

高等学校专业英语教材

实用计算机英语

► 张传娟 主编

► 陈 明 副主编



电子工业出版社

PUBLISHING HOUSE OF ELECTRONICS INDUSTRY

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北京 · BEIJING

内 容 简 介

本书内容与日常学习和使用计算机密切相关,通俗易懂,实用性非常强。全书共分三大部分:计算机硬件、计算机软件、计算机网络与安全,每部分由4~5课组成。每一课围绕一个专业知识主题展开讨论,由主要术语、课文和屏幕英语组成,并配有相应的词汇、习题、阅读材料和常用语法知识。

本书可供应用型本科、大专院校的计算机及IT相关专业的学生使用,也可供参加计算机水平考试的学生、IT行业的工程技术人员和谋求出国发展的计算机人才学习参考。

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前 言

作为 IT 行业的语言,英语是学好计算机专业课、掌握最新技术的重要工具;作为计算机专业的学生,编程技术是专业基础,计算机程序设计语言依赖于英语。而且,计算机操作过程中所出现的菜单、提示、帮助及错误反馈信息常以英文界面出现,若掌握了英文,就能迅速理解其含义,有助于专业的学习。计算机行业是当今发展最快的领域之一,新概念、新术语、新资料源源不断从国外引入,大多数计算机方面的最新研究成果都是以英文公布的,迅速掌握这些最新成果极其重要的条件就是要能熟练阅读用英文撰写的计算机技术文献、资料、书籍等。此外,直接阅读英文资料者能够更直接、更详细、更全面、更准确地理解技术细节,这是任何编译资料所不能代替的。由此可见,学好专业英语对计算机专业的学生来说是意义重大的。

本书作者长期从事计算机专业英语的教学,具有丰富的一线教学经验,在内容选材上,充分考虑了当前高职高专的教学目的及高职学生的英语水平偏弱等特点,教材内容以基础性为原则,主要与学生日常学习和使用计算机密切相关,侧重于计算机的基础知识,用较简单的文字表达了较专业的计算机技术,通俗易懂,实用性强。通过本课程的学习,使学生掌握有关计算机专业方面的基本词汇、基本表达方法,培养学生学会阅读计算机方面的文章和理解计算机操作过程中的英语提示,培养学生学习英语的兴趣和提高英语的应用能力。

全书共分三大部分:计算机硬件、计算机软件、计算机网络与安全,每部分由 4~5 课组成。每一课由主要术语、课文和屏幕英语组成,并配有相应的词汇、习题、阅读材料和常用语法知识。主要术语部分包括了常见的专业技术概念,图文并茂,并采用直接对照翻译的模式,使中英文互译更易理解;课文内容包括了计算机的基础知识,深入浅出,文字流畅,易读易懂;屏幕英语部分系统地总结了常见的屏幕英文提示,操作性强,实用性强;阅读材料部分提供了与课文主题相关的资料,进一步扩大读者的视野;语法部分主要选取与科技英语有关的常见语法知识,有助于学生更好地掌握理解科技英语。

本书由福建船政交通职业学院信息技术与工程系的教师编写。张传娟任主编,负责全书的总体设计和统稿,黄金凤任主审,陈明任副主编,任慧、李慧敏、郑秋新、林宛杨、张恺为参编。主要分工如下:主要术语(Key Terms)和语法部分由张传娟负责编写。屏幕英语(Screen Information)部分和插图由陈明负责编写。第一部分(Part 1 Computer Hardware System)的课文和阅读材料由任慧、郑秋新、张恺负责编写;第二部分(Part 2 Computer Software System)的课文和阅读材料由张传娟、李慧敏、任慧负责编写;第三部分(Part 3 Computer Network and Security)的课文和阅读材料由张传娟、黄金凤、李慧敏、林宛杨负责编写,全

书的练习和附录由李慧敏负责编写。在本书的编写过程中，得到信息技术与工程系陈常晖主任的大力支持，在此表示衷心的感谢！

本书可作为计算机类专业学生的专业英语教材，也可供计算机爱好者和英语爱好者使用，同时，本书还可作为计算机公共基础的双语教材。

由于编者水平有限，加之时间仓促，书中错误与不足之处在所难免，敬请读者批评指正。

编 者

2011年12月

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Part 1

Computer Hardware System

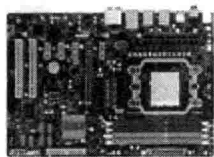
1.1 Lesson One

1.1.1 Key Terms



CPU: The “brain” of a computer system is called the central processing unit. It interprets and carries out the basic instructions that operate a computer. That is, most of the devices connected to the computer communicate with the CPU in order to carry out a task.

CPU: 计算机系统的大脑，称为中央处理单元，用来解释和执行操作计算机的基本指令。即大多数连接到计算机的设备通过与 CPU 通信来完成作业。



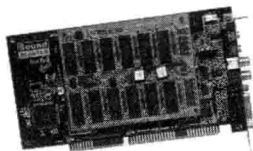
Motherboard: It is the main printed circuit board in a computer that carries the system buses on which the CPU communicates with other devices. It is equipped with sockets to which all processors, memory modules, plug-in cards, daughterboards are connected.

主板: 它是计算机中带有系统总线的主要印制电路板，是 CPU 与其他设备通信的平台。主板上装备有插槽，通过插槽，所有处理器、内存模块、插入卡、子板与之连接。



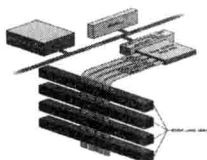
Expansion slot: It is an opening socket where a circuit board can be inserted into the motherboard. It allows a user to add useful hardware to a computer, for example: sound card, graphic card, network card, etc.

扩展槽: 它是一个开放的插槽，通过它，电路板插到主板上。它允许用户往计算机上增加有用的硬件，如声卡、显卡和网卡等。



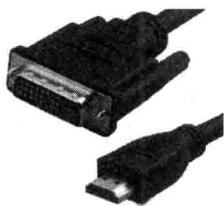
Expansion board: It is a circuit board, also called expansion card, which used to add new devices or functions to the computer, such as a modem or more memory.

扩充板: 它是一种电路板, 也称为扩充卡, 用来在计算机上新增设备或增加计算机的功能, 如调制解调器或更多的存储器。



Bus: It is a set of wires which connect the computer's various components, and it could send information from one component to another. According to its functions, the bus is divided into three types: a data bus, an address bus and a control bus.

总线: 实际上就是一组导线, 它将计算机的各个部件连接起来, 并且可以将信息从一个部件传递到另一个部件。总线按照它的功能可以分为三类: 数据总线、地址总线和控制总线。



Interface: It is the logical circuit that connects two pieces of hardware together, which is necessary for the exchange of information among various parts. According to data transmission mode, there are two basic types of interface: serial interface and parallel interface. The interface between the host and I/O devices is called an I/O interface.

接口: 它是把两个硬件连接在一起的逻辑线路。该线路在两个不同部件之间相互交换信息是必需的。根据数据传输模式, 有两种基本类型的接口: 串行接口和并行接口。在主机与输入/输出设备之间交换信息的接口称为 I/O 接口。

1.1.2 Text: Introduction of the Computer System

We are changing from an industrial society to an information society. Today nearly everyone can easily use a micro-computer together with the Internet for learning, working or entertainment. The computer has changed the way we live and work.

Computer systems consist of hardware and software. Hardware is the physical part of the

system. Software is the set of programs that instruct the hardware. Hardware components work together with software to perform calculations, organize data, and communicate with other computer.

Basically, a computer consists of four components as shown in Fig. 1-1 (The lines connecting the various units represent possible paths of information flow. The arrows show the direction of information flows.)

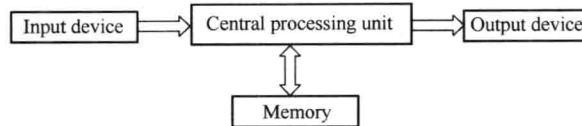


Fig. 1-1 The basic components of a computer

(1) **Central processing unit (CPU):** The heart of the computer system, it has the ability to carry out our instructions or programs given to the computer. There are two typical components in CPU, the arithmetic logic unit (ALU) and the control unit. They are responsible for performing all arithmetic operations and logic decisions initiated by the program. In addition to arithmetic and logic functions, the CPU controls overall system operation.

(2) **The memory:** The Memory of the computer is used to store information such as numbers, names, and addresses. In the computer system, memory is divided into two different sections, known as main storage and auxiliary storage. The main storage generally includes RAM and ROM. The auxiliary storage includes the hard disk, the floppy disk, and the optical disk, etc.

(3) **The input/output devices:** They are the means by which the CPU communicates with the outside world. The input unit is used to input information and commands to the CPU for processing, such as the keyboard, the mouse and the scanner etc. After processing, the information results must be output. The output of data from the system is performed by the output unit, such as the monitor, the printer, and the speaker, etc.

Software, on the other hand, is the set of instructions a computer uses to manipulate data. Without software instructions, the hardware doesn't know what to do. With the correct software, a computer can become available tool. Software can be categorized into two types: system software and application software. System software, which consists of programs that control the operations of the computer and its devices, serves as the interface between a user and the computer's hardware, for example, Windows XP, DOS, etc. Application software consists of programs designed to perform specific tasks for users, for example, Word, QQ, etc.

1.1.3 Screen Information: BIOS 设置

BIOS is the abbreviation of Basic Input Output system, which plays an important role in computer system. BIOS is a suit of programs which are solidified to computer, and provide for computer the first-degree and direct hardware control. BIOS is a hinge between software programs and hardware devices.

BIOS 是基本输入输出系统的缩写，在计算机系统中起着非常重要的作用。BIOS 是一组被固化到电脑中并为电脑提供最低一级最直接的硬件控制程序。它是连通软件程序和硬件设备之间的枢纽。

1. BIOS Options (BIOS 选项)

- Standard CMOS Features 标准 CMOS 功能设置
- Advanced BIOS Features 高级 BIOS 功能设置
- Frequency/Voltage Control 频率/电压控制
- Integrated Peripherals: on board I/O, IRQ(Interrupt Request), DMA assignment...
集成外设：在主板上的输入输出设置、中断请求、直接存储器存取分配等
- Power Management Setup: sleeping timer, suspend timer
电源管理设置：睡眠定时器、悬挂定时器
- PC Health Status: system voltage, CPU Temperature, FAN fail detect
电脑健康状态：系统电压、CPU 温度、风扇故障检测
- Load Fail-Safe Defaults 加载 Fail-Safe 预设值
- Load Optimized Defaults 加载默认优化配置
- Set Supervisor Password 设置管理员密码
- Set User Password 设置用户密码
- Save and Exit Setup 保存设置并退出
- Exit Without Saving 不保存设置直接退出

2. Standard CMOS Features (标准 CMOS 功能设置)

- Date (mm:dd:yy) 日期 (月：日：年)
- Time (hh:mm:ss) 时间 (时：分：秒)
- IDE Channel 0/1 Master/Slave IDE 通道 0/1 主/从硬盘
- Base Memory 基本内存
- Extended Memory 扩展内存
- Total Memory 总内存

3. Advanced BIOS Features (高级 BIOS 功能设置)

- Hard Disk Boot Priority 硬盘启动优先级
- First/Second/Third Boot Device 第一/二/三启动设备
- Hard Disk 硬盘
- CDROM 光驱
- USB-FDD USB-FDD 设备
- USB-ZIP USB-ZIP 设备
- USB-CDROM USB-CDROM 设备
- USB-HDD USB-HDD 设备
- Password Check 密码检查
- HDD S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) Capability 硬盘自动监控报警功能
- Full Screen LOGO Show 全屏 LOGO 显示
- Backup BIOS Image to HDD 备份 BIOS 镜像到硬盘上

4. Frequency/Voltage Control (频率/电压控制)

- Advanced Frequency Settings 高级频率设置
- CPU Clock Ratio CPU 倍频
- CPU Frequency CPU 频率
- Advanced CPU Core Features CPU 核心参数高级设置
- Intel® Turbo Boost Tech Intel® CPU 加速模式
- CPU Cores Enabled 启动 CPU 多核心技术
- CPU Multi-Threading 启动 CPU 超线程技术
- System Memory Multiplier (SPD) 内存倍频调整
- Memory Frequency (MHz) 内存频率调整
- CPU Vcore CPU 核心电压设置
- CPU PLL (Phase Locking Loop) CPU 锁相环设置
- DRAM Voltage DRAM 电压
- Isochronous Support 同步支持

Key Words

process ['prəuses] *n.* 过程, 步骤, 程序; *vt.* 处理, 加工
interpret [in'tə:prɪt] *v.* 说明, 解释, 翻译, 口译
instruction [in'strʌkʃən] *n.* 命令, 指示, 教导, 【计】指令
communicate [kə'mju:nikeɪt] *v.* 传达, 通信

circuit ['sə:kit] *n.* 电路, 回路, 环道; *v.* 绕回……, 环行
 socket ['sɒkit] *n.* 插座, 插槽; *vt.* 给……配插座
 component [kəm'pəʊnənt] *n.* 成分, 组件, 元件; *adj.* 组成的, 构成的
 exchange [iks'tʃeɪndʒ] *n.* 交换, 交流; *vt.* 交换, 兑换
 serial ['siəriəl, 'si:r-] *adj.* 连续的, 连载的; *n.* 期刊, 【计】串行
 transmit [trænz'mit] *vt.* 传输, 传播, 发射, 发射信号
 parallel ['pærəlel] *n.* 平行线, 对比; *adj.* 平行的, 类似的, 相同的
 calculation [kælkju:leɪʃən] *n.* 计算, 估计
 represent [repri'zent] *vt.* 代表, 表现, 描绘, 回忆
 initiate [i'niʃieɪt] *n.* 开始, 新加入者; *vt.* 开始, 创始, 发起; *adj.* 新加入的
 overall ['əʊvərɔ:l, əʊvə'ɔ:l] *n.* 工装裤, 罩衫; *adj.* 全部的, 一切在内的
 memory ['meməri] *n.* 记忆, 记忆力, 【计】存储器, 内存
 auxiliary [ɔ:g'ziljəri] *n.* 助动词, 辅助者, 辅助物; *adj.* 辅助的, 副的, 附加的
 perform [pə'fɔ:m] *v.* 执行, 演奏, 表演
 manipulate [mæ'nɪpjuleɪt] *vt.* 操纵, 操作
 categorize ['kætigəraɪz] *vt.* 分类
 specific [spi'sɪfɪk] *n.* 特性, 细节; *adj.* 特殊的, 特定的, 明确的, 详细的
 abbreviation [ə,bri:vi'eɪʃən] *n.* 缩写, 缩写词
 solidify [sə'lɪdɪfaɪ] *vt.* 团结, 凝固
 hinge [hɪndʒ] *n.* 铰链, 枢纽, 关键; *v.* 依……而转移, 给……安装铰链
 integrate ['ɪntɪgreɪt] *n.* 一体化, 集成体; *adj.* 整合的, 完全的; *vt.* 使……成整体
 peripheral [pə'rɪfərəl] *n.* 外围设备; *adj.* 外围的, 次要的
 interrupt [ɪntə'rʌpt] *n.* 中断; *vt.* 中断, 打断, 妨碍
 assignment [ə'saɪnmənt] *n.* 分配, 任务, 作业, 功课
 suspend [sə'spend] *vt.* 延缓, 推迟, 使暂停, 使悬浮, 挂起
 default [di'fɔ:lt] *n.* 违约, 缺席, 缺乏, 拖欠, 默认, 【计】默认值
 priority [praɪ'ɔrəti] *n.* 优先, 优先权
 ratio ['reɪʃiəʊ, -ʃəʊ] *n.* 比率, 比例
 frequency ['frikwənsi] *n.* 频率, 频繁
 turbo ['tɜ:bəʊ] *n.* 涡轮增压机, 汽轮发电机; 【计】Borland 公司开发的系列语言软件
 boost [bu:st] *n.* 推动, 帮助, 宣扬; *vt.* 促进, 增加, 推进
 thread [θred] *n.* 线, 线状物, 思路, 路线, 螺纹, 线程
 loop [lu:p] *n.* 环, 圈, 循环, 回路
 isochronous [ai'sɒkrənəs] *adj.* 等时的, 等步的

1.1.4 Reading Materials: Digital Communication and Analog Communication

Modern communication can be divided into analog communication and digital communication according to the type of transmitted signal. If signals transmitted in a communication system are analog signals, the communication system is an analog communication system. On the other hand, a digital communication system is a system which transmits and processes digital signals.

In conventional telecommunication system, signals transmitted in channel change with the voice of user during the whole talking period. These signals, shown in Fig. 1-2 (a), are continuous either in time or for amplitude, and so we called these signals the analog signals. Unlike analog signal, digital signal is a kind of signal which is discrete in time and has limited number for its amplitude. The most widely encountered digital signal is the one which has only two amplitudes — the 0 and 1, and is usually called binary digital signal shown in Fig. 1-2 (b). Generally, digital signals can be described as binary and M -ary ($M > 2$) signals. Clearly, the M -ary signal means a type of digital signal which has M amplitudes for selection. Fig. 1-2 (c) illustrates a 4-ary digital signal with 0,1,2,3 etc. amplitudes to choose.

Comparing with a digital signal, the bandwidth transmitting an analog signal is relatively narrow, and the efficiency of using channel bandwidth for analog communication system is higher than the digital communication system. It's difficult for analog signals to distinguish the noise from original signals, and the capability of anti-interference in analog communication system is just passable.

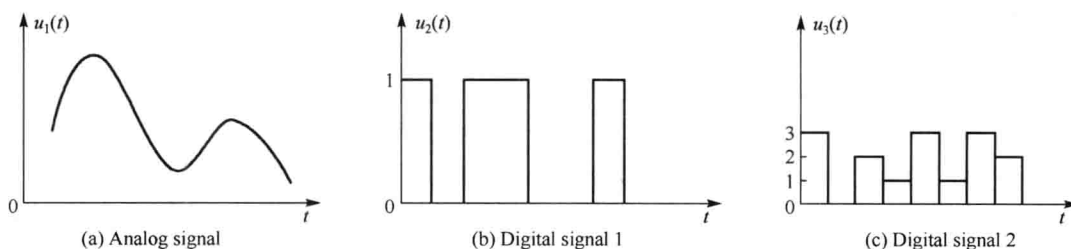


Fig. 1-2 Analog signal and digital signal

The majority of modern communication systems are digital communication systems, so the analog signals have to be converted into corresponding digital signals before they are processed and transmitted in digital communication systems. The converting process is called Analog / Digital conversion, which usually contains the following three steps.

(1) **Sampling**: transforming analog signal into the time-discrete and amplitude-continuous signal;

(2) **Quantizing**: transforming the sampled signal into fully discrete signal, and put the quantized signal with an approximate digit;

(3) **Coding**: using binary code words to describe the quantized digit.

The process of receiving signals in the receiving end of a digital communication system is completely the opposite to the process in sending end, which means that the receiving signal must have to be converted into analog signals by a Digital/Analog conversion at last.

1.1.5 Exercises

1. Please translate the following phrases from Chinese into English.

- | | |
|-----------|-----------|
| (1) 扩充卡 | (2) 地址总线 |
| (3) 系统操作 | (4) 扩展内存 |
| (5) 电源管理 | (6) 管理员密码 |
| (7) 启动优先级 | (8) 同步支持 |

2. Please translate the following phrases from English into Chinese.

- | | |
|-----------------------------|----------------|
| (1) CPU | (2) system bus |
| (3) circuit board | (4) ALU |
| (5) input and output device | (6) BIOS |
| (7) IRQ | (8) hard disk |

3. Please translate the following sentences from Chinese into English.

- (1) 不论是在工作单位，还是在家中，个人计算机都已经像电话那样普及。
- (2) 计算机可以在极短的时间内完成复杂的计算，因为其体系结构支持可同时进行的多道运算。

- (3) 就其本身而言，计算机没有智力，因此可以称之为硬件。
- (4) 数据总线越宽，每次传送的数据就越多，因此计算机的处理速度也就越快。
- (5) 计算机系统的目的是将数据转换成信息。

4. Please translate the following sentences from English into Chinese.

(1) The goal of fifth-generation computers is to develop devices that respond to natural language input and are capable of learning and self-organization.

(2) Unlike the other buses, the address bus always receives data from the CPU; the CPU never reads the address bus.

(3) The term computer is used to describe a device made up of a combination of electronic and electromechanical (part electronic and part mechanical) components.

(4) By themselves, these data elements are useless; we must process them to make them mean something.