

EXHIBIT 28



que's
**COMPUTER
USER'S
DICTIONARY**
5TH EDITION

**Authoritative
Definitions and Tips for
All Computer Users**

que®

Que's Computer User's Dictionary, 5th Edition

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bundled software Software included with a computer system as part of the system's total price. Also, several programs that are packaged and sold together, now frequently called *software suites*.

burn-in Operating a newly assembled computer system to screen for failures. Semiconductor components such as memory chips and microprocessors tend to fail either in the first few hours of operation or late in their lives. Responsible computer retailers, therefore, run systems continuously for 24 to 48 hours before releasing the systems to customers.

Sometimes used—incorrectly—to refer to permanently burning, or etching, the screen phosphors of a computer monitor when the same image is constantly on-screen. This phenomenon is really called *ghosting*. See *ghost* and *screen saver*.

bus An internal electrical pathway along which signals are sent from one part of the computer to another. Personal computers have a processor bus design with three pathways:

- The data bus sends data back and forth between the memory and the microprocessor.
- The address bus identifies which memory location will come into play.
- The control bus carries the control unit's signals.

An extension of the data bus, called the *expansion bus*, connects the computer's expansion slots to the processor. The data, address and expansion buses are wired in parallel rows so that all the bits being sent can travel simultaneously, like cars side by side on a 16- or 32-lane freeway.

Three bus architectures are commonly found in today's IBM PC and PC-compatible marketplace:

A B C

- *Industry Standard Architecture (ISA) bus*. Synonymous with AT bus, this is the 16-bit bus initially developed for IBM's AT (Advanced Technology) computers. The bus includes 8-bit expansion slots for compatibility with earlier adapters, and 16-bit slots for AT-compatible adapters.
- *Micro Channel Architecture (MCA) bus*. A proprietary, 32-bit bus used in high-end IBM PS/2 computers.
- *Enhanced Industry Standard Architecture (EISA) bus*. A 32-bit bus that, unlike the MCA bus, is backward compatible with ISA adapters.

The 32-bit bus width is only part of the equation. Although the pathways in the processor bus operate at the speed of your microprocessor, the expansion bus operates at much slower speeds—EISA at 8.33 MHz and MCA at 10 MHz. Local bus, a high-speed data path that directly links the computer's processing unit to several expansion slots, was developed to speed video display in graphics-intensive programs such as Microsoft Windows. See *address bus*, *data bus*, *expansion bus*, and *local bus*.



TIP: Confused about which bus to choose when you're buying a new PC? If you're running Microsoft Windows, choose a system with local bus video. Such systems offer significantly faster screen updating with graphics-intensive Windows applications.

bus mouse A mouse connected to the computer by a dedicated mouse adapter inserted into an available expansion slot. See *serial mouse*.

bus network In local area networks, a decentralized network topology used by AppleTalk and EtherNet, for example, in which a single connecting line, the *bus*, is shared by a number of nodes, including workstations, shared peripherals, and file servers (see fig. B.7).