

74 Radio and electronic components

This Report on the Radio and Electronic Components Industry relates to establishments engaged wholly or mainly in manufacturing electronic valves (including cathode ray tubes, but excluding glass envelopes), semi-conductors and electronic rectifiers; integrated circuits, including thin and thick film passive and hybrid circuits, monolithic semi-conductor circuits; and radio and electronic components and assemblies including resistors, capacitors, inductors, circuit breakers for electronic equipment, sound reproduction components, printed circuits and other components and assemblies not elsewhere specified. Electronic components for broadcast receiving and sound reproducing equipment are included.

This industry corresponds to minimum list heading 364 in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census, except that tape decks (other than those for use with computers and related equipment) are excluded.

The industry formed part of the Radio and Other Electronic Apparatus Industry (Part 58) in the last detailed Census of Production for 1963.

Throughout this Report, the figures given for 1963 have been reclassified, as far as possible, according to the Standard Industrial Classification (Revised 1968) so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, has been arbitrary.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

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(c) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(d) Administrative, technical and clerical employees.

(e) Excluding expenditure for establishments not yet in production.

(f) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968
United Kingdom (a) (b)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	345	628	
Number of establishments	"	444	773	
Gross output	£'000	149,108	332,064	
Net output	"	93,297	186,012	
Net output per head	£	1,102	1,712	
Sales and work done	{ goods produced and work done (c)	£'000	142,555	275,629
	{ merchanted goods and canteen takings	"	6,221	49,815
Purchases	{ materials for use in production and packaging and fuel	"	49,290	106,986
	{ goods for merchenting and canteen purchases	"	5,190	38,736
Payments to other organisations	{ for work done on materials given out	"	1,047	2,276
	{ for transport	"	841	965
	{ by road	"		
	{ by rail and other means excluding postal services	"		332
Stocks and work in progress				
Total stocks and work in progress	{ change during year	"	+ 889	+ 9,862
	{ at end of year	"	30,669	65,062
Goods on hand for sale	{ change during year	"	- 89	+ 3,256
	{ at end of year	"	8,314	18,354
Work in progress	{ change during year	"	+ 421	+ 3,365
	{ at end of year	"	11,048	19,337
Materials, stores and fuel	{ change during year	"	+ 557	+ 3,242
	{ at end of year	"	11,307	27,371
Number employed on average during the year	{ total, including working proprietors	Th.	84.7	108.6
	{ operatives	"	64.1	78.6
	{ other employees (d)	"	20.2	29.4
Wages and salaries	{ of operatives	£'000	31,546	51,318
	{ of other employees (d)	"	17,694	35,384
Capital expenditure (e)				
Total	"	6,684	16,299	
New building work	"	1,423	1,868	
Land and existing buildings (f)	"	134	240	
Plant and machinery (f)	"	4,930	13,803	
Vehicles (f)	"	197	389	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 4 per cent. of the total figures in which they were incorporated: of this, unsatisfactory returns accounted for 1 per cent. For 1963 the comparable figures were 3 per cent. and less than 1 per cent. respectively.

(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	216	465
Average number employed:		
Working proprietors	292	522
Other persons employed	1,618	3,598

Footnotes continued on page 74/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

(i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year (a)	Gross output	Net output	Net output per head
1-5	121	121	345	..	..	..
6-10	91	90	712	..	..	..
11-24	145	144	2,503	..	..	..
25-49	46	44	1,755	4,770	2,422	1,380
50-99	67	57	4,760	12,981	7,171	1,507
100-199	57	49	8,213	20,873	12,624	1,537
200-299	40	33	9,519	27,369	16,708	1,755
300-399	18	13	6,119	21,223	12,020	1,964
400-499	18	16	7,907	21,862	11,817	1,494
500-749	12	10	7,493	25,266	13,605	1,816
750-999	11	9	9,997	28,065	15,409	1,541
1,000-1,499	13	10	15,628	38,350	24,606	1,575
1,500-1,999	5	4	8,996	28,584	15,618	1,736
2,000-2,499	5	5	11,240	30,100	19,310	1,718
2,500 and over	4	3	12,157	57,801	26,365	2,169
Unsatisfactory returns	120	117	1,302	..	..	..
Total	773	628	108,646	332,064(c)	186,012(c)	1,712(c)

TABLE 2 (continued) (ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	1,373	336	834	389	608	1,158
50-99	3,589	1,153	2,296	1,438	640	1,247
100-199	6,408	1,790	4,026	2,179	628	1,217
200-299	6,772	2,728	4,239	3,242	626	1,188
300-399	4,060	2,057	2,778	2,696	684	1,311
400-499	5,648	2,257	3,512	2,557	622	1,133
500-749	5,542	1,949	3,551	2,435	641	1,249
750-999	7,144	2,853	5,083	3,190	711	1,118
1,000-1,499	11,780	3,842	7,898	4,587	670	1,194
1,500-1,999	7,719	1,277	4,690	1,622	608	1,270
2,000-2,499	7,588	3,652	4,731	4,684	624	1,283
2,500 and over	7,795	4,362	5,625	4,940	722	1,133
Unsatisfactory returns	..	..	..	..	..	..
Total	78,570(c)	29,442(c)	51,318(c)	35,384(c)	653(c)	1,202(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	2	3	5
18 and over	46	49	95
All ages	48	52	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification, (Revised 1968).

Footnotes to Table 4.

- (a) Some establishments employing fewer than 25 persons were included in returns for larger establishments. These amounted to 9 establishments in 1968 and 11 in 1963.
- (b) The method of classifying returns to sub-divisions of the industry is explained in the notes; the characteristic products of each sub-division are identified in Table 5.
- (c) The sum of the figures for the sub-divisions exceeds the total for the industry to the extent that enterprises made returns for more than one sub-division.
- (d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).
- (e) Direct sales of goods (excluding canteen takings) made to, and work done for, the general public by larger establishments are included. These amounted to £51,000 in 1968. Similar information is not available for 1963.
- (f) Characteristic products relate only to sub-divisions of the industry.
- (g) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods produced and work done. For the industry as a whole, this is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (h) Progress payments received for work in progress in 1968 from United Kingdom customers were recorded as £236,000 at beginning of year and £197,000 at end of year; and from overseas customers £133,000 at beginning of year and £148,000 at end of year. Similar information is not available for 1963.
- (i) Administrative, technical and clerical employees.
- (j) Excluding expenditure for establishments not yet in production.
- (k) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom (a)

	Unit	Sub-divisions of the industry (b)				Total	
		Valves and other active components		Other radio and electronic components (including integrated circuits; passive components; components of gramophones, record players and tape recorders, etc)			
		10	20 and 30	1963	1968	1963	1968
Number of enterprises (c)	No.	19	16	119	167	132	178
Number of establishments	"	52	49	179	256	231	305
Gross output	£'000	70,580	103,499	74,278	214,084	144,858	317,583
Net output	"	46,923	62,579	43,714	115,321	90,638	177,900
Net output per head	£	1,374	2,036	909	1,576	1,102	1,712
Sales and work done	£'000	67,518	92,305	70,974	171,304	138,491	263,609
Sales of characteristic products	"	54,689	78,937	62,569	139,405	(f)	(f)
Index of specialisation (g)	Per cent.	81	86	88	81	84	86
Purchases	£'000	19,533	34,060	28,352	68,260	47,885	102,320
Payments to other organisations	"	355	627	662	1,550	1,017	2,177
Stocks and work in progress	"						
Goods on hand for sale	"	- 350	- 494	+ 263	+ 3,608	- 86	+ 3,114
Work in progress (h)	"	- 243	+ 2,037	+ 653	+ 1,181	+ 409	+ 3,218
Materials, stores and fuel	"	- 215	+ 932	+ 756	+ 2,168	+ 541	+ 3,101
Number employed on average during the year	No.	34,151	30,731	48,087	73,177	82,238	103,908
Wages and salaries	£'000	13,122	15,767	17,616	33,548	30,737	49,315
Wages and salaries per head	£	556	767	453	611	492	653
Capital expenditure (j)	£'000	647	566	735	1,220	1,382	1,786
New building work	"	5	127	250	356	255	537
Land and existing buildings	"	37	87	87	124	308	
Plant and machinery	"	2,811	6,396	2,525	7,322	5,335	13,718
Vehicles	"	45	47	283	677	328	724
	"	16	33	120	320	137	352

For notes to this table - see page 74/6.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
10	Thousands	£'000	Thousands	£'000	Number	Number
Valves, electronic, electronic stabilising tubes and cathode ray tubes, sold separately						
Complete						
Thyratrons, hot cathode mercury vapour and gas filled rectifiers (excluding mercury arc rectifiers and ignitrons) (b)	762	1,126	1,172	1,793	*	6
Photo-electric cells (including multipliers but excluding photo semi-conductors), stabilising tubes and cold cathode valves (excluding discharge lamps not over 5 watts capped or uncapped) (c)	2,701	1,310	576	2,007	8	11
Micro-wave tubes (d)						
Klystrons and travelling-wave tubes of an output over 1kW	53.8	3,447	22.3	1,549	6	7
Other micro-wave tubes (including magnetrons, backward-wave oscillators and amplifiers)			77.3	3,891	12	15
Electron optical devices						
Cathode ray tubes (e)						
Television picture tubes (f)						
Colour	2,390	11,797	155	7,090	*	*
Monochrome			2,355	14,017	*	*
Other cathode ray tubes (g)	..	1,282	103	2,135	8	10
X-ray tubes (h)	..	301	5.2	670	*	5
Other (including camera tubes)	..	(i)	27.0	1,767	*	6
Other valves (including tuning indicators) (j)						
Not exceeding 50 watts anode dissipation	74,363	15,189	64,720	16,093	5	8
Over 50 watts anode dissipation	212	2,263	90.7	1,098	*	6
Parts (except glass envelopes)	..	2,152	..	2,320	8	12
Total valves, electronic, electronic stabilising tubes and cathode ray tubes, sold separately, complete and parts		41,427		57,810	..	..
10						
Semi-conductor devices (excluding power rectifiers and equipment) (k)						
Diodes and rectifiers (monocrystalline) including zener diodes and voltage regulators						
Not exceeding 200 milliamperes current rating at 25° C (l)	..	1,946	66,970	3,665	7	10
Over 200 milliamperes current rating at 25° C (m)						
Thyristors	27,192	5,000	7,988	2,039	8	9
Other diodes and rectifiers	..	4,063	24,888	4,584	16	20

TABLE 5 (continued)

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
10	Thousands	£'000	Thousands	£'000	Number	Number
Semi-conductor devices (excluding power rectifiers and equipment) (k) (continued)						
Transistors (including photo-transistors)(n)						
Germanium	45,364	9,493	23,102	3,037	*	7
Other			63,380	10,180	9	11
Quartz crystal units (including crystal filters)	..	(i)	1,595	2,693	6	8
Total semi-conductor devices (excluding power rectifiers and equipment)(k)		20,503		29,387	..	..
20						
Integrated circuit assemblies embodying one or more semi-conductor devices, sold separately						
Solid state	..	(i)	..	7,492	25	29
Thin and thick film			..	934	13	13
30						
Passive components, sold separately						
Capacitors (other than for power factor improvement)						
Complete						
Fixed	471,088	13,637	555,005	19,352	21	32
Variable (including drives and couplings)	9,513	1,391	7,024	1,097	8	9
Parts	..	1,954	..	288	5	5
Resistors						
Fixed	791,089	6,656	881,815	9,799	21	22
Variable	25,746	3,936	48,054	7,336	27	27
Transformers, other than for lighting, heating and power						
Instrument	448	1,543	1,519	1,910	23	26
Other	3,229	2,498	10,662	5,754	51	55
Relays (other than for use with telegraph and telephone apparatus)						
Switches, for use with electronic apparatus			..	11,158	34	42
Connectors, other than domestic wiring plugs and sockets	..	30,235	43,962	13,668	37	44
Terminals and terminations			249,198	3,092	26	28
Holders, valve, crystal, relay (excluding lampholders)			..	406	10	10
Other components			..	35,869	104	128
Total passive components, sold separately		67,440		125,659

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TABLE 5 (continued)

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
	Thousands	£'000	Thousands	£'000	Number	Number
30 Components of gramophones, record players and tape recorders, sold separately						
Turntable units without built-in amplification (including those complete with cabinet)	3,798	11,636	5,645	19,238	6	8
Parts and accessories of gramophone and record players, other than electric motors and records	..	2,821	..	3,525	17	23
Recording tape, wire and magnetic discs, etc	..	2,186	..	3,715	7	7
Other parts and accessories of magnetic recorders (other than tape decks and similar machines, electric motors and pre-recorded tape and wire)	..	854	..	559	9	9
30 Loudspeakers and microphones, sold separately, other than telephone instruments	7,450	4,393	7,983	5,262	26	26
	..	480				
30 Aerials for domestic television and radio apparatus	..	(i)	..	4,311	16	17
Other products	..	225	..	370	12	12
Waste products	Th.tons		Th.tons			
Scrap metals						
Iron and steel	6.2	41	10.1	117	36	45
	..	11	..	27		
Copper	0.6	91	..	437	47	60
Brass	0.6	84	..	394	44	51
Other metals	..	194	..	579	44	62
Other waste products	..	41	..	173	19	26
Work done		1,338		283	11	12
Total		153,762		260,272	..	..
Sales in other industries (see Table 6)		37,694		34,578	..	..
Principal products of this industry sold by establishments in the industry		116,068		225,693	178	229(o)

(a) The number given is that of the sub-division of which the item is a characteristic product. The sales shown are total sales by larger establishments, not merely sales by establishments classified to the sub-division.

(b) For 1963 ignitrons were not specifically excluded.

(c) For 1963 multipliers were not specifically included.

(d) For 1963 described as 'Magnetrons and Klystrons'.

(e) For 1963 rebuilt tubes were specifically included.

(f) For 1963 described as 'Domestic television receiving tubes including industrial monitor tubes'.

(g) For 1963 described as 'Industrial tubes'.

(h) For 1963 valves were specifically included.

(i) Not recorded separately for 1963.

(j) For 1963 tuning indicators were not specifically included.

(k) For 1963 equipment was not specifically excluded.

(l) For 1963 described as 'Semi-conductor signal diodes not exceeding 200 milliamperes current rating'.

(m) For 1963 described as 'Semi-conductor rectifiers, diodes, controlled rectifier elements and cells, singly or as part of stacks above 200 milliamperes current rating'.

(n) For 1963 described as 'Photo-sensitive transistors' and 'Semi-conductor transistors'.

(o) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (a)
	Thousands	£'000	Thousands	£'000	Number	
Valves, electronic, electronic stabilising tubes and cathode ray tubes, sold separately						
Complete						
Thyratrons, hot cathode mercury vapour and gas filled rectifiers (excluding mercury arc rectifiers and ignitrons); photo-electric cells (including multipliers but excluding photo semi-conductors), stabilising tubes and cold cathode valves (excluding discharge lamps not over 5 watts capped or uncapped)	721	1,644	491	1,153	8	64,70,71,75
Micro-wave tubes			21.6	552	9	70,75,77,79
			..	306		
Electron optical devices (excluding television picture tubes)			17.7	1,050	5	70,75,77,79
Other valves, including parts (except glass envelopes)			..	286	5	56,70,79,97
Semi-conductor devices (excluding power rectifiers and equipment)	..	6,741(b)				
Diodes and rectifiers (mono-crystalline) including zener diodes and voltage regulators			5,971	1,211	10	70,71,77,79
			..	1,589		
Transistors (including photo-transistors) and quartz crystal units (including crystal filters)			..	1,128	5	67,70,77,79
Integrated circuit assemblies embodying one or more semi-conductor devices, sold separately	..	(c)	..	1,801	14	70,71,73,77
Passive components, sold separately						
Capacitors (other than for power factor improvement) complete and parts	..	5,235	..	2,260	8	70,71,77,79
Resistors, fixed and variable	39,969	1,422	701	482	7	70,77,79
	..	473				
Transformers, other than for lighting, heating and power						
Instrument	..	1,347	..	654	11	71,73,77,78
Other	1,479	984	650	1,084	22	(d)
	..	1,652	..	219		
Relays (other than for use with telegraph and telephone apparatus)			..	4,716	21	71,73,77,78
Switches, for use with electronic apparatus			463	331	12	71,73,78,84
			..	419		
Connectors, other than domestic wiring plugs and sockets	..	12,076	..	3,330	13	67,70,71,78
Terminals and terminations			..	301	5	70,72,79
Other components			..	8,287	52	67,75,77,79
Components of gramophones, record players and tape recorders, sold separately						
Parts and accessories of gramophone and record players, other than electric motors and records	..	3,211	..	616	9	48,70,75,78

Continued on next page.

TABLE 6 (continued)

	1963		1968			
	Quantity	Value £'000	Quantity	Value £'000	Entries Number	Principal industries in which produced (a)
Components of gramophones, record players and tape recorders, sold separately (continued)						
Recording tape, wire and magnetic discs, etc and parts and accessories of magnetic recorders (other than tape decks and similar machines, electric motors and pre-recorded tape and wire)	..	1,368	..	1,853	8	75
Loudspeakers and microphones, sold separately, other than telephone instruments	..	1,540	Thousands 186	292	10	70,73,75,77
Aerials for domestic television and radio apparatus	..	(c)	..	93	6	77,79,84
Total		37,694		34,578	..	

(a) The references given are to the list of industries at the front of this report.

(b) For 1963 excludes quartz crystal units.

(c) Not recorded separately for 1963.

(d) Production is widely distributed.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963	1968
	Value £'000	Value £'000
Miscellaneous non-electrical machinery, complete and parts	4,293	3,605
Instrument engineering		
Industrial control systems and equipment	} 421	{ 378
Other products, including parts			3,083
Electrical engineering		
Electrical machinery		
Transformers for lighting, heating and power	381	518
Capacitors for power factor improvement	351	1,015
Switchgear and control gear, including parts	142	496
Converting machinery; mercury arc rectifiers including ignitrons; power rectifiers, electronic, metal and semi-conductor	} 437	{ 827
Battery chargers			187
Other products, including parts		883
Telegraph and telephone apparatus and equipment	874	1,640
Radio, radar and electronic capital goods	1,305	1,094
Electric appliances primarily for domestic use	824	1,048
Miscellaneous electrical products (including broadcast receiving and sound reproducing equipment and peripheral equipment for electronic computers)	4,270	14,262
Other goods (including metal and plastics products)	6,729	5,546
Work done		
Research and development	1,147(a)	1,474
Repair and maintenance, machinery installed and other installation work	525	901
Services rendered to other organisations (b)	724	958
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	5,018	46,366
Canteen takings	1,026	1,277
Total	28,468	85,558

(a) Includes building and civil engineering work for 1963.

(b) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968

This table is not applicable to this industry.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Cost	Quantity	Cost
	Th. tons	£'000	Th. tons	£'000
Materials for use in production				
Steel				
Ingots, blooms, billets, slabs (including sheet/plate mill slabs and sheet bars), bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares	6.1	565	9.4	834
Plates, 3 mm. thick and over	0.4	24	0.8	60
Sheets under 3 mm. thick (including electrical sheets)	14.7	1,061	20.3	1,836
Hoop and strip (including tape of all thicknesses)	10.5	726	38.6	3,010
Forgings (except drop forgings) and castings	0.1	23	..	218
Iron and steel not elsewhere specified except finished parts, wire and scrap				
Wrought tubes and fittings for wrought tubes (including welded, seamless, conduits, etc)	..	41	..	56
Other	4.9	657	0.6	92
Steel wire and wire manufactures (including wire cables and ropes but excluding insulated wires and cables)	0.7	46	0.3	60
Springs, laminated and other types	..	268	..	750
Light metals and non-ferrous metals in all forms except finished parts, wire and scrap				
Aluminium and aluminium alloys	3.4	1,532	5.9	3,261
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys and cadmium copper) (a)	2.0	740	..	3,535
Copper (including cadmium copper) (b)				
Castings and forgings			..	60
Rods, extrusions and bars	0.8	349	..	535
Other			7.5	1,327
Lead and zinc and alloys of lead (excluding solder) and zinc	..	88	0.9	117
Nickel and nickel alloys (excluding nickel silver and cupro-nickel)	..	(c)	14.0	1,790
Silicon	..	(c)	..	966
Solder, soft	..	138	..	310
Uninsulated wire and cables of non-ferrous metals				
Copper	..	438	..	921
Other non-ferrous metals	..	792	..	1,166
Glass in all forms (including finished parts)	..	5,099	..	8,508
Ferrite	..	259	..	909
Mica				
Block and splittings	..	443	..	545
Other mica products	..	182	..	748
Paper and paperboard including press-board and paper yarn, tubes, etc but excluding packaging materials	..	597	..	1,217
Porcelain and other ceramics in all forms	..	1,004	..	1,343
Manufactures wholly or mainly of rubber (including synthetic rubber), balata and gutta-percha (including sheeting) but excluding replacement parts for firms' own machinery, plant, vehicles, etc (d)	..	380	..	735

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)		£'000	Th. gal.	£'000
Paint and varnish (including lacquers and stains)	..	270	264	373
Synthetic resins and plastics materials (excluding leathercloth and reinforced plastics)			..	42
Polyethylene and polypropylene and copolymers				
Granules, moulding and extrusion compounds	Th.cwt.		Th.cwt.	
Sheet, rod, film, profile shapes and monofilament	1.8	28	7.7	145
Polyvinyl chloride (including copolymers)	..	19	..	42
Polymers and copolymers including the net resin content of latices, solutions and dispersions, plasticised moulding and extrusion compounds (e)	..	(c)	1.1	168
Plasticised and unplasticised sheet, film, rod, tube, profile shapes and foam	2.4	70	4.1	103
Polystyrene (including copolymers)	..	67	..	52
Moulding and extrusion compounds	..	(c)	2.6	63
Sheet, film and foam (including expandable beads)	..	53	..	15
Phenolics and allied products: resins (the net resin content), solutions, emulsions, dispersions, moulding and extrusion compounds	..	53	33.5	721
Laminated thermosetting sheet (including decorative, cast sheet, laminated or cast rod, tube and profile shapes)	..	(c)	2.1	59
Thermosetting polyesters, including epoxide resins (the net resin content excluding filler) and resin glass fibre mixtures	19.9	189	..	49
Softwood and hardwood, manufactured or semi-manufactured (ie further prepared than sawn or planed), and plywood, including blockboard, laminboard and battenboard	8.2	278	43.9	391
Yarn, thread, tape and cloth, not oiled or otherwise coated or impregnated with insulating materials (excluding packaging materials)	..	55	..	81
Insulated wires, cables, strips and strands	..	242	..	683
Electrical insulating materials not elsewhere specified	Th.lb.	81	..	46
Bolts, rivets, nuts and washers, screws, nails and tacks etc	65.0	41	222	132
Electrical machinery	..	16	..	40
Fractional horse-power motors (less than 1 h.p.)	..	1,066	..	3,201
Transformers and rectifying apparatus	..	247	..	679
Other electrical machinery	..	(c)	..	1,288
Electrical components not elsewhere specified	..	19	..	128
Valves, electronic (other than X-ray valves), electronic stabilising tubes and cathode ray tubes (excluding mercury pool rectifiers)	..	287	..	251
Transmitting and industrial	Thousands			
Other (including cathode ray tubes)	1,479	293	..	209
Magnets, permanent	131	101	..	2,260
Semi-conductor devices	..	195	..	737
Capacitors	..	719	..	1,891
Resistors	..	753	..	794
Micro-circuits	..	4,346	..	899
Silicon transistors	..		..	80
Other electrical components	..		..	563
			..	10,163

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)		£'000		£'000
Other components for incorporation in firms' own products				
Ball and roller bearings and parts thereof	..	79	..	86
Measuring and control instruments (including ammeters, voltmeters, thermostats etc)	..	115	..	221
Radio, radiogram and television cabinets	..	231	..	654
Other components not elsewhere specified				
Wholly or mainly of plastics materials	..	1,192	..	2,079
Other materials except of rubber or glass	..	6,970	..	14,225
	Th.gal.		Th.gal.	
	118	36	364	104
	Th.cwt.		Th.cwt.	
	0.5	8	0.4	17
	..	11	..	2
Lubricating oils and greases (including cutting oils and emulsions)				
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	1,698	..	92
Other	..		..	2,709
All other materials for use in production	..	8,261	..	11,019
Packaging materials				
Paper and board				
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard	..	1,053	..	1,041
Fibreboard packing cases	..		..	188
Other packaging materials of paper and paperboard (including moulded pulp units and labels, but excluding bags and multiwall paper sacks and paper and board for converting into packaging materials) (f)	..	132	..	468
Containers wholly or mainly of wood (including plywood boxes and drums other than cable drums), baskets and wickerwork crates (g)	..	92	..	120
All other packaging materials	..	160	..	337
Fuel and electricity (h)	Th.tons		Th.tons	
Coal	16.6	94	..	83
Coke (including screenings) and manufactured fuel	5.8	44	4.8	42
	..	5		
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	443	87	1,118	311
	..	14		
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	9,510	394	11,882	627
			..	241(i)
	Th.therms		Th.therms	
Gas	6,445	434	4,613	345
	..	44	..	57
	Th.kWh		Th.kWh	
Electricity	264,052	1,512	351,845	2,620
	..	230	..	439
Total cost of materials and fuel		47,885		102,320
Goods purchased for merchanting		4,237		35,973
Canteen purchases		805		1,074
Total cost of purchases		52,927		139,367

For notes to this table - see page 74/17.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	400	439
Transport costs			
Wages and salaries	£'000	201	470
Derv fuel and motor spirit	"	102	311
Tyres and other spare parts for road goods vehicles	"	..	92
Payments to other organisations for transport	"	817	923
by road			
by rail and other means excluding postal services			
Costs of operating road goods vehicles			
Insurance	"	18	32
Vehicle licences	"	14	44
Depreciation	"	126	173
Payments to other organisations for repairs and maintenance	"	45	80
Total	"	1,322(a)	2,442

(a) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.

Footnotes to Table 10.

- (a) For 1963 cadmium copper was not specifically excluded.
- (b) For 1963 blister was specifically excluded and cadmium copper was not specifically included.
- (c) Not recorded separately for 1963.
- (d) For 1963, described as 'Rubber, including hard rubber, balata, gutta-percha and synthetic rubber in all forms, including finished parts'.
- (e) For 1963 emulsions were specifically included.
- (f) For 1963 bags and paper and board for converting into packaging materials were not specifically excluded.
- (g) For 1963 cable drums were not specifically excluded.
- (h) Owing to the risk of disclosure of information relating to individual firms in this industry the total quantity of electricity generated in firms' own establishments in 1963 cannot be given. None was recorded in this industry in 1968.
- (i) For 1968, may include a small amount of fuels not covered by specific headings.

TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	274	514
Road goods vehicles	45	80
Plant, machinery and other capital equipment	692	1,847
Insurance, licensing and depreciation of road goods vehicles (b)	159	248
Rates, excluding water rates	814	1,859
Hire of plant and machinery	271	545
Postage, telephone, telegrams, cables and telex (c)	601	1,456
Total	2,855	6,550

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.

(b) For details see Table 11.

(c) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
1968	Per cent.	Per cent.
April (a)	2.2	1.6
May	0.9	0.4
June	7.4	11.0
July	2.6	1.1
August	2.2	0.5
September	6.6	1.8
October	4.8	2.5
November	1.7	0.6
December	43.7	52.4
1969		
January	3.5	5.1
February	1.3	0.2
March	20.5	22.2
April (b)	2.6	0.6
	100	100

(a) From 6 April.

(b) To 5 April.