

中天传播

世纪英才

高等职业教育 **课改** 系列规划教材

(电子信息类)

电工电子专业英语 (第2版)

江华圣 主编

人民邮电出版社
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内 容 提 要

本书按电工电子英语基础知识、阅读方法及科普读物、写作知识和翻译知识 4 个模块编写,旨在提高读者阅读、理解电工电子英语读物和专业资料的能力。为增强实用性,本书在保留第 1 版中部分内容(电工电子设备使用说明书)的基础上,增加了电工电子技术领域中的大量新知识、应用技术、名人名言和世界著名科学家简介,以激励学生的学习热情,提高学生的学习兴趣。

本书适合电工电子类及相关专业的独立学院,高职、高专及成人高校学生学习专业英语使用,也可供广大科技工作者作为学习和参考用书。

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第2版前言

Foreword

本书自出版以来一直受到读者的好评。鉴于现阶段高职学生的英语水平在逐年提高,本次修订主要是在保持原教材体系基本不变的前提下,适当增加了电工电子技术领域中的一些新知识、新应用技术;还补充了名人名言和世界著名科学家简介,以激励学生的学习热情,提高学生的学习兴趣和兴趣,力求使学生在专业英语知识后,就能按照英文软件进行实际应用,达到学以致用,立竿见影的效果。

本书第1版主要作为各大专院校(大学分校、二级学院),高职高专,电大,成人高校的电工、应用电子、自动化、机电一体化、计算机科学、计算机应用等专业的专业英语教材,本版教材亦可作为从事电气工程、电子技术、计算机应用等工作的专业技术人员的自学和参考用书。

全书仍分为4个模块,1~16单元的前后分别增加一段名人名言和科学家简介,18单元增加了一篇介绍“Career in Power System”的文章,19单元增加了“看英文软件,学操作”的应用知识实例,删除了模块D中的22~28单元的内容,改为专业英语翻译简介。

本书已列入“世纪英才高等职业教育课改系列规划教材”出版工程,详情见www.ycbook.com.cn。

本书由武汉科技大学中南分校江华圣主编。在编写过程中,参考了国内外的电气设备使用说明书、专业教材和专著,在此一并表示感谢。

由于编者水平有限,书中难免有疏漏和不当之处,恳请读者批评指正。

编者

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Module A Fundamentals of Electricity and Electronics

A good book is the best of friend, the same today and forever.

好书乃挚友，情谊至永恒。

Martin Farquhar Tupper

Unit 1 What Is a Web Digital Camera

Thank you for choosing our new generation Web Digital Camera (as shown in Fig.1-1) ! It is a high performance web digital product guaranteed by our technology and quality. It is a PnP (Plug and Play) product for real-time data transmission to PC via USB port. It has a high resolution and fast transmission rate. And it is also nice-looking and easy to carry with you, it just brings intimate and convenient life experience with your distant friends and families!

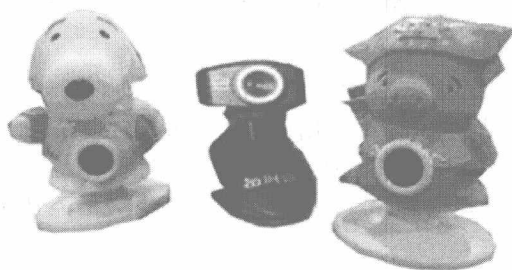


Fig.1-1 Web Digital Camera

New Words and Expressions

generation	<i>n.</i> 代
web	<i>n.</i> 网络
digital	<i>a.</i> 数字的
camera	<i>n.</i> 摄像头, 照相机
performance	<i>n.</i> 性能
product	<i>n.</i> 产品
guarantee	<i>v.</i> 保证
technology	<i>n.</i> 技术



quality	n.品质
PnP(Plug and Play)	即插即用
real-time	实时
transmission	n.传输, 传送
via	prep.通过
USB(Universal Serial Bus)	通用串行总线
port	n.插口
resolution	n.清晰度
rate	n.速度
nice-looking	a.漂亮的, 好看的
carry	v.携带
intimate	a.亲密的
convenient	a.方便的, 便利的
experience	n.经历, 经验
distant	a.远距离的

Notes

(1) Thank you for choosing our new generation Web Digital Camera!

感谢您选择我们新一代的网络数码照相机!

(2) It is a high performance web digital product guaranteed by our technology and quality.

它是一款高性能的数码产品, 拥有我们的技术和品质保证。

句中的 *guaranteed* 是过去分词, 用作 *product* 的后置定语。

介词短语 *by our technology and quality* 作状语。

(3) It is a PnP (Plug and Play) product for real-time data transmission to PC via USB port.

它通过 USB 插口向 PC 传输信息, 是一种即插即用、实时传输数据的理想产品。

PnP 是 Plug and Play 的缩写, 意思为即插即用。

USB 是 Universal Serial Bus 的缩写, 意思为通用串行总线。for real-time data transmission to PC via USB port 作定语, 意思是通过 USB 插口与 PC 实时传输数据。

(4) It has a high resolution and fast transmission rate. And it is also nice-looking and easy to carry with you...

它的清晰度高, 传输速度快, 外观轻巧, 便于携带。

上述四句话均为简单句, *it* 均表示 *web digital camera*, 用 *and* 连接的均为并列成分。

(5) ...it just brings intimate and convenient life experience with your distant friends and families!

它将带给您远方的朋友和家人以亲密和方便的生活体验!

just 本处意为恰好, 正好, 表示强调。

Reading Material

Parameters and Features of Web Digital Camera

As shown in Fig. 1-2.

- ☆ High resolution CMOS color sensors
- ☆ Large window capture size: 640×480
- ☆ Video mode: 24 bit true color
- ☆ Interface: USB port
- ☆ Transmission rate: 320×240 30 F/s
640×480 15 F/s
- ☆ Noise-signal ratio: greater than 48 dB (30 F/s 220LUX)
- ☆ Dynamic range: greater than 72 dB
- ☆ Image focus: 5 cm to ∞
- ☆ Build-in image compensation
- ☆ Manual focus
- ☆ Fast snap button

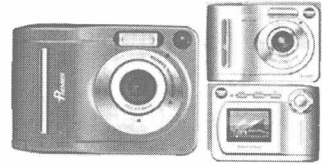


Fig.1-2 Cameras

System requirements

- ☆ IBM PC or compatible PC or laptop with USB port
- ☆ Pentium 200 or higher CPU
- ☆ Windows 98SE/ME/2000/XP operating system
- ☆ Over 200 MB free hard disk space
- ☆ CD ROM drive
- ☆ 32 MB or higher memory
- ☆ Support DirectX VGA card

Exercises

I. Translate the following words or phrases into Chinese.

- (1) color
- (2) window
- (3) video
- (4) interface
- (5) noise
- (6) signal
- (7) image
- (8) focus
- (9) build-in
- (10) image compression
- (11) automatic brightness adjustment
- (12) automatic color compensation
- (13) manual focus
- (14) fast snap button

II. Read and Translate the following passages into Chinese.

- (1) Avoid contact to the lens with hand, sharp or coarse stuff; use clean and soft cloth for cleaning.
- (2) Do not use it in hot, cold, dusty or humid circumstance.
- (3) Avoid falling as much as possible. Severe falling may cause damages to



the lens, malfunction or scratches to the surface.

Everyday English of Computer Science

Dialogue A

A: How to set up a computer?

B: First connect the hardwares and then install softwares.

A: Is that all?

B: Yes, other things you can install whatever you like.

参考译文:

A: 怎样组装电脑?

B: 先连接硬件再安装软件。

A: 这就完了吗?

B: 是的, 其他的你就可以安装任何你想要的了。

Dialogue B

A: I've just bought these disks to backup my files in case my computer crashes.

B: Good idea. I bought a zip drive, because my files were too large to save the disk.

A: That's a good idea, too!

参考译文:

A: 我买这些磁盘用来备份文件, 以防我的电脑突然死机。

B: 好主意。我买了个 ZIP 驱动器, 因为我的文件太大了, 不能存在磁盘里。

A: 那也是一个好主意!

A Brief Introduction of Scientists

Alessandro Antonio Volta (1745-1827), an Italian physicist, invented the electric battery—which provided the first continuous flow of electricity—and the capacitor.

Born into a noble family in Como, Italy, Volta was performing electrical experiments at age 18. His invention of the battery in 1796 revolutionized the use of electricity. The publication of his work in 1800 marked the beginning of electric circuit theory. Volta received many honors during his lifetime. The unit of voltage or potential difference, the volt, was named in his honor.

New Words and Expressions

1. continuous 连续的
2. capacitor 电容
3. electric circuit 电路
4. honor 荣誉
5. potential difference 电势差

Notes

伏特 (1745-1827), 意大利物理学家, 电池的发明人。为了纪念这位科学家, 人们以他的名字“伏特”作为电压和电势差的单位。

Books are the quietest and most constant of friends, they are the most accessible and wisest of counselors, and the most patient of teachers.

书籍是人类最宁静和最永恒的朋友, 也是最易接近和最具智慧的顾问, 还是最具耐心的老师。

Charles W.Eliot

Unit 2 USB Flash Drive

Thank you for purchasing USB Flash Driver (as shown in Fig.2-1) . The attaching CD-ROM contains detailed user's manual, please read it carefully before installing the driver.

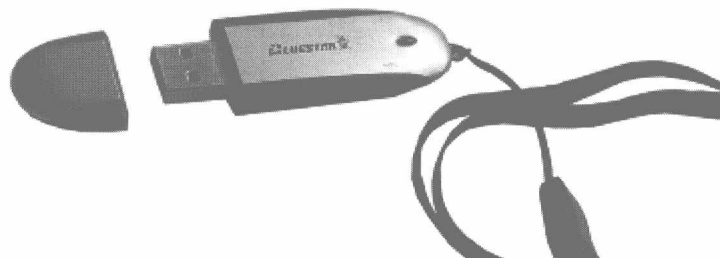


Fig.2-1 USB Flash Disk

O/S Support: Windows98/98SE, ME, 2000, XP or MAC9.0

In Windows Operating Systems:

Installing the software:

This software combines driver and application software. In Windows ME, 2000 and XP, driver is not required.

1. Find the U-disk\98driver folder, run the setup.exe program.
2. Follow the on-screen instructions to proceed.

Uninstalling the software:

To remove the installed software, you can click the windows [Start] menu and select [Setting], [Control Panel] and [Add/Remove Programs].

Notes

- ◇ Please connect the device to USB port of your computer when you



install the application software.

- ◇ Do not cancel the installation during the proceeding. The drive may not operate correctly if the installation is incomplete.
- ◇ During the data transferring, don't remove the drive out from USB port.

New Words and Expressions

purchase	v.购买
flash	n.闪光, 闪存
driver	n.驱动器
attach	v.附加
manual	v.手册, 说明书
install	v.安装
support	n.支持
software	n.软件
require	v.需要
folder	n.文件夹
on-screen	屏幕上的
proceed	v.进行
click	v.点击
start	n.开始
menu	n.菜单
select	v.选择
panel	n.面板
port	n.端口
cancel	v.取消
incomplete	a.未完成的
transfer	v.传输

Notes

(1) Thank you for purchasing USB Flash Driver (as shown in Fig.2-1) , the attaching CD-ROM contains detailed user's manual, please read it carefully before installing the driver.

O/S Support: Windows98/98SE, ME, 2000, XP or MAC9.0

感谢您购买 USB 存储器 (如图 2-1 所示)。随产品附送的光盘内有详细的使用说明, 请您在使用本产品前认真阅读。

支持系统: Windows 98/98SE, ME, 2000, XP, 7 或 MAC9.0 以上

(2) In Windows Operating Systems:

Installing the software:

This software combines driver and application software. In Windows ME, 2000 and XP, driver is not required.

安装应用程序:

Windows 98 首次使用需要安装驱动程序, 而在 Windows ME, 2000、XP 和 7 系统下, 本产品不需要安装驱动程序便可使用。

(3) Find the U-disk\98driver folder, run the setup.exe program. Follow the on-screen instructions to proceed.

在附带光盘中找到 U-disk\98Driver 文件夹, 运行相关的 setup.exe 文件。再按程序视窗的引导完成安装。

(4) Uninstalling the software:

To remove the installed software, you can click the windows [Start] menu and select [Setting], [Control Panel] and [Add/Remove Programs].

移除应用程序:

若要移除已安装的应用程序, 您可以在视窗作业系统中单击[开始]→[设置]→[控制面板]→[添加/删除程序], 在[添加/删除程序]窗口里找到该应用程序, 选中单击[添加/删除]。

(5) Notes: Please connect the device to USB port of your computer when you install the application software.

注意:

安装应用程序前, 请您确定 USB 存储器与电脑的 USB 插口已连接。

(6) Do not cancel the installation during the proceeding. The drive may not operate correctly if the installation is incomplete.

请勿在安装过程中取消安装, 如果安装不完整, 可能造成装置无法正常使用。

(7) During the data transferring, don't remove the driver out from USB port.

在数据传输过程中, 请不要随意拔出 USB 存储器, 否则会损坏 USB 存储器。

Reading Material

Universal Serial Bus (USB)

Universal Serial Bus (USB) is a standard-based, external serial bus for the computer. USB is universal in that many types of peripheral devices can be connected to a computer by plugging them into USB ports, using standard USB cables, connectors, and sockets. USB fully supports plug and play, which means peripheral devices can be plugged in and unplugged while the computer is running. The operating system immediately detects a device that is plugged in and tries to load device drivers for the device.

USB hubs can be used to connect several devices to one computer. A hub



provides multiple USB ports for plug and play devices. The hub is then plugged into the computer, directly or through another hub, using a single USB cable.

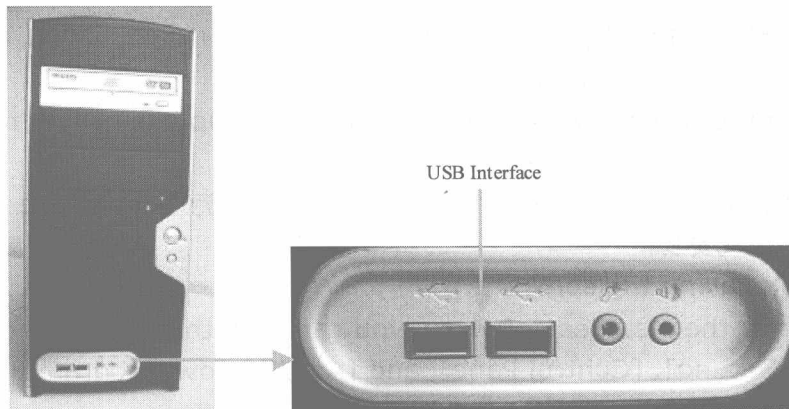
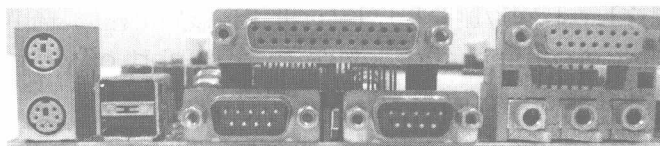


Fig.2-2 USB Interface



PC Card Adapter

Exercises

I. Translate the following words and expressions into Chinese.

- | | | | |
|--------------|----------------------|------------|------------|
| (1) purchase | (2) USB Flash Driver | (3) manual | |
| (4) support | (5) ROM | (6) U-disk | |
| (7) folder | (8) proceed | (9) click | (10) panel |

II. Read and Translate the following into Chinese.

Windows XP Professional features built-in support for USB device types such as:

- Hubs
- Uninterruptible power supply (UPS) devices
- Input devices, such as keyboards, mice, and other pointing devices
- Game controllers, such as joysticks and game pads
- Printers
- Storage devices such as hard disk, CD-ROM drives, high-density disk drives, and compact flash readers
- Scanners
- Still image cameras

- Video-conferencing cameras (also known as "web cam" cameras)
- Modems
- USB-to-Ethernet network adapters
- 12 Mbit/s on USB 1.1
- 480 Mbit/s on USB 2.0

Everyday English of Computer Science

Dialogue A

A: Warning! You can't undo this action.

B: Why?

A: I am afraid you haven't followed the instruction.

参考译文:

A: 警告! 不能撤销该操作。

B: 为什么?

A: 恐怕你没执行指令。

Dialogue B

A: What can I do for you?

B: I want to sort this text.

A: Ok, I'll finish it next Friday.

B: Thank you!

参考译文:

A: 我可以帮你什么吗?

B: 我想给这个文本排序。

A: 好的, 下周五我会完成。

B: 谢谢。

A Brief Introduction of Scientists

Andre-Marie Ampere (1775-1836), a French mathematician and physicist, laid the foundation of electrodynamics. He defined the electric current and developed a way to measure it in the 1820s.

Born in Lyons, France, Ampere at age 12 mastered Latin in a few weeks, as he was intensely interested in mathematics and many of the best mathematical works were in Latin. He was a brilliant scientist and a prolific writer. He formulated the laws of electromagnetic. He invented the electromagnet and the ammeter. The unit of electric current, the ampere, was named after him.

New Words and Expressions

1. electrodynamics 电动力学
2. measure 测量
3. master 掌握



4. Latin 拉丁语

5. prolific 多产的

Notes

安培（1775-1836）是一位法国的数学家和物理学家，他奠定了电动力学的基础，发明了电磁铁和安培表。电流的单位是以他的名字“安培”来命名的。

Reading is to the mind what exercise is to the body.

读书有益于身心犹如运动有益于身体。

Richard Steel

Unit 3 Keyboard

Keyboard (as shown in Fig.3-1), in computer science, a keypad device with buttons or keys that a user presses to enter data characters and commands into a computer. Keyboards emerged from the combination of typewriter and computer-terminal technology. They are one of the fundamental pieces of personal computer (PC) hardware, along with the central processing unit (CPU), the monitor or screen, and the mouse or other cursor device.



Fig.3-1 Keyboard

The most common English-language key pattern for typewriters and keyboards is called QWERTY, after the layout of the first six letters in the top row of its keys (from left to right). In the late 1860s, American inventor and printer Christopher Sholes invented the modern form of the typewriter. Sholes created the QWERTY keyboard layout by separating commonly used letters so that typists would type slower and not jam their mechanical typewriters. Subsequent generations of typists have learned to type using QWERTY keyboard, prompting manufacturers to maintain this key orientation on typewriters.

Computer keyboards copied the QWERTY key layout and have followed the

precedent set by typewriter manufacturers of keeping this convention. Modern keyboards connect with the computer CPU by cable or infrared transmitter. When a key on the keyboard is pressed, a numeric code is sent to the keyboard's driver software and to the computer's operating system software. The driver translates this data into a specialized command that the computer's CPU and application programs understand. In this way, users may enter text, commands, numbers, or other data. The term *character* is generally reserved for letters, numbers, and punctuation, but may also include control codes, graphical symbols, mathematical symbols, and graphic images.

New Words and Expressions

keypad	<i>n.</i> 小键盘
button	<i>n.</i> 按钮
press	<i>v.</i> 按下, 压下
character	<i>n.</i> 字符
command	<i>n.</i> 命令
emerge	<i>v.</i> 涌现
combination	<i>n.</i> 结合
typewriter	<i>n.</i> 打字机
terminal	<i>n.</i> 终端
fundamental	<i>a.</i> 基本的
Central Processing Unit (CPU)	中央处理器
cursor	<i>n.</i> 光标
pattern	<i>n.</i> 式样, 模式
QWERTY	标准的传统键盘布局
layout	<i>n.</i> 布局
inventor	<i>n.</i> 发明者
printer	<i>n.</i> 印刷工人
create	<i>v.</i> (创) 造出
separate	<i>v.</i> 分开
jam	<i>v.</i> 塞紧, 卡住
mechanical	<i>a.</i> 机械的
subsequent	<i>a.</i> 下一 (个)
prompt	<i>v.</i> 推动, 促使
orientation	<i>n.</i> 方向, 定位
precedent	<i>n.</i> 先例, 前例
convention	<i>n.</i> 会议, 常规
infrared	<i>a.</i> 红外线的