

21世纪  
高职高专电子信息类规划教材



# 电子信息专业英语

English for Electronics & Information

杨泽清 主编

胡智娟 副主编



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## English for Electronics & Information

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本书为 21 世纪高职高专电子信息类规划教材, 全书由电子技术基础篇、通信技术篇和计算机篇三部分组成。电子技术基础篇内容包括集成电路、晶体管、振荡器、数字万用表、交流电、元件测试、数字电视、彩色电视、调频立体声系统、无线电波等; 通信技术篇内容包括移动通信、光纤通信、IP 电话、因特网、万维网、视频会议模式、开放系统互联参考模型等; 计算机篇内容包括计算机硬件结构、操作系统、软件、编程语言、计算机安全、计算机病毒、办公自动化、多媒体等。

本书可作为高职高专电子信息、通信、计算机等专业的教材, 也可供中等职业学校相关专业高年级学生使用和相关行业英语爱好者学习参考。

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## 前 言

本书为 21 世纪高职高专电子信息类规划教材，严格按照最新教学大纲编写。本书是编者在多年的教学实践基础上，结合自己的教学经验，在力求通俗、简明、扼要的指导思想下编写而成。

全书由电子技术基础篇、通信技术篇、计算机篇三部分组成，共 30 个单元。其中电子技术基础篇 10 个单元，通信技术篇 10 个单元，计算机篇 10 个单元。每个单元由课文、阅读、翻译技巧及实用英语三部分组成，内容以电子信息、通信和计算机方面的新技术、新发展为主。对课文中出现的一些语言现象、难点、难句均做了较详细的注释。每篇课文和阅读后配有生词表、专业术语表和相应的练习，在一定程度上减轻了学习的难度。书中每篇文章的内容是独立的，便于学生学习。书末附有参考译文和练习答案，供读者参考对照。

本书遵照学习语言的规律编写，内容循序渐进，逐渐拓宽。书中每篇课文单词数在 450 个左右，容易学习理解。

本书可作为高职高专电子信息、计算机、通信等电子信息类专业和中等职业学校相关专业的教材，也可供相关专业技术人员学习参考。建议每个单元的 B、C 部分作为学生的课后阅读材料，以进一步提高学生的阅读水平和理解能力。但在教学中，教师也可根据学时等具体情况酌定取舍。

本书由杨泽清担任主编，编写了 Unit2、Unit21~30、Unit11~13 的 C 部分；胡智娟担任副主编，编写了 Unit11~16 的 A、B 部分，Unit17~20；Unit1、Unit3~6、Unit14~16 的 C 部分由瞿小平编写；Unit7~10 由毕筠筠编写；杨泽雅副教授担任主审，对本书的编写提出了宝贵的意见和建议。

本书的编审工作得到了编者所在院校领导的关心和支持。熊耀辉高级讲师、鲍泓教授、何希才副教授为本教材的编写提出了宝贵意见，在此表示衷心的感谢。

由于水平有限，书中难免存在不足之处，敬请读者予以批评指正。

·编者

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# Part I    Electronics

## Unit 1

### A. Text

#### The Development of Electronics

Electronics is a part of the larger field of electricity. The basic principles of electricity are also common to electronics. Modern advances in the fields of computer, control system, communications have a close relationship with electronics.

The field of electronics includes the electron tube, transistor, integrated circuit and so on.

Electronics began in 1883, when Thomas Edison discovered the vacuum diode as part of his research on materials for a practical electric light. This first electronic device exhibited a nonlinear, unilateral electrical characteristic but was not capable of producing amplification of a signal. In 1905 Fleming produced the first diode in England and in 1906 DeForest made the first triode in the United States<sup>[1]</sup>. The widespread applications of vacuum tubes during that time period were in the communications industry, first in radio and later in television. The use of vacuum tubes declined rapidly when a semiconductor device was invented that could perform many of the functions previously associated with vacuum tubes<sup>[2]</sup>.

The first large digital electronic system was a special-purpose vacuum tube circuit called the electronic numerical integrator and computer (ENIAC)<sup>[3]</sup>. The ENIAC was the forerunner of the computer industry. The transistor was invented in 1948 and made a significant contribution to electronics. The early transistors were made from germanium. The most visible application of these devices was in small, portable AM broadcast receivers. Silicon transistors began to replace germanium transistors in the late 1950s, which made possible the next revolutionary step in electronics<sup>[4]</sup>.

The commercial success of the integrated circuit industry was based on standard products representing digital logic families<sup>[5]</sup>. The integrated circuit industry was moving from the era of small-scale circuits to large-scale integration (LSI). As the decade of the 1970s

came to a close, a new era in integrated circuits was beginning. This era is characterized by the inclusion of larger and larger numbers of components in a single circuit, and it is called very large-scale integration (VLSI).

Electronic technology is developing rapidly in the world. And electronics industry is equipped to make yet another giant step forward.

### New Words and Expressions

electronics [ilek'trɒnɪks]	n. 电子学
transistor [træn'sistə]	n. 晶体管
circuit ['sɜ:kɪt]	n. 电路
vacuum ['vækjuəm]	n. 真空
diode ['daɪəʊd]	n. 二极管
nonlinear [nɒn'liːniəl]	adj. 非线性的
unilateral [juːni'lætərəl]	adj. 单方面的
amplification [ˌæmplɪfɪ'keɪʃən]	n. 放大
numerical [nju(:)'merɪkəl]	adj. 数字的, 用数字表示的
integrator ['ɪntɪgreɪtə]	n. 计算器, 积分器
forerunner ['fɔːrʌnə]	n. 先驱者
focus ['fəʊkəs]	v. 集中
germanium [dʒə'meɪniəm]	n. 锗
silicon ['sɪlɪkən]	n. 硅
standard ['stændəd]	n. 标准, 规格
digital ['dɪdʒɪt(ə)l]	adj. 数字的
logic ['lɒdʒɪk]	adj. 逻辑的
characterize ['kærɪktəraɪz]	v. 赋予特性
inclusion [ɪn'kluːʒən]	n. 包含
component [kəm'pəʊnənt]	n. 组成部分, 成份
focus attention on	adj. 构成的, 合成的
small-scale	把注意力集中在……
large-scale	小规模
	大规模

### Technical Terms

control system	控制系统
integrated circuit	集成电路
electron tube	电子管
vacuum tube	真空管

portable AM broadcast receivers  
AM (amplitude modulation)

袖珍调幅广播接收机 (收音机)  
调幅

### Notes

1. Fleming: 佛莱明 (1849 ~ 1945), 英国电学家。

DeForest: 德·福雷斯特 (1873 ~ 1961), 美国发明家。

2. The use of vacuum tubes declined rapidly when a semiconductor device was invented that could perform many of the functions previously associated with vacuum tubes.

当半导体器件发明后, 真空二极管的使用迅速呈下降趋势, 因为半导体器件具有真空管的许多功能。

...that could perform ...with vacuum tubes 为定语从句, 修饰 semiconductor device, 由于定语从句较长, 把从句的谓语 was invented 放前, 以使句子平衡。

3. ENIAC ['iniæk] 电子数字积分计算机, 其全称为 the electronic numerical integrator and computer.

4. Silicon transistors began to replace germanium transistors in the late 1950s, which made possible the next revolutionary step in electronics.

硅晶体管于 20 世纪 50 年代末代替了锗晶体管, 它为电子学带来了又一次的革命性进步。

Which 引导的是一个非限制性定语从句, 修饰 Silicon transistors.

5. The commercial success of the integrated circuit industry was based on standard products representing digital logic families.

集成电路工业的商业成就是在以数字逻辑家族为代表的标准产品的基础上获得成功的。

representing digital logic families 为现在分词短语, 作定语, 修饰前面的名词 standard products.

### Exercises

I. Choose the one that best completes each of the following statements according to the text:

1. Electronics is a part of \_\_\_\_\_.

A. electrons      B. technology      C. electricity      D. science

2. The field of electronics includes \_\_\_\_\_.

A. transistor      B. electron tube      C. integrated circuit      D. all above

3. Thomas Edison invented \_\_\_\_\_ in 1883.

A. vacuum tube      B. diode      C. triode      D. lamp

4. \_\_\_\_\_ were the foundation for electronics for 500 years.

A. Vacuum diodes      B. Triodes      C. Diodes and triodes      D. Electric lights

5. \_\_\_\_\_ was the first large digital electronic system.  
 A. ENIAC            B. Radar            C. Sonar            D. Color TV
6. The first transistors were made from \_\_\_\_\_.  
 A. silicon            B. germanium        C. copper            D. gold
7. \_\_\_\_\_ created a new future in electronics.  
 A. Semiconductor    B. Integrated circuit    C. Transistor        D. Computer
8. The electronics is developing \_\_\_\_\_ at the present.  
 A. slowly            B. rapidly            C. step by step        D. continuously

II . Put the following phrases into English :

黑白电视机

基本原理

锗晶体管

真空二极管

单一电路

电子技术

## B. Reading

### An Institute of Technology

Yunshan Technology Institute is an institute of science, located near the beautiful South Lake and North-East to the famous Yunshan Mountain.

At present, the institute is composed of three departments. The departments are Radio, Computer and Machinery, which have more than ten specialities. The institute has some 4,000 students including three-year and four-year, correspondent and evening school students and 1,000 teaching and administrative staff.

The institute's cardinal task is to train professional skilled personal for the society. In the institute, there are some scientific research organs and various kinds of laboratories, an appraising institute of electronic products and work-skilled expertise organ. The laboratories are open all day for the students to do experiments and teachers will offer helps when necessary. After graduation, the students can be recommended to a factory or a company.

The institute now has about 600 teachers and scientific researchers, including well-known professors and experts. There are experienced and talented young and middle-aged professors, associate professors and lecturers. Some teachers are sent abroad for vocational training. They are trying to catch up with the advanced technology of the world.

Yunshan Technology Institute is fully equipped with books, materials and advanced teaching apparatus including computers and language lab system. Its library contains more than 500,000 volumes and 800 journals and magazines. The institute also edits journals entitled Yunshan Institute Journal. The institute printing house and the apparatus factory are

always available to serve the teaching and research work .

To meet the needs of modernization , the institute will add more new specialities and faculties , at the same time , it will strengthen academic exchanges and develop friendly ties with other universities . Yunshan Technology Institute is marching forward with each passing day .

### New Words and Expressions

speciality	<i>n.</i> 专业
cardinal	<i>adj.</i> 主要的
recommend	<i>v.</i> 推荐
apparatus	<i>n.</i> 仪器
administrative staff	行政人员
work-skilled expertise organ	职业技能鉴定机构
an appraising institute of electronic products	电子产品鉴定所

### Exercises

Translate the following passage into Chinese :

The electronic industry is a new branch of industry . It plays an important part in our industry . It supplied us with advanced electronic equipment .

In old China there was little or no (几乎没有) electronic industry . We had no electronic equipment at all . Since the foundation of new China , especially its "reforms (改革) and opening to the outside world" , great changes have taken place in our electronic industry . We have set up a lot of radio and television factories . We have designed and manufactured various kinds of electronic devices and equipment .

Now our electronic industry is developing at a high speed . We are able to catch up with or even surpass the world advanced level . We'll achieve the great goal (目标) of modernizing our electronic industry .

## C. Translating Skills

### 专业课程名称简介

Radio Technology Basis	无线电基础
Electrical Engineering Basis	电工基础
Radio Elements	无线电元件
Electronic Circuits	电子线路
Pulse and Digital Circuits	脉冲与数字(电路)
Low-frequency Electronic Technology	低频电子技术



High-frequency Electronic Technology	高频电子技术
Analogue Electronic Technology Basis	模拟电子技术基础
Electronic Measuring Instruments	电子测量仪器
Digital Communication	数字通信
Mobile Communication	移动通信
Information Technology	信息技术
Television	电视
Digital TV	数字电视
Cable Television	有限电视
Large-Screen Color TV	大屏幕彩电
New Technology of Color TV	彩电新技术
Antenna	天线
Audio Devices	音响
VCD Principles	影碟机原理
Principles of Video	录像原理
Maintenance of Household Appliances	家电维修
Microprocessor Basis	微机原理
Equipment for View	显示设备
Operation System	操作系统
Single Chip Processor	单片机
Basic Application of Computer	计算机应用基础
Basic Language	Basic 语言
C-language Designing	C 语言设计
Assembly Language	汇编语言
Office Software	办公室软件
Office Automation Devices	办公室自动化设备
Information Management	信息管理
Computer Network Basis	计算机网络基础
Installation & Maintenance of System	系统安装与维护
Peripherals Principle and Maintenance	外围设备原理与维修
Telex Principle and Maintenance	传真机原理与维修