

TECHNOLOGY ASSESSMENT AND FORECAST REPORT  
ELECTRICAL CLASSES

1977 - December 2001



April 2002  
U.S. PATENT AND TRADEMARK OFFICE  
INFORMATION PRODUCTS DIVISION -- TAF BRANCH  
PK3- Suite 441, WASHINGTON, DC 20231  
tel (703) 306-2600 / FAX (703) 306-2737

*A TECHNOLOGY ASSESSMENT AND FORECAST REPORT*

# Technology Profile Report - ELECTRICAL Classes

## Explanation of Data

This Technology Profile Report profiles the patent activity for U.S. utility patents \* granted between **1977** and **December 2001** in ELECTRICAL technology discipline classes within the U.S. Patent Classification System (USPCS).

The report is generated by identifying appropriate Patent and Trademark Office (PTO) classes, i.e., those entirely or substantially pertinent to the technology discipline of interest. The patents in these classes are then included in the profile. This procedure results, in most cases, in the inclusion of the majority of patents relevant to the technology discipline and few, if any, patents which are not relevant. However, any patent listing provided should not be considered to be inclusive of all relevant patents, nor exclusive of all irrelevant patents.

### Data Distribution By Date of Grant and By Date of Application

#### **Parts A1 and A2**

Part A1 distributes utility patent GRANT data by year of patent grant ("Patents Granted By Date of Patent Grant"). Part A2 distributes patent GRANT data by the year in which the patented application was filed ("Patents Granted By Date of Patent Application"). Parts A1 and A2 each provide patent counts (pages A1-1 and A2-1) and percent distributions (pages A1-2 and A2-2).

Patent data, as shown in the "**Pre 1988**" column, correspond to selected patents \* in the data base which were granted during the period **1977 to 1987**.

#### **Part B**

Part B of this report distributes patent GRANT data for organizations that have received U.S. patents since 1977. Data are presented by the year in which the patent was granted ("Patents By Year of Grant") and the year the patented application was filed ("Patents by Year of Application").

#### DATA FOR THOSE APPLICATIONS WHICH WERE FILED BUT NEVER ISSUED (ROUGHLY 25% OF TOTAL FILINGS) ARE NOT INCLUDED IN THIS REPORT.

Since the average time period between filing for a patent and the issuing of the patent (i.e., a patent's "pendency") is now about 24 months, the patented application data for applications filed from **1998** to **DECEMBER 2001** are incomplete.\*\* This is because a significant number of the applications filed from **1998** to **DECEMBER 2001**, which will ultimately become patents, were still pending in **DECEMBER 2001**. Since they had not yet become patents at the time this report was prepared, they were not included in this report.

Patented application data are of significant value since the date an application was filed more accurately reflects when the technology was developed. Additionally, fluctuations in data based on application date are much more likely to reflect changes in technological activity, since such fluctuations would for the most part be immune from changes in PTO processing such as occurred in 1986 when the PTO issued fewer patents than would normally have been expected due to a lack of funds to print patents. Note that a patent's "pendency" can be quite variable from one patent to

another thereby affecting the date of patent grant. Such variation in pendency is determined by many factors, including PTO workload (which varies between technologies), budget and manpower levels, patent printing schedules, etc.

"**Patents Granted By Date of Patent Application**", as shown in the "**Pre 1988**" column, correspond to patent grants in the report which were filed prior to **1988**.

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#### Parts of the Report

**Parts A1 and A2** present tables which show, by number and percent, the patent activity in the technology discipline. Part A1 presents data by year of patent grant ("Patents Granted By Date of Patent Grant"). Part A2 redistributes grant data by year of patent application ("Patents Granted By Date of Patent Application"). The location of patent origin is determined by the residence of the first-named inventor at the time of grant.

**Patent ownership** information reflects ownership at the time of patent grant and does not include subsequent changes in ownership. If more than one assignee was declared at the time of grant, the patent ownership is attributed to the first-named assignee. The U.S. and Foreign Corporations ownership categories count predominantly corporate patents; however, patents assigned to other organizations such as small businesses, nonprofit organizations, universities, etc. are also included in this category. While U.S. Government patent ownership includes only patents granted to the Federal Government, no such distinction is made for the Foreign Government ownership category.

**Part B** is a ranked listing of national and international organizations (i.e., corporations, universities, government agencies) which have received U.S. patents since **1977**.\* Data line 1 for each listed organization ("Patents By Year of Grant") distributes counts of patent grants by year of grant. Data line 2 for each organization ("Patents By Year of Application") redistributes those same patent grants by year in which the patented applications were filed. Information on patent ownership reflects ownership at the time of patent grant. Although a substantial effort has been made to combine name variations into a single organizational name, many organizations continue to have patents listed under more than one organizational name.

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\* The term "patent", as used above, refers to "utility" patents. Other patent documents (i.e., design, plant and reissue patents, statutory invention registrations, defensive publications) are not included in this profile report.

\*\* As of **12/31/2001**, utility patent application data were approximately 79% complete for patent applications filed in 1998, 53% complete for 1999 filings and 16% complete for 2000 filings. They were essentially complete for applications filed prior to 1998.

## CHEMICAL, ELECTRICAL, MECHANICAL CLASSES

DECEMBER 2001

CHEMICAL	8	23	44	48	51	55	65	71	75	95	96	106	117	127
	136	148	149	156	159	162	196	201	202	203	204	205	208	209
	210	216	252	260	261	264	376	419	420	422	423	424	426	427
	428	429	430	435	436	438	442	501	502	504	507	508	510	512
	514	516	518	520	521	522	523	524	525	526	527	528	530	532
	534	536	540	544	546	548	549	552	554	556	558	560	562	564
	568	570	585	588	800	930	976	987						

The following subclasses are also Chemical:

134/1-42; 131/274-279; 505/100-126, 300-512, 725-785, 800-824, 951

ELECTRICAL	174	178	191	200	218	219	235	250	257	290	307	310	313	314
	315	318	320	322	323	324	326	327	329	330	331	332	333	334
	335	336	337	338	340	341	342	343	345	346	348	349	355	358
	360	361	362	363		365	367	368	369	370		372	373	375
	377	378	379	380	381	382	383	386	388	392	396	399	455	503
	505	700	701	702	703	704	705	706	707	708	709	710	711	712
	713	714	716	717	725	902								

The following subclasses are also Electrical:

84/600-746; 385/1-52; 359/1-195, 237-361, 558-590, 901-902; 968/876-977; 984/300-398

MECHANICAL	2	4	5	7		12	14	15	16		19	24	26	
	27	28	29	30	33	34	36	37	38	40	42	43	47	49
	52	53	54	56	57	59	60	62	63	66	68	69	70	
	72	73	74	76	79	81	82	83	84	86	87	89	91	92
	99	100	101	102	104	105	108	109	110	111	112	114	116	118
	119	122	123	124	125	126	128		131	132	134	135	137	138
	139	140	141	142	144	147	150	152	157	160	163	164	165	166
	168	169	171	172	173	175	177	180	181	182	184	185	186	187
	188	190	192	193	194	198	199	206	211	212	213	215	217	220
	221	222	223	224	225	226	227	228	229	231	232	234	236	237
	238	239	241	242	244	245	246	248	249	251	254	256	258	266
	267	269	270	271		273	276	277	278	279	280	281	283	285
	289	291	292	293	294	295	296	297	298	299	300	301	303	305
	312	347	351	352	353	356	359	366	374	384	385	400	401	402
	403	404	405	406	407	408	409	410	411	412	413	414	415	416
	417	418	425	431	432	433	434	439	440	441	445	446	449	450
	451	452	453	454	460	462	463	464	470	472	473	474	475	476
	477	482	483	492	493	494	600	601	602	604	606	607	623	901
	968	984												

The following subclasses are also Mechanical:

209/3.1-3.3, 44-44.4, 509-707, 900-942; 8/147-159

TECHNOLOGY ASSESSMENT AND FORECAST PROGRAM TECHNOLOGY DISCIPLINES FOR  
 U.S. PATENT CLASSIFICATION SYSTEM CLASSES AS OF DECEMBER 2001  
CHEMICAL, ELECTRICAL, MECHANICAL

| Class |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2M    | 74M   | 141M  | 206M  | 267M  | 336E  | 400M  | 454M  | 552C  |
| 4M    | 75C   | 142M  | 208C  | 269M  | 337E  | 401M  | 455E  | 554C  |
| 5M    | 76M   | 144M  | 209C* | 270M  | 338E  | 402M  | 460M  | 556C  |
| 7M    | 79M   | 147M  | 210C  | 271M  | 340E  | 403M  | 462M  | 558C  |
| 8C*   | 81M   | 148C  | 211M  | 273M  | 341E  | 404M  | 463M  | 560C  |
| 12M   | 82M   | 149C  | 212M  | 276M  | 342E  | 405M  | 464M  | 562C  |
| 14M   | 83M   | 150M  | 213M  | 277M  | 343E  | 406M  | 470M  | 564C  |
| 15M   | 84M*  | 152M  | 215M  | 278M  | 345E  | 407M  | 472M  | 568C  |
| 16M   | 86M   | 156C  | 216C  | 279M  | 346E  | 408M  | 473M  | 570C  |
| 19M   | 87M   | 157M  | 217M  | 280M  | 347M  | 409M  | 474M  | 585C  |
| 23C   | 89M   | 159C  | 218E  | 281M  | 348E  | 410M  | 475M  | 588C  |
| 24M   | 91M   | 160M  | 219E  | 283M  | 349E  | 411M  | 476M  | 600M  |
| 26M   | 92M   | 162C  | 220M  | 285M  | 351M  | 412M  | 477M  | 601M  |
| 27M   | 95C   | 163M  | 221M  | 289M  | 352M  | 413M  | 482M  | 602M  |
| 28M   | 96C   | 164M  | 222M  | 290E  | 353M  | 414M  | 483M  | 604M  |
| 29M   | 99M   | 165M  | 223M  | 291M  | 355E  | 415M  | 492M  | 606M  |
| 30M   | 100M  | 166M  | 224M  | 292M  | 356M  | 416M  | 493M  | 607M  |
| 33M   | 101M  | 168M  | 225M  | 293M  | 358E  | 417M  | 494M  | 623M  |
| 34M   | 102M  | 169M  | 226M  | 294M  | 359M* | 418M  | 501C  | 700E  |
| 36M   | 104M  | 171M  | 227M  | 295M  | 360E  | 419C  | 502C  | 701E  |
| 37M   | 105M  | 172M  | 228M  | 296M  | 361E  | 420C  | 503E* | 702E  |
| 38M   | 106C  | 173M  | 229M  | 297M  | 362E  | 422C  | 504C  | 703E  |
| 40M   | 108M  | 174E  | 231M  | 298M  | 363E  | 423C  | 505E* | 704E  |
| 42M   | 109M  | 175M  | 232M  | 299M  | 365E  | 424C  | 507C  | 705E  |
| 43M   | 110M  | 177M  | 234M  | 300M  | 366M  | 425M  | 508C  | 706E  |
| 44C   | 111M  | 178E  | 235E  | 301M  | 367E  | 426C  | 510C  | 707E  |
| 47M   | 112M  | 180M  | 236M  | 303M  | 368E  | 427C  | 512C  | 708E  |
| 48C   | 114M  | 181M  | 237M  | 305M  | 369E  | 428C  | 514C  | 709E  |
| 49M   | 116M  | 182M  | 238M  | 307E  | 370E  | 429C  | 516C  | 710E  |
| 51C   | 117C  | 184M  | 239M  | 310E  | 372E  | 430C  | 518C  | 711E  |
| 52M   | 118M  | 185M  | 241M  | 312M  | 373E  | 431M  | 520C  | 712E  |
| 53M   | 119M  | 186M  | 242M  | 313E  | 374M  | 432M  | 521C  | 713E  |
| 54M   | 122M  | 187M  | 244M  | 314E  | 375E  | 433M  | 522C  | 714E  |
| 55C   | 123M  | 188M  | 245M  | 315E  | 376C  | 434M  | 523C  | 716E  |
| 56M   | 124M  | 190M  | 246M  | 318E  | 377E  | 435C  | 524C  | 717E  |
| 57M   | 125M  | 191E  | 248M  | 320E  | 378E  | 436C  | 525C  | 725E  |
| 59M   | 126M  | 192M  | 249M  | 322E  | 379E  | 438C  | 526C  | 800C  |
| 60M   | 127C  | 193M  | 250E  | 323E  | 380E  | 439M  | 527C  | 901M  |
| 62M*  | 128M  | 194M  | 251M  | 324E  | 381E  | 440M  | 528C  | 902E  |
| 63M   | 131M* | 196C  | 252C  | 326E  | 382E  | 441M  | 530C  | 930C  |
| 65C   | 132M  | 198M  | 254M  | 327E  | 383E  | 442C  | 532C  | 968M* |
| 66M   | 134M* | 199M  | 256M  | 329E  | 384M  | 445M  | 534C  | 976C  |
| 68M   | 135M  | 200E  | 257E  | 330E  | 385M* | 446M  | 536C  | 984M* |
| 69M   | 136C  | 201C  | 258M  | 331E  | 386E  | 449M  | 540C  | 987C  |
| 70M   | 137M  | 202C  | 260C  | 332E  | 388E  | 450M  | 544C  |       |
| 71C   | 138M  | 203C  | 261C  | 333E  | 392E  | 451M  | 546C  |       |
| 72M   | 139M  | 204C  | 264C  | 334E  | 396E  | 452M  | 548C  |       |
| 73M   | 140M  | 205C  | 266M  | 335E  | 399E  | 453M  | 549C  |       |

\*8/147-159 are mechanical

\*84/600-746 are electrical

\*131/274-279 are chemical

\*134/1-42 are chemical

\*209/3.1-3.3, 44-44.4, 509-707, 900-942 are mechanical

\*359/1-195, 237-361, 558-590, 901-902 are electrical

\*385/1-52 are electrical

\*505/100-126, 300-512, 725-785, 800-824, 951 are chemical

\*968/876-977 are electrical

\*984/300-398 are electrical

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USPTO. TPD-TAF Branch

Part A1

Patent Grants as Distributed By Year of Patent Grant

## ---- Patents Granted By Date Of Patent Grant (Granted: Jan 01, 1977 - Dec 31, 2001) ----

## ----- NUMBER OF PATENTS -----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
<b>Total</b>	<b>149110</b>	<b>18975</b>	<b>24369</b>	<b>22383</b>	<b>24302</b>	<b>24488</b>	<b>25259</b>	<b>28291</b>	<b>29855</b>	<b>34369</b>	<b>33958</b>	<b>50162</b>	<b>51388</b>	<b>53164</b>	<b>57126</b>	<b>627199</b>
U.S. Origin	81306	8908	11255	10523	11454	11388	11956	13761	14748	17430	17287	25553	26639	27843	29729	319780
Foreign Origin	67804	10067	13114	11860	12848	13100	13303	14530	15107	16939	16671	24609	24749	25321	27397	307419
JAPAN	34515	6016	8082	7572	8344	8836	8977	9720	9893	10874	10475	14970	14537	14350	15109	182270
GERMANY	10658	1291	1484	1143	1200	1080	1021	1073	1096	1162	1175	1728	1804	2084	2451	30450
FRANCE	5209	649	790	681	730	701	688	698	735	783	715	959	985	1001	1028	16352
UNITED KINGDOM	4953	608	775	651	629	560	506	558	630	666	638	964	1013	1036	1160	15347
SOUTH KOREA	62	39	68	97	217	293	404	550	613	805	1000	1832	2034	1867	1945	11826
CANADA	2098	263	357	305	337	301	318	331	369	479	466	717	803	883	953	8980
NETHERLANDS	2434	280	385	352	322	272	237	274	312	329	287	474	425	402	443	7228
TAIWAN	172	80	106	158	149	196	225	246	332	411	502	884	963	1166	1330	6920
SWITZERLAND	2201	203	210	183	197	177	181	199	178	196	181	227	216	232	244	5025
SWEDEN	1135	107	148	105	91	99	104	150	165	237	213	301	424	501	570	4350
ITALY	1185	151	195	178	148	142	168	163	135	229	222	327	275	352	407	4277
ISRAEL	241	42	77	76	65	70	86	113	142	174	200	301	290	334	405	2616
FINLAND	186	25	35	33	57	59	68	101	106	123	118	225	260	256	316	1968
AUSTRALIA	357	45	69	57	68	55	52	53	62	53	57	102	87	116	121	1354
BELGIUM	305	40	50	39	50	40	56	60	70	102	79	117	104	120	114	1346
AUSTRIA	332	41	57	41	47	41	38	41	43	37	45	48	65	89	89	1054
U.S.S.R.	616	10	35	25	34	6	7	7	1	3	1	1	1	1	1	747
DENMARK	213	21	35	20	20	18	13	15	17	20	21	26	59	53	62	613
CHINA, HONG KONG S.A.R.	93	16	23	21	21	26	22	19	26	26	31	59	61	69	84	597
SINGAPORE	10		6	5		12	17	19	20	43	40	52	60	80	106	470
NORWAY	129	27	19	12	17	17	24	23	23	19	12	27	34	33	38	454
IRELAND	41	13	16	17	15	17	15	13	21	27	31	27	25	41	67	386
SPAIN	47	18	14	7	12	13	17	15	8	20	27	35	18	37	35	323
RUSSIAN FEDERATION							1	10	27	18	26	49	63	48	74	316
SOUTH AFRICA	90	7	12	12	14	7	7	10	11	22	17	19	11	15	19	273
NEW ZEALAND	47	5	14	3	7	7	3	6	8	9	14	30	16	26	29	224
HUNGARY	100	17	7	14	5	7	4	4	3	2	4	10	8	5	13	203
CHINA P. REP.	9	12	7	13	9	7	7	8	15	9	14	18	16	15	33	192
INDIA	5		1	3	2	4	2	5	7	9	10	10	9	16	35	118
BRAZIL	22	5	5	3	6	4	6	5	3	7	5	11	10	8	11	111
MEXICO	41	3	2	1	3	3	5	3	2	2	4	4	8	10	11	102
ARGENTINA	28	3	2	2	4	1	2	6	4	1	2	4	2	6	4	71
CZECHOSLOVAKIA	48	1	3	2			1	3		1	4	2	1	1	3	70
MALAYSIA	1	1			5	1	4	5	2	1	8	3	12	14	13	70
BULGARIA	43	9	6	6	2	1	2									69
YUGOSLAVIA	19	5	4	8	8	4	2	1	1	1	1				1	54
Others ( 72 )	159	14	15	15	13	23	13	23	27	40	26	47	50	54	74	593

## Ownership:

U.S. Corporations	70872	8083	10234	9419	10224	10164	10880	12470	13502	16076	16082	24045	25001	25921	27862	290835
U.S. Government	4184	241	266	360	421	372	371	469	371	343	291	314	281	304	304	8892
U.S. Individuals	11603	1214	1629	1465	1580	1487	1374	1495	1680	1877	1853	2420	2400	2478	2371	36926
Foreign Corporations	56516	8745	11397	10358	11329	11733	11973	13231	13617	15340	14990	22309	22759	23470	25558	273325
Foreign Government	970	136	131	135	137	128	111	86	80	73	71	68	38	26	18	2208
Foreign Individuals	4965	556	712	646	611	604	550	540	605	660	671	1006	909	965	1013	15013

**ELECTRICAL CLASSES (12-31-2001)**

----- Technology Assessment and Forecast Report -----

Page A1- 2

---- Patents Granted By Date Of Patent Grant (Granted: Jan 01, 1977 - Dec 31, 2001) ----

----- PERCENT OF PATENTS -----

**Ownership:**

## Part A2

Patent Grants as Distributed By Year of Patent Application

---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

Page A2- 1

---- Patents Granted By Date Of Patent Application (Granted: Jan 01, 1977 - Dec 31, 2001) ----

	NUMBER OF PATENTED APPLICATIONS															
	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
<b>Total</b>	187155	22845	25164	26102	27448	28674	30170	37422	44734	50242	58767	49104	29232	9765	375	627199
U.S. Origin	99387	10490	11850	12366	12818	14080	15121	18602	23281	25955	30451	25807	14694	4694	184	319780
Foreign Origin	87768	12355	13314	13736	14630	14594	15049	18820	21453	24287	28316	23297	14538	5071	191	307419
JAPAN	46606	8048	8655	9176	9788	9697	9772	12296	13623	14513	16584	12783	7739	2876	114	182270
GERMANY	13055	1199	1199	1176	1143	1102	1053	1265	1507	1688	2036	1956	1542	514	15	30450
FRANCE	6454	700	738	791	738	730	781	834	904	964	1083	922	559	150	4	16352
UNITED KINGDOM	6257	628	676	581	610	551	641	758	872	975	1226	927	497	141	7	15347
SOUTH KOREA	157	87	240	287	484	508	568	845	1156	1967	2224	1989	957	345	12	11826
CANADA	2610	307	370	327	323	339	430	508	642	755	996	854	388	126	5	8980
NETHERLANDS	2999	349	338	292	263	291	310	379	397	485	482	361	218	61	3	7228
TAIWAN	315	101	167	165	227	265	289	389	585	802	998	1159	1051	387	20	6920
SWITZERLAND	2540	184	210	200	190	204	185	214	223	216	242	212	168	35	2	5025
SWEDEN	1350	104	105	106	131	141	180	246	296	314	613	443	248	73		4350
ITALY	1474	177	166	170	182	154	169	222	271	290	344	321	230	103	4	4277
ISRAEL	343	63	78	88	99	121	151	211	239	288	352	331	216	35	1	2616
FINLAND	243	27	49	57	78	102	110	120	162	313	328	205	129	43	2	1968
AUSTRALIA	456	73	53	62	64	60	69	53	77	113	93	116	49	16		1354
BELGIUM	382	48	39	45	61	61	69	94	102	133	113	125	60	14		1346
AUSTRIA	418	44	43	45	39	50	44	43	46	58	67	69	73	15		1054
U.S.S.R.	651	31	24	17	11	4	4	2	1	1	1	1				747
DENMARK	255	35	14	20	19	12	22	20	26	38	58	47	40	7		613
CHINA, HONG KONG S.A.R.	123	16	36	12	31	25	22	33	40	48	70	58	58	24	1	597
SINGAPORE	12	6	5	7	12	24	26	47	47	53	78	78	47	28		470
NORWAY	175	12	13	18	29	25	22	15	21	20	38	34	26	6		454
IRELAND	67	15	16	15	17	18	15	40	28	29	40	50	26	9	1	386
SPAIN	72	11	9	13	12	22	14	28	25	33	26	21	30	7		323
RUSSIAN FEDERATION					1	6	21	29	33	47	59	60	47	13		316
SOUTH AFRICA	107	16	12	6	7	11	17	19	21	16	18	10	9	4		273
NEW ZEALAND	63	7	5	6	8	6	3	16	17	28	21	21	13	10		224
HUNGARY	121	13	9	6	6	3	4	2	8	7	8	7	9			203
CHINA P.REP.	27	10	8	10	9	8	11	15	13	13	21	23	16	8		192
INDIA	7	2	2	4	4	3	8	8	13	10	12	15	25	5		118
BRAZIL	32	3	5	4	7	6	2	12	5	9	8	9	7	2		111
MEXICO	45	2	2	4	6	2	2	4	4	6	7	10	6	2		102
ARGENTINA	32	3	2	2	3	4	5	3	2	4	2	5	4			71
CZECHOSLOVAKIA	50	4			1	2	1	2	2	3	2	1	2			70
MALAYSIA	2		2	4	4	3	4	2	8	2	18	8	12	1		70
BULGARIA	56	4	6		2	1										69
YUGOSLAVIA	30	6	7	5	1	2	1		1			1				54
Others ( 72 )	182	20	11	15	20	31	24	46	36	47	48	65	37	11		593
<b>Ownership:</b>																
U.S. Corporations	87096	9504	10726	11060	11617	12779	13845	17146	21858	24522	28745	24119	13446	4204	168	290835
U.S. Government	4853	267	339	366	413	402	434	360	362	272	299	299	164	61	1	8892
U.S. Individuals	14048	1462	1594	1611	1505	1623	1657	2115	2279	2290	2512	2103	1565	547	15	36926
Foreign Corporations	73844	10904	11707	12298	13205	13200	13548	17007	19377	22173	26152	21701	13342	4686	181	273325
Foreign Government	1227	112	149	135	123	80	82	79	67	73	39	31	9	2		2208
Foreign Individuals	6087	596	649	632	585	590	604	715	791	912	1020	851	706	265	10	15013

## ---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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## ---- Patents Granted By Date Of Patent Application (Granted: Jan 01, 1977 - Dec 31, 2001) ----

## ----- PERCENT OF PATENTED APPLICATIONS -----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
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<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
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U.S. Origin	53	46	47	47	47	49	50	50	52	52	52	53	50	48	49	51
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Foreign Origin	47	54	53	53	53	51	50	50	48	48	48	47	50	52	51	49
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JAPAN	25	35	34	35	36	34	32	33	30	29	28	26	26	29	30	29
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GERMANY	7	5	5	5	4	4	3	3	3	3	3	4	5	5	4	5
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FRANCE	3	3	3	3	3	3	2	2	2	2	2	2	2	1	3
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UNITED KINGDOM	3	3	3	2	2	2	2	2	2	2	2	2	1	2	2
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SOUTH KOREA		1	1	2	2	2	2	3	4	4	4	3	4	3	2
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CANADA	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1
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NETHERLANDS	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
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TAIWAN		1	1	1	1	1	1	1	2	2	2	4	4	5	1
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SWITZERLAND	1	1	1	1	1	1	1	1			1		1	1	1
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SWEDEN	1														
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ITALY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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ISRAEL														0	
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FINLAND														1	0
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AUSTRALIA														0	
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BELGIUM														0	
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AUSTRIA														0	
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U.S.S.R.														0	
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DENMARK														0	
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CHINA, HONG KONG S.A.R.														0	
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SINGAPORE														0	
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NORWAY														0	
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IRELAND														0	
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SPAIN														0	
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RUSSIAN FEDERATION														0	
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SOUTH AFRICA														0	
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NEW ZEALAND														0	
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HUNGARY														0	
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CHINA P.REP.														0	
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INDIA														0	
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BRAZIL														0	
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MEXICO														0	
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ARGENTINA														0	
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CZECHOSLOVAKIA														0	
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MALAYSIA														0	
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BULGARIA														0	
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YUGOSLAVIA														0	
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Others ( 72 )														0	
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**Ownership:**

U.S. Corporations	47	42	43	42	42	45	46	46	49	49	49	49	46	43	45	46
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U.S. Government	3	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
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U.S. Individuals	8	6	6	6	5	6	5	6	5	5	4	4	5	6	4	6
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Foreign Corporations	39	48	47	47	48	46	45	45	43	44	45	44	46	48	48	44
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Foreign Government	1		1	1										0	
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Foreign Individuals	3	3	3	2	2	2	2	2	2	2	2	2	3	3	3	2
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**Part B**

**Ranked Listing of Organizations with PATENT GRANTS**

**As Distributed By Year of Patent Grant**

**and As Distributed By Year of Patent Application**

## ---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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## ---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

1988 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 TOTAL

## INTERNATIONAL BUSINESS MACHINES CORPORATION

Patents By Year of Grant:	3351	390	473	455	484	625	823	1004	1112	1545	1406	2227	2199	2233	2644	20971
Patents By Year of Application:	4216	475	538	706	923	1184	994	1485	2063	2210	2782	2303	884	205	3	20971

## CANON KABUSHIKI KAISHA

Patents By Year of Grant:	2307	465	590	546	529	697	601	714	709	999	917	1334	1175	1169	1109	13861
Patents By Year of Application:	3233	506	620	597	736	773	849	1301	1517	1222	1366	662	387	90	2	13861

## TOSHIBA CORPORATION

Patents By Year of Grant:	2925	519	691	668	749	732	749	733	742	692	659	894	922	943	859	13477
Patents By Year of Application:	3985	714	742	754	887	671	659	839	800	945	1008	850	451	168	4	13477

## HITACHI, LTD

Patents By Year of Grant:	3207	596	742	620	638	639	618	704	658	725	649	835	772	764	882	13049
Patents By Year of Application:	4523	739	703	716	720	658	643	706	829	744	782	584	438	249	15	13049

## NEC CORPORATION

Patents By Year of Grant:	1356	318	440	407	389	407	509	754	858	869	871	1360	1481	1549	1481	13049
Patents By Year of Application:	2027	425	426	384	548	736	663	1132	1019	1365	1833	1529	748	210	4	13049

## MOTOROLA, INC.

Patents By Year of Grant:	2026	256	301	317	501	534	571	660	814	878	842	1171	980	992	636	11479
Patents By Year of Application:	2476	301	473	555	634	672	779	985	1133	1129	1109	767	311	154	1	11479

## MITSUBISHI DENKI KABUSHIKI KAISHA

Patents By Year of Grant:	1246	313	506	560	605	606	607	699	711	738	671	858	795	762	847	10524
Patents By Year of Application:	1918	592	615	645	702	679	664	753	854	805	867	685	481	246	18	10524

## SONY CORPORATION

Patents By Year of Grant:	1681	260	275	204	256	354	443	506	582	678	647	1081	1143	1102	1120	10332
Patents By Year of Application:	2156	256	252	338	458	545	597	728	902	1126	1518	889	444	118	5	10332

## U.S. PHILIPS CORPORATION

Patents By Year of Grant:	3235	442	587	479	496	401	357	317	418	396	396	588	575	576	578	9841
Patents By Year of Application:	4102	510	514	425	396	357	379	475	560	608	617	537	289	70	2	9841

## FUJITSU LIMITED

Patents By Year of Grant:	968	194	224	214	284	316	343	469	586	723	757	1018	1009	943	996	9044
Patents By Year of Application:	1340	204	285	343	437	488	530	842	1006	1082	1118	851	352	153	13	9044

## MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

Patents By Year of Grant:	1294	162	232	200	281	371	437	538	579	573	507	706	739	770	998	8387
Patents By Year of Application:	1659	213	271	388	479	522	553	655	637	729	838	726	512	198	7	8387

---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----																
	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
<b>SIEMENS AKTIENGESELLSCHAFT</b>																
Patents By Year of Grant:	3011	371	410	327	302	260	210	212	247	267	282	397	434	558	493	7781
Patents By Year of Application:	3678	347	284	304	233	229	218	291	323	399	508	517	346	98	6	7781
<b>GENERAL ELECTRIC COMPANY</b>																
Patents By Year of Grant:	3354	313	350	356	337	304	277	312	267	280	233	280	279	286	454	7682
Patents By Year of Application:	3925	324	353	332	285	321	272	300	281	294	284	335	301	74	1	7682
<b>AT&amp;T CORP.</b>																
Patents By Year of Grant:	2849	282	269	299	351	283	282	446	484	425	44	145	271	286	280	6996
Patents By Year of Application:	3372	230	362	356	297	403	517	365	185	206	432	188	53	26	4	6996
<b>SAMSUNG ELECTRONICS CO., LTD.</b>																
Patents By Year of Grant:	6	5	20	41	111	187	239	327	323	366	424	929	1117	989	1048	6132
Patents By Year of Application:	27	32	151	173	291	303	321	368	473	1125	1128	1090	458	185	7	6132
<b>TEXAS INSTRUMENTS, INCORPORATED</b>																
Patents By Year of Grant:	1260	140	260	188	257	240	225	317	334	425	423	473	446	482	578	6048
Patents By Year of Application:	1632	223	242	255	260	280	386	494	562	398	538	409	300	63	6	6048
<b>EASTMAN KODAK COMPANY</b>																
Patents By Year of Grant:	715	207	206	311	396	343	365	356	310	358	358	467	410	331	259	5392
Patents By Year of Application:	997	270	377	383	410	423	288	355	349	511	460	381	139	49	0	5392
<b>SHARP KABUSHIKI KAISHA (SHARP CORPORATION)</b>																
Patents By Year of Grant:	867	180	268	261	293	295	277	352	299	288	302	445	389	436	399	5351
Patents By Year of Application:	1259	295	305	294	318	332	315	327	373	445	445	395	173	74	1	5351
<b>XEROX CORPORATION</b>																
Patents By Year of Grant:	1468	128	115	110	153	210	285	312	302	402	333	451	375	275	361	5280
Patents By Year of Application:	1681	115	141	228	284	286	360	389	415	390	328	417	180	65	1	5280
<b>HEWLETT-PACKARD COMPANY</b>																
Patents By Year of Grant:	451	92	154	137	207	208	208	287	291	307	311	521	552	561	571	4858
Patents By Year of Application:	667	149	215	211	251	264	266	321	379	595	653	541	253	90	3	4858
<b>INTEL CORPORATION</b>																
Patents By Year of Grant:	127	19	35	34	47	50	98	183	251	393	371	658	657	692	713	4328
Patents By Year of Application:	178	37	41	55	92	178	289	422	564	733	813	621	245	58	2	4328
<b>LUCENT TECHNOLOGIES INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	235	595	767	863	1027	819	4306
Patents By Year of Application:	0	0	0	1	5	8	53	329	713	768	991	997	386	54	1	4306

## ---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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## ---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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## RICOH COMPANY, LTD.

Patents By Year of Grant:	750	106	175	200	208	243	191	208	189	212	251	297	292	291	244	3857
Patents By Year of Application:	960	211	235	248	214	207	202	237	277	312	302	248	159	45	0	3857

## FUJI PHOTO FILM CO., LTD

Patents By Year of Grant:	720	257	406	294	255	214	179	145	142	146	180	208	216	196	231	3789
Patents By Year of Application:	1258	327	277	225	199	177	150	156	208	247	236	183	111	35	0	3789

## RCA CORPORATION

Patents By Year of Grant:	3571	90	1	0	1	0	0	0	0	0	0	0	0	0	0	3663
Patents By Year of Application:	3662	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3663

## WESTINGHOUSE ELECTRIC CORP.

Patents By Year of Grant:	2322	139	170	192	135	133	127	119	53	47	23	26	3	0	0	3489
Patents By Year of Application:	2581	195	160	138	142	95	68	65	22	14	9	0	0	0	0	3489

## UNITED STATES OF AMERICA, NAVY

Patents By Year of Grant:	1488	50	65	140	173	126	131	160	150	136	116	150	141	159	131	3316
Patents By Year of Application:	1777	76	79	159	144	143	142	135	148	125	157	137	68	26	0	3316

## ADVANCED MICRO DEVICES, INC.

Patents By Year of Grant:	154	74	75	72	72	62	74	67	105	146	203	407	533	580	518	3142
Patents By Year of Application:	299	66	77	92	51	68	111	155	293	396	699	468	238	123	6	3142

## MINOLTA CAMERA CO., LTD.

Patents By Year of Grant:	585	122	258	285	250	215	180	115	78	115	107	221	234	192	177	3134
Patents By Year of Application:	852	294	304	225	201	138	91	132	126	195	255	207	91	22	1	3134

## MICRON TECHNOLOGY, INC.

Patents By Year of Grant:	1	0	3	19	21	45	66	55	24	81	157	334	522	653	822	2803
Patents By Year of Application:	1	13	17	33	66	73	34	47	193	316	628	637	479	253	13	2803

## UNISYS CORPORATION

Patents By Year of Grant:	1602	78	79	68	80	78	46	74	97	121	100	114	83	82	88	2790
Patents By Year of Application:	1763	77	88	58	57	74	103	117	127	106	103	88	23	6	0	2790

## NIKON CORPORATION

Patents By Year of Grant:	453	50	47	54	58	80	98	78	165	307	308	362	215	167	171	2613
Patents By Year of Application:	523	43	67	60	104	82	120	272	445	299	316	150	98	32	2	2613

## HUGHES AIRCRAFT COMPANY

Patents By Year of Grant:	691	148	193	165	227	195	193	234	203	185	76	26	5	1	0	2542
Patents By Year of Application:	1029	170	187	204	216	244	203	155	103	29	2	0	0	0	0	2542

---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**OLYMPUS OPTICAL CO., LTD.**

Patents By Year of Grant:	848	76	95	93	80	103	105	147	123	132	110	136	110	137	135	2430
Patents By Year of Application:	976	97	85	108	124	125	164	155	137	130	124	102	81	18	4	2430

**PIONEER ELECTRONIC CORPORATION**

Patents By Year of Grant:	528	87	153	135	154	210	178	141	127	87	94	120	126	118	110	2368
Patents By Year of Application:	723	164	157	200	169	155	123	106	99	129	152	122	57	9	3	2368

**SUN MICROSYSTEMS, INC.**

Patents By Year of Grant:	5	3	7	13	21	49	59	65	59	108	147	415	539	448	420	2358
Patents By Year of Application:	13	14	36	51	50	70	59	112	294	566	577	338	150	27	1	2358

**ROBERT BOSCH GMBH**

Patents By Year of Grant:	718	68	58	50	71	82	83	94	100	106	69	111	166	208	268	2252
Patents By Year of Application:	834	48	69	87	81	102	104	102	103	109	169	207	177	59	1	2252

**TELEFONAKTIEBOLAGET LM ERICSSON**

Patents By Year of Grant:	205	27	25	23	18	34	44	61	76	140	104	189	338	434	464	2182
Patents By Year of Application:	248	23	23	45	50	57	90	123	210	225	526	382	129	51	0	2182

**THOMSON-CSF**

Patents By Year of Grant:	1070	100	88	93	109	84	64	62	71	41	41	54	55	40	42	2014
Patents By Year of Application:	1251	84	103	97	74	67	56	59	57	45	47	45	21	8	0	2014

**DIGITAL EQUIPMENT CORPORATION**

Patents By Year of Grant:	128	33	98	114	122	185	230	245	171	157	129	157	120	91	15	1995
Patents By Year of Application:	274	116	192	178	184	238	183	160	145	144	129	47	5	0	0	1995

**HONEYWELL INC.**

Patents By Year of Grant:	714	87	125	101	94	87	83	97	110	79	69	80	70	53	32	1881
Patents By Year of Application:	894	106	117	83	87	95	109	83	75	98	79	38	17	0	0	1881

**NATIONAL SEMICONDUCTOR CORPORATION**

Patents By Year of Grant:	321	25	47	47	74	77	86	108	141	171	158	143	157	144	136	1835
Patents By Year of Application:	373	47	72	81	89	104	125	171	225	134	130	147	97	39	1	1835

**MICROSOFT CORPORATION**

Patents By Year of Grant:	0	1	2	3	2	7	15	23	46	97	194	330	348	342	393	1803
Patents By Year of Application:	3	4	11	11	7	66	66	150	254	356	444	327	84	20	0	1803

**UNITED STATES OF AMERICA, ARMY**

Patents By Year of Grant:	920	44	60	44	58	52	49	73	81	68	58	58	46	57	52	1720
Patents By Year of Application:	1003	49	58	41	57	63	80	81	83	57	44	53	40	11	0	1720

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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ASAHI KOGAKU KOGYO KABUSHIKI KAISHA

Patents By Year of Grant:	332	15	33	58	101	115	122	132	89	86	89	157	152	115	99	1695
Patents By Year of Application:	364	52	94	127	131	116	98	102	108	126	181	104	80	10	2	1695

ROCKWELL INTERNATIONAL CORPORATION

Patents By Year of Grant:	875	62	65	58	75	52	72	79	66	75	47	69	63	11	6	1675
Patents By Year of Application:	995	56	80	66	66	76	77	71	84	54	40	7	3	0	0	1675

SANYO ELECTRIC CO., LTD.

Patents By Year of Grant:	268	43	58	70	85	70	65	73	61	81	92	162	146	139	180	1593
Patents By Year of Application:	355	71	86	80	63	52	77	108	105	165	158	147	85	36	5	1593

COMPAQ COMPUTER CORPORATION, INC.

Patents By Year of Grant:	1	2	9	14	18	52	43	55	76	82	115	236	242	300	345	1590
Patents By Year of Application:	10	19	33	40	56	61	74	92	141	309	346	317	74	17	1	1590

MURATA MANUFACTURING CO., LTD.

Patents By Year of Grant:	211	44	42	48	53	57	42	54	72	85	95	145	202	213	227	1590
Patents By Year of Application:	276	54	50	56	39	61	71	93	100	171	212	183	156	66	2	1590

VICTOR COMPANY OF JAPAN, LIMITED

Patents By Year of Grant:	727	64	55	49	76	72	68	52	42	47	53	70	74	73	55	1577
Patents By Year of Application:	833	48	70	84	64	59	42	53	60	85	84	64	21	9	1	1577

NORTHERN TELECOM LIMITED

Patents By Year of Grant:	451	51	59	53	58	51	52	63	69	90	56	184	213	67	19	1536
Patents By Year of Application:	540	47	72	59	49	44	91	81	96	229	191	35	2	0	0	1536

OKI ELECTRIC INDUSTRY CO., LTD.

Patents By Year of Grant:	115	38	78	58	66	72	81	85	65	71	54	105	165	187	235	1475
Patents By Year of Application:	197	80	64	67	96	68	68	80	89	91	217	207	87	60	4	1475

SEIKO EPSON CORPORATION

Patents By Year of Grant:	33	15	26	28	45	71	94	88	86	111	133	177	148	176	234	1465
Patents By Year of Application:	70	30	57	72	79	99	100	134	173	154	163	170	129	33	2	1465

NCR CORPORATION

Patents By Year of Grant:	394	51	72	52	58	59	77	71	40	30	62	129	154	105	108	1462
Patents By Year of Application:	497	63	75	70	85	70	48	37	96	133	163	81	40	4	0	1462

ALPS ELECTRIC CO., LTD.

Patents By Year of Grant:	409	137	98	61	60	45	29	26	27	22	47	61	108	127	181	1438
Patents By Year of Application:	607	73	63	43	42	29	23	32	48	72	134	112	109	47	4	1438

---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL

**FUJI XEROX CO., LTD.**

Patents By Year of Grant:	223	15	17	21	36	75	97	99	90	116	93	192	150	106	94	1424
Patents By Year of Application:	252	24	31	101	85	102	89	95	154	190	157	80	47	17	0	1424

**RAYTHEON COMPANY**

Patents By Year of Grant:	500	32	46	58	55	64	56	40	33	7	15	72	149	125	131	1383
Patents By Year of Application:	611	52	63	40	69	29	42	21	31	94	156	87	66	21	1	1383

**UNITED STATES OF AMERICA, AIR FORCE**

Patents By Year of Grant:	697	50	38	45	61	53	65	64	38	49	45	36	36	28	49	1354
Patents By Year of Application:	792	35	54	56	60	63	55	46	51	38	37	33	24	9	1	1354

**TEKTRONIX INC.**

Patents By Year of Grant:	467	153	126	73	66	50	50	31	48	42	35	41	54	43	51	1330
Patents By Year of Application:	701	99	75	54	46	48	37	43	51	35	64	60	14	3	0	1330

**EATON CORPORATION**

Patents By Year of Grant:	366	32	48	58	35	36	41	63	76	89	72	99	117	97	86	1315
Patents By Year of Application:	437	48	40	45	46	45	84	93	74	88	98	102	83	32	0	1315

**HARRIS CORP.**

Patents By Year of Grant:	384	43	57	53	46	45	46	56	56	77	84	100	102	58	82	1289
Patents By Year of Application:	476	50	48	42	62	66	42	93	89	106	80	64	47	24	0	1289

**YAMAHA CORPORATION**

Patents By Year of Grant:	0	2	52	78	83	84	122	88	103	110	103	144	138	74	75	1256
Patents By Year of Application:	52	68	104	120	85	96	104	98	122	128	129	78	46	26	0	1256

**LSI LOGIC CORPORATION**

Patents By Year of Grant:	2	4	6	5	9	16	26	19	46	85	116	175	262	238	234	1243
Patents By Year of Application:	11	9	6	16	18	37	57	69	165	240	282	245	66	21	1	1243

**NISSAN MOTOR COMPANY, LIMITED**

Patents By Year of Grant:	405	48	70	99	88	83	54	45	42	29	34	45	50	71	77	1240
Patents By Year of Application:	533	92	91	76	67	49	27	33	47	35	53	67	48	22	0	1240

**APPLE COMPUTER, INC.**

Patents By Year of Grant:	18	6	6	17	17	28	45	50	101	165	197	247	165	83	94	1239
Patents By Year of Application:	37	8	19	32	46	82	138	178	298	203	114	56	23	5	0	1239

**UNITED STATES OF AMERICA, DEPARTMENT OF ENERGY**

Patents By Year of Grant:	616	61	60	66	65	81	56	83	40	22	17	17	15	13	13	1225
Patents By Year of Application:	741	52	68	67	77	57	63	31	17	14	10	18	8	2	0	1225

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ELECTRICAL CLASSES (12-31-2001)

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## ---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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## GENERAL MOTORS CORPORATION

Patents By Year of Grant:	484	64	63	57	60	48	64	44	41	57	41	42	42	39	53	1199
Patents By Year of Application:	565	60	65	62	72	56	42	56	56	41	30	35	33	25	1	1199

## FANUC LTD.

Patents By Year of Grant:	230	59	110	105	112	105	84	63	62	52	37	56	39	35	43	1192
Patents By Year of Application:	365	102	143	108	85	58	49	71	65	26	51	38	25	6	0	1192

## KONICA CORPORATION

Patents By Year of Grant:	274	35	62	72	77	78	68	85	57	67	50	55	58	59	50	1147
Patents By Year of Application:	359	50	67	93	77	75	74	53	75	55	57	67	37	8	0	1147

## HONDA GIKEN KOGYO KABUSHIKI KAISHA (HONDA MOTOR CO., LTD.)

Patents By Year of Grant:	118	23	51	41	38	43	51	55	62	69	90	113	120	125	146	1145
Patents By Year of Application:	183	43	57	36	40	64	70	70	109	82	121	137	91	40	2	1145

## ERICSSON, INC.

Patents By Year of Grant:	1	0	0	0	0	0	0	0	4	29	66	199	275	300	256	1130
Patents By Year of Application:	1	0	0	0	2	3	9	38	94	310	328	250	79	16	0	1130

## CASIO COMPUTER CO. LTD.

Patents By Year of Grant:	259	63	49	49	81	72	58	54	51	76	47	64	69	71	57	1120
Patents By Year of Application:	358	51	92	71	58	62	57	75	68	64	81	57	15	11	0	1120

## NIPPONDENSO CO., LTD.

Patents By Year of Grant:	302	48	42	26	32	26	41	54	56	120	131	165	43	14	6	1106
Patents By Year of Application:	385	32	39	21	38	55	67	109	160	172	22	4	2	0	0	1106

## BROTHER KOGYO KABUSHIKI KAISHA

Patents By Year of Grant:	50	29	64	96	137	95	77	60	37	56	66	79	97	75	81	1099
Patents By Year of Application:	132	91	90	143	87	51	48	62	76	93	106	90	23	7	0	1099

## TRW INC.

Patents By Year of Grant:	261	28	37	29	19	16	32	54	52	42	41	68	112	132	159	1082
Patents By Year of Application:	329	28	24	17	32	58	49	40	55	87	108	124	107	24	0	1082

## GTE PRODUCTS CORPORATION

Patents By Year of Grant:	686	53	75	53	64	42	38	22	4	1	0	3	0	2	0	1043
Patents By Year of Application:	793	64	53	44	48	37	4	0	0	0	0	0	0	0	0	1043

## ZENITH ELECTRONICS CORPORATION

Patents By Year of Grant:	543	69	45	41	46	44	39	27	26	30	30	25	21	21	16	1023
Patents By Year of Application:	645	42	44	44	45	43	22	26	30	35	26	13	6	2	0	1023

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**HYUNDAI ELECTRONICS INDUSTRIES CO., LTD.**

Patents By Year of Grant:	0	0	0	0	6	8	12	21	24	65	84	120	148	197	323	1008
Patents By Year of Application:	0	0	3	10	17	19	23	54	89	132	181	211	201	66	2	1008

**MINNESOTA MINING AND MANUFACTURING COMPANY**

Patents By Year of Grant:	311	32	63	44	42	42	57	78	74	60	44	65	23	11	2	948
Patents By Year of Application:	379	57	38	56	55	65	68	67	77	45	35	4	2	0	0	948

**NORTEL NETWORKS CORPORATION**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	86	375	451	912	
Patents By Year of Application:	0	0	0	0	0	0	0	1	5	67	387	343	85	22	2	912

**BOEING COMPANY**

Patents By Year of Grant:	267	47	58	78	73	44	35	27	28	35	31	43	32	32	50	880
Patents By Year of Application:	388	63	79	48	41	19	27	29	62	32	25	29	32	6	0	880

**PITNEY-BOWES, INC.**

Patents By Year of Grant:	304	24	64	34	41	37	27	36	31	27	42	70	47	51	45	880
Patents By Year of Application:	405	38	32	38	29	31	39	50	60	54	56	28	18	1	1	880

**POLAROID CORPORATION**

Patents By Year of Grant:	545	43	51	23	20	19	16	11	17	19	17	31	30	23	12	877
Patents By Year of Application:	617	35	24	18	21	8	14	29	27	24	27	21	8	4	0	877

**FORD MOTOR COMPANY**

Patents By Year of Grant:	173	15	32	30	40	44	60	72	76	92	78	65	47	28	12	864
Patents By Year of Application:	214	34	32	44	58	77	79	97	87	48	51	24	13	6	0	864

**NIPPON TELEGRAPH & TELEPHONE CORP.**

Patents By Year of Grant:	259	31	27	27	25	36	35	28	39	45	50	67	49	49	66	833
Patents By Year of Application:	308	37	16	34	37	35	31	56	61	66	75	50	16	11	0	833

**TOYOTA JIDOSHA K.K.**

Patents By Year of Grant:	158	44	58	20	15	25	30	16	24	41	38	77	105	82	82	815
Patents By Year of Application:	255	20	20	30	22	18	27	42	46	78	106	77	54	20	0	815

**UNITED STATES OF AMERICA, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

Patents By Year of Grant:	277	24	35	43	49	43	47	65	43	40	34	35	18	24	31	808
Patents By Year of Application:	326	43	54	35	54	46	71	42	35	27	23	35	8	9	0	808

**SUMITOMO ELECTRIC INDUSTRIES CO., LTD.**

Patents By Year of Grant:	81	17	37	38	51	68	70	74	90	68	45	47	39	47	35	807
Patents By Year of Application:	129	41	47	53	74	91	71	97	51	45	41	37	24	5	1	807

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**ROHM COMPANY LIMITED**

Patents By Year of Grant:	3	0	0	4	13	8	39	127	119	68	74	86	77	88	98	804
Patents By Year of Application:	3	0	14	9	24	140	96	100	81	84	90	93	52	18	0	804

**NOKIA MOBILE PHONES LTD.**

Patents By Year of Grant:	0	0	0	0	5	15	26	42	42	40	42	103	148	160	177	800
Patents By Year of Application:	0	0	0	19	25	51	41	40	68	155	207	127	56	10	1	800

**SEAGATE TECHNOLOGY, INCORPORATED**

Patents By Year of Grant:	11	6	14	18	29	38	53	44	32	48	76	117	126	162	23	797
Patents By Year of Application:	26	18	26	57	35	37	41	69	92	96	174	107	19	0	0	797

**MITA INDUSTRIAL COMPANY LTD.**

Patents By Year of Grant:	131	25	28	33	45	44	55	52	54	67	56	125	54	17	1	787
Patents By Year of Application:	183	22	42	54	43	63	59	55	73	79	83	23	8	0	0	787

**UNITED TECHNOLOGIES CORPORATION**

Patents By Year of Grant:	394	35	44	36	38	53	37	30	41	23	19	6	12	9	7	784
Patents By Year of Application:	467	43	37	36	46	36	33	43	8	11	11	9	3	0	1	784

**VLSI TECHNOLOGY, INC.**

Patents By Year of Grant:	2	1	6	6	22	38	50	59	69	83	73	115	106	89	61	780
Patents By Year of Application:	8	6	22	52	58	61	52	78	95	123	120	67	33	5	0	780

**SGS-THOMSON MICROELECTRONICS S.R.L.**

Patents By Year of Grant:	0	0	12	40	33	41	41	40	38	96	102	157	91	58	24	773
Patents By Year of Application:	4	27	46	47	43	40	49	94	119	121	137	40	3	3	0	773

**ITT CORPORATION**

Patents By Year of Grant:	532	10	15	30	20	24	24	34	29	22	12	7	5	2	0	766
Patents By Year of Application:	560	21	28	23	22	29	29	20	25	6	2	1	0	0	0	766

**LG ELECTRONICS INC.**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	15	65	146	163	168	185	742
Patents By Year of Application:	0	0	0	0	0	1	1	0	115	146	227	166	69	17	0	742

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

Patents By Year of Grant:	137	11	34	38	36	54	42	41	47	50	44	60	54	42	50	740
Patents By Year of Application:	180	35	55	46	48	35	46	57	56	50	52	46	25	9	0	740

**DAEWOO ELECTRONICS COMPANY, LTD.**

Patents By Year of Grant:	1	0	0	1	0	2	0	12	41	89	126	173	164	79	44	732
Patents By Year of Application:	1	0	2	1	0	5	36	108	150	154	164	100	10	1	0	732

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---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL

**UNIVERSITY OF CALIFORNIA, THE REGENTS OF**

Patents By Year of Grant:	67	18	24	18	21	20	32	50	53	83	49	89	73	71	62	730
Patents By Year of Application:	101	21	28	25	33	39	53	75	100	85	60	68	33	9	0	730

**FUJI ELECTRIC CO., LTD.**

Patents By Year of Grant:	107	30	38	37	37	37	39	49	54	71	51	45	57	38	31	721
Patents By Year of Application:	163	41	28	36	54	46	56	71	66	38	55	29	24	14	0	721

**ALLIED-SIGNAL INC.**

Patents By Year of Grant:	216	32	45	42	34	45	37	59	41	29	13	22	22	42	30	709
Patents By Year of Application:	286	33	44	39	49	45	53	32	16	20	34	29	27	2	0	709

**INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE, TAIWAN**

Patents By Year of Grant:	2	2	9	10	16	16	40	43	64	50	55	119	101	98	79	704
Patents By Year of Application:	11	10	14	13	42	52	53	56	80	96	111	89	63	14	0	704

**BRITISH TELECOMMUNICATION, PLC**

Patents By Year of Grant:	41	23	44	48	38	36	21	33	49	41	34	67	76	66	86	703
Patents By Year of Application:	113	35	48	33	27	34	51	65	42	83	68	97	7	0	0	703

**COMMISSARIAT A L'ENERGIE ATOMIQUE**

Patents By Year of Grant:	239	46	29	29	24	37	22	30	25	28	39	41	31	24	42	686
Patents By Year of Application:	303	32	31	28	32	26	20	38	41	42	31	31	27	4	0	686

**CITIZEN WATCH CO., LTD.**

Patents By Year of Grant:	403	21	11	11	11	10	7	9	7	18	19	24	42	45	45	683
Patents By Year of Application:	428	11	15	13	7	6	10	19	24	22	46	49	28	5	0	683

**SCHLUMBERGER TECHNOLOGY CORPORATION**

Patents By Year of Grant:	202	22	43	33	32	21	31	35	34	36	25	25	33	60	48	680
Patents By Year of Application:	261	22	37	31	31	33	33	40	30	28	51	49	27	7	0	680

**SGS-THOMSON MICROELECTRONICS S.A.**

Patents By Year of Grant:	0	1	20	34	30	25	27	35	49	56	80	110	105	75	33	680
Patents By Year of Application:	10	41	24	30	32	28	69	64	114	91	119	53	4	1	0	680

**SEMICONDUCTOR ENERGY LABORATORY CO., LTD.**

Patents By Year of Grant:	17	9	21	25	25	29	28	31	20	51	49	59	92	87	119	662
Patents By Year of Application:	47	28	25	21	35	40	27	57	72	71	106	65	55	11	2	662

**ALCATEL N. V.**

Patents By Year of Grant:	7	20	36	30	27	47	54	83	65	84	62	89	37	8	2	651
Patents By Year of Application:	57	22	31	57	60	81	57	86	94	89	14	2	1	0	0	651

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL

**PHILIPS ELECTRONICS NORTH AMERICA CORP.**

Patents By Year of Grant:	0	0	0	0	0	0	0	7	29	65	65	109	107	119	150	651
Patents By Year of Application:	0	0	0	0	2	0	37	77	88	121	132	115	62	17	0	651

**GOLDSTAR COMPANY, LTD.**

Patents By Year of Grant:	12	14	21	22	27	47	63	102	115	118	59	33	10	1	2	646
Patents By Year of Application:	49	22	19	46	87	92	110	141	42	29	9	0	0	0	0	646

**SQUARE D COMPANY**

Patents By Year of Grant:	155	24	24	42	36	47	34	29	42	30	31	42	43	16	39	634
Patents By Year of Application:	201	33	49	45	34	36	31	40	39	35	33	35	18	4	1	634

**CIRRUS LOGIC, INC.**

Patents By Year of Grant:	0	0	0	3	1	4	2	13	32	63	84	127	108	100	81	618
Patents By Year of Application:	2	1	2	4	2	14	40	59	145	114	129	71	25	10	0	618

**ANALOG DEVICES, INC.**

Patents By Year of Grant:	56	9	18	15	23	27	16	33	53	60	68	66	57	50	60	611
Patents By Year of Application:	76	16	25	23	18	29	39	67	93	71	49	48	43	14	0	611

**NORTH AMERICAN PHILIPS CORPORATION**

Patents By Year of Grant:	143	32	62	75	74	77	47	46	28	16	5	1	3	0	0	609
Patents By Year of Application:	220	74	82	67	56	55	31	12	12	0	0	0	0	0	0	609

**DELL PRODUCTS, L.P.**

Patents By Year of Grant:	0	0	0	0	0	1	6	17	52	79	80	94	80	80	118	607
Patents By Year of Application:	0	0	1	7	14	2	58	68	113	73	101	72	85	11	2	607

**QUALCOMM, INC.**

Patents By Year of Grant:	0	0	1	7	4	9	8	8	21	48	45	82	105	98	171	607
Patents By Year of Application:	2	5	5	8	9	8	22	54	74	119	109	107	75	10	0	607

**NIPPON GAKKI SEIZO KABUSHIKI KAISHA**

Patents By Year of Grant:	521	48	10	6	1	1	0	0	0	0	0	0	0	0	0	587
Patents By Year of Application:	580	3	3	0	1	0	0	0	0	0	0	0	0	0	0	587

**XILINX, INC.**

Patents By Year of Grant:	4	4	7	1	2	4	2	22	20	55	60	76	92	114	122	585
Patents By Year of Application:	13	3	4	2	7	10	21	37	82	75	107	102	72	48	2	585

**LG SEMICON CO., LTD.**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	15	59	137	195	154	18	578
Patents By Year of Application:	0	0	0	0	0	0	0	5	68	131	196	141	36	1	0	578

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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DAINIPPON SCREEN MFG. CO., LTD.

Patents By Year of Grant:	212	28	40	26	39	35	37	25	26	15	13	25	27	15	12	575
Patents By Year of Application:	270	34	42	20	58	22	24	17	21	25	20	21	0	1	0	575

SUNDSTRAND CORPORATION

Patents By Year of Grant:	148	27	41	63	89	28	25	32	21	31	13	28	19	4	1	570
Patents By Year of Application:	203	40	109	53	20	23	39	23	14	24	14	8	0	0	0	570

YAZAKI CORP.

Patents By Year of Grant:	6	10	26	21	10	24	25	27	28	41	42	74	70	68	97	569
Patents By Year of Application:	27	18	25	20	34	18	35	46	35	76	77	69	58	30	1	569

TDK CORPORATION

Patents By Year of Grant:	38	29	37	25	26	21	20	24	24	24	22	33	50	76	116	565
Patents By Year of Application:	88	32	30	27	16	19	25	32	27	26	56	91	79	17	0	565

THOMSON CONSUMER ELECTRONICS, INC.

Patents By Year of Grant:	0	0	9	13	26	59	48	60	65	69	60	65	60	26	1	561
Patents By Year of Application:	0	18	13	56	51	65	43	101	78	81	46	9	0	0	0	561

BELL COMMUNICATIONS RESEARCH, INC.

Patents By Year of Grant:	24	31	46	38	56	61	49	62	53	43	28	36	14	1	0	542
Patents By Year of Application:	83	50	53	54	56	56	67	45	35	36	6	1	0	0	0	542

HONEYWELL INFORMATION SYSTEMS INC.

Patents By Year of Grant:	531	7	1	0	1	1	0	0	0	0	0	0	0	0	0	541
Patents By Year of Application:	539	0	2	0	0	0	0	0	0	0	0	0	0	0	0	541

SEIKO INSTRUMENTS INC.

Patents By Year of Grant:	2	11	16	30	30	41	24	30	36	37	32	39	41	69	102	540
Patents By Year of Application:	28	29	31	38	30	27	49	51	33	40	41	70	55	18	0	540

NOKIA TELECOMMUNICATIONS OY

Patents By Year of Grant:	0	0	0	0	0	0	0	5	23	40	47	91	116	110	104	536
Patents By Year of Application:	0	0	0	0	0	1	25	35	63	152	130	75	55	0	0	536

LITTON SYSTEMS INC.

Patents By Year of Grant:	164	18	19	12	9	12	14	31	43	45	25	20	29	31	54	526
Patents By Year of Application:	193	20	8	12	15	28	47	46	24	18	32	39	38	6	0	526

AGFA-GEVAERT, AG

Patents By Year of Grant:	354	13	18	16	12	12	17	14	11	3	11	17	15	6	5	524
Patents By Year of Application:	379	16	16	5	14	25	10	5	14	12	18	7	3	0	0	524

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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DENSO CORPORATION

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	41	130	152	188	511
Patents By Year of Application:	0	0	0	0	0	0	0	1	48	124	150	136	52	0	511

3COM CORPORATION

Patents By Year of Grant:	1	1	1	0	1	0	2	7	14	19	22	34	80	129	194	505
Patents By Year of Application:	3	0	1	0	3	14	9	18	36	39	140	172	59	11	0	505

CYPRESS SEMICONDUCTOR CORP.

Patents By Year of Grant:	2	3	5	7	3	3	3	5	16	16	45	94	106	100	92	500
Patents By Year of Application:	6	6	8	1	4	6	12	24	64	95	123	74	56	21	0	500

UNITED MICROELECTRONICS CORPORATION

Patents By Year of Grant:	0	0	0	1	0	3	2	7	37	56	74	82	76	73	88	499
Patents By Year of Application:	0	0	1	2	2	3	16	61	89	90	63	82	65	24	1	499

SGS-THOMSON MICROELECTRONICS, INC.

Patents By Year of Grant:	0	3	5	8	18	38	30	81	74	101	67	66	1	2	0	494
Patents By Year of Application:	7	4	20	36	46	64	73	103	81	49	11	0	0	0	0	494

CATERPILLAR INC.

Patents By Year of Grant:	75	7	5	11	11	11	14	18	35	41	49	36	70	50	53	486
Patents By Year of Application:	88	6	6	21	17	18	40	37	52	59	51	51	30	10	0	486

DEUTSCHE THOMSON-BRANDT GMBH

Patents By Year of Grant:	20	15	45	25	34	15	35	36	47	24	23	35	44	41	46	485
Patents By Year of Application:	58	59	29	6	24	42	54	31	36	43	50	36	17	0	0	485

GTE LABORATORIES, INC.

Patents By Year of Grant:	238	26	25	31	36	28	20	19	7	12	7	8	14	13	1	485
Patents By Year of Application:	285	31	31	37	22	18	15	7	13	6	11	9	0	0	0	485

DELCO ELECTRONICS CORPORATION

Patents By Year of Grant:	0	6	18	26	23	24	18	32	59	59	55	59	63	34	6	482
Patents By Year of Application:	13	16	34	26	26	24	43	80	60	62	55	32	11	0	0	482

KOITO MANUFACTURING COMPANY LIMITED

Patents By Year of Grant:	12	11	30	27	26	32	18	19	36	41	33	38	39	52	55	469
Patents By Year of Application:	30	35	25	20	40	15	35	44	41	47	35	54	40	8	0	469

KOKUSAI DENSIN DENWA KABUSHIKI KAISHA

Patents By Year of Grant:	179	23	27	23	11	16	12	15	13	21	18	28	40	25	15	466
Patents By Year of Application:	220	24	17	11	13	12	18	20	29	31	44	22	2	3	0	466

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL

**ALCATEL THOMSON FAISCEAUX HERTZIENS**

Patents By Year of Grant:	12	10	13	2	1	1	0	0	0	0	0	34	165	223	461	
Patents By Year of Application:	32	7	0	0	0	0	0	0	1	5	82	209	102	22	1	461

**STANFORD UNIVERSITY, LELAND JUNIOR, THE BOARD OF TRUSTEES OF**

Patents By Year of Grant:	102	27	25	14	25	13	22	29	26	23	23	33	27	37	34	460
Patents By Year of Application:	147	23	21	17	16	30	28	26	26	32	36	37	19	2	0	460

**ALTERA CORPORATION**

Patents By Year of Grant:	4	1	3	6	2	9	14	17	12	37	28	48	65	95	111	452
Patents By Year of Application:	7	7	2	5	11	14	24	24	47	54	94	78	59	25	1	452

**SYMBOL TECHNOLOGIES, INC.**

Patents By Year of Grant:	10	3	8	3	10	23	30	32	39	43	43	61	61	47	38	451
Patents By Year of Application:	16	9	12	17	29	36	30	48	62	61	62	41	21	7	0	451

**MATSUSHITA ELECTRIC WORKS, LTD.**

Patents By Year of Grant:	155	18	26	21	21	16	15	20	21	18	16	20	28	27	25	447
Patents By Year of Application:	188	22	23	23	15	16	21	23	17	19	31	22	17	10	0	447

**EMERSON ELECTRIC CO.**

Patents By Year of Grant:	148	10	14	33	15	18	14	15	17	18	22	33	36	29	24	446
Patents By Year of Application:	166	26	16	25	14	15	25	20	16	31	42	23	21	6	0	446

**OMRON TETEISI ELECTRONICS CO.**

Patents By Year of Grant:	204	39	60	48	46	25	16	5	2	1	0	0	0	0	0	446
Patents By Year of Application:	298	52	47	25	12	6	5	1	0	0	0	0	0	0	0	446

**NORTHROP GRUMMAN CORPORATION**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	7	23	64	50	109	80	59	38	430
Patents By Year of Application:	7	3	2	3	1	5	19	44	92	75	92	67	15	5	0	430	

**BBC BROWN, BOVERI & COMPANY, LIMITED**

Patents By Year of Grant:	385	26	13	4	0	0	0	0	0	0	0	0	0	0	0	0	428
Patents By Year of Application:	422	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	428

**INTERNATIONAL STANDARD ELECTRIC CORPORATION(ITT CORP. UNIT)**

Patents By Year of Grant:	427	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428
Patents By Year of Application:	428	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428

**HUGHES ELECTRONICS CORP.**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	2	1	67	102	118	137	427
Patents By Year of Application:	0	0	0	2	0	1	0	8	20	79	112	107	69	28	1	427

## ---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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## CALIFORNIA INSTITUTE OF TECHNOLOGY

Patents By Year of Grant:	58	9	29	13	19	17	15	23	24	10	18	35	45	50	53	418
Patents By Year of Application:	91	26	8	23	10	26	28	14	27	40	44	51	26	4	0	418

## AMPEX CORP.

Patents By Year of Grant:	253	35	23	23	20	15	6	3	14	2	6	9	2	6	0	417
Patents By Year of Application:	315	23	20	13	5	13	3	5	5	8	5	2	0	0	0	417

## ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE

Patents By Year of Grant:	0	0	0	0	5	2	6	5	11	20	38	89	96	90	54	416
Patents By Year of Application:	0	0	4	3	5	5	5	42	36	95	109	91	17	4	0	416

## GENERAL INSTRUMENT CORPORATION

Patents By Year of Grant:	87	15	19	13	23	39	27	22	20	21	29	30	25	24	22	416
Patents By Year of Application:	115	14	25	27	34	32	18	27	32	35	25	19	11	2	0	416

## ADVANTEST CORP.

Patents By Year of Grant:	4	5	7	7	4	11	16	10	13	16	34	69	66	57	87	406
Patents By Year of Application:	11	11	4	10	19	8	13	18	36	64	79	76	47	10	0	406

## CHRYSLER MOTORS CORPORATION

Patents By Year of Grant:	59	17	18	33	20	9	11	19	25	31	24	53	52	28	7	406
Patents By Year of Application:	85	39	14	16	14	16	27	30	34	54	47	28	0	2	0	406

## MCI COMMUNICATIONS CORP.

Patents By Year of Grant:	0	0	0	0	0	1	3	1	4	10	32	116	105	73	58	403
Patents By Year of Application:	0	0	0	2	2	3	4	6	86	141	95	57	7	0	0	403

## ALLEN-BRADLEY COMPANY

Patents By Year of Grant:	134	11	17	19	18	19	18	26	26	40	45	25	4	0	0	402
Patents By Year of Application:	165	12	22	23	17	28	22	32	45	29	6	1	0	0	0	402

## SILICON GRAPHICS, INC.

Patents By Year of Grant:	0	3	0	1	3	2	14	12	11	33	39	82	54	65	79	398
Patents By Year of Application:	4	2	5	2	12	14	31	15	68	90	82	60	12	1	0	398

## VARIAN ASSOCIATES, INC.

Patents By Year of Grant:	225	23	20	18	11	16	10	10	19	5	17	19	4	1	0	398
Patents By Year of Application:	258	22	17	13	12	10	11	11	12	26	6	0	0	0	0	398

## LICENTIA PATENT-VERWALTUNGS-GMBH

Patents By Year of Grant:	318	15	11	14	7	3	5	2	2	5	2	1	3	0	1	389
Patents By Year of Application:	344	12	8	6	4	3	1	5	2	3	1	0	0	0	0	389

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**E. I. DU PONT DE NEMOURS AND COMPANY**

Patents By Year of Grant:	115	11	31	34	42	37	16	28	21	18	5	11	6	10	3	388
Patents By Year of Application:	153	30	41	41	24	25	21	15	14	6	5	11	2	0	0	388

**TRIMBLE NAVIGATION, LTD.**

Patents By Year of Grant:	0	1	1	1	0	4	7	14	22	33	44	61	70	76	53	387
Patents By Year of Application:	1	1	2	0	6	15	28	42	42	65	90	51	35	8	1	387

**PICKER INTERNATIONAL, INC.**

Patents By Year of Grant:	23	26	29	28	24	17	18	32	17	28	27	19	19	43	32	382
Patents By Year of Application:	67	34	31	17	16	23	26	27	24	21	31	48	17	0	0	382

**TEAC CORPORATION**

Patents By Year of Grant:	41	17	26	19	19	28	35	44	29	24	17	11	23	17	28	378
Patents By Year of Application:	80	25	17	32	38	28	26	32	25	13	25	21	12	4	0	378

**RAYCHEM CORPORATION**

Patents By Year of Grant:	130	21	33	21	20	23	14	17	15	10	19	31	15	3	0	372
Patents By Year of Application:	170	35	19	21	16	19	16	10	28	21	15	2	0	0	0	372

**HAMAMATSU PHOTONICS KABUSHIKI KAISHA**

Patents By Year of Grant:	16	11	29	40	34	23	18	18	19	43	37	26	37	10	9	370
Patents By Year of Application:	45	36	31	36	18	23	23	34	39	27	46	7	4	1	0	370

**MOBIL OIL CORP.**

Patents By Year of Grant:	222	25	36	25	14	11	9	5	1	5	2	3	1	2	1	362
Patents By Year of Application:	262	27	15	17	16	8	3	2	8	1	0	1	2	0	0	362

**SCIENTIFIC-ATLANTA, INC.**

Patents By Year of Grant:	27	7	15	13	20	11	39	35	32	25	17	28	28	27	38	362
Patents By Year of Application:	47	21	19	22	28	35	32	26	29	27	39	20	13	4	0	362

**STORAGE TECHNOLOGY CORPORATION**

Patents By Year of Grant:	62	3	9	10	13	13	20	30	31	26	15	13	25	42	50	362
Patents By Year of Application:	70	11	9	23	30	24	31	30	10	14	33	35	35	7	0	362

**FUJI PHOTO OPTICAL CO. LTD.**

Patents By Year of Grant:	94	5	2	1	3	3	13	19	14	27	34	48	26	43	29	361
Patents By Year of Application:	100	2	0	4	5	19	19	27	30	38	59	18	32	7	1	361

**AISIN SEIKI KABUSHIKI KAISHA**

Patents By Year of Grant:	79	24	32	36	36	20	10	14	10	14	10	9	29	17	20	360
Patents By Year of Application:	128	38	30	32	14	7	8	13	15	13	21	19	17	5	0	360

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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STMICROELECTRONICS S.R.L.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	3	52	125	177	357	
Patents By Year of Application:	0	0	0	0	0	1	0	0	5	15	38	119	119	60	0	357

PATENT-TREUHAND-GESELLSCHAFT FUR ELEKTRISCHE GLUHLAMPEN MBH

Patents By Year of Grant:	77	18	10	8	11	11	10	11	16	18	22	32	25	30	55	354
Patents By Year of Application:	103	6	11	7	22	9	13	12	30	27	25	36	34	19	0	354

LOCKHEED MARTIN CORPORATION

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	10	31	58	75	95	84	353
Patents By Year of Application:	16	2	3	0	1	0	4	9	42	59	61	81	65	10	0	353

MATSUSHITA ELECTRONICS CORPORATION

Patents By Year of Grant:	58	6	10	6	3	16	11	5	17	14	15	39	48	52	51	351
Patents By Year of Application:	71	9	4	14	8	9	14	16	18	43	43	73	26	3	0	351

AMP INCORPORATED

Patents By Year of Grant:	201	30	34	23	36	19	7	0	0	0	0	0	0	0	0	350
Patents By Year of Application:	257	28	26	26	12	1	0	0	0	0	0	0	0	0	0	350

CLARION CO., LTD.

Patents By Year of Grant:	160	18	29	19	22	30	19	17	5	10	4	3	1	3	8	348
Patents By Year of Application:	199	22	18	31	22	19	9	8	5	2	3	5	3	2	0	348

EMC CORPORATION

Patents By Year of Grant:	1	0	0	1	0	1	4	2	5	23	21	57	65	74	83	337
Patents By Year of Application:	1	1	0	7	0	2	5	29	49	64	89	59	25	6	0	337

AGFA-GEVAERT N.V.

Patents By Year of Grant:	40	7	3	3	12	12	12	21	22	36	25	54	34	26	20	327
Patents By Year of Application:	50	4	4	15	14	16	23	34	40	48	31	34	12	2	0	327

LUCAS INDUSTRIES PUBLIC LTD. COMPANY

Patents By Year of Grant:	205	5	13	4	17	9	4	6	9	6	10	12	10	7	10	327
Patents By Year of Application:	222	7	10	10	9	6	6	13	7	6	14	4	10	3	0	327

NGK INSULATORS LTD.

Patents By Year of Grant:	37	12	18	18	14	21	21	21	16	19	22	21	21	24	39	324
Patents By Year of Application:	61	13	22	19	24	17	17	25	32	23	21	19	22	8	1	324

CISCO TECHNOLOGY, INC.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	19	42	101	156	318	
Patents By Year of Application:	0	0	0	0	0	0	0	1	12	35	91	125	31	23	0	318

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----																
	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
<b>MCDONNELL DOUGLAS CORP.</b>																
Patents By Year of Grant:	92	9	6	13	17	4	16	6	13	18	15	38	29	22	17	315
Patents By Year of Application:	109	16	10	14	10	10	6	18	17	36	36	28	5	0	0	315
<b>GRUMMAN AEROSPACE CORPORATION</b>																
Patents By Year of Grant:	82	25	24	33	38	40	21	14	20	9	6	2	0	0	0	314
Patents By Year of Application:	127	40	27	38	27	16	15	22	1	1	0	0	0	0	0	314
<b>WINBOND ELECTRONICS CORP.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	4	3	5	12	14	40	75	83	77	313
Patents By Year of Application:	0	0	0	0	4	4	3	12	12	44	67	106	52	9	0	313
<b>ELECTRIC POWER RESEARCH INSTITUTE, INC.</b>																
Patents By Year of Grant:	154	8	13	6	7	9	12	24	20	14	17	12	9	1	4	310
Patents By Year of Application:	169	10	11	4	18	21	22	18	15	11	7	3	0	1	0	310
<b>SINGER COMPANY</b>																
Patents By Year of Grant:	293	13	1	0	0	0	0	0	0	0	0	0	0	0	0	307
Patents By Year of Application:	307	0	0	0	0	0	0	0	0	0	0	0	0	0	0	307
<b>FRANCE TELECOM</b>																
Patents By Year of Grant:	0	0	0	0	0	2	13	38	29	38	28	56	43	31	27	305
Patents By Year of Application:	0	0	0	0	17	28	39	35	43	53	48	31	8	3	0	305
<b>ORACLE CORPORATION</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	3	8	7	58	85	77	67	305
Patents By Year of Application:	0	0	0	0	0	3	1	7	19	72	127	55	19	2	0	305
<b>TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.</b>																
Patents By Year of Grant:	0	0	0	0	0	1	1	0	3	12	22	54	70	57	85	305
Patents By Year of Application:	0	0	0	0	2	0	0	5	19	49	79	59	63	28	1	305
<b>NIPPON STEEL CORP.</b>																
Patents By Year of Grant:	44	5	3	4	8	18	18	31	33	28	28	38	19	14	13	304
Patents By Year of Application:	51	3	5	19	26	27	23	34	36	36	25	15	2	2	0	304
<b>DAIMLER-BENZ AKTIENGESELLSCHAFT</b>																
Patents By Year of Grant:	51	13	15	10	15	14	14	16	20	20	30	40	30	8	6	302
Patents By Year of Application:	71	16	15	9	21	15	17	30	32	34	30	11	1	0	0	302
<b>SECRETARY OF STATE FOR DEFENCE IN HER BRITANNIC MAJESTY'S GOVERNMENT OF THE UNITED KINGDOM</b>																
Patents By Year of Grant:	112	6	12	8	18	7	15	13	17	16	7	18	14	22	16	301
Patents By Year of Application:	138	9	11	14	12	13	18	12	13	15	15	23	6	2	0	301

## ---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre 1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
--	-------------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-------

## MICRON ELECTRONICS, INC.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	2	11	21	87	117	62	300
Patents By Year of Application:	0	0	0	0	0	0	2	2	8	33	175	63	17	0	0	300

## TANDEM COMPUTERS INCORPORATED

Patents By Year of Grant:	27	15	26	12	13	5	12	22	18	22	21	46	35	18	6	298
Patents By Year of Application:	72	8	18	7	11	21	16	21	55	25	31	11	2	0	0	298

## HUGHES ELECTRONIC DEVICES CORPORATION

Patents By Year of Grant:	1	0	0	0	0	0	0	0	0	29	165	97	2	1	1	296
Patents By Year of Application:	1	1	2	0	0	2	6	45	113	122	4	0	0	0	0	296

## TOKYO ELECTRON LIMITED

Patents By Year of Grant:	1	0	7	9	12	20	10	13	15	23	29	27	31	39	58	294
Patents By Year of Application:	2	10	12	20	15	6	19	32	23	27	40	39	32	17	0	294

## NATIONAL RESEARCH DEVELOPMENT CORPORATION

Patents By Year of Grant:	210	15	22	19	11	12	1	1	0	0	0	0	0	0	1	292
Patents By Year of Application:	248	16	11	10	5	0	0	1	0	0	0	1	0	0	0	292

## STMICROELECTRONICS, INC.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	33	93	94	72	292	
Patents By Year of Application:	0	0	0	0	1	1	3	9	12	46	105	66	38	11	0	292

## ASEA AKTIEBOLAG

Patents By Year of Grant:	269	7	13	1	0	0	0	0	0	0	0	0	0	0	0	290
Patents By Year of Application:	289	1	0	0	0	0	0	0	0	0	0	0	0	0	0	290

## DALLAS SEMICONDUCTOR CORPORATION

Patents By Year of Grant:	4	4	15	25	24	21	24	14	7	29	24	29	26	27	17	290
Patents By Year of Application:	12	36	27	33	17	11	13	24	31	25	21	28	9	3	0	290

## AGILENT TECHNOLOGIES, INC.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	74	215	289
Patents By Year of Application:	0	0	0	0	0	0	0	1	2	3	17	126	112	24	4	289

## GOULD INC.

Patents By Year of Grant:	248	13	6	6	4	5	4	3	0	0	0	0	0	0	0	289
Patents By Year of Application:	265	6	4	4	5	2	3	0	0	0	0	0	0	0	0	289

## FORD GLOBAL TECHNOLOGIES, INC.

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	16	63	60	58	91	288
Patents By Year of Application:	0	0	0	0	0	0	3	5	25	53	66	52	43	40	1	288

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**ELECTRICAL CLASSES (12-31-2001)**

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#### ----- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

**Pre** 1988 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 **TOTAL**

**APPLIED MATERIALS, INC.**

**Patents By Year of Grant:**      3      5      3      2      5      5      6      6      11      22      19      44      47      48      61      287

**Patents By Year of Application:**      11      0      3      5      7      6      11      21      32      49      50      43      37      12      0      287

QUANTUM CORP. (CA)

**Patents By Year of Grant:** 0 0 0 0 1 4 14 13 35 38 28 49 34 43 28 287  
**Patents By Year of Application:** 0 1 0 4 14 20 22 40 39 45 44 37 19 2 0 287

ILLINOIS TOOL WORKS INC.

**Patents By Year of Grant:** 90 7 3 10 6 11 8 6 6 11 14 14 11 45 42 284  
**Patents By Year of Application:** 99 5 8 11 12 3 5 17 12 12 18 31 32 19 0 284

WESTERN ATLAS INTERNATIONAL, INC.

**Patents By Year of Grant:** 5 15 22 15 6 11 11 13 20 33 27 37 28 34 5 282  
**Patents By Year of Application:** 40 14 7 7 11 17 17 17 39 35 43 31 4 0 0 282

BELL ATLANTIC NETWORK SERVICES, INC.

**Patents By Year of Grant:** 0 0 0 0 3 4 10 6 13 25 46 63 32 43 36 281  
**Patents By Year of Application:** 0 0 0 5 12 9 7 25 94 44 50 25 8 2 0 281

NGK SPARK PLUG CO., LTD.

**Patents By Year of Grant:** 43 8 11 14 10 13 8 18 19 20 6 26 29 23 30 278  
**Patents By Year of Application:** 56 12 12 12 13 19 12 24 15 19 24 24 29 6 0 278

COOPER INDUSTRIES INC

**Patents By Year of Grant:** 57 17 21 29 16 14 17 13 13 19 17 22 9 8 5 277

**Patents By Year of Application:** 89 20 26 15 15 18 21 12 18 21 10 8 3 1 0 277

WITTMAKER CORPORATION

**Patents By Year of Grant:** 0 0 0 0 0 0 4 42 29 33 27 41 35 38 27 276

DATA SOURCE: 2000

Patents By Year of Grant: 180 13 10 13 8 4 2 8 4 2 6 6 13 4 1 274

**Patents By Year of Grant:** 143 12 17 17 20 6 5 5 11 3 5 19 6 2 3 274

NDIX CORPORATION (NOW ALLIED-SIGNAL INC.)

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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CORNING INCORPORATED

Patents By Year of Grant:	58	6	4	7	5	6	13	12	16	9	17	12	17	21	54	257
Patents By Year of Application:	66	5	5	6	10	17	15	15	18	5	21	20	44	7	3	257

KABUSHIKI KAISHA DAINI SEIKOSHA

Patents By Year of Grant:	255	2	0	0	0	0	0	0	0	0	0	0	0	0	0	257
Patents By Year of Application:	257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257

NORITSU KOKI CO., LTD.

Patents By Year of Grant:	13	8	2	1	0	0	0	4	32	20	39	58	36	32	10	255
Patents By Year of Application:	23	1	0	0	0	0	7	48	51	51	38	25	10	1	0	255

SEIKOSHA CO., LTD.

Patents By Year of Grant:	63	15	26	25	32	33	18	17	15	7	1	1	0	0	0	253
Patents By Year of Application:	95	26	35	32	22	20	15	3	5	0	0	0	0	0	0	253

DISCOVISION ASSOCIATES

Patents By Year of Grant:	74	9	5	2	3	2	2	3	5	17	23	37	26	26	18	252
Patents By Year of Application:	92	0	1	1	2	1	9	15	78	5	36	8	3	1	0	252

HUBBELL INCORPORATED

Patents By Year of Grant:	6	7	7	13	10	9	19	16	30	9	21	20	25	32	26	250
Patents By Year of Application:	16	7	16	9	17	21	23	17	25	22	23	30	21	3	0	250

ITT INDUSTRIES, INC.

Patents By Year of Grant:	222	5	2	0	0	0	0	0	0	1	1	14	2	1	1	249
Patents By Year of Application:	227	2	0	0	0	0	0	0	1	16	3	0	0	0	0	249

MAZDA MOTOR CORPORATION

Patents By Year of Grant:	26	6	8	19	14	16	26	25	23	14	17	16	14	10	13	247
Patents By Year of Application:	38	19	15	20	25	21	29	25	15	9	13	9	6	2	1	247

SIEMENS ENERGY & AUTOMATION, INC.

Patents By Year of Grant:	16	5	8	13	6	6	8	12	16	19	18	28	27	27	35	244
Patents By Year of Application:	20	20	7	5	9	13	16	26	17	30	18	30	25	8	0	244

KABUSHIKI KAISHA KAWAI GAKKI SEISAKUSHO

Patents By Year of Grant:	74	0	3	7	5	10	23	28	30	12	14	10	14	5	8	243
Patents By Year of Application:	79	3	5	10	16	29	31	18	13	13	10	7	1	6	2	243

CSELT - CENTRO STUDI E LABORATORI TELECOMUNICAZIONI S.P.A.

Patents By Year of Grant:	136	9	14	7	6	9	4	4	4	10	7	10	5	6	9	240
Patents By Year of Application:	155	7	9	8	4	5	2	9	11	10	4	10	5	1	0	240

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre															
	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL

**INTEGRATED DEVICE TECHNOLOGY, INC.**

Patents By Year of Grant:	1	5	1	4	5	9	5	9	12	19	19	51	41	26	33	240
Patents By Year of Application:	6	2	5	14	10	7	8	14	33	41	50	27	15	7	1	240

**DAI NIPPON PRINTING CO. LTD**

Patents By Year of Grant:	6	0	0	1	0	1	7	18	18	31	22	33	38	38	26	239
Patents By Year of Application:	6	0	2	0	8	19	16	26	40	38	30	36	14	4	0	239

**RCA LICENSING CORPORATION**

Patents By Year of Grant:	0	70	63	53	46	3	3	0	0	1	0	0	0	0	0	239
Patents By Year of Application:	105	47	58	25	2	1	0	0	1	0	0	0	0	0	0	239

**BULL S.A.**

Patents By Year of Grant:	1	7	17	10	9	14	25	16	15	25	19	25	20	15	19	237
Patents By Year of Application:	23	6	22	17	18	18	21	21	20	24	28	15	3	1	0	237

**SEAGATE TECHNOLOGY, LLC**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	41	196	237	
Patents By Year of Application:	0	0	0	0	0	0	2	3	7	7	19	93	85	21	0	237

**BULL HN INFORMATION SYSTEMS INC.**

Patents By Year of Grant:	0	0	16	26	15	25	27	26	18	19	18	12	12	13	9	236
Patents By Year of Application:	25	18	37	29	22	20	16	16	12	11	15	11	2	2	0	236

**GTE AUTOMATIC ELECTRIC LABORATORIES INCORPORATED**

Patents By Year of Grant:	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
Patents By Year of Application:	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235

**SUWA SEIKOSHA CO., LTD.**

Patents By Year of Grant:	233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233
Patents By Year of Application:	233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233

**TOKAI RIKA DENKI SEISAKUSHO K.K.**

Patents By Year of Grant:	69	11	14	6	11	11	9	6	8	13	16	16	10	11	20	231
Patents By Year of Application:	87	8	11	13	8	9	9	17	10	17	16	4	20	2	0	231

**IOMEGA CORPORATION**

Patents By Year of Grant:	18	5	1	2	0	3	8	8	1	8	18	18	44	51	45	230
Patents By Year of Application:	23	1	2	3	8	5	4	7	18	20	67	41	27	4	0	230

**OMRON CORPORATION**

Patents By Year of Grant:	0	0	0	0	16	18	26	19	17	23	15	36	19	19	22	230
Patents By Year of Application:	0	0	5	33	28	26	17	18	24	32	25	13	7	2	0	230

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

	Pre 1988 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 TOTAL													
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**SANKYO SEIKI MFG. CO., LTD.**

Patents By Year of Grant:	30	2	6	11	9	8	14	12	16	17	26	24	18	16	21	230
Patents By Year of Application:	37	5	16	7	7	21	21	15	26	22	15	24	9	5	0	230

**FURUKAWA ELECTRIC CO., LTD.**

Patents By Year of Grant:	12	2	6	10	7	13	18	28	21	24	7	19	27	15	19	228
Patents By Year of Application:	16	12	9	9	19	26	23	23	18	17	32	8	9	7	0	228

**AMOCO CORPORATION**

Patents By Year of Grant:	48	28	27	30	24	20	21	11	0	6	2	6	3	0	0	226
Patents By Year of Application:	98	23	27	20	27	12	2	4	7	5	1	0	0	0	0	226

**PERKIN-ELMER CORPORATION**

Patents By Year of Grant:	146	16	17	8	7	4	4	5	3	3	3	2	2	4	2	226
Patents By Year of Application:	173	9	6	9	6	5	1	4	4	3	4	1	0	1	0	226

**ROBERTSHAW CONTROLS COMPANY**

Patents By Year of Grant:	123	8	7	11	7	12	12	11	12	8	6	3	1	3	0	224
Patents By Year of Application:	132	14	5	11	8	16	11	13	7	4	0	3	0	0	0	224

**NORAND CORPORATION**

Patents By Year of Grant:	10	4	6	9	8	7	16	22	14	33	27	33	29	4	0	222
Patents By Year of Application:	21	8	11	12	7	22	17	34	49	25	16	0	0	0	0	222

**NIPPON SOKEN, INC.**

Patents By Year of Grant:	166	9	4	5	5	1	0	3	2	1	3	7	3	3	4	216
Patents By Year of Application:	178	5	3	3	1	3	1	2	6	7	2	3	2	0	0	216

**AGENCY OF INDUSTRIAL SCIENCE & TECHNOLOGY**

Patents By Year of Grant:	70	12	11	16	14	16	8	7	14	6	9	13	7	5	3	211
Patents By Year of Application:	92	15	18	12	10	4	11	14	7	12	8	4	3	1	0	211

**WANG LABORATORIES, INC.**

Patents By Year of Grant:	50	22	19	23	13	22	14	13	14	11	5	2	3	0	0	211
Patents By Year of Application:	105	18	16	16	15	7	14	12	4	3	1	0	0	0	0	211

**INTERNATIONAL RECTIFIER CORPORATION**

Patents By Year of Grant:	26	7	5	4	8	3	1	2	9	17	15	34	23	25	31	210
Patents By Year of Application:	38	2	7	4	2	2	6	16	21	21	35	30	18	8	0	210

**MITSUMI ELECTRIC CO., LTD.**

Patents By Year of Grant:	6	0	1	0	1	2	3	5	14	18	16	27	43	36	38	210
Patents By Year of Application:	7	1	1	2	3	6	8	20	15	24	56	30	29	8	0	210

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ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**ADAPTEC, INC.**

Patents By Year of Grant:	0	0	0	0	0	1	0	0	2	6	21	32	45	56	46	209
Patents By Year of Application:	0	0	0	0	2	2	4	17	26	21	52	62	15	8	0	209

**EMHART INDUSTRIES, INC.**

Patents By Year of Grant:	132	18	28	18	8	4	0	1	0	0	0	0	0	0	0	209
Patents By Year of Application:	168	19	13	7	2	0	0	0	0	0	0	0	0	0	0	209

**SENSORMATIC ELECTRONICS CORPORATION**

Patents By Year of Grant:	21	2	4	3	8	10	7	12	10	14	16	26	39	23	14	209
Patents By Year of Application:	28	2	2	17	7	10	7	20	21	35	21	27	10	2	0	209

**SUMITOMO WIRING SYSTEMS, LTD., CO.**

Patents By Year of Grant:	1	0	1	2	0	5	5	7	14	19	29	36	31	33	25	208
Patents By Year of Application:	2	2	1	0	7	7	14	35	26	26	36	22	27	3	0	208

**FAIRCHILD CAMERA AND INSTRUMENT CORPORATION**

Patents By Year of Grant:	190	8	4	4	0	1	0	0	0	0	0	0	0	0	0	207
Patents By Year of Application:	204	2	0	1	0	0	0	0	0	0	0	0	0	0	0	207

**SOCIETE NATIONALE INDUSTRIELLE AEROSPATIALE**

Patents By Year of Grant:	44	7	10	14	9	12	9	14	15	13	17	15	11	11	6	207
Patents By Year of Application:	58	13	9	17	8	13	15	18	15	17	11	7	6	0	0	207

**SAMSUNG DISPLAY DEVICES CO., LTD.**

Patents By Year of Grant:	0	0	0	0	0	0	0	1	6	17	28	44	33	31	45	205
Patents By Year of Application:	0	0	0	0	0	1	7	14	38	41	34	41	27	2	0	205

**HITACHI METALS LTD.**

Patents By Year of Grant:	35	5	12	6	17	17	13	13	8	20	12	20	9	8	9	204
Patents By Year of Application:	46	12	8	16	22	8	17	12	13	18	21	3	8	0	0	204

**TEXACO INC.**

Patents By Year of Grant:	129	10	7	13	8	5	5	4	7	6	5	2	1	1	1	204
Patents By Year of Application:	147	8	10	5	5	4	7	9	6	2	0	1	0	0	0	204

**TIMEX CORPORATION**

Patents By Year of Grant:	110	10	10	3	5	5	15	2	3	13	9	7	1	5	3	201
Patents By Year of Application:	118	12	3	5	4	14	5	9	10	12	2	3	4	0	0	201

**ANDO ELECTRIC CO., LTD.**

Patents By Year of Grant:	3	7	6	2	3	7	8	8	12	19	16	20	28	30	31	200
Patents By Year of Application:	14	3	4	8	8	6	9	9	22	24	28	45	11	9	0	200

---- Technology Assessment and Forecast Report ----

ELECTRICAL CLASSES (12-31-2001)

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---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 2001) ---- Ranked List of Organizations with 200 or More Patents ----

Pre

	1988	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
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**CONEXANT SYSTEMS, INC.**

Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	20	65	115	200
Patents By Year of Application:	0	0	0	0	0	0	0	2	8	30	106	46	8	0	0	200

**UNITED TECHNOLOGIES AUTOMOTIVE, INC.**

Patents By Year of Grant:	20	7	11	6	7	5	11	9	10	15	15	40	42	2	0	200
Patents By Year of Application:	32	7	7	8	12	7	14	12	27	30	36	8	0	0	0	200

**Other Organizations (41603)**

Patents By Year of Grant:	49141	6381	8167	6986	7530	7254	7704	8219	8645	9674	9568	14281	14937	16485	19312	194284
Patents By Year of Application:	61757	7203	7731	7967	8221	8329	9008	10512	12644	14105	16816	15334	10855	3653	149	194284