

## Patent News

### THE DISTRIBUTION OF INVENTION IN ELECTRONICS

Once again shortly after the publication of the final set of U.K. Patents for 1977 on December 28th last year Patintel were able to summarise the numbers of patents published in each of the seventy sections which are used in their classification system covering the whole field of electronics, instruments, control and associated technologies. Many interesting features emerge from a perusal of the table below which provides the numbers in all of the sections for each of the last three years. The most outstanding characteristic, however, continues to be the remarkable similarity of the numbers of patents published in the various sections in each year. One would, of course, expect some consistency as some of the subject sectors are of much greater importance in advancing technology than others. Nevertheless even the most ardent supporter of human consistency and those with the greatest faith in the regularity of such statistics can hardly fail to be impressed by the close similarity of some of the figures which emerge.

It can be seen in the section on "Film Circuits" where there is virtually no likelihood in classifying the invention, the 60 specifications published in 1977 compare with 62 in 1976. This quite remarkably consistent rate of invention is almost equalled in the case of monolithic Integrated Circuits with 134 in 1977 and 144 in the previous year, (with an equally impressive consistency in the higher rate of invention for discrete Semiconductor Devices). Optoelectronics also indicate a high and consistent rate of activity with 250 in 1977 as against 265 in 1976 and Lasers achieve similar consistency with 140 last year and 148 in the previous twelve months.

Not only is the annual "rate of innovation" consistent with the high technology sectors, for the Energy Conversion section, which relates mainly to batteries and storage cells, includes 288 specifications as against 285 previously.

For the convenience of some of their clients, Patintel have increased the number of classified

sections (e.g. by opening up "Passive Components" to a wider range of seven sectors ranging from Connectors to Packages) and introducing a section on fibre optics. The general and surprising level of consistency does of course provide encouraging support for the claims made in regard to the achievement of consistent and reliable classification and readers might be interested to receive the weekly bulletin which summarises patents in all of these sectors and provides the patent number as well as the name of the patentee. This valuable publication is produced within one week of the publication of the specifications by the Patent Office and *further information is available from Patintel, 13 North Avenue, Gosforth, Newcastle upon Tyne NE3 4DT*

Total number of U.K. patents published annually in each of the subject categories used in *Patintel's* weekly alerting bulletin

	1977	1976	1975
Mathematics	1	0	2
Circuits and Power Supplies	455	384	358
General Computer Topics & Analysis	0	0	6
Languages, Programming and Teaching	10	4	3
Data Handling & File Organisation	0	4	2
Documentation & Information	0	0	1
Switching Theory	0	0	1
Logic Devices & Circuits	51	42	44
Digital Techniques & Logic Design	41	53	52
Storage Devices & Equipment	169	150	161
Data Communication & Equipment	133	106	125
Computer Peripherals, O.C.R. & Image Scanning	250	274	168
Data Processing, Equipment & Computers	171	210	220
Analogue Computers, A/D Conversion	36	46	53
Test Equipment	29	17	27
Material Testing	17	9	2
Connectors & Terminals	187	245	} 726
Printed Circuits	145	242	
Film Circuits	60	62	
Resistors, Potentiometers, Fuses	91	124	
Switches & Relays	297	242	
Transformers & Inductors	59	53	
Packages	26	18	
Thermistors, Varistors, E.R.T.'s & Bolometers	70	39	24
Semiconductors & Devices	339	317	323
Integrated Circuits	134	144	155

	1977	1976	1975
Superconductors & Cryogenics	29	61	48
Dielectrics, Insulators, Capacitors	406	384	136
Magnetic Materials, Devices & Equipment	199	316	197
Vacuum Tubes, Gas Discharge, Display Tubes CRT's and Spark Gaps	214	263	286
Optoelectronics, Photoelectric, LED's, LCD's and I.R. Devices	250	265	234
Masers, Lasers and Holography	140	148	136
Acousto- & Magneto-electric Devices	41	38	83
Ultrasonics, Sonics & Piezo Devices	105	132	54
Radiation, Electron Beam, Particles & Nucleonics	209	220	180
Aerospace & Military Electronics	64	58	29
Sonar and Underwater Electronics	24	23	18
Geophysical Measurements & Equipment	52	49	23
Medical Electronics & Biomedical Engineering	150	174	125
Microwave Equipment	111	90	72
Cables, Transmission Lines, Waveguides, Antennas	115	255	251
Fibre Optics and Optical Waveguides	149	-	-
Communication Theory	0	0	1
Telecommunications	328	340	358
Radar & Navigation Systems	129	149	138
Radio & Television, Radio Paging & Intercom	445	426	353
Audio Equipment	262	216	143
Musical Equipment	39	28	28
Horology	138	130	99
General Domestic Equipment, Toys & Games	178	150	58
Measurement Theory & Standards	0	0	1
Measurement Instruments & Techniques	385	398	232
Transducers, Sensors & Encoders	262	160	153
Alarm Systems	102	108	74
Control & System Theory	1	0	1
Control & Measurement of Particular Parameters	346	388	209
General Control Technology, Numerical Control	187	196	196
Electrical Power Networks, Lines, Cables, H.V. Systems	248	280	20
Power Stations	1	2	1
Power Equipment, Machines & Circuit Breakers	339	327	132
Energy Conversion & Storage	288	285	291
General Uses of Power	0	0	7
Applications of Electronics and Power in Industry	462	317	83
Photography & Printing Equipment	750	776	497
Lamps & Lighting Systems	169	181	134
Automobile Electronics	598	567	454
Rail, Air & Sea Transport Systems	106	111	100
General Applications of Electronics	37	30	56
<b>TOTAL</b>	<b>10,830</b>	<b>10,745</b>	<b>8,144</b>

Note the remarkable similarity in the "rate of invention" in consecutive years in many of the subject categories which together cover all essential topics throughout the whole field of electronics, instruments, control and associated technologies.



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