

**ELECTRONICS INDUSTRY**  
**2006 MANPOWER SURVEY**  
**STATISTICAL REPORT**

**ELECTRONICS AND TELECOMMUNICATIONS TRAINING BOARD**  
**VOCATIONAL TRAINING COUNCIL**

## Contents

<b>Section</b>	<b>Title</b>	<b>Page</b>
1	Introduction	1
2	Summary of Survey Findings	5
<b>Appendix</b>		
1	Manpower Statistics of the Electronics Industry Sector 1: Manufacturing	7
2	Manpower Statistics of the Electronics Industry Sector 2: Trading and Services	8
3	Manpower Statistics of the Electronics Industry Sector 3: Telecommunications Services	9
4	Manpower Statistics of the Electronics Industry Sector 4: Wholesale	10
5	Manpower Statistics of the Electronics Industry Sector 5: Design Houses, and Relevant Departments in Universities and the Government	11
6	Manpower Statistics of the Electronics Industry (All Sectors)	12
7	Distribution of Employees by Monthly Income Range (All Sectors)	13

## I. INTRODUCTION

### The Training Board

1.1 The Electronics and Telecommunications Training Board of the Vocational Training Council is a statutory body appointed by the Government of the Hong Kong Special Administrative Region to be responsible for matters pertaining to manpower training in the electronics and telecommunications industry. The Training Board is required by its terms of reference to determine the manpower and training needs of the industry and to make recommendations to the Council for the development of training facilities to meet such needs. The Training Board comprises members nominated by major trade associations, professional bodies, training and educational institutions and government departments.

### The Manpower Survey

1.2 The survey was conducted by the Training Board during the period from 2nd to 30th May 2006, and follow-up of the fieldwork was completed in September 2006. The aim of the survey is to collect up-to-date manpower information in the principal jobs of the electronics industry including the telecommunications sector.

### Scope of the Survey

1.3 The survey covered firms, relevant departments in the government and educational institutions in the following five sectors of the industry:

#### Sector 1: Manufacturing

Manufacturers of :

- (i) computing machinery and equipment (HSIC 3822),
- (ii) transistorized radios (HSIC 3831),
- (iii) television receivers and communications equipment (HSIC 3832),
- (iv) sound reproducing and recording equipment and apparatus (HSIC 3833),
- (v) gramophone, records and magnetic tapes (HSIC 3834),
- (vi) electronic parts and components (HSIC 3840),
- (vii) electronic toys (HSIC 3852),
- (viii) electronic industrial apparatus (HSIC 3868), and
- (ix) electronic products, not elsewhere classified (HSIC 3873).

Sector 2: Trading and Services

Establishments of :

- (a) Burglar alarm/intercommunication system installation (HSIC 5516),
- (b) Imports and exports of:
  - (i) scientific and professional instruments and apparatus (HSIC 631805)\*,
  - (ii) telephone system (HSIC 631821)\*,
  - (iii) telecommunications services (HSIC 631822)\*,
  - (iv) electrical goods (HSIC 631823)\*,
  - (v) computer, computer peripherals and software packages (HSIC 631824)\*,
  - (vi) office machines, appliances and equipment (HSIC 631825)\*,
- (c) Data processing and tabulating services (HSIC 8333)\*, and
- (d) Other electronics engineering services not included in (a) to (c).

Sector 3: Telecommunication Services

Establishments of :

- (a) Wireline based fixed telecommunications network services (HSIC 732101),
- (b) Fixed telecommunications network services, nowhere else classified (HSIC 732199),
- (c) Radio paging services (HSIC 7322),
- (d) Mobile Communications Services (HSIC 732901),
- (e) Internet access services (HSIC 732902),
- (f) Satellite communications services (HSIC 732903), and
- (g) Radio and television stations and studios (HSIC 9411)

#### Sector 4: Wholesale

Establishments of wholesale of :

- (a) Telephone system (HSIC 611821),
- (b) Telecommunications equipment (excluding telephone system) (HSIC 611822),
- (c) Electrical goods (excluding machinery, office and telecommunications equipment and appliances) (HSIC 611823),
- (d) Computer, computer peripherals and software packages (HSIC 611824),
- (e) Office machines, appliances and equipment (excluding computer, furniture and fixtures) (HSIC 611825).

#### Sector 5: Design Houses and Relevant Departments in Universities and the Government

- (a) Electronics design houses,
- (b) Relevant educational institutions, and
- (c) Relevant government departments.

- Notes:*
- (1) *HSIC - Hong Kong Standard Industrial Classification*
  - (2) *\* Excluding those establishments with an employment size below 10 as they are unlikely to have a significant number of technical staff.*

#### **Method of the Survey**

1.4 In view of the limited resources, a stratified random sampling method was adopted to select 641 samples out of a total of some 4 100 establishments in the specified frame.

1.5 During the survey period, interviewing officers of the Census & Statistics Department visited all 641 establishments to collect the completed questionnaires and, where required, assisted employers in completing them.

1.6 All returned questionnaires were scrutinized, where necessary, checked with the respondents. Data collected were then processed and statistically scaled up by the Census & Statistics Department to give an overall picture of the manpower situation of the electronics industry.

## **Responses**

1.7 Of the 641 establishments selected for the survey, 434 had completed the questionnaires and 34 refused to supply any information. The remaining 173 establishments had either moved, closed or not engaged in the trade. The effective response rate was 92.7%.

## **Statistical Data**

1.8 During the survey, some of the establishments just provided the rough manpower information and did not give details of their employees' monthly income, number of trainees or number of vacancies at date of survey. The reasons were that they were too busy and not willing to provide confidential information of their organizations.

1.9 This report aims to present the main survey findings collected from the fieldwork. The Training Board will further analyse the manpower data together with other findings of the survey, and publish at a later stage another report together with the Training Board's forecast of the manpower needs of the electronics industry and recommendations on measures to meet these needs.

## II. SUMMARY OF SURVEY FINDINGS

### Number of Persons Employed

2.1 The survey revealed that in May 2006, a total of 126 406 persons were employed in the electronics industry in Hong Kong. Of them, 48 491 were employed in the **principal jobs** of electronics engineering and related disciplines. The following paragraphs present only the manpower statistics of those employees engaged in the principal jobs of the electronics industry.

2.2 The distribution of workers in principal jobs by sector of the electronics industry is shown in the following table:

Sector	Technologist	Technician	Craftsman	Operative	Total
1 Manufacturing	1 080	2 087	724	5 513	9 404
2 Trading and Services	10 519	13 030	3 705	915	28 169
3 Telecommunications Services	2 075	4 311	807	148	7 341
4 Wholesale	592	634	198	194	1 618
5 Design Houses and Relevant Departments in Universities and Government	554	1 125	264	16	1 959
<b>Total</b>	<b>14 820</b>	<b>21 187</b>	<b>5 698</b>	<b>6 786</b>	<b>48 491</b>
<b>Percentage of Total Manpower</b>	<b>30.6%</b>	<b>43.7%</b>	<b>11.7%</b>	<b>14.0%</b>	<b>100%</b>

### Trainees and Vacancies

2.3 At the time of the survey, employers reported a total of 482 trainees and 1 183 vacancies, representing about 1% and 2.4% respectively of the workforce in principal jobs. Their distributions are as follows:

Job Level	Number of Workers	Number of Trainees	Percentage of Workers Employed at the Same Job Level	Number of Vacancies	Percentage of Workers Employed at the Same Job Level
Technologist	14 820	67	0.5%	386	2.6%
Technician	21 187	149	0.7%	472	2.2%
Craftsman	5 698	251	4.4%	224	3.9%
Operative	6 786	15	0.2%	101	1.5%
<b>Total</b>	<b>48 491</b>	<b>482</b>	<b>1.0%</b>	<b>1 183</b>	<b>2.4%</b>

**Employers' Forecast Manpower Demand by May 2007**

2.4 Employers forecasted that the industry would require 49 997 workers by May 2007, an increase of 3.1% (1 506) over the number of workers at the time of the survey. Details are shown below:

Skill Level	No. of Workers Employed at Time of Survey	Employers' Forecast of Total No. of Workers by May 2007	Percentage of Change of Manpower
Technologist	14 820	15 266	+3.0%
Technician	21 187	21 739	+2.6%
Craftsman	5 698	6 030	+5.8%
Operative	6 786	6 962	+2.6%
<b>Total</b>	<b>48 491</b>	<b>49 997</b>	<b>+3.1%</b>

**Statistical Tables**

2.5 Detailed manpower statistics analyzed by principal job and by sector of the electronics industry are shown in Appendices 1 to 6. The distribution of employees by their monthly income range is shown in Appendix 7.

**MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY**

電子業人力統計數字

Sector 1: Manufacturing (門類一：製造)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	293	0	18	311
Electrical Engineer 電機工程師	24	0	2	26
Mechanical Engineer 機械工程師	201	4	8	213
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	296	6	16	318
Chemical Engineer 化學工程師	32	0	6	38
Product/Graphic Designer 產品／平面設計員	194	0	8	202
System Analyst 系統分析員	40	2	4	46
Sub-total 小計	1080	12	62	1154
<b>TECHNICIAN LEVEL 技術員級</b>				
Electronics Technician 電子技術員	576	24	10	610
Mechanical Technician 機械技術員	548	3	17	565
Draughtsman 繪圖員	25	0	5	30
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	352	5	4	356
Supervisor/Foreman/Leader 監督／管工／組長	541	0	6	547
Programmer 程序編製員	42	0	1	43
Web Developer/Designer 網站開發員／設計員	3	0	0	3
Sub-total 小計	2087	32	43	2154
<b>CRAFTSMAN LEVEL 技工級</b>				
Cable Joiner/Wireman 電纜接駁技工／駁線技工	0	0	0	0
Electronics Craftsman 電子技工	582	6	12	600
Electrician 電氣技工	31	0	0	31
Mechanic 技工	111	15	0	111
Sub-total 小計	724	21	12	742
<b>OPERATIVE LEVEL 操作工級</b>				
Operator 生產線操作工	5513	15	82	5670
Sub-total 小計	5513	15	82	5670
<b>GRAND TOTAL 總計</b>	<b>9404</b>	<b>80</b>	<b>199</b>	<b>9720</b>

MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY

電子業人力統計數字

Sector 2: Trading and Services (門類二：貿易及服務)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	4227	19	182	4424
Electrical Engineer 電機工程師	447	3	4	451
Mechanical Engineer 機械工程師	615	2	30	646
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	1229	15	25	1254
Chemical Engineer 化學工程師	43	0	0	43
Product/Graphic Designer 產品／平面設計員	468	8	14	482
System Analyst 系統分析員	3490	0	28	3518
Sub-total 小計	10519	47	283	10818
<b>TECHNICIAN LEVEL 技術員級</b>				
Electronics Technician 電子技術員	6689	74	182	6921
Mechanical Technician 機械技術員	536	2	6	544
Draughtsman 繪圖員	122	0	0	122
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	536	8	20	562
Supervisor/Foreman/Leader 監督／管工／組長	910	0	11	921
Programmer 程序編製員	3822	0	120	3942
Web Developer/Designer 網站開發員／設計員	415	0	1	416
Sub-total 小計	13030	84	340	13428
<b>CRAFTSMAN LEVEL 技工級</b>				
Cable Jointer/Wireman 電纜接駁技工／駁線技工	316	18	0	316
Electronics Craftsman 電子技工	2634	151	184	2904
Electrician 電氣技工	716	51	18	752
Mechanic 技工	39	2	0	39
Sub-total 小計	3705	222	202	4011
<b>OPERATIVE LEVEL 操作工級</b>				
Operator 生產線操作工	915	0	18	933
Sub-total 小計	915	0	18	933
<b>GRAND TOTAL 總計</b>	<b>28169</b>	<b>353</b>	<b>843</b>	<b>29190</b>

**MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY**

電子業人力統計數字

Sector 3: Telecommunications Services (門類三：電訊服務)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	1422	0	8	1430
Electrical Engineer 電機工程師	54	0	0	54
Mechanical Engineer 機械工程師	13	0	0	13
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	16	0	0	16
Chemical Engineer 化學工程師	0	0	0	0
Product/Graphic Designer 產品／平面設計員	7	0	0	7
System Analyst 系統分析員	563	0	1	564
Sub-total 小計	2075	0	9	2084
<b>TECHNICIAN LEVEL 技術員級</b>				
Electronics Technician 電子技術員	3847	5	24	3871
Mechanical Technician 機械技術員	0	0	0	0
Draughtsman 繪圖員	10	0	0	10
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	18	0	0	18
Supervisor/Foreman/Leader 監督／管工／組長	229	0	0	229
Programmer 程序編製員	182	0	1	183
Web Developer/Designer 網站開發員／設計員	25	0	0	25
Sub-total 小計	4311	5	25	4336
<b>CRAFTSMAN LEVEL 技工級</b>				
Cable Jointer/Wireman 電纜接駁技工／駁線技工	110	0	0	110
Electronics Craftsman 電子技工	664	0	3	667
Electrician 電氣技工	31	0	0	31
Mechanic 技工	2	0	0	2
Sub-total 小計	807	0	3	810
<b>OPERATIVE LEVEL 操作工級</b>				
Operator 生產線操作工	148	0	0	148
Sub-total 小計	148	0	0	148
<b>GRAND TOTAL 總計</b>	<b>7341</b>	<b>5</b>	<b>37</b>	<b>7378</b>

**MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY**

電子業人力統計數字

Sector 4: Wholesale (門類四：批發)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	343	0	7	385
Electrical Engineer 電機工程師	8	0	0	8
Mechanical Engineer 機械工程師	0	0	0	0
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	43	0	0	43
Chemical Engineer 化學工程師	0	0	0	0
Product/Graphic Designer 產品／平面設計員	35	0	0	35
System Analyst 系統分析員	163	2	0	165
Sub-total 小計	592	2	7	636
<b>TECHNICIAN LEVEL 技術員級</b>				
Electronics Technician 電子技術員	471	2	0	473
Mechanical Technician 機械技術員	16	0	0	16
Draughtsman 繪圖員	4	0	0	4
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	2	0	0	2
Supervisor/Foreman/Leader 監督／管工／組長	11	0	0	11
Programmer 程序編製員	124	2	12	136
Web Developer/Designer 網站開發員／設計員	6	0	0	6
Sub-total 小計	634	4	12	648
<b>CRAFTSMAN LEVEL 技工級</b>				
Cable Jointer/Wireman 電纜接駁技工／駁線技工	0	0	0	0
Electronics Craftsman 電子技工	133	0	0	133
Electrician 電氣技工	65	8	0	65
Mechanic 技工	0	0	0	0
Sub-total 小計	198	8	0	198
<b>OPERATIVE LEVEL 操作工級</b>				
Operator 生產線操作工	194	0	0	194
Sub-total 小計	194	0	0	194
<b>GRAND TOTAL 總計</b>	<b>1618</b>	<b>14</b>	<b>19</b>	<b>1676</b>

**MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY**

電子業人力統計數字

Sector 5: Design Houses, Relevant Departments in Educational Institutions and Government

(門類五：設計公司、教育院校及政府有關部門)

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	440	6	17	453
Electrical Engineer 電機工程師	14	0	1	14
Mechanical Engineer 機械工程師	17	0	1	18
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	21	0	1	22
Chemical Engineer 化學工程師	12	0	0	12
Product/Graphic Designer 產品／平面設計員	14	0	0	14
System Analyst 系統分析員	36	0	5	41
Sub-total 小計	554	6	25	574
Electronics Technician 電子技術員	895	23	37	927
Mechanical Technician 機械技術員	22	0	0	22
Draughtsman 繪圖員	4	0	0	4
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	9	0	0	9
Supervisor/Foreman/Leader 監督／管工／組長	110	0	0	110
Programmer 程序編製員	84	1	15	100
Web Developer/Designer 網站開發員／設計員	1	0	0	1
Sub-total 小計	1125	24	52	1173
Cable Jointer/Wireman 電纜接駁技工／駁線技工	0	0	0	0
Electronics Craftsman 電子技工	243	0	7	248
Electrician 電氣技工	0	0	0	0
Mechanic 技工	21	0	0	21
Sub-total 小計	264	0	7	269
Operator 生產線操作工	16	0	1	17
Sub-total 小計	16	0	1	17
<b>GRAND TOTAL 總計</b>	<b>1959</b>	<b>30</b>	<b>85</b>	<b>2033</b>

**MANPOWER STATISTICS OF THE ELECTRONICS INDUSTRY (ALL SECTORS)**  
電子業人力統計數字（各門類）

Job Title 職稱	Number of Workers Employed 僱員人數	Number of Trainees 受訓者人數	Number of Vacancies at Date of Survey 調查期間 空缺數目	Forecast of Total Workers by May 2007 預測至二〇〇七年 五月時的僱員總數
<b>TECHNOLOGIST LEVEL 技師級</b>				
Electronics Engineer 電子工程師	6725	25	232	7003
Electrical Engineer 電機工程師	547	3	7	553
Mechanical Engineer 機械工程師	846	6	39	890
Manufacturing/Quality Assurance Engineer 製造／品質保證工程師	1605	21	42	1653
Chemical Engineer 化學工程師	87	0	6	93
Product/Graphic Designer 產品／平面設計員	718	8	22	740
System Analyst 系統分析員	4292	4	38	4334
Sub-total 小計	14820	67	386	15266
<b>TECHNICIAN LEVEL 技術員級</b>				
Electronics Technician 電子技術員	12478	128	253	12802
Mechanical Technician 機械技術員	1122	5	23	1147
Draughtsman 繪圖員	165	0	5	170
Manufacturing/Quality Assurance Technician 製造／品質保證技術員	917	13	24	947
Supervisor/Foreman/Leader 監督／管工／組長	1801	0	17	1818
Programmer 程序編製員	4254	3	149	4404
Web Developer/Designer 網站開發員／設計員	450	0	1	451
Sub-total 小計	21187	149	472	21739
<b>CRAFTSMAN LEVEL 技工級</b>				
Cable Joints/Wireman 電纜接駁技工／駁線技工	426	18	0	426
Electronics Craftsman 電子技工	4256	157	206	4552
Electrician 電氣技工	843	59	18	879
Mechanic 技工	173	17	0	173
Sub-total 小計	5698	251	224	6030
<b>OPERATIVE LEVEL 操作工級</b>				
Operator 生產線操作工	6786	15	101	6962
Sub-total 小計	6786	15	101	6962
<b>GRAND TOTAL 總計</b>	<b>48491</b>	<b>482</b>	<b>1183</b>	<b>49997</b>

**DISTRIBUTION OF EMPLOYEES BY MONTHLY INCOME RANGE (ALL SECTORS)**

根據每月總收入幅度的僱員人數分布情況（各門類）

Job Title 職稱	Unspecified 未有說明	Below \$6,001 以下	\$6,001 -\$8,000	\$8,001 - \$10,000	\$10,001 -\$15,000	\$15,001 -\$20,000	\$20,001 -\$25,000	\$25,001 -\$30,000	Over \$30,000 以上
<b>TECHNOLOGIST LEVEL 技師級</b>									
Electronics Engineer 電子工程師	1238	0	0	33	264	1540	919	851	1880
Electrical Engineer 電機工程師	97	0	0	0	60	58	120	23	189
Mechanical Engineer 機械工程師	61	0	0	0	36	207	264	78	200
Manufacturing/Quality Assurance Engineer 製造/品質保證工程師	110	0	0	0	241	288	173	266	527
Chemical Engineer 化學工程師	4	0	0	0	22	59	0	0	2
Product/Graphic Designer 產品/平面設計員	29	0	0	10	72	365	99	117	26
System Analyst 系統分析員	1208	0	0	0	271	437	898	323	1155
Sub-total 小計	2747	0	0	43	966	2954	2473	1658	3979
<b>TECHNICIAN LEVEL 技術員級</b>									
Electronics Technician 電子技術員	2660	0	70	941	3855	2072	1609	1132	139
Mechanical Technician 機械技術員	159	0	0	440	160	244	21	20	78
Draughtsman 繪圖員	22	1	2	106	24	6	4	0	0
Manufacturing/Quality Assurance Technician 製造/品質保證技術員	73	0	42	175	324	146	144	10	3
Supervisor/Foreman/Leader 監督/管工/組長	140	0	13	101	525	547	237	236	2
Programmer 程序編製員	332	0	0	70	855	1007	1740	250	0
Web Developer/Designer 網站開發員/設計員	77	0	0	0	275	64	4	30	0
Sub-total 小計	3463	1	127	1833	6018	4086	3759	1678	222
<b>CRAFTSMAN LEVEL 技工級</b>									
Cable Joints/Wireman 電纜接駁技工/ 駁線技工	0	0	123	35	268	0	0	0	0
Electronics Craftsman 電子技工	87	1	675	1174	2083	231	0	5	0
Electrician 電氣技工	45	0	17	472	298	11	0	0	0
Mechanic 技工	15	0	26	29	100	3	0	0	0
Sub-total 小計	147	1	841	1710	2749	245	0	5	0
<b>OPERATIVE LEVEL 操作工級</b>									
Operator 生產線操作工	690	1914	2729	1329	122	2	0	0	0
Sub-total 小計	690	1914	2729	1329	122	2	0	0	0
<b>GRAND TOTAL 總計</b>	<b>7047</b>	<b>1916</b>	<b>3697</b>	<b>4915</b>	<b>9855</b>	<b>7287</b>	<b>6232</b>	<b>3341</b>	<b>4201</b>