



21st CENTURY
规划教材

面向21世纪高职高专计算机系列规划教材
COURSES FOR VOCATIONAL HIGHER EDUCATION: COMPUTER

计算机专业英语

COMPUTER ENGLISH

武卫华 主 编



科学出版社
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内 容 简 介

本书由正文和附录两大部分构成。第一部分即正文部分由十四个具有独立主题,以课文为中心的单元组成。每个单元由课文、单词与词组、语句注释、课后练习和阅读材料组成。内容涉及计算机系统、外部设备、程序设计语言、Java 语言、操作系统、数据库系统、计算机病毒、数字信号处理、双极型晶体管、计算机网络、企业内部网、网页制作、多媒体技术及软件工程等。

第二部分即附录部分,由五个各自独立的附录组成。附录一为总词汇表,附录二为英语构词法,附录三为英语翻译技巧,附录四为计算机及IT 业常用的缩略语,附录五为正文部分的十四篇课文的参考译文。

本书既可作为高职高专计算机专业英语教材,也可供所有使用计算机的科技人员或参加各类计算机考试的考生参考阅读。

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出版前言

随着世界经济的发展,人们越来越深刻地认识到经济发展需要的人才多元化、多层次的,既需要大批优秀的理论性、研究性的人才,也需要大批应用性人才。然而,我国传统的教育模式主要是培养理论性、研究性的人才。教育界在社会对应用性人才需求的推动下,专门研究了国外应用性人才教育的成功经验,结合国情大力度地改革我国的“高等职业教育”,制定了一系列的方针政策。联合国教科文组织1997年公布的教育分类中将这种教育称之为“高等技术与职业教育”,也就是我们通常所说的“高职高专”教育。

我国经济建设需要大批应用性人才,呼唤高职高专教育的崛起和成熟,寄希望于高职高专教育尽快向国家输送高质量的紧缺人才。近几年,高职高专教育发展迅速。目前,各类高职高专学校已占全国高等院校的近1/2,约有600所之多。教育部针对高职高专教育出台的一系列政策和改革方案主要体现在以下几个方面:

- “就业导向”成为高职高专教育的共识。高职高专院校在办学过程中充分考虑市场需求,用“就业导向”的思想制定招生和培养计划。
- 加快“双师型”教师队伍建设。已建立12个国家高职高专学生和教师的实训基地。
- 对学生实行“双认证”教育。学历文凭和职业资格“双认证”教育是高职高专教育特色之一。
- 高职高专教育以2年学制为主。从学制入手,加快高职高专教学方向的改革,充分办出高职高专教育特色,尽快完成紧缺人才的培养。
- 开展精品专业和精品教材建设。已建立科学的高职高专教育评估体系和评估专家队伍,指导、敦促不同层次、不同类型的学校办出一流的教育。

在教育部关于“高职高专”教育思想和方针指导下,科学出版社积极参与到高职高专教材的建设中去。在组织教材过程中采取了“请进来,走出去”的工作方法,即由教育界的专家、领导和一线的教师,以及企事业从事人力资源工作的人员组成顾问班子,充分分析我国各地区的经济发展、产业结构以及人才需求现状,研究培养国家紧缺人才的关键要素,寻求切实可行的教学方法、手段和途径。

通过研讨认识到,我国幅员辽阔,各地区的产业结构有明显的差异,经济发展也不平衡,各地区对人才的实际需求也有所不同。相应地,对相同专业和相近专业,不同地区的教学单位在培养目标和培养内容上也各有自己的定位。鉴于此,适应教育现状的教材建设应该具有多层次的设计。

为了使教材的编写能针对受教育者的培养目标,出版社的编辑分不同地区逐所学校拜访校长、系主任和老师,深入到高职高专学校及相关企事业,广泛、深入地教学和教学第

一线的老师、用人单位交流，掌握了不同地区、不同类型的高职高专院校的教师、学生和教学设施情况，清楚了各学校所设专业的培养目标和办学特点，明确了用人单位的需求条件。各区域编辑对采集的数据进行统计分析，在相互交流的基础上找出各地区、各学校之间的共性和个性，有的放矢地制定选题项目，并进一步向老师、教育管理者征询意见，在获得明确指导性意见后完成“高职高专规划教材”策划及教材的组织工作：

- 第一批“高职高专规划教材”包括三个学科大系：经济管理、信息技术、建筑。
- 第一批“高职高专规划教材”在注意学科建设完整性的同时，十分关注具有区域人才培养特色的教材。
- 第一批“高职高专规划教材”组织过程正值高职高专学制从3年制向2年制转轨，教材编写将其作为考虑因素，要求提示不同学制的讲授内容。
- 第一批“高职高专规划教材”编写强调
 - ◆ 以就业岗位对知识和技能需求下的教材体系的系统性、科学性和实用性。
 - ◆ 教材以实例为先，应用为目的，围绕应用讲理论，取舍适度，不追求理论的完整性。
 - ◆ 提出问题→解决问题→归纳问题的教、学法，培养学生触类旁通的实际工作能力。
 - ◆ 课后作业和练习（或实训）真正具有培养学生实践能力的作用。

在“高职高专规划教材”编委的总体指导下，第一批各科教材基本是由系主任，或从教学一线中遴选的骨干教师执笔撰写。在每本书主编的严格审读及监控下，在各位老师的辛勤编撰下，这套凝聚了所有作者及参与研讨的老师们的经验、智慧和资源，涉及三个大的学科近200种的高职高专教材即将面世。我们希望经过近一年的努力，奉献给读者的这套书是他们渴望已久的适用教材。同时，我们也清醒地认识到，“高职高专”是正在探索中的教育，加之我们的水平和经验有限，教材的选题和编辑出版会存在一些不尽人意的地方，真诚地希望得到老师和学生的批评、建议，以利今后改进，为繁荣我国的高职高专教育不懈努力。

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前 言

随着计算机技术在经济与社会发展中的地位日趋重要,计算机专业及相关专业的英语学习越来越难。其原因之一就是计算机及 IT 领域里的新概念、新术语、新资料正在源源不断地从国外引入,直接采用英文术语(或缩略语)的现象比以往更加普遍;Internet 上涌现出大量的英文信息,等待我们学习、采用;更不用说计算机上经常出现的英文界面等对我们使用计算机的影响了。因此,计算机专业英语水平将是制约计算机专业技术人员发展的一个重要因素。

本书根据高职高专教育教学的要求及高职高专的学制和教学时数的要求,参照计算机专业教学计划的知识体系和内容,对有关材料进行了精心的选取和编排。本书主要分为正文和附录两大部分。

第一部分即正文部分由十四个具有独立主题的单元组成。每个单元由课文、单词与词组、语句注释、课后练习及阅读材料组成,内容涉及到计算机系统、外部设备、程序设计语言、Java 语言、操作系统、数据库系统、计算机病毒、数字信号处理、双极型晶体管、计算机网络、企业内部网、网页制作、多媒体技术和软件工程等。

第二部分由四个附录组成。附录一为本书的总词汇表;附录二为英语构词法;附录三为英语翻译技术;附录四为计算机及 IT 业常用的缩略语;附录五为正文部分十四篇课文的参考译文。

本教材具有以下特点:第一,选材广泛,覆盖面广。所选资料广泛涉及到计算机专业和 IT 业的基本知识。第二,选材新颖,时代感强。对于最新的知识如多媒体技术、网页制作、Java 语言及企业内部网等都有选取。第三,难度适中。考虑到高职高专的学生水平不齐,学制较短,课时相对紧张的实际情况,有意将某些课文的篇幅及难度予以适度降低,以便教师在教学中能灵活掌握。第四,练习精简,强度适中。由于篇幅和教学时数的制约,教师需自行补充,以利于强化和巩固所学知识。第五,主次分明,相辅相成。附录二(英语构词法)和附录三(英语翻译技巧)在以往的教学实践中被证明是非常实用的,若直接编入各正文单元,势必影响教学进度和教学安排,难以达到良好的效果,因而我们将其分离出来,放在附录中。根据实际需要可采用全讲或选讲,分散讲或集中讲,自学或有引导的自学等多种灵活的形式。

本书的第四单元 Java 语言、第七单元数字信号处理、第八单元双极型晶体管、第十单元计算机病毒、第十二单元软件工程及附录一(总词汇表)、附录五(参考译文)由武卫华编写,第二单元外围设备、第十一单元计算机网络、第十四单元企业内部网及附录三(英语翻译技巧)由马军红编写,第一单元计算机系统、第九单元多媒体技术、第十三单元网页制作及附录四(计算机常用缩略语)由韩玉慧编写,第三单元程序设计语言、第五单元操作系统、第六单元数据库系统及附录二(英语构词法)由周晶编写。

由于时间仓促,且编者水平有限,书中难免有不妥之处,敬请广大读者批评指正。

编 者

2004年6月

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Unit One Computer System

The term computer is used to describe a device made up of a combination of electronic and electromechanical (part electronic and part mechanical) components. By itself, a computer has no intelligence and is referred to its hardware. Computer does not come to life until it is connected to other parts of a computer system. A computer system is a combination of the five elements (listed here in the order of how expensive it would be to replace them in a system, from least to most expensive):

- hardware.
- software.
- data/information.
- procedures.
- people.

When one computer system is set up to communicate with another computer system, connectivity becomes a sixth system element. In other words, the manner in which the various individual systems are connected—for example, by phone lines, microwave transmission, or satellite—is an element of the total computer system.

Software is the term used to describe the instructions that tell the hardware how to perform a task; without software instructions, the hardware does not know what to do. People, however, constitute the most important component of the computer system. People operate the computer hardware, they create the computer software instructions and respond to the procedures that those instructions present. You will learn more about software and procedures later. Right now we want to discuss the importance of data and information.

The purpose of a computer system is to convert data into information. Data is raw, un-evaluated facts and figures, concepts, or instructions. This raw material is processed into useful information. In other words, information is the product of data processing. This processing includes refining, summarizing, categorizing, and otherwise manipulating the data into a useful form for decision making.

Now we'll discuss the basics about the hardware devices that convert data into information in a typical computer-based system.

Computer hardware

If, at a job interview, you are asked about what kind of computer equipment you've used before or what you know about hardware, and you don't have an answer, your interviewer will probably perceive you as a person who doesn't take active role in what's going on around you. In today's business world, not knowing what computer hardware is and what

typical hardware components do is similar to being a taxi driver and not knowing what a car is and that it has components such as an engine, doors, windows, and so on.

In this section, we provide a brief description of the components found in each category of hardware so that you can see how they relate to one another. Computer hardware can be divided into four categories: ① input hardware, ② storage hardware, ③ processing hardware, and ④ output hardware.

Input hardware

The purpose of input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. Although it isn't the only type of input device available, the computer keyboard is the one most generally used by the business community.

Storage hardware

The purpose of storage hardware is to provide a means of storing computer instructions and data in a form that is relatively permanent, or nonvolatile—that is, the data is not lost when the power is turned off—and easy to retrieve when needed for processing.

Processing hardware

The purpose of processing hardware is to retrieve, interpret, and direct the execution of software instructions provided to the computer. The most common of processing hardware are the central processing unit and main memory.

The central processing unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Main memory can be thought of as an electronic desktop. The more desk-surface you have in front of you, the more you can place on it. Similarly, if your computer has a lot of memory, you can place more software instructions in it. The amount of memory available determines whether you can run simple or sophisticated software. Quite simply, the more main memory you have in your computer, the more you can accomplish.

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. The hardcopy output can be held in your hand. The softcopy output is displayed on a monitor, a television-like screen on which you can read texts and graphics. Communications hardware is used to transmit outputs among and receive inputs from different computers.

Computer software

A computer is an inanimate device that has no intelligence of its own and must be supplied with instructions so that it knows what to do and how and when to do it. These instructions are called software. Software is made up of a group of related programs, each of which is a group of related instructions that perform very specific processing tasks. Software can generally be divided into two categories: (1) system software and (2) application software.

System software

Programs designed to allow the computer to manage its own resources are called system software. This kind of software performs the basic operations. It tells the hardware what to do and how and when to do it. However, it does not solve specific problems relating to a business or a profession.

Application software

Any instructions or collection of related programs designed to be carried out by a computer to satisfy a user's specific needs are application software. A group of programs written to perform payroll processing is one type of application software, as programs written to maintain personnel records, update an inventory system, or help you calculate a budget.

To the people

People: computer professionals and users, are the most important components in the computer system. Although our role may seem rather obvious, it is often underestimated. Here are some of the ways people can affect computer operations:

- Computer professionals design computer hardware and related equipment and also create, and develop computer software.
- Depending on the design of the computer system, users input data to be processed right away. In some cases, users create their own specialized applications software.
- Users also review information produced by the computer for use in making business and professional decisions.
- Users and computer professionals make decisions and use and operate computer systems in ways that can affect our security, comfort, and well being in daily life.

Words and Expressions

- combination n. 联合, 合并
electro-mechanical a. 电动机械的, 机电的, 电机的
connectivity n. 连通性
microwave n. 微波

| | |
|------------------|--------------------|
| transmission n. | 播送, 传递, 传送 |
| unevaluated a. | 难以计算的, 难以估价的 |
| summarize vt. | 概括, 总结 |
| categorize v. | 分类 |
| manipulate v. | (熟练地) 操作, 使用 (机器等) |
| inventory n. | 详细目录, 存货清单, 库存 |
| interviewer n. | 面试者, 接见者 |
| perceive vt. | 感觉, 感知, 察觉 |
| available a. | 可利用的, 可得到的 |
| community n. | 社区, 社会; 界 |
| relatively ad. | 相关地, 相关性 |
| nonvolatile a. | 非易失性的 |
| retrieve v. | 回顾, 复习; 检查, 审阅 |
| interpret vt. v. | 翻译; 解释, 说明, 诠释 |
| coordinate vt. | 调节, 协调 |
| desktop n. | 桌面 |
| inanimate a. | 无生命的; 无生气的, 单调的 |
| payroll n. | 薪水单, 工资单 |
| inventory n. | 详细目录, 财产清单, 存货, 存盘 |

Notes

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

分析: 本句中 be used to 用来表示“常常用来, 通常用于”的意思, 作谓语。made up of a combination of electronic and electromechanical components 是定语从句, 修饰 a device; made up of ... 的意思为由... 什么组成。

译文: 术语“计算机”通常是指由电子的和机电的(部分电子和部分机械)部件联合而成的一种设备。

(2) In today's business world, not knowing what computer hardware is and what typical hardware components do is similar to being a taxi driver and not knowing what a car is and what components it has such as an engine, doors, windows, and so on.

分析: 本句中 not knowing what computer hardware is and what typical hardware components do 做主语, is similar to being a taxi driver and not knowing what a car is and that it has components such as an engine, doors, windows, and so on 系表结构作表语, that it has components such as an engine, doors, windows, and so on 是定语从句, 定语后置, 修饰 a car。

译文: 在当今的商业界内, 不知道什么是计算机硬件以及典型的硬件部件的用途就像一个出租车司机不知道什么是车以及它的组件, 如引擎、门、窗等一样。

(3) It reads and interprets software instructions and coordinates the processing activates

that must take place.

分析：本句中，形式主语 it 代表上句中 The central processing unit (CPU), reads and interprets and coordinates 并列作谓语，表示中央处理器可进行三种动作：读取、解释和协调。software instructions 为 reads and interprets 所带宾语，指出读取并解释的对象：软件指令。the processing activates the nonvolatile at must take place 为 coordinates 所带宾语，指出协调的对象：必然会发生的非易失性的处理行为。

译文：它（这里指中央处理器）读取并且解释软件指令，协调必然会发生的非易失性处理行为。

(4) A computer is an inanimate device that has no intelligence of its own and must be supplied with instructions so that it knows what to do and how and when to do it.

分析：在本句中 must be supplied with...前省略了主语 A computer; so that 从句作用为...才能...be supplied with 用被动语态，表示一台计算机必须被安装了指令后才能... what to do and how and when to do it 从句译为做什么、如何以及何时做它。

译文：一台计算机自身是没有智能的死设备，必须给它提供指令，它才知道做什么、怎么做以及何时做。

(5) People: computer professionals and users are the most important component in the computer system, although our role may seem rather obvious, it is often underestimated.

分析：computer professionals and users 是同位语，和 People 指的都是计算机系统中的人；although...引导状语从句，表示转折，译为尽管...却...虽然...可是...

译文：人，计算机专业人员和用户，是计算机系统中最重要的一部分。尽管人的作用很明显，却常常被轻视。

Exercises

1. Translate the following words into Chinese

- (1) microwave transmission
- (2) category of hardware
- (3) input hardware
- (4) storage hardware
- (5) processing hardware
- (6) output hardware
- (7) systems software
- (8) applications software
- (9) main memory
- (10) processing power
- (11) execution of software instructions

2. Decide whether the following statements are true (T) or false (F) in relation to the information in the text

- (1) Hardware is the term used to describe the instructions that tell the software how to perform a task. ()

(2) The purpose of input hardware is to deal with data. ()

(3) The purpose of CPU is to retrieve, interpret, and direct the execution of software instructions provided to the computer. ()

(4) Output hardware provides the user with the means to view information produced by the computer system including of display, printer and mouse. ()

(5) Only the computer experts are the most important component in the computersystem. ()

3. Complete the following passage according to the text

(1) Usually a computer system is a combination of _____ elements.

(2) _____ is the term used to describe the instructions that tell the hardware how to perform a task; without _____, the hardware does not know what to do.

(3) The purpose of _____ is to collect data and convert it into a form suitable for computer processing. The most common input device is a _____.

(4) With a _____ in your computer, you can perform highly sophisticated tasks in a very short time.

(5) _____ runs the basic operations. However, it does not solve specific problems relating to a business or a profession.

Reading Material

The Evolution of Computers

The first large-scale electronic computer, the Electronic Numerical Integrator and Computer (ENIAC), became operational in 1945. The ENIAC, which weighed 30 tons and occupied about 1,500 square feet of floor space, was able to perform a scientific calculation involving the multiplication of four numbers in approximately 9 milliseconds. Since that time, the technology used in the design and production of computers has accelerated at a remarkable pace.

The term computer generation helps delineate the major technological developments in hardware and software. To date, computer technology has evolved through four distinct generations and is currently developing into a fifth generation. As you read about each generation, you should be thinking about how each has affected data processing. The major characteristics of each generation follow.

First Generation (1944~1958)

These are the earliest general-purpose computers. Most input and output media were punched cards and magnetic tape, and main memory was almost exclusively made up of hundreds of vacuum tubes although one computer used a magnetic drum for main memory. These computers were slow and large and produced a tremendous amount of heat. They could run only one program at a time.

Second Generation (1959~1963)

By the early 1960s, transistors and some other solid-state devices those were much smaller than vacuum tubes were being used for much of the computer circuitry. Removable magnetic disk packs were introduced as storage devices. Second-generation machines tended to smaller, more reliable, and significantly faster than first-generation computers.

Third Generation (1964~1970)

During this period, the integrated circuit, a complete electronic circuit on a silicon chip, replaced transistorized circuitry. The use of magnetic disks became widespread, and computers began to support such capabilities as multiprogramming (processing several programs simultaneously) and timesharing (people using the same computer simultaneously). Minicomputers were being widely used by the early 1970s. The production of operating systems and applications software packages increased rapidly. The size of computers continued to decrease.

Fourth Generation (1971~Now)

In 1971, the first electronic computers were introduced that used Large-Scale Integration (LSI) circuits for main memory and logic circuitry (the circuitry that performs the logical operations of the CPU; different types of chips had different functions). These computers had a much larger capacity to support main memory. This period has also seen increased use of input and output devices that allow data and instructions to be entered directly through the keyboard. The microprocessor, introduced in 1971, combined all of the circuitry for the central processing unit on a single chip. LSI and the microprocessor enabled the development of the supercomputer.

Fifth Generation (Now and in the Future)

Definitions of what constitutes fifth-generation computers do not always agree. Some people think that the new microcomputers with faster operating speeds, greater processing capacity, and virtually unlimited memory should be included. Other people believe the fifth-generation computers will have circuitry based on gallium arsenide. Gallium arsenide offers a fivefold speed increase and uses only one tenth of the power that silicon uses. Scientists have also tried to develop new superconductors that can conduct electricity with no resistance, thus generating no heat but great speed.

Many fifth-generation computers will also incorporate hundreds or thousands of processors that operate in parallel that is, simultaneously. Traditional computers act on only one problem at a time; parallel processing means that many processors will work on the problem at the same time. As you will see later on, this concept promises to provide tremendously more efficient processing than the traditional kind, as will the use of optical "circuitry" that transmits data with light rather than electricity.

Unit Two Peripherals

Peripherals, also known as I/O devices, refer to the external components that you connect to your personal computer for either input or output purposes. Although the hard disk and the CD-ROM drive are technically peripherals too, people usually use the term for devices outside the system case. In fact, they are usually some input and output equipment.

Input devices are equipment that translates data and programs that humans can understand into a form that computer can process. Output devices are pieces of equipment that translate the processed information from the CPU into a form that humans can understand. Next, we'll focus on some typical devices, including the printer, the display, the keyboard, the mouse.

Keyboard and Mouse

Data is input to the computer through a keyboard that looks like a typewriter keyboard but has additional keys. Keyboard converts numbers, letters, and special characters that people understand into electrical signals. These signals are sent to and processed by the system unit. A computer keyboard combines a typewriter keyboard with a numeric keypad. Additionally, it has many special-purpose keys. Some keys such as the Caps Lock key are toggle keys. These keys turn a feature on or off. Others such as the Ctrl key are combination keys that perform an action when held down in combination with another.

A mouse controls a pointer that is displayed on the monitor. The pointer usually appears in the shape of an arrow. It frequently, however, changes shape depending on the application. The standard mouse has a ball on the bottom and is attached with a cord to the system unit. It often has two buttons: left button (single-clicking an object to select it and double-clicking to perform an action) and right button (single-clicking on an object typically displays a shortcut menu of options).

Printers

A printer is a device that accepts text and graphic output from a computer and transfers the information onto paper, usually to standard-sized sheets of paper. Printers are sometimes sold with computers, but more frequently are purchased separately. Printers vary in size, speed, sophistication, and cost. Large printers used in big companies can cost many thousands of dollars but can print at very high speeds, for example, a 300-page technical manual in 20 minutes. Personal computer printers under \$ 500 print only a few pages a minute. In general, more expensive printers are used for higher-resolution color printing.

Personal computer printers can be classified as impact and non-impact printers. Early

impact printers worked something like an automatic typewriter, with a key striking an inked impression on paper for each printed character. The dot-matrix printer has been a popular low-cost personal computer printer. It's an impact printer that strikes the paper a line at a time. The best-known non-impact printers are the inkjet printer, of which several makes of low-cost color printers are an example, and the laser printer. The inkjet sprays ink from an ink cartridge at very close range to the paper as it rolls by. The laser printer uses a laser beam reflected from a mirror to attract ink (called toner) to selected paper areas' as a sheet rolls over a drum.

There are four printer qualities that may be of interest to most users: ① Color: Color is important for users who need to print pages for presentations or maps and other pages where color is part of the information. Color printers can also be set to print only in black-and-white. Color printers are more expensive to operate since they use two ink cartridges (a color one and a black one) that need to be replaced after a certain number of pages. Users who don't have a specific need for color and who print a lot of pages will find a black-and-white printer cheaper to operate. ② Resolution: Printer resolution (the sharpness of text and images on paper) is usually measured in dots per inch (dpi). Most inexpensive printers provide sufficient resolution for most purposes at 600 dpi. ③ Speed: If you do much Printing, the speed of the printer becomes important. Inexpensive printers print only about 3 to 6 sheets per minute. Color printing is slower. More expensive printers are much faster. ④ Memory: Most printers come with a small amount of buffer memory (for example, one megabyte) that can be expanded by the user.

Display

A display is a computer output surface and projecting mechanism that shows text and often graphic images to the computer user, using a cathode ray tube (CRT), liquid crystal display (LCD), light-emitting diode, or other image projection technology. The display is usually considered to include the screen or projection surface and the device that produces the information on the screen. On most computers, the display is packaged in a separate unit called a monitor. The terms display and monitor are often used interchangeably.

Most computer displays use analog signals as input to the display forage creation mechanism. This requirement and the need to continually refresh the display image mean that the computer also needs a display or video adapter. The video adapter takes the digital data sent by application programs, stores it in video random access memory (VRAM), and converts it to analog data for the display scanning mechanism using a digital to analog converter (DAC).

Display can be distinguished according to: color capability, sharpness and viewability, screen size, and the projection technology.

Color Capability

Today, most desktop displays provide color. Displays can usually operate in one of sev-