

- 工学结合
- 校企合作
- 贴近岗位
- 面向就业

工业和信息化部职业教育教学指导委员会“十二五”规划教材  
高等职业教育电子信息类专业规划教材

# 电子信息专业英语

◎ 高立新 主编

<http://www.phei.com.cn>



电子工业出版社  
PUBLISHING HOUSE OF ELECTRONICS INDUSTRY

## 内 容 简 介

本书基于工学结合的教学模式设计内容, 内容主要包括电子技术简介 (Introduction to Electronic Technology)、电子器件 (Electronic Parts)、电子电路 (Electronic Circuits)、电子仪器设备与测量 (Electronic Instruments & Measurement)、电子 CAD 设计 (Electronic CAD)、电子产品 (Electronic Products)、通信系统 (Communication System)、计算机技术 (Computer Technology)、电子产品生产 (Electronics Manufacturing) 以及电子职业工作 (Electronics Occupation) 共计 10 个学习项目。每个学习项目 (单元) 精选 3 篇科技文章, 包括课文、词汇、难点注释和习题。本书注重选用各种不同类型的英文资料, 并附有较多的插图, 生动有趣, 既可以达到比较好的教学效果, 又可以拓宽学生的知识面。为了方便教师教学以及提高学生英语的听说能力, 本书免费提供电子课件和课文的朗诵录音 (mp3 格式)。

本书可作为高等职业院校电子信息类专业 (包括应用电子技术、通信工程、计算机应用等) 的专业英语教材, 也可供相关专业技术人员参考使用。

未经许可, 不得以任何方式复制或抄袭本书之部分或全部内容。  
版权所有, 侵权必究。

### 图书在版编目 (CIP) 数据

电子信息专业英语 / 高立新主编. —北京: 电子工业出版社, 2012.2  
工业和信息化部职业教育教学指导委员会“十二五”规划教材 高等职业教育电子信息类专业规划教材  
ISBN 978-7-121-15210-8

I. ①电… II. ①高… III. ①电子信息—英语—高等职业教育—教材 IV. ①H31

中国版本图书馆 CIP 数据核字 (2011) 第 241397 号

策划编辑: 王昭松

责任编辑: 王昭松

印 刷: 北京市顺义兴华印刷厂

装 订: 三河市双峰印刷装订有限公司

出版发行: 电子工业出版社

北京市海淀区万寿路 173 信箱 邮编 100036

开 本: 787×1 092 1/16 印张: 13.5 字数: 345.6 千字

印 次: 2012 年 3 月第 1 次印刷

印 数: 3 000 册 定价: 28.00 元

凡所购买电子工业出版社图书有缺损问题, 请向购买书店调换。若书店售缺, 请与本社发行部联系, 联系及邮购电话: (010) 88254888。

质量投诉请发邮件至 [zlts@phei.com.cn](mailto:zlts@phei.com.cn), 盗版侵权举报请发邮件至 [dbqq@phei.com.cn](mailto:dbqq@phei.com.cn)。

服务热线: (010) 88258888。

## 《电子信息专业英语》读者意见反馈表

尊敬的读者：

感谢您购买本书。为了能为您提供更优秀的教材，请您抽出宝贵的时间，将您的意见以下表的方式（可从 <http://www.huaxin.edu.cn> 下载本调查表）及时告知我们，以改进我们的服务。对采用您的意见进行修订的教材，我们将在该书的前言中进行说明并赠送您样书。

姓名：\_\_\_\_\_ 电话：\_\_\_\_\_

职业：\_\_\_\_\_ E-mail: \_\_\_\_\_

邮编：\_\_\_\_\_ 通信地址：\_\_\_\_\_

1. 您对本书的总体看法是：

很满意    比较满意    尚可    不太满意    不满意

2. 您对本书的结构（章节）：满意 不满意 改进意见\_\_\_\_\_

\_\_\_\_\_

3. 您对本书的例题：满意 不满意 改进意见\_\_\_\_\_

\_\_\_\_\_

4. 您对本书的习题：满意 不满意 改进意见\_\_\_\_\_

\_\_\_\_\_

5. 您对本书的实训：满意 不满意 改进意见\_\_\_\_\_

\_\_\_\_\_

6. 您对本书其他的改进意见：

\_\_\_\_\_

\_\_\_\_\_

7. 您感兴趣或希望增加的教材选题是：

\_\_\_\_\_

\_\_\_\_\_

请寄：100036 北京市海淀区万寿路 173 信箱高等职业教育分社 王昭松 收

电话：010-88254015 E-mail: wangzs@phei.com.cn

## 反侵权盗版声明

电子工业出版社依法对本作品享有专有出版权。任何未经权利人书面许可，复制、销售或通过信息网络传播本作品的行为；歪曲、篡改、剽窃本作品的行为，均违反《中华人民共和国著作权法》，其行为人应承担相应的民事责任和行政责任，构成犯罪的，将被依法追究刑事责任。

为了维护市场秩序，保护权利人的合法权益，我社将依法查处和打击侵权盗版的单位和个人。欢迎社会各界人士积极举报侵权盗版行为，本社将奖励举报有功人员，并保证举报人的信息不被泄露。

举报电话：(010) 88254396; (010) 88258888

传 真：(010) 88254397

E-mail: dbqq@phei.com.cn

通信地址：北京市海淀区万寿路 173 信箱

电子工业出版社总编办公室

邮 编：100036

# 前 言

本书基于工学结合的教学模式，研究电子信息类专业就业岗位要求，进行典型工作任务的分析，设计了《电子信息专业英语》教材的学习领域。内容包括电子技术简介（Introduction to Electronic Technology）、电子器件（Electronic Parts）、电子电路（Electronic Circuits）、电子仪器设备与测量（Electronic Instruments & Measurement）、电子CAD设计（Electronic CAD）、电子产品（Electronic Products）、通信系统（Communication System）、计算机技术（Computer Technology）、电子产品生产（Electronics Manufacturing）以及电子职业工作（Electronics Occupation）共计10个学习项目。通过这10个项目（单元）的学习，逐步提高学生阅读、理解和翻译电子信息专业英语资料的能力，为学生今后能够以英语为工具，获取和交流专业技术信息打下良好的基础，达到电子信息专业英语课程教学目标的要求。

每一学习项目（单元）精选3篇科技文章，包括课文、词汇、难点注释和习题。本书注重选用各种不同类型的英文资料，有英文教材、实验指导书、科普资料、电子产品文件、产品说明书、招聘广告以及简历等，并附有较多的插图，生动有趣，既可以达到比较好的教学效果，又可以拓宽学生的知识面。本书教学建议为60个课时。

课文内容多数选自原版英文资料，但是并不是整个段落的摘抄，而是对多篇文章的汇总，并对其中较难的句子和词汇做了修改，以便在文章的内容、结构、篇幅、难度等方面适合高职学生学习。

课后配有单词和技术词汇的音标和注释，以及课文中难点和重点句子的语法解释和翻译，对科技术语和重要概念提供简要的辅助资料，以便于理解课文，并在学习科技英语的同时扩大专业知识面。

课后还配有针对课文内容的选择填空或判断对错练习，进一步加深对课文的理解，同时配有扩展阅读材料练习，扩大相关专业知识面。

在每一单元后简单介绍了英语语法和翻译知识，可供教师在教学中选用和学生自学。为了提高学生的英语听说能力，录制了课文朗诵音频（mp3格式）。

本书由广东机电职业技术学院高立新（副教授、高级工程师）主编，由中山大学查鸿山博士审阅，由暨南大学郭杨和好帮手电子（美国）有限公司的吴孟金工程师核对。课文录音由留学加拿大的高立新朗诵。

配套的电子教案和课文朗诵（mp3）录音，可在电子工业出版社华信教育资源网（[www.hxedu.com.cn](http://www.hxedu.com.cn)）上免费下载。如有教材使用问题，可以直接与作者联系，电子邮箱：[g\\_lixin@gdmec.edu.cn](mailto:g_lixin@gdmec.edu.cn)。

编 者  
2012年1月

# 目 录

Chapter 1 Introduction to Electronic Technology 电子技术简介 .....	1
Lesson 1 Development of Electronics 电子技术发展史 .....	1
Text .....	1
New Words and Technical Terms .....	2
Notes to the Text .....	4
Exercises .....	5
Lesson 2 Singapore Polytechnic 新加坡理工学院 .....	6
Text .....	6
New Words and Technical Terms .....	7
Notes to the Text .....	8
Exercises .....	9
Lesson 3 Electrical and Electronics Engineering Program 电气电子工程专业 .....	10
Text .....	10
New Words and Technical Terms .....	10
Notes to the Text .....	12
Exercises .....	13
Grammar 科技英语词汇词义的选择 .....	14
Chapter 2 Electronic Parts 电子器件 .....	16
Lesson 4 Electronic Components 电子元件 .....	16
Text .....	16
New Words and Technical Terms .....	19
Notes to the Text .....	21
Exercises .....	22
Lesson 5 IC Datasheet 集成块数据表 .....	23
Text .....	23
New Words and Technical Terms .....	25
Notes to the Text .....	26
Exercises .....	26
Lesson 6 Microcontroller Unit 微控制器 .....	27
Text .....	27
New Words and Technical Terms .....	29
Notes to the Text .....	30
Exercises .....	31
Grammar 科技英语词汇的构成(一) .....	32
Chapter 3 Electronic Circuits 电子电路 .....	36



Lesson 7	Amplifier 放大器	36
Text		36
New Words and Technical Terms		38
Notes to the Text		38
Exercises		39
Lesson 8	Power Supply 电源供应器	40
Text		40
New Words and Technical Terms		42
Notes to the Text		42
Exercises		43
Lesson 9	Digital Circuit 数字电路	43
Text		43
New Words and Technical Terms		45
Notes to the Text		46
Exercises		46
Grammar	科技英语词汇的构成(二)	47
Chapter 4	Electronic Instruments & Measurement 电子仪器设备与测量	50
Lesson 10	Multimeter 万用表	50
Text		50
New Words and Technical Terms		53
Notes to the Text		54
Exercises		54
Lesson 11	Oscilloscope and Function Generator 示波器和信号发生器	55
Text		55
New Words and Technical Terms		58
Notes to the Text		59
Exercises		59
Lesson 12	Audio Amplifier Testing 音频信号放大器测试	60
Text		60
New Words and Technical Terms		62
Notes to the Text		62
Exercises		62
Grammar	科技英语非谓语动词	63
Chapter 5	Electronic Products 电子产品	68
Lesson 13	Television 电视机	68
Text		68
New Words and Technical Terms		70
Notes to the Text		71
Exercises		72



Lesson 14	Mobile Phone 移动电话	73
	Text	73
	New Words and Technical Terms	74
	Notes to the Text	75
	Exercises	76
Lesson 15	GPS Vehicle Navigation System GPS 汽车导航定位系统	77
	Text	77
	New Words and Technical Terms	78
	Notes to the Text	79
	Exercises	79
Grammar	科技英语定语从句及翻译技巧	80
Chapter 6	Communication System 通信系统	83
Lesson 16	Modulation and Demodulation 调制与解调	83
	Text	83
	New Words and Technical Terms	85
	Notes to the Text	86
	Exercises	87
Lesson 17	Communication Channel and Multiplexing 通信信道和多路复用	88
	Text	88
	New Words and Technical Terms	91
	Notes to the Text	92
	Exercises	93
Lesson 18	3G Mobile Phone Technology 3G 移动电话技术	94
	Text	94
	New Words and Technical Terms	95
	Notes to the Text	96
	Exercises	97
Grammar	科技英语名词性从句、状语从句及翻译技巧	98
Chapter 7	Computer Technology 计算机技术	101
Lesson 19	Computer Hardware 计算机硬件	101
	Text	101
	New Words and Technical Terms	103
	Notes to the Text	103
	Exercises	104
Lesson 20	Operating system 操作系统	105
	Text	105
	New Words and Technical Terms	108
	Notes to the Text	108
	Exercises	109





Lesson 21	Computer Network 计算机网络	110
Text		110
New Words and Technical Terms		111
Notes to the Text		112
Exercises		113
Grammar	科技英语时态、被动语态及翻译技巧	114
Chapter 8	Electronic CAD 电子 CAD	117
Lesson 22	Electronics Design Process 电子设计流程	117
Text		117
New Words and Technical Terms		120
Notes to the Text		120
Exercises		121
Lesson 23	Circuit Simulation 电路仿真	122
Text		122
New Words and Technical Terms		123
Notes to the Text		124
Exercises		124
Lesson 24	PCB Design 印制电路板设计	126
Text		126
New Words and Technical Terms		127
Notes to the Text		127
Exercises		128
Grammar	科技英语强调句型和倒装句型	129
Chapter 9	Electronics Manufacturing 电子产品生产	132
Lesson 25	PCB Assembly and Production Process 印制电路板组装和生产流程	132
Text		132
New Words and Technical Terms		134
Notes to the Text		135
Exercises		136
Lesson 26	Electronics Manufacturer 电子产品生产厂商	137
Text		137
New Words and Technical Terms		138
Notes to the Text		139
Exercises		140
Lesson 27	Product Manual 产品说明书	141
Text		141
New Words and Technical Terms		142
Notes to the Text		144
Exercises		144



Grammar 科技英语长句的分析和翻译 .....	145
Chapter 10 Electronics Occupation 电子职业工作 .....	148
Lesson 28 Electronics Engineering Career 电子工程职业 .....	148
Text .....	148
New Words and Technical Terms .....	149
Notes to the Text .....	150
Exercises .....	150
Lesson 29 Employment Advertisement 招聘广告 .....	151
Text .....	151
New Words and Technical Terms .....	153
Notes to the Text .....	154
Exercises .....	154
Lesson 30 Resume and Application Letter 简历和应聘信 .....	155
Text .....	155
New Words and Technical Terms .....	157
Notes to the Text .....	159
Exercises .....	159
Introduction to Technical Paper Writing 科技论文写作的简介 .....	160
Appendix 附录 1 Keys to exercises 练习参考答案 .....	164
Appendix 附录 2 Table of Electronics Acronyms 电子专业英语词汇缩写 .....	181
Appendix 附录 3 Pronunciation of Mathematical Expressions 数学公式的读法 .....	201
Reference 参考文献 .....	203

# Chapter 1

## Introduction to Electronic Technology

### 电子技术简介

#### 教学目标

通过电子技术发展史、新加坡理工学院、电气电子工程专业 3 篇文章学习电子技术的基础知识。

电子技术发展史：掌握电子技术发展的三个阶段（真空管、晶体管和集成电路）及标志性事件。

新加坡理工学院：掌握国外大学的性质、地理位置、下属学院（系）、教师及工作人员、开设课程、教学设施以及毕业生就业等。

电气电子工程专业：掌握电气电子工程专业覆盖的领域、有关课程、就业方向和主要课程简介。

### Lesson 1 Development of Electronics 电子技术发展史



#### Text

The history of electronics is a story of the twentieth century and three key components are vacuum tube<sup>[1]</sup>, transistor, and integrated circuit.

A vacuum tube ( Fig. 1-1 ) also called a electron tube is a sealed glass in which electrons flow between electrodes separated by vacuum<sup>[2]</sup>. Vacuum tube was invented in the early 19th century. With the invention of vacuum tube it became possible to amplify and transmit the electrical energy<sup>[3]</sup>. The first applications of electron tubes were in radio communications<sup>[4]</sup>. Communication technology was able to make huge advances before World War II as more specialized vacuum tubes were made for many applications<sup>[5]</sup>. Radio broadcasting grew astronomically<sup>[6]</sup> in the 1920s and radio became the primary source of entertainment<sup>[7]</sup> ( Fig. 1-2 ) . Television was invented in 1927 and finally became widely available. Development of the television as an electronic device benefited from many improvements made to radar<sup>[8]</sup> during World War II. Radar ( Fig. 1-3 ) measures the distance and direction to an object<sup>[9]</sup> using echoes of radio microwaves. It is used for aircraft and ship detection.

After the war, electron tubes were used to develop the first computers ( Fig. 1-4 ) , but they were impractical because of the size of the electronic components. In 1947, the transistor was



invented by a team of engineers from Bell Laboratories<sup>[10]</sup>, for which they also received a Nobel Prize<sup>[11]</sup>. The transistor functions like the vacuum tube, but it is tiny by comparison<sup>[12]</sup>, weighs less, consumes less power, is much more reliable, and is cheaper to manufacture ( Fig. 1-5 ). Transistors have replaced vacuum tubes in just about all electronics devices.



Figure 1-1 Vacuum tube



Figure 1-2 Radio in the home

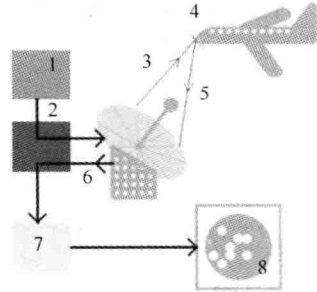


Figure 1-3 How radar works

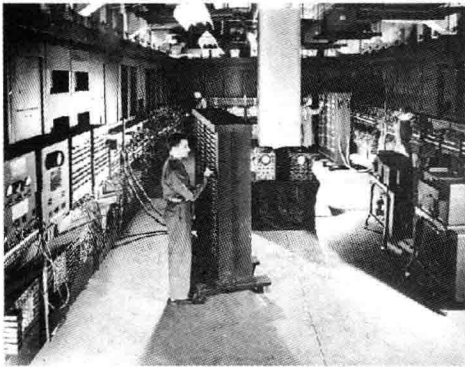


Figure 1-4 Vacuum tube computer

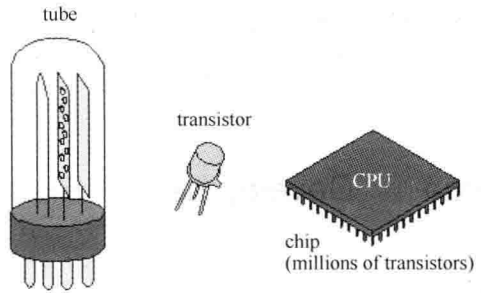


Figure 1-5 Comparison of tube, transistor, IC chip

The first integrated circuit was developed in the 1950s by Texas Instruments<sup>[13]</sup> Company. The first integrated circuits contained only a few transistors, large-scale integration (LSI) and very-large-scale integration (VLSI)<sup>[14]</sup> followed by the mid-1970s. VLSI technology permits us to build systems with hundreds of thousands of<sup>[15]</sup> transistors on a single chip. Video cameras, portable telephones, and personal computers are only examples of devices made possible by integrated circuits.



### New Words and Technical Terms

electronics	[.ilek'trɒniks]	n. 电子学
key	[ki:]	n. 钥匙; 解答; 关键; (打字机的) 键
component	[kəm'pəunənt]	n. 成分; 元件; 部件 adj. 组成的
vacuum tube	['vækjuəm] [tju:b]	n. 真空管



transistor	[træn'zistə]	<i>n.</i> 晶体管
integrated circuit	['intiɡrei tid] ['sə:kit]	<i>n.</i> 集成电路
electron tube	['i'lektɹən] [tju:b]	<i>n.</i> 电子管
sealed	[si:ld]	<i>adj.</i> 密封的 <i>seal</i> ( <i>v.</i> 封闭) 的过去分词
electrons	['i'lektɹəns]	<i>n.</i> 电子
electrode	['i'lektɹəud]	<i>n.</i> 电极
amplify	['æmplifai]	<i>vt.</i> 放大, 扩大, 增强
transmit	[trænz'mit]	<i>vt.</i> 传输, 发射
application	[.æpli'keiʃən]	<i>n.</i> 应用, 运用; 应用程序; 申请
radio	['reidiəu]	<i>n.</i> 无线电通信; 收音机 <i>vi.</i> 用无线电进行通信
communication	[kəmjʊ:ni'keiʃən]	<i>n.</i> 交通; 通信
specialized	['speʃəlaizd]	<i>adj.</i> 专门的; 专业的 <i>specialize</i> 的过去分词
broadcast	['brɔ:dkɑ:st]	<i>v.</i> (无线电或电视) 广播 <i>n.</i> 广播节目
astronomically	[.æstrə'nɒmikli]	<i>adv.</i> 天文数字地; 宇航学地; 天体地
available	[ə'veiləbl]	<i>adj.</i> 可得到的; 可利用的; 有空的
device	[di'vais]	<i>n.</i> 器件, 设备; 部件; (电路) 组件
benefit	['benifit]	<i>vt.</i> 有益于, 有助于 <i>vi.</i> 受益 <i>n.</i> 好处
radar	['reidə]	<i>n.</i> 雷达, 电波探测器 (Radio Detecting And Ranging)
measure	['meʒə]	<i>vt.</i> 测量, 估量 <i>vi.</i> 量 <i>n.</i> 尺寸, 测量
object	['ɒbdʒikt]	<i>n.</i> 对象, 物体; 目标 <i>vi.</i> 反对
echo	['ekəu]	<i>n.</i> 回声, 回波
microwave	['maikrəuweiv]	<i>n.</i> 微波 (波长为 1 毫米至 1 米的高频电磁波)
detection	[di'tekʃən]	<i>n.</i> 探测, 侦查, 发觉
impractical	[im'præktikəl]	<i>adj.</i> 不切实际的, 不现实的, 不能实行的
laboratory	[lə'bɔ:rətəri]	<i>n.</i> 实验室
function	['fʌŋkʃən]	<i>n.</i> 功能, 作用; 职责; 函数
tiny	['taɪni]	<i>adj.</i> 很少的, 微小的
comparison	[kəm'pærisən]	<i>n.</i> 比较, 对照; 比喻
consume	[kən'sju:m]	<i>vt.</i> 消耗, 消费, 耗尽
reliable	[ri'laɪəbl]	<i>adj.</i> 可靠的, 可信赖的
manufacture	[.mænju'fæktʃə]	<i>vt.</i> 制造, 加工 <i>n.</i> 制造, 制造业
Texas Instruments	['teksəs] ['instrumənts]	德州仪器 (公司名)
large-scale integration	['lɑ:dʒ'skeil] [.inti'greiʃən]	<i>n.</i> 大规模集成电路
very-large-scale integration		<i>n.</i> 超大规模集成电路



permit	[pə'mit]	v. 许可, 允许 n. 许可证, 执照
chip	[tʃip]	n. 碎片; 芯片
video camera	['vidiəu] ['kæməɾə]	n. 摄像机
portable	['pɔ:təbl]	adj. 轻便的, 手提(式)的, 便携式的



## Notes to the Text

- [1] vacuum tube: 真空管是一种电子元件, 因为参与工作的电极被封装在一个真空的玻璃容器内, 所以被称为真空管。真空管有时会被称为“电子管”或“胆”。
- [2] a sealed glass in which electrons flow between electrodes separated by vacuum: in which 关系代词在定语从句中作介词宾语时, 由介词+关系代词引导定语从句。separated by vacuum 过去分词修饰 electrodes。句子可以翻译为: 在密封的玻璃管中, 电子在由真空隔离的电极间流动。
- [3] it became possible to amplify and transmit the electrical energy: it 代替不定式 to amplify and transmit the electrical energy 在句中作形式主语。句子可以翻译为: 放大和传送电能成为可能。
- [4] radio communication: 无线电通信。
- [5] as more specialized tubes were made for many applications: as 引导状语从句。句子可以翻译为: 随着越来越多的适用于各种用途的专门真空管制造出来。
- [6] grew astronomically: 天文数字地巨大增长。
- [7] radio became the primary source of entertainment: 无线电广播成为(家庭)娱乐的主要来源。
- [8] benefited from many improvements made to radar: 得益于在雷达方面做出的许多进步。
- [9] Radar measures the distance and direction to an object: 雷达测量一个物体的距离和方向。
- [10] Bell Laboratories: 美国贝尔实验室, 创建于 1925 年, 负责改进电信设备和从事与军事有关的研究工作, 有大量技术发明和科学发现, 如有声电影系统、数字计算机、晶体管等。
- [11] Nobel Prize: 诺贝尔奖, 是以瑞典著名化学家、炸药发明人诺贝尔的遗产作为基金创立的。授予世界各国在物理、化学、生理或医学、文学、和平及经济等领域对人类作出重大贡献的学者。
- [12] it is tiny by comparison: 相比之下, 它(晶体管)很小。
- [13] Texas Instrument: 美国德州仪器公司, 简称 TI, 是全球领先的数字信号处理与模拟技术的半导体集成电路公司, 总部位于美国德克萨斯州。
- [14] large-scale integration (LSI) and very-large-scale integration (VLSI): 集成电路按集成度高低的的不同可分为小规模集成电路(SSI)、中规模集成电路(MSI)、大规模集成电路(LSI)、超大规模集成电路(VLSI)、特大规模集成电路(ULSI)和巨大规模集成电路(GSI)等。大规模集成电路是在 1970 年出现的, 在一块硅片上包含  $10^3 \sim 10^5$  个元件或 100~10000 个逻辑门。超大规模集成电路是 20 世纪 70 年代后期研制成功的, 在一块芯片上集成的元件数超过 10 万个, 或门电路数超过万门的集成电路, 主要用于制造存储器



和微处理器。

[15] hundreds of thousands of: 几十万, 成千上万的。



## Exercises

### I. Choose the best technical term to complete the following statements.

- The development of electronics has had three important steps: (      ), (      ) and (      ).  
A. computer      B. integrated circuit      C. vacuum tube      D. transistor
- The first application of electron tubes were in (      ).  
A. radio      B. television      C. communication      D. broadcasting
- (      ) had surpassed radio for home use and entertainment.  
A. Communication      B. Television      C. Video camera      D. Personal computer
- Using echoes of radio microwaves, radar can detect (      ).  
A. a car      B. a ship      C. a plane      D. rain
- The first electronic computer included 18,000 (      ) and used 200 kilowatts of electrical power.  
A. transistors      B. vacuum tubes      C. ICs      D. electronic components
- A transistor is a semiconductor device used to (      ) electronic signals.  
A. produce      B. amplify      C. reduce      D. switch
- In most applications, vacuum tubes have been replaced by (      ) and other semiconductor devices.  
A. electron tubes      B. transistors      C. silicon      D. germanium
- The most advanced (      ) are the microprocessors, which control everything from computers and cellular phones to digital microwave ovens.  
A. semiconductors      B. wafers      C. transistors      D. integrated circuits

### II. Translate the following sentences into Chinese.

- Marconi pioneered the development of the wireless telegraph in 1896 and long-distance radio communication in 1901.
- Vacuum tubes strengthened weak audio signals and allowed these signals to be superimposed on radio waves.
- Transistor is like solid state equivalent of vacuum tube, with no vacuum and glass tube; electrons move from cathode to anode ( they are called source and drain now ) and the electron flow is controlled by a gate which acts similar to the grid in vacuum tube.
- Compared to vacuum tube, transistors were smaller, more durable, reliable, consume less power and produce less heat.
- Texas Instrument made huge contribution to the world of electronics: the integrated circuit.



6. Jack Kilby, an engineer in TI, the inventor of integrated circuit, became one of the recipients of the Nobel prize in Physics.

## Lesson 2 Singapore Polytechnic 新加坡理工学院



### Text

Singapore Polytechnic<sup>[1]</sup>, the nation's first educational institution of its kind, was set up in 1954 to train technologists and professionals to support the industrialization and economic development of Singapore ( Fig.1-6 ). The campus ( Fig.1-7 ) is located at Dover Town in the western suburb of Singapore.



Figure 1-6 Singapore Merlion<sup>[2]</sup>



Figure 1-7 College main building<sup>[3]</sup>

Singapore Polytechnic has six schools and two departments: School of Arts and Social Sciences<sup>[4]</sup>, School of Business, School of Chemical and Life Sciences, School of Electrical and Electronic Engineering, School of Mechanical Engineering, School of Architecture, Department of Mathematics<sup>[5]</sup>, and Department of Education.

At present, the number of students is over 18,000, with full-time and part-time students. There are a dedicated team of about 1,500 staff, including professors, associate professors, lecturers, scientific researchers, and administrative staff<sup>[6]</sup>, all committed to helping the Polytechnic realize its vision of producing qualified graduates<sup>[7]</sup>.

To support students learning and personal development, the Polytechnic's 38-hectare campus is fully equipped with state-of-the-art facilities. A modern library ( Fig.1-8 ), well-equipped lecture halls<sup>[8]</sup> ( Fig.1-9 ), air-conditioned classrooms<sup>[9]</sup>, the latest and most advanced equipment laboratories and workshops provide the most supportive learning environments for students.

Singapore Polytechnic has collaborated with famous corporations such as Intel, Cisco, Motorola, etc. The strategic partnership ensures that students are exposed to the best and latest technologies in support of their learning activities.

To date, graduate ( Fig.1-10 ) output from Singapore Polytechnic is close to 155,000, some of whom have gone on to become captains of industries, senior executives<sup>[10]</sup> of





multi-national corporations<sup>[11]</sup>, and successful entrepreneurs and professionals in Singapore and overseas.

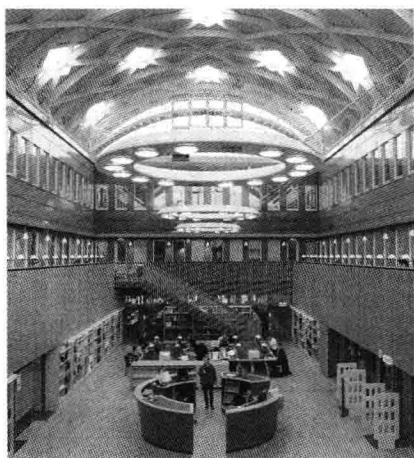


Figure 1-8 Library

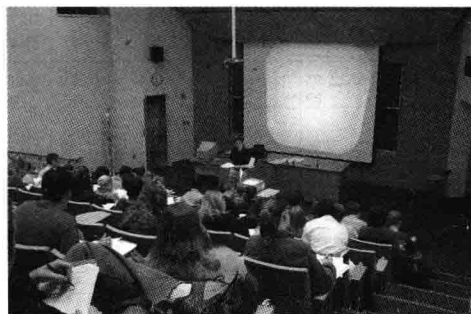


Figure 1-9 Lecture hall

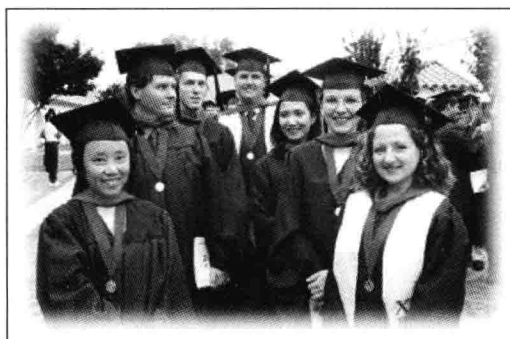


Figure 1-10 Graduation ceremony



## New Words and Technical Terms

Singapore	[ˌsɪŋəˈpɔː]	<i>n.</i> 新加坡
polytechnic	[pɒliˈteknɪk]	<i>adj.</i> 各种工艺的; 综合技术的 <i>n.</i> 理工专科学校
institution	[ˌɪnstɪˈtjuːʃən]	<i>n.</i> 学院; 协会; 机构
technologist	[tekˈnɒlədʒɪst]	<i>n.</i> 技术人员; 工艺人员; 技师
professional	[prəʊˈfeʃənəl]	<i>adj.</i> 专业的; 职业的 <i>n.</i> 专业人员; 职业运动员
industrialization	[ˌɪndʌstriəlaɪˈzeɪʃən]	<i>n.</i> 工业化
campus	[ˈkæmpəs]	<i>n.</i> (大学) 校园
suburb	[ˈsʌbəːb]	<i>n.</i> 郊区
department	[dɪˈpɑːtmənt]	<i>n.</i> 部门; 系
electrical	[ɪˈlektɪkəl]	<i>adj.</i> 有关电的; 电气科学的