



中等职业教育示范专业规划教材（电子信息类）

电子类专业实用英语

杨泽清 主编



中等职业教育示范专业规划教材（电子信息类）

电子类专业实用英语

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电子信息类专业实用英语编写组 编 北京：机械工业出版社，2008.7

中等职业教育示范专业规划教材·电子信息类

ISBN 978-7-111-34617-6

I. 电… II. 杨… III. 电子类专业—英语—教材 IV. H31

中国版本图书馆CIP数据核字(2008)第101335号

机械工业出版社（北京市百万庄大街22号）邮政编码100037

责任编辑：王 娟 封面设计：张世杰

责任印制：李 岩

北京机械工业出版社印刷厂（北京市西城区）

2008年8月第1次印刷

184mm×260mm·11.75印张·313千字

0001-4000 册

标准书号：ISBN 978-7-111-34617-6

定价：30.00元

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邮购地址：北京市百万庄大街22号 机械工业出版社发行部 电话：(010) 88379834

机械工业出版社

本书是中等职业教育示范专业规划教材(电子信息类),是根据教育部“专业技能型紧缺人才培养方案”,以中职、职高、技校电子信息类专业的就业需求为指导编写的。内容包括与电子技术相关的电工知识、低频知识、高频知识,例如电流、电压、常用电子元器件、仪表与测试、无线电收发器等;与现代家庭电子电器产品相关的知识,例如电视机、数码照相机、音响设备等;还包括一些与电子技术密切联系的新知识,例如计算机、互联网、移动电话、蓝牙技术、第三代无线通信系统等。书后附有实用的语音知识、词汇表、专业术语及缩写、课文参考译文及练习答案,方便教师教学与学生练习。

本书取材新颖、内容充实、实用性强、知识面较齐全,可作为电子类专业中职中专、职业高中、技工学校英语教材,也可供相关行业英语爱好者学习参考。

图书在版编目(CIP)数据

电子类专业实用英语/杨泽清主编. —北京:机械工业出版社, 2008.7
中等职业教育示范专业规划教材. 电子信息类
ISBN 978-7-111-24617-6

I. 电… II. 杨… III. 电子技术—英语—专业学校—教材 IV. H31

中国版本图书馆 CIP 数据核字(2008)第 101232 号

机械工业出版社(北京市百万庄大街 22 号 邮政编码 100037)

策划编辑:高倩王娟 责任编辑:王娟 版式设计:张世琴

封面设计:陈沛

责任印制:洪汉军

北京瑞德印刷有限公司印刷(三河市明辉装订厂装订)

2008 年 8 月第 1 版第 1 次印刷

184mm×260mm·11.75 印张·245 千字

0001-4000 册

标准书号:ISBN 978-7-111-24617-6

定价:20.00 元

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销售服务热线电话:(010) 68326294

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编辑热线电话:(010) 88379934

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前 言

电子技术是现代高科技发展的基础，随着电子技术的迅速发展及日趋国际化，电子类专业英语在行业中显出重要的媒介作用。中职电子类学生掌握好一定的电子技术英语不但能提高他们的自身素质，还能为他们创造更好的就业前景。

本教材严格按照教育部颁发的“中等职业学校英语教学大纲”要求编写。编者根据多年的教学实践，针对目前中职学生英语学习的实际情况，摆脱了专业英语为科技文献组合的编排形式，按照中职学生的认知规律，力求通俗、易学、知识新而且实用。

全书共 16 个单元，建议每个单元用 4~5 个学时，共 60~70 个学时。每个单元由对话、课文、补充阅读、语法或实用英语、闲暇英语 (Dialogue, Passage, Read More, Grammar/Practical English, Leisure Time) 五个部分组成，以阅读为主，兼顾听、说、写、译等基本技能的训练，注重对学生的思维能力、英语学习能力的启发和培养。每篇课文力求简洁、表达流畅。为了增加文章的趣味性和直观性，文中配有相关有趣的图片。文后配有生词表和专业术语表，补充阅读后配有生词解释，并针对课文中出现的难句、难点，在文后进行了较详尽的解释。另外，书后附有语音知识 (附录 A)、词汇表 (附录 B)、常用专业术语及缩写 (附录 C)、课文译文和练习答案 (附录 D)。

本书由杨泽清担任主编，瞿小平担任副主编。其中 Unit 13、Unit 16 由杨泽清编写，Unit 1、Unit 2、Unit 3、Unit 4、Unit 5、Unit 6、Unit 15 由瞿小平编写，Unit 10、Unit 12、Unit 14 由杨晓舟编写，Unit 7、Unit 8、Unit 9、Unit 11 由李慧编写。全书由杨泽雅担任主审。

书中有些章节的内容节选于一些专业网站，编写工作得到了一些专业人士的帮助和支持，在此一并表示衷心的感谢。

由于编者水平有限，书中难免有不足之处，敬请读者批评指正。

编 者

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Unit 1



Dialogue

A New Classmate

A: Hello, my name is Wang Jun, a new comer.

B: Nice to meet you. I'm Li Ying.

A: Glad to meet you. Can you tell me what subjects we study this term?

B: We study Chinese, English, maths, Radio Technology Basis, and so on.

A: Well, is it difficult for us to learn Radio Technology Basis? Are you good at it?

B: I think it's not very difficult. I'm good at it.

A: And what subject do you like most?

B: I like English most. And I'm good at Chinese.



Passage

Electronics in Our Lives



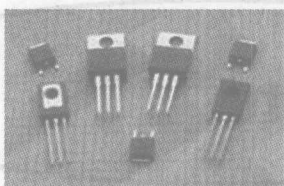
1. Does electronics study the same things as electricity?
2. When did electronics begin?
3. What are the main components in the development of electronics?

We all know that electronics is a part of electricity.

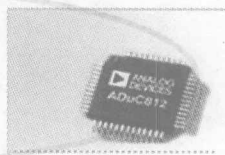
Electronics began at the start of the 20th century with the invention of the vacuum tube. The first devices for everyday use were radios, followed by televisions, record players, and tape recorders^[1]. After the invention of the transistor in 1947, some smaller, low-powered devices, such as hi-fi units and portable radios, were developed^[2]. The development of ICs



vacuum tube



transistors



IC

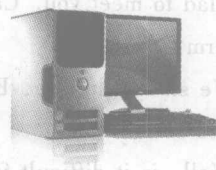
(Integrated Circuits) in 1958 led to a great increase in the use of electronics in everyday items. For example, we can know almost all the events happened in the world soon on television; we can enjoy beautiful music provided by audio/video systems^[3]; we can have more free time because of washing machines and dishwashers; we can hear our parents' or friends' voice from miles away clearly through telephones or mobile phones; we are relieved from many hard jobs owing to the computers^[4].



tape recorder



black and white TV



computer

The applications of electricity and electronics have grown to the point: we are surrounded by a variety of devices that use electricity and electronics^[5]; many electronic devices can be found in our homes here and there, and they have become useful and necessary assistants in our lives.



New Words & Expressions

electronics [ilek'trɒniks]	n.	电子学
electricity [ilek'trisiti]	n.	电学; 电
century ['sentʃuri]	n.	世纪
invention [in'venʃən]	n.	发明
vacuum ['vækjuəm]	n.	真空; 空白
tube [tju:b]	n.	管子
device [di'vais]	n.	装置, 设备
record [ri'kɔ:d]	v.	录音
transistor [træn'zistə]	n.	晶体管
low-powered [ləu'paʊəd]	a.	低耗能的
portable ['pɔ:təbl]	a.	便携的
develop [di'veləp]	v.	发展

development [di'veləpmənt]	n.	发展
integrated ['intigreɪtɪd]	a.	综合的
circuit ['sɜ:kɪt]	n.	电路
increase [ɪn'kri:s]	n. & v.	增长, 增加
item ['aɪtəm]	n.	项目
event [ɪ'vent]	n.	事件
audio ['ɔ:diəu]	a.	音频的, 听觉的
video ['vɪdiəu]	n.	视频, 视力
system ['sɪstəm]	n.	系统
mobile ['məubail]	a.	移动的, 易动的
relieve [rɪ'li:v]	v.	释放; 救出
application [æpli'keɪʃən]	n.	应用; 申请
surround [sə'raʊnd]	v.	围绕; 环绕
variety [və'reɪəti]	n.	多样性; 种类
electronic [ɪlek'trɒnɪk]	a.	电子的
assistant [ə'sɪstənt]	n. & a.	助手; 辅助的
at the start of		在……开始, 始于
because of		因为, 由于
owing to ['əʊɪŋtu]		由于



Specific Terms

vacuum tube	真空管
record player	留声机
tape recorder	磁带录音机
hi-fi units	高保真组合音响
ICs (Integrated Circuits)	集成电路
audio/video systems	视听系统
mobile phone	手机



Notes

[1] The first devices for everyday use were radios, followed by televisions, record players, and tape recorders.

日常使用的第一批设备是收音机, 其后是电视机、留声机和磁带录音机。

① the first devices 中的 devices 为复数形式, 复数名词译成汉语时可增译“一批”、“一些”、“各种”、“类”等词, 使复数意义更明确。如:

The first computers went into operation in 1945.

第一批计算机在 1945 年开始使用。

The moving parts of a machine should be often oiled.

机器的各个可动部件应该常常涂抹润滑油。

② followed by... 为过去分词短语, 作状语。

[2] After the invention of the transistor in 1947, some smaller, low-powered devices, such as hi-fi units and portable radios, were developed.

1947 年晶体管发明后, 又研制出了一些体积小、耗能低的设备, 诸如高保真组合音响和便携式收音机等。

句中 such as... radios 为同位语, 表示列举, 修饰 devices, 它隔断了主语和谓语。如:

She likes pets very much, such as dogs, cats and so on.

她非常喜欢宠物, 像狗、猫等。

There are many electronic devices in my home, such as a TV set, a washing machine, a refrigerator and so on.

我家里有许多电子设备, 如电视机、洗衣机、电冰箱等。

[3] we can know almost all the events happened in the world soon on television; we can enjoy beautiful music provided by audio/video systems; ...

看电视, 我们可以马上了解到世界上发生的几乎所有事件; 我们可以欣赏由视听系统带来的优美音乐;

句中 happened in the world 和 provided by audio/video systems 为过去分词短语, 作定语, 分别修饰 events 和 music。

[4] ... we are relieved from many hard jobs owing to the computers.

由于有了计算机, 我们可以从许多繁重的工作中解脱出来。

① be relieved from/ of 的意思为被.....解除/消释。如:

He was relieved of his post.

他被解除职务。

The patient was relieved from the pain.

病人从疼痛中解脱出来。

② owing to 为介词, 意思为因为、由于, 与 because of 同义, 后面要跟名词类的词。如:

Owing to the rain, they could not come.

因为下雨, 他们不能来。

Owing to bad health, he could not work.

他因身体不好不能工作。

It is all owing to you that I have succeeded.

我成功完全靠你。

[5] ... : we are surrounded by a variety of devices that use electricity and electronics; ...

我们被各种各样的应用电学和电子学的设备包围; ...

① 句中 are surrounded by 为被动语态, 意思为被……包围。

② a variety of 意思为种种、若干。如:

You may do it in a variety of ways.

你可以用种种方法去做。

He couldn't do it for a variety of reasons.

他由于种种原因不能做这件事。

③ that use electricity and electronics 为定语从句, 修饰 devices。



Exercises

I. Make your choice according to the passage:

1. Electronics is a part of electricity. That is to say, there is a close relationship between _____.

A. electronics B. electricity C. electronics and electricity

2. _____ were used in the earliest radios.

A. Vacuum tubes B. Transistors C. ICs

3. We call radios which can be put in the pocket _____ radios.

A. electronic B. portable C. transistor

4. _____ are used in almost all the electronic devices now.

A. Electronics B. Electricity C. Integrated Circuits

II. Choose a word from the word list below to fill in the blank in each of the following sentences. Change the form of the word where necessary:

electronics electricity transistor Integrated Circuit radio television

1. The _____ was invented in 1947 and made a great contribution to electronics.

2. _____ created a new future in electronics.

3. _____ was developed earlier than _____.

4. _____ can send us both sound and pictures.

5. _____ were very popular in 1970s in China.

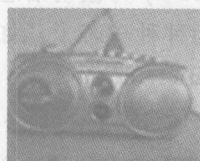
III. Try to match the following columns:

- | | |
|----------------|---|
| 1. electricity | a. a hundred years |
| 2. electronics | b. science of the power produced by friction(摩擦) or by chemical means |
| 3. audio | c. carrying easily |
| 4. video | d. the scientific study and application of electron devices |

5. century e. television

6. portable f. of hearing

IV. Write down the names of the devices under the pictures:



V. Translations:

1. 21 世纪

2. 第一批电视机

3. 袖珍字典

4. 日常生活

5. electronic devices

6. washing machine

7. dishwasher

8. here and there



Read More

Electricity & Electronics

Electricity is a science of the power(能量) which can be used to produce heat and light, and to drive machines, while electronics is the scientific study and application of electron devices, such as electron tubes, transistors, integrated circuits and so on. In 1800 Volta made his experimental cell(电池), producing a steady current(电流), which laid a foundation(基础) of electricity. The study of electricity and electronics is different, but they have a close relationship(关系) between them. Many principles are commonly used in both fields.

Are the following statements true (T) or false (F)?

☐ 1. Electricity can give us heat, light and can do work for us.

☐ 2. Electricity and electronics study the same thing.

☐ 3. The principles of electricity are common to the electronics.



Grammar

主谓语的一致 (I)

1. 英语中谓语动词在人称和数上要与主语一致。如:

I **am listening** to the radio.

我在听收音机。

You **are watching** TV.

你在看电视。

They **like** playing computers.

他们喜欢玩电脑。

Mr. Liu **teaches** us *electronic circuits*.

刘先生教我们《电子线路》。

English **is** not easy to learn.

英语不容易学。

2. 如果主语是一个抽象概念, 谓语动词都用单数形式。如:

Electronics **is** a part of electricity.

电子学是电学的一部分。

Physics **is** a required course in middle schools.

物理是中学的一门必修课。

3. 两个或两个以上的主语用 and 连接时, 谓语动词用复数。如:

TV set and washing machine **are** important appliances in our home.

电视机和洗衣机在我们家是很重要的家电。

Both my father and my mother **are** engineers.

我父母都是工程师。

但加入 and 所连接的两个词是指一个观念或同一个人时, 谓语动词则用单数。如:

The poet and writer **has come**.

那位诗人兼作家来了。(一个人)

4. 如果主语是单数, 尽管后面跟有 with, together with, as well as, no less than, like, but, except 等引起的短语, 谓语动词仍旧用单数形式。如:

The lady with two bags **is** the mother of Susan.

提着两个包的女士是苏珊的母亲。

An expert, together with two assistants, **was sent** to help in this work.

一位专家和两名助手被派去协助这项工作。

Nobody but Tom and Jim **was** there.

只有汤姆和吉姆在那里。

No one except my parents **knows** anything about it.

除了我父母谁也不知道这事。

5. 主语由 either...or 或 neither...nor 连接起来时, 谓语通常和最邻近的主语一致。如:

Either you or Lao Yang **is** to do the work.

不是你就是老杨来做这项工作。

Neither Mary nor I **am** able to do the work.

玛丽和我都没法做这项工作。

Exercises:

Fill in the blanks with correct form given below:

1. The work _____ not so easy as I expected. (is , are)
2. The _____ are playing outside. (child , children)
3. Li Ying and Li Lan _____ twin sisters. (is , are)
4. The girl as well as the boys _____ to drive a car. (has learned , have learned)
5. Neither the students nor the teacher _____ anything about it. (know , knows)
6. There _____ many people present at the meeting. (was , were)



Leisure Time

How to Learn English Well?

There isn't an easy way to learn English, but there's a good way.

Speak, listen to, read and write English as much as you can.

Listen to your teachers, your classmates and anyone when they speak English.

Speak only in English with your teachers and your classmates in class or even out of class.

Don't just read the textbooks. Go to a bookshop or school library and find some easy English books to read.

Write short English passages if you can.

Good Wishes To Your Teachers

Thank you for your hard work and patience on this holiday season.

值此佳节, 谨对您的辛勤工作和耐心表示感谢。

Thank you for all you have done for us.

感谢您为我们所做的一切。



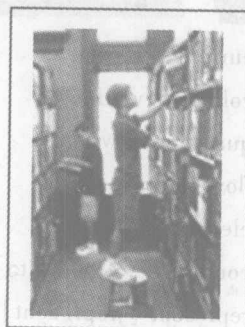
Unit 2



Dialogue

Going to the Zhongshan Library

- A: Hello, Betty. Where are you going?
 B: I'm going to the Zhongshan Library.
 A: Where is it located?
 B: It is located at No. 88, Zhongshan Road.
 A: How large is the library?
 B: It occupies 1,000 square meters.
 A: How many books are collected in it?
 B: There are millions of books, I think.
 A: May I go there with you?
 B: Sure. Let's go.



Passage

Current and Voltage



1. What is the unit of current?
2. What is the unit of voltage?
3. What other names is voltage called?

Current and voltage are two quantities should be considered in electronic circuits.

The flow of electrons through a conductor is called a current. It is represented by the letter symbol I and measured in ampere (A), and milliamper (mA) or microampere (μA) for small magnitude. Current will flow only if a circuit is complete.

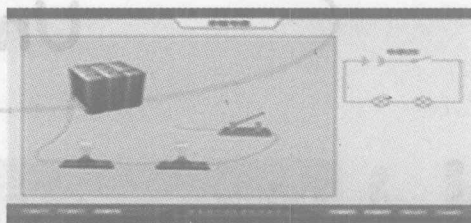
The term voltage is also called potential difference (PD) or electromotive force (EMF). It creates the electric pressure that causes the current to flow through a conductor^[1]. And its

symbol is E or U . We can measure the voltage between any two points on a conductor by means of an electrical instrument, called a voltmeter^[2]. The unit of measurement is volt (V), and millivolt (mV) or microvolt (μV) for small magnitude, kilovolt (kV) for large one.

The relationship between current and voltage can be represented by Ohm's law

$$U = IR$$

Where U is in volts, I in amperes, and R in ohms (Ω).



New Words & Expressions

current [ˈkʌrənt]	n.	电流
voltage [ˈvɒltɪdʒ]	n.	电压
quantity [ˈkwɒntəti]	n.	量
flow [fləʊ]	n. & v.	流, 流动
electron [ɪˈlektɹən]	n.	电子
conductor [kənˈdʌktə]	n.	导体
represent [ˌreprɪˈzent]	v.	表现, 代表
symbol [ˈsɪmbəl]	n.	符号
measure [ˈmeɪʒə]	v.	测量
ampere [ˈæmpɪə]	n.	安培
milliampere [ˌmɪliˈæmpɪə]	n.	毫安
microampere [ˌmaɪkrəʊˈæmpɪə]	n.	微安
magnitude [ˈmæɡnɪtjuːd]	n.	大小
complete [kəmˈplɪt]	a.	完整的
term [tɜːm]	n.	术语
potential [pəˈtenʃəl]	a.	临时的
difference [ˈdɪfərəns]	n.	差别
electromotive [ɪlektɹəʊˈməʊtɪv]	a.	电动的
create [kriˈeɪt]	v.	创造
electric [ɪˈlektɹɪk]	a.	电的
pressure [ˈpreʃə]	n.	压力
means [miːnz]	n.	手段; 方式
electrical [ɪˈlektɹɪkəl]	a.	电的
instrument [ˈɪnstrəmənt]	n.	仪器