will provide an equally easy-to-use connection for digital video devices and, potentially, mass storage devices.

At the same time, massive investments are being made at companies throughout the world in building ever-richer Web sites, and both cable modems and ADSL (asymmetric digital subscriber link) are starting to be deployed. Cable modems will deliver 10 to 30 Mbps downstream. The phone companies' solution, ADSL, is significantly slower than a cable modem but still much faster than ISDN. It will be a few years before such services are widely available, but they are coming, and they will make the Web a qualitatively different experience than it is today.

These hardware technologies will enable the PC to become a communication and entertainment device beyond compare. But if future systems have ease-of-use and reliability comparable to today's PCs, they will be a disaster for average consumers. Recognizing this problem, Microsoft has created its Simply Interactive PC (SIPC) initiative (see [100603.PDF](#)) in

an attempt to address it on a broad scale. Intel, always seeking ways to create bigger markets for leading-edge microprocessors, also is focused on improving the capabilities and ease-of-use of PCs in consumer environments.

Microsoft's system and application software are a big part of the ease-of-use problem, of course, and we can only hope the improvements in Windows 95 are a sign of better things to come. Apple has held the edge in ease-of-use ever since the debut of the Macintosh 12 long years ago; if Apple can get out of its present downward slide, deliver its next-generation Copland OS, and craft an effective hardware strategy, it could have a strong role in the future market for true consumer/entertainment PCs.

PCs that are outstanding movie and game players as well as Internet terminals have the potential to make major inroads into today's television market. Gateway's Destination system—which has a 31" monitor, wireless keyboard and remote control, and high-quality broadcast television viewing capability—is a landmark product that hints at what can be done. The players to watch, though, are the consumer electronics companies, such as Sony. It is probably easier for a consumer electronics company to learn PC technology than for a PC company to create, manufacture, market, and distribute great consumer products. The development of high-quality, large-screen, yet affordable monitors is a key enabler for such systems, and here the Asian companies have a commanding lead.

Such systems are unlikely to replace either PCs or televisions on a widespread scale anytime soon. But they could start cutting into the home-theater part of the TV market relatively quickly, and they are likely to be popular second PCs among affluent PC users. By adapting to the living-room environment, where the display is viewed from a distance, PC technology has the potential to become the central consumer electronics appliance.

A decade from now, the most significant technical difference between a PC and a TV could well be the size of the display—though it remains an open question whether the TV will run Microsoft software and use an Intel processor. Other software and microprocessor vendors see this as an opportunity to break the Microsoft/Intel hegemony, but the advantages of compatibility with the PC infrastructure are significant. Whether this new market creates new leaders or further entrenches the existing ones remains to be seen. ■

