**Key Terms of Chapter 5**

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| **Key Term** |  | **Definition** |
| AC adapter | 电源适配器 | Power adapter that converts AC to DC, provides power to the system unit components, and can recharge batteries |
| activity tracker | 活动跟踪器 | Monitors daily exercise and sleep patterns connecting wirelessly to desktops, laptops and smartphones to record and share data |
| all-in-one desktop | 一体机 | Desktop computer that has the monitor and system unit housed together in the same case (e.g., Apple's iMac) |
| analog | 模拟信号 | Continuous, signals that vary to represent different tones, pitches, and volume |
| arithmetic-logic unit (ALU) | 算术逻辑单元（计算器） | Performs two types of operations: arithmetic and logical |
| arithmetic operation | 算术运算 | Fundamental math operations: addition, subtraction, multiplication, division |
| ASCII | 一种键盘符号单字节编码方案 | Binary coding scheme widely used on personal computers with eight bits forming each byte, and each byte represents one character |
| binary system | 二进制系统 | Numbering system that consists of only two digits, 0 and 1 |
| BIOS (basic input/output system) | 基本输入输出系统 | Start-up instructions for a computer with information including the specifics covering the amount of RAM, type of keyboard, and secondary storage devices connected to the system unit |
| bit | 比特（一个二进制位） | Data and instructions can be represented electronically with a two-state or binary system of numbers (0 and 1) and each 0 or 1 is called a bit which is short for binary digit |
| bus | 总线 | Provides data pathways that connects various system components (See also bus line) |
| bus line | 总线 | Provides data pathways that connects various system components (See also bus) |
| bus width | 总线宽度 | Number of bits that can travel simultaneously |
| byte | 字节 | Eight bits and each byte typically represents one character |
| cable | 电缆 | Connects external devices to the system unit via ports |
| cache memory | 高速缓冲内存 | High-speed holding area for frequently used data and information |
| cell phone | 手机 | Indispensable handheld computer |
| central processing unit (CPU) | 中央处理单元，中央处理器 | The “brains” of a computer and is contained on a single chip (See also microprocessor, processor) |
| character encoding standards | 符号编码标准 | Assign unique sequences of bits to each character |
| chip | 芯片 | Consists of tiny circuit boards etched onto squares of sand-like material called silicon (See also integrated circuit, silicon chip, semiconductor) |
| chip carriers | 芯片载体 | Plug either directly into sockets on the system board or onto cards that are then plugged into slots on the system board |
| clock speed | 时钟速度 | Relates to the number of times the CPU can fetch and process data or instructions in a second |
| computer technician | 计算机技术员 | Repairs and installs computer components and systems |
| control unit | 控制单元 | The part of a processor that tells the rest of the computer system how to carry out a program’s instructions and directs the movement of electronic signals between memory and the CPU |
| coprocessor | 协处理器 | Specialty chip designed to improve specific computing operations |
| desktop | 台式机 | Most powerful type of personal computer |
| digital | 数字信号 | Signals that are only in two states – on or off – are used to represent voice and data |
| DIMM | 双列直插式存储模块，新型内存条 | Dual in-line memory module is used to expand memory |
| DVI (Digital Video Interface) port | 数字视频接口 | Provides connections to analog and digital monitors |
| EBCDIC | 一种键盘符号单字节编码方案，常用于大型机 | Extended Binary Coded Decimal Interchange Code is an 8-bit binary coding scheme developed by IBM and used primarily in mainframe computers |
| ethernet port | 以太网接口 | High-speed networking port |
| expansion bus | 扩展总线 | Connects the CPU to expansion slots |
| expansion card | 扩展卡 | Optional devices used to expand systems |
| expansion slot | 扩展槽 | Slots provided to expand computer systems |
| FireWire bus | 火线总线 | Similar to USB bus but are more specialized and are used primarily to connect audio and video equipment to the system board |
| FireWire port | 火线端口 | Provides high-speed connections to specialized FireWire devices such as camcorders and storage devices |
| flash memory | 闪存 | Chips that can retain data even if power is disrupted |
| gaming laptops | 游戏笔记本电脑 | Include high end graphics hardware and very fast processors |
| GPU (graphics processing unit) | 图形处理器 | Graphics Processing Unit is designed to handle a variety of specialized tasks such as displaying 3D images and encrypting data |
| graphics card | 图形卡 | Provides high-quality 3D graphics and animation for games and simulations |
| graphics coprocessor | 图形协处理器 | Processor specifically designed to handle the processing of graphic images |
| hexadecimal system (hex) | 16进制 | Uses 16 digits to represent binary numbers |
| High-Definition Multimedia Interface (HDMI) | 高清接口 | Digital high-definition audio and video |
| integrated circuit | 集成电路 | Consists of tiny circuit boards etched onto squares of sand-like material called silicon (See also chip, silicon chip, semiconductor) |
| laptop | 笔记本电脑 | have their system units housed with selected secondary storage and input devices and are smaller than desktops |
| logical operation | 逻辑运算 | Consists of comparisons such as two items being equal, less than, or greater than each other |
| mainboard | 主板 | Controls all communications for the system with every component within the system unit connecting to the main- board (see also system board or mother board) |
| memory | 内存 | Holds data, instructions, and information |
| microprocessor | 微处理器 | The “brains” of a computer and is contained on a single chip (See also central processing unit, processor) |
| mini notebook | 小型笔记本电脑 | Lighter, thinner, and have longer battery life than other laptops |
| mini tablets | 小型平板电脑 | Type of tablet with a smaller screen and not all the functionality of a larger tablet |
| motherboard | 母板（主板） | Controls communication for the entire computer system (See also main board, system board) |
| multicore processor | 多核处理器 | Two or more separate and independent CPUs |
| network adapter card | 网卡 | Connects a computer to one or more other computers (See also network interface card) |
| network interface card (NIC) | 网卡 | Expansion card connecting a computer to one or more other computers (See also network adapter card) |
| parallel processing | 并行处理 | Requires programs that allow multiple processors to work together to run large complex programs |
| PCI Express (PCIe) | PCI高速端口 | Is widely used and provides a single dedicated path for each connected device |
| peripheral | 外围设备 | external device, such as a monitor or keyboard |
| personal computer | 个人计算机 | Most widely used computer that is most affordable and is designed to be operated directly by the end user |
| port | 端口 | Allow cables to be connected from expansion cards to devices outside the system unit |
| power supply unit | 电源 | Converts AC to DC and provides the power to system unit components |
| processor | 处理器 | The “brains” of a computer and is contained on a single chip (See also microprocessor, central processing unit) |
| random-access memory (RAM) | 随机读写存储器 | Chips temporarily holding programs and data that the CPU is presently processing |
| read-only memory (ROM) | 只读存储器 | Chips that are nonvolatile storage and control essential system operations |
| SD card | SD卡 | Fingernail size expansion card used primarily for laptop computers, tablets, and cell phones |
| semiconductor | 半导体 | Consists of tiny circuit boards etched onto squares of sand-like material called silicon (See also integrated circuit, silicon chip, chip) |
| silicon chip | 硅芯片 | Consists of tiny circuit boards etched onto squares of sand-like material called silicon (See also integrated circuit, chip, semiconductor) |
| slot | 插槽 | Provides a connection point for specialized cards or circuit boards |
| smartphone | 智能手机 | Most popular mobile device providing computer power |
| smartwatch | 智能手表 | Contains and embedded chip and acts as a watch, fitness monitor, and communication device |
| socket | 插口 | Provides a connection point for chips |
| system board | 系统板（主板，母板） | The communications medium for the entire computer system (See also motherboard, main board) |
| system bus | 系统总线 | Connects the CPU to memory on the system board |
| system chassis | 机箱 | A container that houses most of the electronic components that makes up a computer system (See also system unit, or chassis) |
| system unit | 系统单元 | A container that houses most of the electronic components that makes up a computer system (See also chassis, or system unit) |
| tablet | 平板电脑 | Highly portable device as they are smaller and lighter than laptops, but are less powerful than laptop computers |
| tablet computer | 平板电脑 | Highly portable device as they are smaller and lighter than laptops, but are less powerful than laptop computers |
| Thunderbolt port | 雷电端口 | High-speed connections to up to seven separate devices connected one to another |
| tower computer | 台式机 | A desktop system unit placed vertically |
| tower unit | 台式机 | A desktop system unit placed vertically |
| two-in-one laptops | 二合一笔记本电脑（笔记本+平板） | Includes a touch screen and the ability to fold flat like a tablet computer |
| ultrabooks | 超极本（轻便笔记本） | A type of a very portable laptop, lighter and thinner with longer battery life |
| ultraportables | 超极本（轻便笔记本） | A type of a very portable laptop, lighter and thinner with longer battery life |
| Unicode | 一种双字节编码方案 | A 16-bit binary code, most widely used standard |
| universal serial bus (USB) | 通用串行总线 | Can connect several devices to the system unit |
| universal serial bus (USB) port | 通用串行总线端口 | Fastest type of port that can connect several devices at a time to the system unit |
| Universal serial bus –A (USB-A) | 通用串行总线端口USB-A | Used on PCs |
| Universal serial bus – B (USB-B) | 通用串行总线端口USB-B | Used for peripherals |
| Universal serial bus – C (USB-C) | 通用串行总线端口USB-C | Gaining popularity on laptops and smartphones and is expected to replace USB-A and USB-B in the future |
| virtual memory | 虚拟内存 | Divides large programs into parts that are read into RAM as needed |
| wearable computer | 可穿戴设备 | Also known as wearable devices and are one of the first evolutionary steps to IoT and contain an embedded computer on a chip |
| wearable device | 可穿戴设备 | Also known as a wearable computer and are one of the first evolutionary steps to IoT and contain an embedded computer on a chip |
| wireless charging platform | 无线充电平台 | Used in place of a cable to charge cell phones and mobile devices |
| wireless network card | 无线网卡 | Expansion card that allows computers to be connected without cables |
| word | 字（word size，字长） | Number of bits (such as 16, 32, or 64) that can be accessed at one time by the microprocessor |