



THE **INSTITUTE OF  
ELECTRICAL AND  
ELECTRONICS  
ENGINEERS, INC.**

REPORT OF THE SECRETARY

1968

## REPORT OF THE SECRETARY, 1968

To the Board of Directors  
The Institute of Electrical and  
Electronics Engineers, Inc.

Gentlemen:

The Report of the Secretary for the year 1968 is presented herewith.

The membership increased 2.6% during the year. Student membership increased by 7.5% and 14,263 graduating Students transferred to the higher grades.

There was a steady increase, about 5%, in Group membership, with almost 7,000 new enrollments in 1968. Approximately 50% of the membership participate in the Group program.

39,034 editorial pages were published in 1968, compared with 37,222 in 1967. 179 Group publications were issued in 1968 compared with 164 issues in the prior years; pages in TRANSACTIONS increased 13% over 1967. Five Group publications adopted a policy of voluntary page charges beginning in 1968.

Four Sections were established in 1968, two in Region 8 and two in Region 10.

The Long Range Planning Committee, established in November 1967, submitted a comprehensive report to the Board of Directors.

In 1968 the Information Services Department began to offer technical information services products to the membership. 1968 marked the formal inauguration of the Educational Activities Board, which considered and acted upon many worthy projects.

These data disclose how the ramified activities of the Institute are moving forward geographically, technically, professionally, and in education.

Respectfully submitted,

William G. Shepherd  
Secretary, 1968

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1968 REPORT OF THE SECRETARY

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SECTION A

SECTION A

Table 1 - IEEE Membership by Region, Grade, Percentage; as of December 31, 1968

	H	F	SM	M	A	Student	Total	Percentage
Region 1	2	933	6,098	24,475	3,763	5,221	40,492	25
Region 2		534	4,819	16,109	1,821	2,674	25,957	16
Region 3		259	2,283	8,350	815	2,348	14,055	9
Region 4		241	2,714	10,380	1,705	3,754	18,794	11
Region 5	1	185	2,067	7,747	858	3,028	13,886	8
Region 6		489	4,728	20,255	2,087	3,292	30,851	19
Region 7		67	831	4,145	1,098	1,902	8,043	5
Region 8		141	807	2,348	520	994	4,810	3
Region 9		12	209	1,117	181	421	1,940	1
Region 10	1	22	404	1,726	270	261	2,684	2
U.S. Possessions & Military Overseas		2	63	674	82	35	856	1
	4	2,885	25,023	97,326	13,200	23,930	162,368	100

Table 2 - IEEE Membership by Grade, Percentage; 3-Year Comparison

Grade	December 31, 1968		December 31, 1967		December 31, 1966	
	Number	% of Total	Number	% of Total	Number	% of Total
Honorary (H)	4		4		5	
Fellow (F)	2,885	2	2,817	2	2,759	2
Senior Member (SM)	25,023	15	25,411	16	26,254	16
Member (M)	97,326	60	94,746	60	97,834	61
Associate (A)	13,200	8	12,991	8	14,114	9
Student (S)	23,930	15	22,248	14	19,104	12
	162,368	100	158,217	100	160,070	100

Table 3 - IEEE Membership by Region, Percentage; 3-Year Comparison

Region	December 31, 1968		December 31, 1967		December 31, 1966	
	Number	% of Total	Number	% of Total	Number	% of Total
Region 1	40,492	25	39,534	25	39,871	25
Region 2	25,957	16	25,881	16	26,512	17
Region 3	14,055	9	13,889	9	14,436	9
Region 4	18,794	11	18,442	12	18,338	11
Region 5	13,886	8	13,309	8	13,422	8
Region 6	30,851	19	30,375	19	31,411	20
Region 7	8,043	5	7,568	5	7,382	5
Region 8	4,810	3	4,123	3	3,938	2
Region 9	1,940	1	1,779	1	1,416	1
Region 10	2,684	2	2,444	1	2,509	1
U.S. Possessions & Military Overseas	856	1	873	1	835	1
	162,368	100	158,217	100	160,070	100

Table 4 - IEEE Life Members by Grade; 3-Year Comparison

	December 31, 1968	December 31, 1967	December 31, 1966
Fellow	1,742	1,112	1,031
Senior Member	2,050	1,973	1,807
Member	1,046	1,018	995
Associate	29	29	22
	<u>4,867</u>	<u>4,132</u>	<u>3,855</u>

Table 5 - IEEE Membership Changes, by Grade for the Year Ended December 31, 1968

GAINS	H	F	SM	M	A	Student	Total
Elections			336	2,900	723	13,538	17,497
Reinstatements		9	102	833	43	533	1,520
Transfers to		126	301	12,648	2,933	4,786	20,794
Total	-	135	739	16,381	3,699	18,857	39,811

LOSSES	H	F	SM	M	A	Student	Total
Transfers from			121	5,328	1,082	14,263	20,794
Deceased		49	171	209	30	6	465
Resignations		11	377	1,360	374	136	2,258
Dues Arrears		7	458	6,904	2,004	2,770	12,143
Total	-	67	1,127	13,801	3,490	17,175	35,660

Table 6 - IEEE Membership Changes; 3-Year Comparison

GAINS	December 31, 1968	December 31, 1967	December 31, 1966
Elections	17,497	17,025	17,472
Reinstatements	1,520	1,897	3,057
Transfers to	20,794	12,244	12,752
Total Gain	<u>39,811</u>	<u>31,166</u>	<u>33,281</u>
LOSSES			
Transfers from	20,794	12,244	12,752
Deceased	465	518	574
Resignations	2,258	5,116	1,079
Dues Arrears	12,143	15,141	13,004
Total Loss	<u>35,660</u>	<u>33,019</u>	<u>27,409</u>
Net Gain/(Loss)	4,151	(1,853)	5,872

## SECTION A

## SECTION A

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade,  
December 31, 1968

REGION 1								Section
Section	H	F	SM	M	A	Student	Subtotal	Total
Berkshire		26	126	251	15	13		431
Binghamton		2	80	531	67	75		755
Boston	1	147	861	3,887	440	661	5,997	7,437
Lynn		7	72	245	25	33	382	
Merrimack Valley		6	107	748	90	107	1,058	
Buffalo		13	210	577	74	107		981
Connecticut		22	190	835	139	234	1,420	2,989
Fairfield County		26	224	713	124	92	1,179	
New London		5	34	259	27	65	390	
Elmira-Corning		2	37	106	20	11		176
Ithaca		7	20	67	3	70		167
Long Island		80	631	2,599	383	261		3,954
Maine		9	39	154	18	70		290
Mid-Hudson		5	75	617	74	27	798	1,068
Catskill			21	201	33	15	270	
Mohawk Valley		8	56	386	44	41	535	704
St. Lawrence Int'l.		1	17	49	14	88	169	
New Hampshire		10	94	520	52	88		764
New Jersey Coast		57	250	1,145	113	77		1,642
New York	1	91	647	2,701	857	1,273	5,570	6,977
Westchester		45	254	837	158	113	1,407	
North Jersey		161	895	3,306	515	576		5,453
Princeton		58	247	864	115	230		1,514
Providence		2	80	315	29	108	534	774
Southeastern Mass.		8	31	117	25	59	240	
Rochester		5	146	762	101	95		1,109
Schenectady		73	296	447	51	249	1,116	1,268
Adirondack		10	38	73	10	21	152	
Springfield		4	37	138	24	112		315
Syracuse		34	197	665	64	75		1,035
Vermont		6	30	157	24	88		305
Worcester County		3	56	203	35	87		384
	2	933	6,098	24,475	3,763	5,221		40,492



SECTION A

SECTION A

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade  
December 31, 1968

REGION 2							Section Total	
Section	H	F	SM	M	A	Student	Subtotal	
Akron		8	92	243	29	57		429
Allegheny Mountain		1	40	56	6	9		112
Baltimore		39	349	1,093	114	85	1,680	2,284
Annapolis		6	100	386	29	24	545	
Eastern Shore		2	8	32	5	12	59	
Canton			44	91	15	25		175
Central Pennsylvania		7	56	192	15	140		410
Cincinnati		12	117	471	47	65		712
Cleveland		46	391	988	108	172		1,705
Columbus		12	143	535	86	284	1,060	1,120
Chillicothe			6	8	2	2	18	
Zanesville		1	11	28	2		42	
Dayton		17	196	794	125	155		1,287
Delaware Bay		2	52	220	22	49		345
Erie		5	83	157	21	22		288
Johnstown		1	23	97	19	16		156
Lehigh Valley		26	173	533	73	172		977
Lima		3	53	91	5	36		188
North Central Ohio		2	37	83	11	6		139
Ohio Valley			9	50	9	8		76
Philadelphia		110	907	3,556	430	533		5,536
Pittsburgh		87	514	1,252	69	212	2,134	2,224
Upper Monongahela		2	12	52	1	23	90	
Sharon		10	79	137	18	73		317
Southern New Jersey		4	19	101	23	12		159
Susquehanna		6	70	247	37	39		399
Washington		125	1,209	4,493	476	388		6,691
West Virginia			26	123	24	55		228
		534	4,819	16,109	1,821	2,674		25,957

## SECTION A

SECTION A

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade,  
December 31, 1968

REGION 3								Section
Section	H	F	SM	M	A	Student	Subtotal	Total
Alabama		6	119	392	18	162		697
Atlanta		16	172	523	60	190	961	1,034
Macon-Warner Robins			3	21	1	5	30	
Rome			16	23	2	2	43	
Baton Rouge		2	23	98	4	40	167	232
Lafayette			2	35	2	26	55	
Canaveral		7	98	726	67	102		1,000
Central North Carolina			29	176	14	7		226
Central Virginia		11	72	260	18	59		420
Charlotte		9	89	175	38	32		343
Chattanooga		11	66	143	15	6		241
Daytona		6	40	108	9	1		164
Eastern North Carolina		15	72	324	30	192		633
East Tennessee		4	69	171	3	107	354	419
Upper East Tennessee		1	14	38	5	7	65	
Evansville-Owensboro		1	35	106	14	36	192	219
Paducah			1	19	4	3	27	
Florida West Coast		52	173	523	50	33		831
Fort Walton			11	102	7	1		121
Gainesville		4	23	91	11	123		252
Hampton Roads		3	38	295	30	32		398
Huntsville		3	79	592	42	16	732	767
Muscle Shoals			5	25	2	3	35	
Jacksonville			39	95	17	4		155
Lexington		1	21	131	1	46		200
Louisville		1	38	174	9	72		294
Memphis		2	61	137	18	157	375	426
Jackson			10	32	2	7	51	
Miami		36	137	368	81	101		723
Middle Tennessee			21	58	1	10		90
Mississippi			24	123	7	15	169	298
Northeast Mississippi		2	6	51	1	69	129	
Mobile			20	96	7	2		125
Nashville		5	48	119	12	199		383
New Orleans		8	113	364	36	109		630
Oak Ridge		2	38	84	4	8		136
Orlando		9	100	359	43	6		517
Palm Beach		16	46	150	25	3		240
Panama City			11	54	5	6		76
Pensacola		1	10	38	4	5		58
Richmond		4	49	187	15	15		270
Savannah			14	36	4	3		57
South Carolina								656
Central Savannah River			8	28	7	4	47	
Charleston		1	21	109	12	49	192	
Columbia		3	38	103	4	51	199	
Piedmont		1	22	110	11	74	218	
Virginia Mountain		6	71	154	22	140		393
Western North Carolina		8	23	44	4	3		82
Winston-Salem		2	45	180	17	5		249
			259	2,283	8,350	815	2,348	14,055

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade, December 31, 1968

REGION 4							Section Total	
Section	H	F	S	M	A	Student	Subtotal	Section Total
Arrowhead		1	19	70	10	4		104
Cedar Rapids		7	74	314	31	55		481
Central Illinois		14	97	332	42	283		768
Central Indiana		13	147	590	145	448	1,343	1,427
Bloomington		2	13	52	7	10	84	
Central Iowa		8	53	131	11	107		310
Chicago		55	663	2,132	601	449	3,900	5,160
Calumet		4	56	171	41	43	315	
Fox Valley		11	174	632	87	41	945	
Fort Wayne		10	101	308	32	74		525
Illinois Valley			33	71	8	74		186
Iowa-Illinois		2	45	124	15	7	193	227
Burlington			4	23	4	3	34	
Madison		8	36	143	7	258		452
Milwaukee		30	222	829	54	201	1,336	1,461
Racine-Kenosha		2	8	61	14	40	125	
Nebraska		3	94	253	77	237		664
Northeast Michigan		3	39	138	33	22		235
Northeastern Wisconsin		2	34	138	17	79		270
Rock River Valley			25	161	23	9		218
Siouxland			15	60	17	30		122
South Bend			47	185	61	244		537
Southeastern Michigan		46	397	1,521	219	529		2,712
Southern Minnesota			14	190	8	9		221
Toledo		1	84	178	24	67		354
Twin Cities		16	162	1,309	82	242	1,811	2,071
Red River Valley		1	13	90	5	151	260	
West Michigan		2	45	174	30	38		289
		241	2,714	10,380	1,705	3,754		18,794

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade, December 31, 1968

REGION 5								Section Total
Section	H	F	SM	M	A	Student	Subtotal	
Arkansas	1	5	41	123	115	11		195
Beaumont	38	4	32	122	16	92	266	302
Lake Charles	118		5	27	2	2	36	
Central Texas	1	16	89	332	28	186		651
Corpus Christi	1	2	31	69	22	87	211	243
Victoria-Port-Lavaca	2		8	17	4	3	32	
Dallas	1	28	259	1,727	117	137		2,269
Denver	4	34	278	894	62	349	1,617	1,914
Black Hills	88		3	42	1	74	120	
Pikes Peak	3	1	31	110	11	24	177	
El Paso	50	1	42	238	24	102		407
Fort Worth	4	5	82	345	41	96		569
Houston	7	11	184	757	114	425	1,491	2,053
Clear Lake	139		48	413	34	28	523	
Freeport	1		7	26	2	4	39	
Kansas City	2	12	194	412	102	200		920
Oklahoma City	8	10	111	232	13	114		480
Ozark	189		20	65	3	163		251
Panhandle	109	1	28	51	15	3		98
Permian Basin	137		4	50	9	4		67
St. Louis	85	39	303	1,123	116	599		2,180
Shreveport	180	2	70	121	29	64	286	323
Monroe	133		4	23	3	7	37	
South Plains	35		16	43	4	53		116
Tulsa	44	8	111	226	54	123		522
West Central Texas	48	1	14	32	4	4		55
Wichita	16	5	52	127	13	74		271
	1	185	2,067	7,747	858	3,028		13,886

## SECTION A

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade,  
December 31, 1968

REGION 6							Student	Subtotal	Section Total
Section	Subtotal	F	A	SM	M	A	Student	Subtotal	Section Total
Alamogordo-Holloman		1		11		73	15	1	101
Alaska				11		89	14	38	152
Albuquerque		9		104		351	44	116	624
Los Alamos-Santa Fe				31		84	5	1	121
*Antelope Valley				9		50	5	1	65
Boise				32		27		5	64
*Buenaventura		4		44		336	34	11	429
*China Lake				8		97	10	4	119
*Foothill		10		170		697	83	85	1,045
Fort Huachuca				2		15	4	3	82
Hawaii				2		33	305	35	425
Idaho		1		11		68	3	4	87
Las Vegas				11		103	22	7	143
*Met. Los Angeles		16		203		771	132	179	1,301
Montana						3	1	1	326
Billings		1		4		32	1	2	40
Butte				15		20	2	6	43
Helena		1		9		57	2	169	238
*Orange County		21		378		2,175	206	109	2,889
Phoenix		23		221		826	59	137	1,266
Portland		29		213		514	56	62	874
Eugene		2		21		76	14	160	273
Richland		3		35		87	10	2	137
Walla Walla				3		20	3	.6	32
Sacramento		7		72		329	44	92	544
Reno		3		14		47	3	45	112
San Joaquin				8		27	8	16	59
Shasta		1		7		25	5		38
San Diego		14		195		857	77	96	1,239
*San Fernando Valley		19		378		1,389	194	40	2,020
San Francisco		53		384		1,191	198	191	2,017
East Bay		32		214		869	82	227	1,424
Santa Clara Valley		97		578		3,231	239	352	4,497
*San Gabriel Valley		21		195		638	79	56	989
*Santa Barbara		16		65		258	14	191	544
*Santa Monica Bay		42		313		1,091	98	113	1,657
Seattle		26		291		1,283	89	253	1,942
*South Bay Harbor		13		241		1,338	136	82	1,810
Spokane		8		42		108	12	73	243
Tucson		6		60		164	17	82	329
Utah		6		52		298	11	214	581
*Vandenberg				17		169	20	8	214
Wenatchee				10		24	1	2	37
		489		4,728		20,255	2,087	3,292	30,851

\*Los Angeles Council

Table 7 - IEEE Membership by Region, by Section and Subsection, by Grade  
December 31, 1968

REGION 7	H	F	SM	M	AA	Student	Subtotal	Section Total
Bay of Quinte	2		37	122	19	71		251
Canadian Atlantic	1		18	152	21	71		263
Hamilton	1		41	149	58	96		345
Kitchener-Waterloo	1		17	84	31	68	201	237
Guelph			9	19	8		36	
London			16	95	33	31		175
Montreal	11		201	893	127	304		1,536
Niagara International	2		34	106	24	24		190
*Northern Alberta			5	130	69	185		389
Ottawa	14		93	571	126	77		881
Quebec	1		14	109	13	29		166
*Regina			7	89	14	68		178
St. Maurice	1		3	34	8	2		48
*Southern Alberta			6	87	50	149		292
Toronto		21	183	905	286	368		1,763
*Vancouver		7	113	383	134	207		844
*Victoria		3	13	56	15	10		97
*Winnipeg		2	21	161	62	142		388
		67	831	4,145	1,098	1,902		8,043
*Western Canada Council								
REGION 8								
Benelux		14	58	195	43	176		486
Denmark		1	12	66	20	17		116
Egypt		3	12	42	3	10		70
France		22	110	215	49	77		473
Germany (West)		12	70	101	28	5		216
Israel		3	20	108	21	16		168
Middle & South Italy		1	16	121	32	65		235
North Italy		1	25	155	106	174		461
Norway		5	22	49	4	2		82
Spain		1	11	109	13	126		260
Sweden		7	46	146	44	122		365
Switzerland		11	65	207	28	93		404
U. Kingdom & Republic of Ireland		56	284	636	79	52		1,107
		137	751	2,150	470	935		4,443
REGION 9								
Buenos Aires		3	28	167	23	130		351
Chile			10	47	4	29		90
Colombia			6	85	15	50		156
Mexico		5	52	211	27	47		342
Peru			9	56	2	22		89
Puerto Rico & Virgin Islands			22	165	17	58		262
Rio de Janeiro		2	17	57	11	27		114
Sao Paulo			12	54	19	2		87
Venezuela		1	18	131	26	53		229
		11	174	973	144	418		1,720
REGION 10								
Kanpur (India)				11		7		18
New Zealand			8	38	15	7		68
Tokyo	1	16	135	559	95	168		974
West Pakistan			13	45	7	6		71
	1	16	156	653	117	188		1,131

Table 8 - Membership in Region 8, by Country, by Grade, December 31, 1968;  
3-Year Comparison

Country	H	F	SM	M	A	Student	12/31/68 Total	12/31/67 Total	12/31/66 Total
Algeria				1	1		2	1	2
Austria			6	13	1	1	21	13	11
Bulgaria			1				1	1	1
Cyprus			3	13	3		19	17	19
Czechoslovakia			2	5	6		13	14	15
Denmark							-	101	95
Finland			2	15	6	41	64	45	15
Germany, F.R. (Berlin)			2	4	2	1	9	10	10
Gibraltar							-	-	1
Greece		1	6	33	3		43	45	52
Hungary			4				4	4	4
Iceland				4	2		6	6	7
Iraq			1	6	3		10	10	9
Jordan			1	4			5	6	4
Lebanon			1	27	2	1	31	30	34
Libya			3	19	1		23	23	21
Malta				5			5	5	6
Morocco							-	1	4
Monaco				1			1	-	-
Poland		1	2	1	2		6	7	5
Portugal			4	9	1		14	13	12
Rumania				2		1	3	1	2
Spain							-	204	169
Syria				4			4	3	7
Tunisia					1		1	-	-
Turkey			2	26	4	14	46	40	32
U.S.S.R.		2	14	1	8		25	26	22
Yugoslavia			2	5	4		11	11	9
<b>Total</b>		<b>4</b>	<b>56</b>	<b>198</b>	<b>50</b>	<b>59</b>	<b>367</b>	<b>637</b>	<b>568</b>
<b>Territory Assigned to IEEE Sections</b>		<b>137</b>	<b>751</b>	<b>2,150</b>	<b>470</b>	<b>935</b>	<b>4,443</b>	<b>3,486</b>	<b>3,370</b>
<b>Total</b>		<b>141</b>	<b>807</b>	<b>2,348</b>	<b>520</b>	<b>994</b>	<b>4,810</b>	<b>4,123</b>	<b>3,938</b>

SECTION A

Table 9 - Membership in Region 9, by Country, by Grade, December 31, 1968  
3-Year Comparison

Country	H	F	SM	M	A	Student	12/31/68 Total	12/31/67 Total	12/31/66 Total
Bolivia				10			10	9	9
Brazil			4	22	5		31	30	25
British Guiana			2	3	4		9	-	-
Chile							-	1	-
Costa Rica			2	6	1	1	10	13	13
Cuba			2	3			5	5	4
El Salvador		1	1	9			11	10	12
Ecuador			2	9	1		12	12	13
Falkland Island (Port Stanley)							-	1	-
Guatemala			1	16			17	13	13
Guyana							-	9	6
Honduras				2	1		3	1	4
Netherlands Antilles			1	5			6	5	5
Nicaragua				5	1	1	7	7	5
Peru							-	-	60
Panama			2	8	3		13	13	10
Paraguay			1				1	-	-
Surinam			2	3			5	3	-
Uruguay			1		2		3	3	3
Venezuela					1		1	-	138
West Indies			14	43	18	1	76	65	61
<b>Total</b>		1	35	144	37	3	220	200	381
<b>Territory Assigned to IEEE Sections</b>		11	174	973	144	418	1,720	1,579	1,035
		12	209	1,117	181	421	1,940	1,779	1,416



Table 10 - IEEE Membership in Region 10, by Country, by Grade, December 31, 1968  
3-Year Comparison

Country	H	F	SM	M	A	Student	12/31/68 Total	12/31/67 Total	12/31/66 Total
Aden							-	-	2
Afghanistan				5	4		9	2	3
Australia		1	45	224	22	49	341	288	265
Bahrein				1	1		2	4	3
Basutoland					1		1	1	-
Burma				5	1		6	5	4
Cambodia				5			5	2	-
Cameroon				1			1	-	4
Ceylon			6	3	2		11	11	9
China (mainland)			2	23	3		28	23	11
Congo				2			2	2	2
Dahomey			1				1	2	2
Ethiopia				5	1		6	4	7
Fiji Islands				1			1	1	1
Formosa (Taiwan)							-	-	6
Ghana			1	5	1		7	9	11
Guinea							-	-	1
Hong Kong			6	99	19		124	115	91
India (except Kanpur Section)		2	108	352	45	15	522	565	775
Indonesia				5		3	8	4	3
Iran			4	45	2	1	52	33	24
Ivory Coast				1			1	-	-
Kenya			5	17	5		27	20	17
Kuwait			4	13	1		18	16	24
Liberia			2	2			4	4	4
Macao				1			1	1	1
Madagascar				3			3	2	1
Malawi				2			2	2	3
Malaysia			4	53	3	2	62	58	58
Mali (formerly Sudan)				3	1		4	5	3
Mauritius				2			2	2	4
Mogadishui Somalia			1				1	-	-
Muscat					1		1	1	-
Nepal				3	1		4	4	4
New Guinea			1				1	-	1
New Zealand							-	55	54
Nigeria		1	4	26	5	2	38	40	49
Nukualofa Tonga				1			1	-	-
Pakistan (East)		1	2	14	1		18	68	78
Philippines			10	21	8	1	40	29	28
Qatar				1			1	-	1
Rhodesia			2	7	1		10	11	11
Sabah				1			1	1	-
Sambia			4	5			9	5	4
Saudi Arabia		1	7	18	3		29	29	29
Sierra Leone			2	1			3	1	1
Soloman Islands					2		2	2	1
South Africa			16	44	11		71	68	61
South Korea			4	24	1		29	25	18
South West Africa							-	1	3
Tanganyika							-	5	-
Tanzania				3	1		4	-	4
Thailand			7	16	2		25	30	26
Togo				1	1		2	-	-
Trucial Oman				2			2	2	-
Uganda				1	2		3	3	3
Viet-Nam				6	1		7	3	4
<b>Total</b>		<b>6</b>	<b>248</b>	<b>1,073</b>	<b>153</b>	<b>74</b>	<b>1,553</b>	<b>1,564</b>	<b>1,719</b>
Territory Assigned to IEEE Sections	<b>1</b>	<b>16</b>	<b>156</b>	<b>653</b>	<b>117</b>	<b>188</b>	<b>1,131</b>	<b>880</b>	<b>790</b>
<b>Total</b>	<b>1</b>	<b>22</b>	<b>404</b>	<b>1,726</b>	<b>270</b>	<b>261</b>	<b>2,684</b>	<b>2,444</b>	<b>2,509</b>

SECTION B

Table 1 - IEEE Student Branches and Student Branch Membership, 1968

Nineteen Student Branches were established during 1968. The total number of Student Branches is now 319 operating as follows:

- 256 - IEEE Student Branches
- 60 - IEEE Student Associate Branches\*
- 1 - IEEE Student/Student Associate Branch
- 2 - IEEE Section Student Branches

School	Section Location	Region	Membership*** 1968
*Academy of Aeronautics	New York	1	33
Air Force Institute of Technology	Dayton	2	38
Akron, University of	Akron	2	63
Alabama, University of	Alabama	3	67
Alaska, University of	Alaska	6	38
Alberta, University of	North Alberta	7	118
*Algonquin College of Applied Arts & Technology	Ottawa	7	22
Arizona State University	Phoenix	6	126
Arizona, University of	Tucson	6	89
Arkansas, University of	Arkansas	5	172
Auburn University	Alabama	3	96
Bradley University	Illinois Valley	4	84
Bridgeport, University of	Connecticut	1	81
Brigham Young University	Utah	6	83
*British Columbia Institute of Technology	Vancouver	7	79
*British Columbia Vocational School	Vancouver	7	16
British Columbia, University of	Vancouver	7	132
*Bronx Community College	New York	1	26
*Bronx Community College (Evening Division)	New York	1	21
Brooklyn, Polytechnic Institute of (Day Division)	New York	1)	283
Brooklyn, Polytechnic Institute of (Evening Division)	New York	1)	
*Broome Technical Community College	Binghamton	1	56
Brown University	Providence	1	47
Bucknell University	Central Pennsylvania	2	29
Buenos Aires, Instituto Tecnológico de	Buenos Aires	9	12
Buenos Aires, University of	Buenos Aires	9	38
Calgary, University of	Southern Alberta	7	45
California State Polytechnic College (San Luis Obispo)	Santa Barbara	6	123
California State Polytechnic College (Kellogg-Voorhis Campus)	Foothill	6	99
California State College at Long Beach	South Bay Harbor	6	59
California State College at Los Angeles	Metropolitan Los Angeles	6	47
California, University of (Berkeley)	San Francisco	6	214
California, University of (Davis)	Sacramento	6	45
**California, University of (Irvine)	Orange County	6	28
California, University of (Los Angeles)	Santa Monica Bay	6	108
California, University of (Santa Barbara)	Santa Barbara	6	89
California Western University	Santa Monica Bay	6	10
*Capitol Institute of Technology	Washington	2	25
Carabobo, Universidad de	Venezuelan	9	22
Carleton University	Ottawa	7	23
Carnegie Mellon University	Pittsburgh	2	81
Case Western Reserve University	Cleveland	2	87
Catholic University of America	Washington	2	19
Catholic University of Louvain	Benelux	8	120
*Central Technical Institute	Kansas City	5	30
Chalmers University of Technology	Sweden	8	68

<u>School</u>	<u>Section Location</u>	<u>Region</u>	<u>Membership***</u>
Christian Brothers College	Memphis	3	127
Cincinnati, University of	Cincinnati	2	85
Citadel, The	South Carolina	3	44
Clarkson College of Technology	Mohawk Valley	1	55
Clemson University	South Carolina	3	73
The Cleveland State University	Cleveland	2	47
** *Cogswell Polytechnical College	San Francisco	6	14
Colorado State University	Denver	5	54
Colorado, University of	Denver	5	198
Columbia University	New York	1	101
*Community College & Technical Institute of Temple University	Philadelphia	2	55
Concepcion, Universidad de	Chile	9	17
Connecticut, University of	Connecticut	1	76
Cooper Union, The	New York	1	54
Cornell University	Ithaca	1	81
Dayton, University of	Dayton	2	51
*Dayton, University of, Technical Institute	Dayton	2	32
Delaware, University of	Delaware Bay	2	37
Denver, University of	Denver	5	42
Detroit Institute of Technology	Southeastern Michigan	4	11
Detroit, University of	Southeastern Michigan	4	25
*DeVry Institute of Technology (Illinois)	Chicago	4	159
*DeVry Institute of Technology (Canada)	Toronto	7	24
Drexel Institute of Technology	Philadelphia	2	130
Drexel Institute of Technology (Evening Division)	Philadelphia	2	58
Duke University	Eastern N. C.	3	42
Ecole Polytechnique	Montreal	7	151
*Electronic Institute of Technology	Southeastern Michigan	4	45
Escuela Tecnica Superior de Ingenieros de Telecomunicacion (Spain)	-	8	113
*Escuela de Tecnicos	Venezuelan	9	-
Evansville, University of	Evansville-Owensboro	3	33
Fairleigh Dickinson University (Day Division)	North Jersey	1	59
**Fairleigh Dickinson University (Evening College)	North Jersey	1	15
Florida Institute of Technology	Canaveral	3	107
Florida, University of	Gainesville	3	154
*Franklin Institute of Boston	Boston	1	52
*Franklin University	Columbus	2	-
Fresno State College	San Francisco	6	31
Gannon College	Erie	2	16
*Gaston College	Charlotte	3	10
George Washington University	Washington	2	45
Georgia Institute of Technology	Atlanta	3	175
Gonzaga University	Spokane	6	18
Grove City College	Sharon	2	48
Hartford, University of	Connecticut	1	42
Hawaii, University of	Hawaii	6	45
*Heald Engineering College	San Francisco	6	49
**Helsinki, Technical University		8	40
Hofstra University	Long Island	1	30
Houston, University of (College of Engineering)	Houston	5	87
*Houston, University of (College of Technology)	Houston	5	112
Howard University	Washington	2	39
*Hudson Valley Community College	Schenectady	1	37
Idaho, University of	Spokane	6	20
Illinois Institute of Technology	Chicago	4	115
Illinois, University of (Urbana)	Central Illinois	4	299
Illinois, University of (Chicago Circle)	Chicago	4	66
Indiana Institute of Technology	Fort Wayne	4	35
Instituto Superior de Electronica	Buenos Aires	9	10
Iowa, University of	Cedar Rapids	4	53
Iowa State University of Science & Technology	Central Iowa	4	103

School	Section Location	Region	Membership***
John Carroll University	Cleveland	2	19
John Hopkins University, The	Baltimore	2	58
Kansas State University of Agriculture & Applied Science	Kansas City	5	75
Kansas, University of	Kansas City	5	33
Kentucky, University of	Lexington	3	51
Lafayette College	Lehigh Valley	2	54
Lamar State College of Technology	Beaumont	5	115
**La Plata, Universidad nacional de	Buenos Aires	9	28
La Salle College	Philadelphia	2	23
Laval University	Quebec	7	17
Lawrence Institute of Technology	Southeastern Michigan	4	66
Lehigh University	Lehigh Valley	2	49
*Los Angeles Pierce College	San Fernando Valley	6	4
*Los Angeles Trade Technical College	Santa Monica Bay	6	38
Louisiana Polytechnic Institute	Shreveport	5	68
Louisiana State University	Baton Rouge	3	32
**Louisiana State University (New Orleans)	New Orleans	3	38
Louisville, University of	Louisville	5	64
Lowell Technological Institute	Boston	1	116
Loyola University	Santa Monica Bay	6	20
**Lund Institute of Technology-Lund University	Sweden	8	16
McMaster University	Hamilton	7	33
**McGill University	Montreal	7	116
Maine, University of	Maine	1	56
Manhattan College	New York	1	117
*Manitoba Institute of Technology	Winnipeg	7	32
Manitoba, University of	Winnipeg	7	106
Marist College	Mid-Hudson	1	12
Marquette University	Milwaukee	4	113
Maryland, University of	Washington	2	207
Massachusetts Institute of Technology	Boston	1	271
Massachusetts, University of	Springfield	1	86
Merrimack College	Boston	1	31
Miami, University of	Miami	3	69
Michigan State University	Southeastern Michigan	4	104
Michigan Technological University	Northeastern Wisconsin	4	67
Michigan, University of	Southeastern Michigan	4	159
Milwaukee School of Engineering	Milwaukee	4	81
Minnesota, University of	Twin Cities	4	142
Mississippi State University	Mississippi	3	80
Mississippi, The University of	Memphis	3	25
Missouri, The University of (Rolla)	St. Louis	5	369
Missouri, University of	St. Louis	5	124
*Mohawk College of Applied Arts & Technology	Hamilton	7	73
*Mohawk Valley Community College	Mohawk Valley	1	37
Monmouth College	New York	1	30
Montana State College	Montana	6	172
Nebraska, University of	Nebraska	4	119
*Nebraska, University of (Omaha)	Nebraska	4	8
Nevada, University of	Sacramento	6	51
Newark College of Engineering (Day Division)	North Jersey	1	159
Newark College of Engineering (Evening Division)	North Jersey	1	67
New Hampshire, University of	New Hampshire	1	72
New Haven College	Connecticut	1	49
New Mexico Highlands University	Albuquerque	6	19
New Mexico State University	El Paso	5	58
New Mexico, University of	Albuquerque	6	93
*New York City Community College	New York	1	38
New York, The City College of the City University of	New York	1	96
*New York Institute of Technology	New York	1	121
*New York State University (Alfred)	Buffalo	1	45

School	Section Location	Region	Membership***
New York, State University of (Buffalo)	Buffalo	1	63
*New York, State University of, Agricultural & Technical Institute (Canton)	Mohawk Valley	1	51
New York University (Day Division)	New York	1)	189
New York University (Evening Division)	New York	1)	
North Carolina State University	Eastern North Carolina	3	158
North Dakota State University	Twin Cities	4	96
North Dakota, University of	Twin Cities	4	65
Northeastern University	Boston	1	295
*Northern Alberta Institute of Technology	Northern Alberta	7	59
Northrop Institute of Technology	Metropolitan Los Angeles	6	45
Northwestern University	Chicago	4	40
Norwich University	Vermont	1	33
Notre Dame, University of	South Bend	4	75
Nova Scotia Technical College	Canadian Atlantic	7	34
Oakland University	Southeastern Michigan	4	16
Ohio Northern University	Lima	2	34
Ohio State University	Columbus	2	206
*Ohio Technical College	Columbus	2	39
Ohio University	Columbus	2	67
*Oklahoma City University	Oklahoma City	5	1
Oklahoma State University	Tulsa	5	109
Oklahoma, University of	Oklahoma City	5	93
Old Dominion College	Hampton Roads	3	19
Oregon State College	Portland	6	145
*Oregon Technical Institute	Portland	6	47
Ottawa, University of	Ottawa	7	30
*Pacific States University	Metropolitan Los Angeles	6	15
Pacific, University of	Sacramento	6	4
Padova, Universita di	Italy	8	93
**Paris, Institut Superieur d' Electronique de P. M. C. Colleges	France	8	13
Pennsylvania State University	Philadelphia	2	16
Pennsylvania, University of	Central Pennsylvania	2	186
Pittsburgh, University of	Philadelphia	2	134
*Port Arthur College	Pittsburgh	2	99
Portland State College	Beaumont	5	7
Prairie View A & M College	Portland	6	24
Pratt Institute	Houston	5	19
Princeton University	New York	1	51
Puerto Rico, University of	Princeton	1	72
	Puerto Rico & Virgin Islands	9	56
Purdue University	Central Indiana	4	280
Queen's University	Bay of Quinte	7	55
*Queensborough Community College	New York	1	46
*RCA Institutes, Inc.	New York	1	341
*Radio College of Canada	Toronto	7	38
*Radio Engineering Institute	Nebraska	4	106
Rensselaer Polytechnic Institute	Schenectady	1	137
Rhode Island, University of	Providence	1	39
Rice University	Houston	5	64
**Rio de Janeiro, Universidad Federal do	Rio de Janeiro	9	27
Rochester Institute of Technology	Rochester	1	65
Rochester, The University of	Rochester	1	43
Rome, University of	Italy	8	50
Rose Polytechnic Institute	Central Indiana	4	64
Royal Institute of Technology	Sweden	8	20
Royal Military College of Canada	Bay of Quinte	7	24
Rutgers University	Princeton	1	57
*Ryerson Polytechnical Institute	Toronto	7	29
Sacramento State College	Sacramento	6	43

School	Section Location	Region	Membership***
*St. Clair College of Arts & Technology	Southeastern Michigan	4	34
St. Joseph's College	Philadelphia	2	1
St. Louis University	St. Louis	5	42
*San Diego College of Engineering	San Diego	6	7
San Diego State College	San Diego	6	41
San Francisco State College	San Francisco	6	28
San Jose State College	San Francisco	6	118
Santa Clara, University of	San Francisco	6	41
**Santander, Universidad Industrial de	Colombia	9	28
Saskatchewan, University of	Regina	7	63
Seattle University	Seattle	6	25
**Shizuoka University, Graduate School	Tokyo	10	32
*Sinclair College	Dayton	2	3
**Sir George Williams University	Montreal	7	37
South Carolina, University of	South Carolina	3	50
South Dakota School of Mines & Technology	Denver	5	73
South Dakota State University	Twin Cities	4	68
Southeastern Massachusetts Technological Institute	Providence	1	49
*Southern Alberta Institute of Technology, The	Southern Alberta	7	109
Southern California, University of	Metropolitan Los Angeles	6	106
Southern Methodist University	Dallas	5	59
*Southern Technical Institute	Atlanta	3	10
Southern University	Baton Rouge	3	17
South Florida, University of	Florida West Coast	3	19
*Southwest Missouri State College	Kansas City	5	24
Southwestern Louisiana, University of	Baton Rouge	3	25
*Spring Garden Institute	Philadelphia	2	37
Stanford University	San Francisco	6	168
**Steubenville, College of	Canton	2	10
Stevens Institute of Technology	North Jersey	1	74
*Stout State University	Twin Cities	4	33
Swarthmore College	Philadelphia	2	8
**Switzerland Section Student Branch	Switzerland	8	153
Syracuse University	Syracuse	1	67
Tennessee A & I State University	Nashville	3	13
Tennessee Technological University	Nashville	3	85
Tennessee, University of	East Tennessee	3	130
Texas A & I University	Corpus Christi	5	51
Texas A & M University	Houston	5	169
Texas Technological College	South Plains	5	56
Texas, University of	Central Texas	5	196
Texas, University of at Arlington	Central Texas	5	137
Texas, University of at El Paso	El Paso	5	54
Toledo, University of	Toledo	4	60
Toronto, University of	Toronto	7	214
Tri-State College	Fort Wayne	4	28
Tufts University	Boston	1	65
Tulane University	New Orleans	3	53
Tuskegee Institute	Alabama	3	16
Union College	Schenectady	1	106
*Union County Technical Institute	North Jersey	1	12
*Union Technical Institute	North Jersey	1	86
**United Kingdom & Republic of Ireland Section Student Branch	United Kingdom & Republic of Ireland	8	101
United States Air Force Academy	Denver	5	15
**United States Coast Guard Academy	Connecticut	1	15
United States Naval Postgraduate School	San Francisco	6	68
Universidad Distrital Francisco Jose de Caldas	Colombia	9	14
Universidad Nacional de Ingenieria	Peru	9	22
Uppsala, University of	Sweden	8	11
Utah State University	Utah	6	44
Utah, University of	Utah	6	88



## SECTION C

Table 1 - IEEE Group Membership, December 31, 1968; 4-Year Comparison

Group No.	Group Name	Student Discount	Students Regular	Other Members	1968 Total	1967 Total	1966 Total	1965 Total
1	Audio & Electroacoustics	280	380	3,912	4,572	4,488	4,302	4,230
2	Broadcasting	112	146	1,751	2,009	1,918	1,755	1,592
3	Antennas & Propagation	433	204	4,300	4,937	4,882	4,605	4,256
4	Circuit Theory	1,153	850	6,865	8,868	7,963	7,020	6,636
5	Nuclear Science	177	205	2,071	2,453	2,364	2,181	1,939
6	Vehicular Technology	33	81	2,078	2,192	2,088	1,911	1,705
7	Reliability	18	25	2,443	2,486	2,622	2,602	2,431
8	Broadcast & Television Receivers	126	112	2,061	2,299	2,238	2,043	1,835
9	Instrumentation & Measurements	87	219	4,426	4,732	4,848	4,650	4,488
10	Aerospace & Electronic Systems	567	304	8,279	9,150	9,762	10,021	10,397
12	Information Theory	235	295	4,028	4,558	4,465	4,306	4,031
13	Industrial Electronics & Control Instrumentation	82	143	3,068	3,293	3,474	3,370	3,059
14	Engineering Management	273	210	5,810	6,293	6,167	5,791	5,453
15	Electron Devices	1,895	620	6,660	9,175	8,160	6,674	5,558
16	Computer	1,939	1018	12,025	14,982	13,240	11,136	9,999
17	Microwave Theory & Techniques	350	396	5,624	6,370	6,129	5,830	5,527
18	Engineering in Medicine & Biology	523	398	3,693	4,614	4,267	3,796	3,517
19	Communication Technology	707	491	7,774	8,972	8,377	7,253	6,448
20	Sonics & Ultrasonics	22	40	1,184	1,246	1,220	1,176	1,139
21	Parts, Materials & Packaging	13	13	2,150	2,176	2,401	2,526	2,738
23	Automatic Control	839	517	5,413	6,769	6,412	5,874	5,189
25	Education	18	91	1,771	1,880	1,837	1,630	1,368
26	Engineering Writing & Speech	41	141	1,921	2,103	2,157	2,067	1,920
27	Electromagnetic Compatibility	10	6	1,703	1,719	1,679	1,687	1,638
28	Man-Machine Systems	17	112	1,096	1,225	1,058	936	788
29	Geoscience Electronics	57	125	1,389	1,571	1,543	1,458	1,278
31	Power	699	356	11,842	12,897	12,161	10,820	9,391
32	Electrical Insulation	5	13	1,121	1,139	1,095	985	851
33	Magnetics	51	61	1,907	2,019	1,953	1,757	1,434
34	Industry & General Applications	197	99	4,417	4,713	4,151	3,578	2,609
35	Systems Science & Cybernetics	148	489	3,350	3,987	3,486	2,918	1,524
		<u>11,107</u>	<u>8,160</u>	<u>126,132</u>	<u>145,399</u>	<u>138,605</u>	<u>126,658</u>	<u>114,968</u>

## JOURNAL AND TRANSACTION STATISTICS

Journal of Quantum Electronics (G-15)	190	139	1,482	1,811	1,634	1,493	1,238
Journal of Quantum Electronics (G-17)	95	51	495	641	581	636	608
	<u>285</u>	<u>190</u>	<u>1,977</u>	<u>2,452</u>	<u>2,215</u>	<u>2,129</u>	<u>1,846</u>
Journal of Solid-State Circuits (G-4)	1,153	850	6,865	8,868	7,963		
Journal of Solid-State Circuits (G-15)	268	155	918	1,341	922		
Journal of Solid-State Circuits	39	27	770	836	1,108		
	<u>1,460</u>	<u>1,032</u>	<u>8,553</u>	<u>11,045</u>	<u>9,993</u>		
Transactions on ED (G-15)	1,453	462	5,703	7,618			
Transactions on MTT (G-17)	261	361	5,419	6,041			

14,324 or 60.0% of the Student members are enrolled in Groups.  
68,101 or 49.5% of grades other than Student are enrolled in Groups.



SECTION C

TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY REGION, BY SECTION

REGION 1 Section	Total Affili- lates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	ENS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35		
Berkshire		254	6		1	14	2	2	4	3	14	15	2	9	12	11	17	1	3	1	2	13	12	2	5	7		4	68	11	6	3	4		
Binghamton	1	594	17	5	9	39	8	3	37	5	15	46	9	11	36	30	111	20	18	12	5	14	34	4	8	18	2	5	28	4	13	7	21		
Boston	50	6,450	188	42	276	382	74	45	106	57	259	451	339	125	305	440	793	390	250	369	68	114	280	65	69	51	68	86	331	25	97	96	209		
Lynn	1	333	9		11	26	4	4	8	3	17	21	8	10	15	26	33	17	7	17	3	6	18	2	9	3		2	28	6	4	10	6		
Merrimack Valley	3	932	27	5	45	75	15	9	18	15	32	63	23	9	34	70	98	96	29	72	5	16	34	9	8	5	8	11	46	5	8	14	28		
Buffalo	2	870	20	12	28	39	6	13	11	20	24	51	50	32	25	21	63	29	23	50	4	9	67	7	28	4	8	6	78	15	12	83	32		
Connecticut	7	1,139	44	11	23	60	34	16	13	10	53	48	28	53	31	66	104	24	58	46	17	13	70	13	12	13	6	14	127	16	21	68	27		
Fairfield County	8	997	40	24	23	64	15	11	24	17	37	58	26	24	49	69	109	45	31	66	20	28	26	8	11	16	12	12	48	7	23	35	19		
New London	3	348	21	5	17	25	10	4	5	2	13	13	20	5	20	14	25	5	17	17	5	3	25	6	7	3	9	4	20	6	2	4	16		
Elmira-Corning		136	4	3	1	4	4	3	2	3	7	2	2	5	8	14	16	3	6	3	2	5	7	1	3	1	1	1	7	3	3	10	2		
Ithaca	4	222	3	1	6	22	3	1	2	1	6	4	15	5	4	30	29	11	12	6			23	7	1	1	1	1	9	1	2	7	8		
Long Island	18	3,784	121	46	189	210	57	46	123	56	103	417	133	67	211	192	343	307	127	195	43	81	142	35	58	61	41	36	135	19	44	51	95		
Maine		231	12	7	6	13	4	5	3	3	10	7	4	6	7	8	15	13	10	19	3	2	9	4	1	3	2	2	41	1	2	7	2		
Mid-Hudson	7	603	11	6	1	44	2	4	12	3	15	10	13	8	32	93	180	9	9	22	1	15	13	9	9		1	1	34	2	24	3	17		
Catskill	1	154	3	3	4	10	2			3	3	2		2	3	3	5	47	1	3	5	1	7	3	1	3	7	3	2	9		13	6		
Mohawk Valley	1	384	2	3	22	20	2	1	24	4	3	45	14	1	31	22	43	19	6	40	1	3	12	3	5	25	2	1	9	2		8	11		
St. Lawrence International		69	3			8	1	1	1	1	1	2	2	2	5	4	5	2		1	2			5	5	1		1	11		2	2	1		
New Hampshire	1	606	19	6	35	58	3	4	6	8	25	44	18	7	32	26	51	64	21	34	8	9	15	10	8	6	7	9	34	5	8	8	18		
New Jersey Coast	3	1,536	35	14	61	80	14	32	25	14	36	89	93	15	49	102	175	84	29	287	14	28	25	15	23	59	25	9	21	6	13	10	54		
New York	40	4,869	187	108	119	378	83	61	65	114	131	245	161	103	180	253	588	192	250	368	39	61	177	64	89	46	57	36	350	36	40	129	159		
Westchester	10	1,292	50	31	22	73	16	15	15	31	50	57	37	33	78	81	194	41	59	89	12	22	29	14	20	11	11	16	83	16	19	35	32		
North Jersey	18	4,597	125	52	115	299	54	62	106	83	174	269	134	106	210	307	477	247	126	355	37	94	185	40	75	36	38	34	359	52	74	149	123		
Princeton	11	1,373	40	21	20	87	28	15	21	29	48	59	47	22	53	183	175	67	48	73	12	22	47	20	29	9	13	10	66	6	38	23	42		
Providence	1	449	18	5	12	26	2	4	7	5	18	28	26	11	16	27	36	8	15	23	16	11	34	4	6	4	4	13	33	10	4	8	15		
Southeastern Mass.		164	6		2	9			1	1	6	9	3	9	9	17	1	6	5	2	9	6	2	5	3	2	9	12	4	3	10	4			
Rochester	6	874	46	10	15	55	15	18	23	14	34	42	31	22	45	47	75	17	43	86	16	18	36	12	19	4	8	4	52	5	16	26	20		
Schenectady	6	944	13	15	19	39	22	7	8	8	31	19	16	26	29	93	61	40	22	27	8	7	48	19	8	9	5	8	185	13	19	89	31		
Adirondack		113	4	2		7	4	1	2	1	2	2	3	8	3	9	7	6	2	3	1	2	5	1	1		1	16	5	2	11	2			
Springfield		193	14	6	6	15	4	2		11	3	4	2	3	8	11	15	15	6	4	2	1	10	6	1	1	2	1	24	7		5	4		
Syracuse	2	1,074	27	17	71	89	11	10	18	43	24	92	73	11	42	91	100	71	16	32	6	23	34	15	11	7	4	2	56	4	3	39	32		
Vermont		173	2	2	4	14	1	1	7	1	6	2	4	5	3	19	23	2	16	5	3	1	7	2	3	1	1	17		17	1	3			
Worcester County	2	240	9	5	2	20	1	3	2	3	14	8	5	6	7	25	23	15	13	10	2	1	7	8	2	4	1	3	28	2	4	6	1		
	206	35,997	1126	467	1165	2304	501	403	702	572	1213	2222	1343	762	1592	2398	4048	1862	1281	2342	360	638	1445	413	538	418	342	344	2365	294	536	963	1038		

1991 - IEEE Group Membership December 31, 1988 - 4-Ann. Compilation

SECTION C TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY GROUP, BY REGION, BY SECTION

REGION 2	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MIT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35	
Akron	1	287	5	8	17	11	2	2			8	14	1	12	9	8	29	11	2	11		2	15	2	3	1	1	2	65	3		40	3	
Allegheny Mountain	1	58	2	3		4			2	4	3	2		1	3	4	1	1		1	3	8			1				5		6	3	1	
Baltimore	4	1,453	34	13	58	80	24	14	38	15	42	146	62	14	80	80	102	91	39	94	7	28	47	10	19	23	6	11	149	8	11	82	26	
Annapolis	1	417	8		16	31	3	3	13	7	9	56	14	2	26	32	28	22	5	23	4	2	20	2	10	30	2	9	14	2	5	10	9	
Eastern Shore		30	2	1		1		2	1	1	1			1	1	1	2			1					1				9			3	1	
Canton	1	111	2	1	3	5	1	4	2	1	3	3	1	4	3	7	3	3	2	8	1	1	3			1		1	35	2	2	8	1	
Central Pennsylvania	1	368	10	5	19	28	9	5	3	5	7	27	24	2	14	32	39	18	9	19	9	3	17	7	5	4	5	2	17	1	2	4	17	
Cincinnati	3	476	33	13	6	32	10	9	5	4	12	18	4	21	15	22	34	10	24	20	1	7	32	4	3	6	3	1	74	4	4	39	6	
Cleveland	6	1,252	40	29	17	58	41	36	14	18	61	37	7	72	40	61	94	17	61	36	13	15	84	16	13	6	8	3	159	10	12	142	32	
Columbus	3	981	26	5	72	55	18	17	8	8	30	54	30	32	30	75	92	49	32	70	10	10	68	11	8	3	11	5	70		22	26	34	
Chillicothe		6												1	1		1															3		
Zanesville		16				2					1				1				2														2	
Dayton	5	1,062	27	7	34	45	13	10	24	10	34	104	27	16	119	82	168	26	32	36	8	15	55	7	12	17	16	6	40	5	12	19	36	
Delaware Bay	3	244	7	3	7	12	1	1	2	1	7	7	7	9	12	13	24	6	7	5	1	1	12	2	2	2	2	3	36	13	6	24	9	
Erie	1	125	4	1	3				3		2	7	1	3	5	8	7		2	3	3	5	4			2	3	1	16	5	4	32		
Johnstown	1	78	1	2	2	4	1			1	3	4	3	3	1	4	7	4	1	1		2	2	1				21	1			9		
Lehigh Valley	7	650	15	6	5	30	14	6	10	6	22	19	5	18	21	87	52	28	14	24	11	11	12	9	12	2	2	2	137	4	26	30	10	
Lima		84			1	2		2	1		3	25		1	8	6	2	2	1	3		1	3	3	2	1			6		2	8	1	
North Central Ohio		100	3			1	1	1	4	1	3	2	3	3	6	3	3	2	2	17		1	2	2	1	1	1		20	2	3	10	2	
Ohio Valley		25		1	1	1		1				2					1	1							1				7	1		5	1	
Philadelphia	27	4,978	165	78	121	257	49	64	118	90	169	414	163	94	223	197	595	149	197	312	37	142	208	67	81	77	46	39	369	35	93	176	153	
Pittsburgh	11	1,652	36	20	13	73	50	26	11	13	55	27	22	65	67	121	142	15	48	39	15	7	97	26	20	7	6	10	328	37	38	157	61	
Upper Monongahela	2	47			1	1	2				1	2			1	6	4		4	3	1		5	1					8	3		3	1	
Sharon	1	193	3	4	2	9	2	3		2	2	4		13	5	7	10	2	3	1	1		12	5	3			1	55	6	6	28	4	
Southern New Jersey		89	6	2	4	3		4	3	1	3	12		1	6	3	9	1	4	6			2				1		10	1		2	5	
Susquehanna	2	270	10	5	4	16	12	4	6	14	9	13	6	7	13	27	13	19	8	11	6	7	6	1	3	4	1	3	20	2	5	12	3	
Washington	63	6,900	193	130	372	303	129	117	125	69	210	763	353	54	425	297	691	319	193	742	58	64	204	54	114	153	74	102	218	24	47	49	254	
West Virginia		70	3	3	2	4		2	1	1	1		1	3	1	3	6	3		3			2	2	3	1		1	14	1	1	8		
<b>TOTAL</b>	<b>144</b>	<b>22,022</b>	<b>635</b>	<b>339</b>	<b>778</b>	<b>1071</b>	<b>382</b>	<b>334</b>	<b>394</b>	<b>273</b>	<b>702</b>	<b>1761</b>	<b>734</b>	<b>454</b>	<b>1136</b>	<b>1186</b>	<b>2159</b>	<b>799</b>	<b>692</b>	<b>1489</b>	<b>189</b>	<b>332</b>	<b>912</b>	<b>232</b>	<b>319</b>	<b>342</b>	<b>185</b>	<b>202</b>	<b>1913</b>	<b>170</b>	<b>307</b>	<b>931</b>	<b>670</b>	

## SECTION C

TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY GROUP, BY REGION, BY SECTION

Section	Total Affiliates	Total Group Members	Region 3																															
			A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EMS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35	
Alabama		394	11	3	16	22	3	7		3	8	11	5	11	15	12	32	17	13	51	1		27	10	4	2	3	2	86	2	1	14	2	
Atlanta	1	781	29	20	36	41	11	15	5	9	20	50	15	15	29	29	51	30	15	108	6	5	41	11	9	24	9	6	81	3	5	36	19	
Macon-Warner Robins		20			4							3			1	3		1		3		1			3							1		
Rome		24				1					1											1							13	4		3		
Baton Rouge	2	136	3	1	3	7	3	1			4	5	3	6	4	11	7	3	4	6			7	4	1	1	1	1	29		3	14	4	
Lafayette		34	1	3	2	3	1				2	1			1	2	3	1	1	1			1						6			5		
Canaveral		665	15	5	31	30	7	6	24	2	26	125	26	4	56	39	63	18	16	59		1	15	2	13	18	1	8	39		3	6	7	
Central North Carolina		101	5	2	3	10		2	2	2	3	5	3	2	3	6	12	13	2	5	1		7	1	2	1					3	1		
Central Virginia		400	12	4	12	21	7	36	7	5	9	27	10	13	21	15	21	17	16	30	3	10	19	6	8	7	2	3	27	3	8	16	5	
Charlotte		191	8	7	5	2	1	1	1	4		1	7	5	4	6	4	1	21			3				4			82	7		17		
Chattanooga	1	160	1	2	1	1		3				1		4	3	1	6	2	2	20				1	1				102	1	1	7		
Daytona	1	113	1		2			11			1	17	1	3	8		27	3	2	4		1	5		1	2	1	2	12	1	1	6		
Eastern North Carolina	6	552	19	11	15	36	9	9	7	6	13	14	23	11	18	35	68	27	43	57	3	7	15	12	5	1	7	6	32	4	9	10	20	
East Tennessee		274	8	1	7	18	20	1		7	11	12		13	8	17	22	2	9	15			17	4	3		1	1	65	1		6	5	
Upper East Tennessee		38	4		1	1		2	2	3			1	1	1	2	5			2									7	1		4	1	
Evansville-Owensboro		112	5	2	2	4	2	2	5	7	3	3	1	5	8	11	7	5	6			3	3	1	3				16	1		7		
Paducah		12			1	2					1				2			1		1									3	1				
Florida West Coast	2	602	23	11	12	37	9	13	19	5	13	31	13	10	29	24	28	42	9	55	5	8	15	5	11	7	4	9	116	4	12	17	6	
Fort Walton		52	2	1	1	6			1		2	12	1	1	4	2	4	3	1	3			1		1	3		1	2					
Gainesville		278	10	1	3	28	2	1	1	2	5	7	13	2	6	56	37	6	12	17		2	18	8		1	1	1	20		5		13	
Hampton Roads	4	271	7	2	16	13	14	6	4	10	13	28	5	6	17	10	16	11	7	18	1	2	11	4	8	4	3	19	1	1	9	5		
Huntsville	7	535	15	5	25	14	8	4	30	2	27	87	11	3	48	13	70	22	7	20	3	5	61	3	5	12	5	4	5	1	3	17		
Muscle Shoals		13	1	2		1				1					2				2							1		1	1			1		
Jacksonville		68	1		1	1	4			1	1	1			2		2	3	1	18					1				17	2		11		
Lexington	1	122	7	1	6	9	2	1		2	1	4	1	2	4	14	16	2	4	4	1	4	7	2	4	1		8		1	11	3		
Louisville		128	7	7	4	9	2	3		1	3	3	1	9	2	7	11	3	4	8			4	3	1	2			18		1	13	2	
Memphis	9	226	5	4	7	14	3	2	1	2	4	5	1	2	5	6	16	12	29	7	1	1	8	7	4		1	2	67		1	7	3	
Jackson		31	2		1	1		1			1	5			2	1	4		1	4									4	1	1	1	1	
Miami	1	497	26	14	10	15	5	8	10	8	16	40	5	13	19	19	37	13	22	24	11	5	10	8	10	1	2	19	104	3	3	14	3	
Middle Tennessee		61			1			1			5	15			2	5	3	1	2	1	1								1	13		10		
Mississippi		75	1	2		5	2	1			4		1	2	5	2	4		11	2			1	2		3	3	22			1	1		
Northeast Mississippi		61	1		3	3					2	1			1	5	12	3	5	4			13	2	1		1	3		1				
Mobile		53	1		2	1	1			1	3	1			6	5	3	2	1			3						3	2			9		
Nashville		208	12	17	8	20	1	3	2	2	2	5	6	1	9	10	17	9	9	13	1	4	18	6	1		1	1	17		1	9	3	
New Orleans	2	426	11	9	13	21	5	8	3	4	14	21	8	15	25	15	30	4	17	44	1		20	6	3	11	1	2	87		3	19	6	
Oak Ridge		79	2		1	2	31			1	4	2	1	2	1	5	7		3				2		2				8	1	1	2	1	
Orlando	1	406	15	4	10	25	8	9	7	5	13	60	14	7	21	16	40	25	6	35	5	5	20	2	8	11	1	3	17		2	6	6	
Palm Beach		150	4	3	2	6	2	2	2		7	5	1	6	7	16	24	2	3	6	2	3	4	4	1	5	1	5	18		3	3	3	
Panama City		46	2	1	2		2			1	4	1		4	2	3	2		3	3			2	3	1	2		1	3		1	1	1	
Pensacola		39	3	1	1	3					3	3		3	1		1	1	2	2			2	1	1	1	1	7			2	1		
Richmond		147	4	1	2	3	2	3		1	8	2	1	6	6	5	10	4	3	9	1		6	1		3	1	51	2		9	3		
Savannah		21		2	1	1		1						5				1					1						5				3	
South Carolina																																		
Central Savannah River	1	28			1	2					2	1		2	4	2	2	2	1				1						3			3		
Charleston		90	3	3	3	2	2	2		2	4	12	1	3	3	7	11	4	4	4			8		1	1			7	1		2		
Columbia		100	2	5	4	5	4	4	2	2	2	4	1		4	14	8	3	2	6		3	4	3	1			9		2	4	2		
Piedmont		104	4		6	1	1	2	2	2	3	1	5	3	8	9	2	3	4	1	4	5	5		2	1	13	2		11	4			
Virginia Mountain		214	5	5	6	15	2	1	1	1	3	6		14	3	13	23	5	3	9			25	7			1	36	2	1	21	6		
Western North Carolina		42	2	3	3	4	1	3	2		3	1		1	2		3	1		1			1					6	1		4	1		
Winston-Salem	3	117	3	3	3	8			2	1	3	9	4		4	8	7	9	8	5		8	5	2	4	1	2	1	5	2	4	2	4	
		42	9,297	299	174	275	489	179	169	154	101	277	652	180	222	426	475	789	338	307	723	52	82	436	139	127	124	52	85	1325	51	75	355	165

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SECTION C

REGION 4

Section	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EMS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35
Arrowhead		44		4				3		1		1		3	3	1	2			1			3				1		11			9	1
Cedar Rapids	1	314	11	2	11	25	2	3	9	5	11	26	7	4	17	12	48	18	13	19		4	17	10	5	2			18		4	7	4
Central Illinois	10	676	21	9	40	49	11	3	6	4	8	25	25	8	21	75	94	34	11	39	4	5	29	17	2	3	5	9	62	3	5	24	25
Central Indiana	7	1,164	51	12	16	77	10	10	10	50	26	51	47	16	37	122	113	31	30	66	4	8	69	31	14	5	4	12	109	5	24	69	35
Bloomington	2	56	3	4		4				5	2	1			4	6	4	1	2	2		2	1						11	2		2	
Central Iowa	4	241	5	5	9	16	8	3		1	1	8	5	1	8	19	28	9	7	12			17	10	1		2	1	40		9	9	7
Chicago	32	3,592	163	35	69	208	68	102	58	176	96	105	69	112	262	173	290	98	128	230	39	69	117	31	58	46	24	12	408	42	63	166	75
Calumet		201	6	4	8	15	6	4	1	1	9	8	3	13	6	13	11	9	3	8		1	10	1	1	1	1	1	31	1	1	20	4
Fox Valley	3	771	33	6	6	41	31	25	9	34	16	21	9	15	55	25	128	11	12	88	5	7	15	5	9	5	5	3	109	7	6	19	11
Fort Wayne	1	372	14	9	10	26	5	9	4	23	9	30	10	7	15	17	26	17	10	27	2	7	8	4	2	2	1	2	34	14	11	8	9
Illinois Valley		95	2	1		4	1	1	3		4	5	3	4	10	3	7	1	3	4	1		4	3	2		1		12	3	1	11	1
Iowa-Illinois		137	4	1		8	2	1	1	1	8	6	1	9	3	5	7	3	4	2	1	1	9		4			41	1	1	12	1	
Burlington		4	1													1	1												1				
Madison	4	488	16	5	16	37	8		2	7	12	18	11	13	11	43	61	19	28	16	2	4	46	23	2		4	5	44	2	3	10	20
Milwaukee	5	1,081	24	15	10	61	8	11	18	11	31	37	8	45	54	72	90	22	37	27	8	19	85	12	13	8	4	6	153	21	37	115	19
Racine-Kenosha		83	1	1		4		3	3	2	2	4	1	5	4	7	4		3	3	1	2	8	2	1	1		1	8		4	7	1
Nebraska		421	11	10	8	31	8	9	2	7	11	18	3	10	9	28	38	7	18	19	5	3	14	8	11	4	1	5	99	2	1	12	9
Northeast Michigan		161	2	2	1	9	4	5	3	2	10	5	1	13	3	16	10	3	3	5	5	3	6	3	3	3	2		18	7	2	11	1
Northeast Wisconsin		144	6	2	4	14	2	4		3	2	6	1	3	3	8	14	1	1	4	1		8	6	2			1	35		2	11	
Rock River Valley		213	10		1	13	4	2	4	2	12	6		24	11	10	20	1	4	8	2	4	17	2	4	3	4	1	16	4	4	15	5
Siouxland		40	3	6		2		1	1	1						3		3	1	3									13	1		2	
South Bend	2	370	20	7	12	32	7	4	5	3	6	20	19	9	16	22	33	13	10	15	3	4	24	8	6	2	3	6	19	3	6	22	11
Southeastern Michigan	17	2,397	57	24	103	152	33	79	19	19	67	103	86	67	73	137	261	93	69	101	11	13	140	49	22	13	22	16	313	10	32	124	89
Southern Minnesota	1	157	8	3	1	9	4	10	1	4	4	4	2	1	6	8	36		18	5	1	2	5	2	1	5		7	1	1	2	6	
Toledo	2	225	16		2	5	1	5	3	1	9	3	4	20	7	12	10	6	11	3	6	5	26	2	2	2	6	3	32	3	1	14	5
Twin Cities	16	1,782	45	17	14	113	16	15	40	8	48	85	41	33	91	94	379	22	67	83	9	26	118	21	34	14	15	4	138	16	79	34	63
Red River Valley		156	5	6	5	19	1	1	1	2	2	5	5	7	4	9	13	1	7	8			8	3	5	2		4	24	1	1	4	3
West Michigan	1	177	4	6	4	10	1	6	2	2	3	8	3	6	12	6	20	3	9	6	1	2	11	1	4	2	3	3	17	3	3	11	5
	108	15,562	542	196	350	984	241	319	204	375	410	609	364	448	745	947	1748	426	509	804	111	191	815	254	208	123	108	95	1823	152	301	750	410

TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY GROUP, BY REGION, BY SECTION

SECTION C

REGION 5 Section	Total Affili- ates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-2	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35	
Arkansas		99	7	2	1	1	1		1	1	3	1		3	3	1	10		4	1	2		2	1				1	41	5	1	5		
Beaumont		88	4	5	3			3		1		3		11	2	2	5	1	1	5	1		8	3	3			2	18	1		4	2	
Lake Charles		4														1												1				2		
Central Texas	5	709	29	8	33	56	14	7	5	7	21	22	28	6	16	52	85	22	51	23	5	6	27	15	11	15	4	23	71	2	7	13	25	
Corpus Christi		97	3	2	2	5		3		2	3	6	1		1	5	11	1	1	5			5		1		2	2	30		1	5		
Victoria-Port-Lavaca		15	1								1			2	1								1			1		1	5			2		
Dallas	2	2,221	64	36	112	173	20	38	37	31	51	160	82	27	114	171	241	154	42	136	12	21	94	15	32	16	8	59	160	6	18	25	66	
Denver	9	1,302	28	17	86	88	23	6	9	11	90	85	19	19	42	89	105	67	58	80	3	5	66	24	14	15	5	19	156	2	21	26	24	
Black Hills		50		2	2	7	1					5				3	8	2		2			5	2				1	7		2	1		
Pikes Peak		147	3	1	5	17	3		2	1	2	12	4	1	6	12	18	6	8	5		1	13	2	1	1		5	6	1	1	1	9	
El Paso		296	7	2	17	27	8	8	3	6	14	21	10	2	12	15	30	11	4	23	2	3	12	6	9	5	2	4	19	1	2	5	6	
Fort Worth	3	395	11	4	19	24	5	8	5	4	7	56	11	2	16	16	41	17	5	13		3	24	5	4	5	1	4	70	1	4	4	6	
Houston	6	1,282	49	16	33	70	16	20	7	10	42	47	53	32	31	67	172	22	58	64	11	11	66	15	12	3	10	104	144	5	11	45	36	
Clear Lake	2	447	6	1	18	21	7	4	13	2	16	71	19	8	26	11	57	6	13	31	1	2	31	3	6	12	4	8	26	2	2	8	12	
Freeport		24		1	1	1					3	1		1	1	1	1								1				8	1		3		
Kansas City	6	690	21	9	25	52	16	11	8	9	18	37	12	16	21	61	54	37	27	33	5	9	24	20	12	3	4	4	97	6	7	18	14	
Oklahoma City	1	287	6	2	6	10	2	4	1	4	4	17		3	18	21	48	6	7	20			8	1	6	1	1	3	67		4	10	7	
Ozark		120	9	2		5		1		2	1	5	2	2	4	18	17	2	2	5			12	4	2				21			2	2	
Panhandle		26				2						2		2			1		1				1	1	1			12			1	2		
Permian Basin		18			1		1				1	1				1	3			1								1	6			2		
St. Louis	9	1,702	30	18	49	129	23	13	26	11	45	152	50	36	65	134	205	58	65	61	5	18	96	21	25	10	6	8	177	13	15	102	36	
Shreveport		186	13	4	1	7	1	5	7	3	6	1		4	4	6	13	1	3	8	1	1	5	5	4	1		1	69	1		9	2	
Monroe		19	4	1	1				1	1		1		1									1					1	3			3		
South Plains		118	3	2	5	13	6	2	1	1	6	6	2	2	13	10	4	6	4			1	9	4				2	7		1		2	
Tulsa	2	411	11	9	9	23	6	5	5	6	12	16	11	6	5	26	36	3	6	17	7	4	22	9	7	5	3	28	76	2	4	20	12	
West Central Texas		30	2	1	1	1		2				2	1			2		1	1	5					2	1		1	6				1	
Wichita		173	5	3	7	20	1	3	1	2	9	10	1	3	4	14	17	6	3	10		1	14	1	3	3	2	2	16	2		6	4	
<b>45</b>		<b>10,956</b>	<b>316</b>	<b>148</b>	<b>437</b>	<b>752</b>	<b>154</b>	<b>143</b>	<b>132</b>	<b>115</b>	<b>355</b>	<b>740</b>	<b>310</b>	<b>189</b>	<b>396</b>	<b>740</b>	<b>1189</b>	<b>427</b>	<b>366</b>	<b>552</b>	<b>55</b>	<b>87</b>	<b>546</b>	<b>157</b>	<b>156</b>	<b>97</b>	<b>52</b>	<b>284</b>	<b>1319</b>	<b>51</b>	<b>101</b>	<b>322</b>	<b>268</b>	

## SECTION C

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REGION 6	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35	
Alamogordo-Holloman	1	60	1	1	6	2	1	1	3			6	1		8	1	8	2	2	4	1		4		3	1	1						3	
Alaska		107	3	2	5	1	3	3		1	1	10		3	6	10	5	4	2	12			1	3	4	1	1	2	16			7	1	
Albuquerque	5	379	6	4	11	27	33	4	9	2	22	25	12	1	7	34	41	14	15	12	6	6	15	7	8	3	4	4	22		2	7	16	
Los Alamos-Santa Fe	3	97	4		1	4	38				7	3	1		1	9	15	1	1	1		1	4		1	1		1	1				2	
Antelope Valley		38	2		2	3					3	7	3			2	5	1		3		3				1	1		1			1		
Boise		34				2		2						1	1	1	1			2			1		1				21	1				
Buenaventura	2	379	12	4	12	32	3	2	11	5	20	36	10	6	42	17	53	14	8	15	4	5	12	2	14	8	5	7	5	2	7		6	
China Lake		83	3	1	1	9		3	3	1	3	13	3	2	3	3	5	8	1	4	1	2	6					5						
Foothill	8	831	22	6	40	49	16	12	16	5	41	85	31	22	53	34	74	47	28	31	9	10	41	12	20	12	4	15	46	4	10	17	19	
Fort Huachuca	1	88	4	3	5	1	2	2	1	3	13	2	1	1	1	3	4	1	14	1	1	1	1	4	5	1	2	2	1	1	1	1	4	
Hawaii	1	262	6	1	12	20	4	2	5		9	17	15	2	15	6	27	3	4	26	2		10	1	10	8	4	10	22	2	1	8	10	
Idaho	1	55	2				17	1	1		5	2		4	1	2	2	1		1	1		2	2				1	3			6	1	
Las Vegas	1	98	3		5	4	9	4		2	6	6	2	5	2	1	2	6	3	12			1	1	2	2			18				2	
Met. Los Angeles	14	1,295	39	16	38	80	16	37	18	14	33	70	45	25	31	66	153	59	45	65	9	21	58	12	24	14	8	7	164	13	33	39	43	
Montana		1														1																		
Billings		10		1											1		1						1						1	5				
Butte		17	1			1		1							1	1	1												8	1			1	
Helena		74	7		4	5					2	1	5	1	4	6	11		3	7			3	2		1		1	1		1	3	6	
Orange County	15	2,760	72	21	100	169	46	31	63	28	99	304	98	50	172	164	410	131	81	129	22	52	157	17	37	33	35	36	48	7	36	30	82	
Phoenix	7	1,051	23	11	24	85	9	12	32	14	15	67	24	13	45	104	167	58	24	48	5	19	33	11	24	12	8	5	105	5	16	15	18	
Portland	3	625	21	7	9	35	11	10	6	1	38	9	6	18	17	27	34	11	21	19	3	7	24	4	15	7	2	7	217	8	6	17	8	
Eugene	1	196	6	4	2	19	3	2			4	8	4	5	4	25	28	5	3	7	1		10	8	1		1	3	28	2	1	3	9	
Richland	3	80	2	2		4	12		5		4		1	3	4	5	3		5	1	1		2					18	1			6	1	
Walla Walla		29				2		1				2			2	3	5		1				1	1		1			7			1	2	
Sacramento	2	393	10	6	9	17	19	10	5	3	15	15	3	8	16	19	44	6	17	38		1	22	8	12	4	2	2	55		1	19	7	
Reno	1	74	2	1	1	7	2			1	3	2	1	1	1	5	9	2	6	4		2	5	1					12		2	4		
San Joaquin		62	5	4	1	6		3	1	2	3	3		3	1	4	7	1	2	1			1	2	1			1	5		2	3		
Shasta		21	1	1	1		1	1	1	2					2	2				2	1	1	1		1	1			1					
San Diego	11	1,174	45	10	65	82	29	18	21	17	42	106	58	11	45	57	132	61	36	89	17	13	55	5	8	16	11	19	49	3	15	10	29	
San Fernando Valley	15	2,268	69	27	102	125	34	40	61	32	74	272	73	35	112	97	311	139	54	96	16	47	91	16	32	41	27	27	58	11	42	79	28	
San Francisco	8	1,865	58	32	62	103	36	47	12	29	36	88	45	36	90	127	141	107	47	139	18	21	54	22	34	24	16	19	249	14	29	76	54	
East Bay	17	1,317	47	12	35	124	99	10	10	13	47	30	27	33	37	111	141	44	59	43	4	10	77	12	11	6	12	14	141	6	13	56	33	
Santa Clara Valley	28	4,642	139	41	179	324	90	55	87	68	169	336	157	66	208	518	563	358	124	237	26	84	210	43	51	39	38	31	100	5	93	44	159	
San Gabriel Valley	7	1,018	47	8	33	57	21	9	18	11	52	78	39	22	46	58	108	43	40	55	13	22	34	7	13	10	9	26	61	5	24	26	23	
Santa Barbara	1	551	18	5	23	39	15	4	9	9	14	40	26	6	13	59	73	34	17	25	6	7	26	9	6	4	6	7	15	2	11	6	17	
Santa Monica Bay	20	1,807	42	10	56	104	25	16	43	16	50	184	98	23	82	126	239	80	70	99	9	30	137	14	21	27	26	17	26	6	32	16	83	
Seattle	7	1,618	55	18	90	77	32	21	16	10	45	165	43	27	98	71	127	43	63	97	17	23	110	19	27	50	9	23	123	8	8	58	45	
South Bay Harbor	9	1,851	52	10	83	115	19	25	41	19	50	221	77	29	78	105	228	104	39	111	7	37	130	21	22	30	21	13	37	2	39	37	49	
Spokane	1	178	5	5	5	11	4	8		2	2	5	2	2	7	6	12	4	4	11		1	14	6		1	1	2	48			6	4	
Tucson	3	327	13	3	15	21	4	7	5	8	6	21	9	5	16	37	31	12	9	23	4	5	15	7	4	15	3	3	14		1		11	
Utah	2	412	20	6	12	35	2	4	4	3	12	18	9	4	13	47	69	11	30	15			19	11	6	2	1	7	30	1	2	8	11	
Vandenberg		164	5	1	5	7	3		2	1	9	33	4	3	33	5	19	3	1	7			2		8	3	1	1	3		1	1	3	
Wenatchee		13	1	1											1		1												8				1	
TOTAL	197	28,404	873	285	1054	1808	658	408	510	319	946	2301	934	476	1319	1976	3311	1421	866	1506	204	431	1390	287	425	383	258	314	1798	110	429	614	790	

## SECTION C

TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY GROUP, BY REGION, BY SECTION

REGION 7	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35
Bay of Quinte		222	5	5	8	7	6		3		7	12	6	10	2	9	18	8	6	10	1	5	22	4	4	5	1	3	26	3	5	19	2
Canadian Atlantic	1	237	8	2	4	19	1	5	2	4	8	8	2	7	9	8	20	7	13	22	2	2	15	7	2	1	1	4	40			9	5
Hamilton	1	265	11	4	2	12	4	1		11	5	3	5	13	9	29	20	4	7	10	2	3	16	3	6	1		4	39	9	3	25	4
Kitchener-Waterloo	2	247	16	3	11	17	3	4	1	12	3	6	8	5	7	16	29	8	6	12	1	1	22	5	4	1	6	1	17	4	2	6	10
Guelph		16		1	1			1						1		1						1						6	2	1	1		
London		124	9	3	6	5	1		1	4	4	3		5	6	6	9	2	2	5	2	1	7	3	3	1	1		25	1	2	4	3
Montreal	4	1,433	38	25	43	80	27	30	19	18	45	48	29	44	62	44	117	64	66	143	10	13	68	22	25	10	8	12	188	12	11	63	49
Niagara International	1	138	7	1	5	6	1	3	2	3	3	4	2	8	4	7	8	4	4	7	1	3	4	3	1			2	23	3	2	17	
Northern Alberta		366	18	4	11	28	9	6	1	2	5	13	6	5	7	46	33	19	26	32	1		22	4	9	1	2	6	31	1	1	6	11
Ottawa	5	787	33	13	36	43	16	6	13	8	38	54	36	12	24	46	90	31	13	86	3	7	37	12	16	10	10	11	36	8	7	11	21
Quebec	1	192	5	4	8	5	2	5	3	2	7	5	3	10	8	4	10	11	4	10	3	2	19	4	1	1	1	2	31	6	2	10	4
Regina		164	10		2	6	1	2	2	3	7	3	3	5	9	11	15	5	5	8		1	16	3	3		1	26	1	1	11	4	
St. Maurice		21		1		1	1		1	1		1		1			1			1			1	1	1			7				2	
Southern Alberta		188	11	8	3	10	6	4		6	5	12	4	9	5	9	12	7	7	21			12	3	4		2	2	15			5	6
Toronto	5	1,743	74	34	50	98	28	41	12	42	51	47	19	56	59	117	141	50	69	99	8	14	77	42	26	10	16	20	265	20	23	91	44
Vancouver		565	23	13	14	24	3	19	2	11	14	13	6	21	14	22	45	18	14	47	1	2	25	9	12	6	2	10	130	5	4	30	6
Victoria		57	2	1	1	2	2	5				1	1	3		3	7	2	2	3			2	1	1	1		5	7			4	1
Winnipeg		388	12	9	9	37	5	19	4	9	9	13	1	7	5	34	24	11	17	29	2	2	21	2	5		5	8	63	6	1	15	4
	20	7,153	282	131	214	400	116	151	66	136	211	246	131	222	230	412	599	251	261	545	37	57	386	128	123	48	55	91	975	81	65	329	174

## REGION 8

REGION 8	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35
Benelux	3	1,103	39	14	29	79	39	23	27	22	48	49	54	33	23	91	114	42	23	49	20	21	61	18	13	16	11	9	49	14	23	24	26
Denmark	1	260	14	1	16	23	3	12	8	7	17	10	13	8	15	18	15	7	17	4	9	9	4	1	4	1		5	2	1	3	5	
Egypt		92	2	3	7	7	2			7	3	4	2	1	2	6	12	8		5			6	3				9			1	2	
France	11	1,116	23	11	40	67	34	15	37	16	44	62	50	32	31	70	108	55	29	43	24	36	58	21	14	10	10	19	39	20	35	25	38
Germany (West)	8	515	13	9	22	43	10	7	11	7	16	30	28	11	15	43	48	32	11	23	9	19	22	9	6	7	7	6	10	4	18	4	15
Israel	1	374	11	5	10	29	9	12	13	7	16	20	14	14	9	12	46	12	18	15	3	8	32	5	5	5	9	3	6	4	7	4	11
Middle & South Italy	1	469	13	4	24	36	7	6	9	10	16	26	32	10	7	28	53	31	16	28	8	7	31	7	4	6	5	4	9	2	3	4	23
North Italy	6	915	29	12	25	62	36	14	18	21	34	20	31	32	24	77	103	30	33	41	12	25	78	8	8	10	5	6	42	11	13	20	35
Norway		174	4	4	8	10	2	2	6	4	8	8	6	7	2	12	14	9	4	14	5	5	9		1	1	2	3	9	3	2	5	5
Spain	1	429	6	4	23	33	14	5	6	13	16	12	9	14	7	35	45	33	11	25	4	5	18	7	4	3	2	3	39	5	7	11	10
Sweden	8	904	28	6	32	65	15	27	28	17	48	44	35	21	18	62	51	51	47	58	13	27	35	15	13	17	17	6	35	12	14	21	26
Switzerland		727	28	13	15	56	17	5	15	13	30	23	30	23	27	54	59	32	26	53	10	18	34	11	9	7	7	4	49	14	13	10	22
U.Kingdom & Republic of Ireland	15	1,192	32	16	44	72	25	19	31	26	50	44	37	39	46	75	85	71	30	77	21	27	50	19	17	11	13	9	106	11	20	41	28
Subtotals	55	8,270	242	102	295	582	213	147	209	170	346	352	341	245	219	580	756	421	255	448	133	207	443	127	95	97	89	72	407	102	157	174	244
Territory not assigned to IEEE Sections	3	605	20	13	32	38	10	11	13	13	19	21	19	21	14	45	33	43	18	40	8	10	30	11	10	7	8	7	45	8	9	14	15
	58	8,875	262	115	327	620	223	158	222	183	365	373	360	266	233	625	789	464	273	488	141	217	473	138	105	104	97	79	452	110	166	188	259

SECTION C

TABLE 2 - 1968 IEEE GROUP MEMBERSHIP, BY GROUP, BY REGION, BY SECTION

REGION 9	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35	
Buenos Aires	1	378	17	5	15	36	3	3	3	20	12	7	3	28	3	34	35	25	26	20	1	1	26	2	2	1	1	27	4		6	12		
Chile		93	3		5	6		1	1	2	2	2	2	2	5	7	7	7	3	9			7	4	1			9	1			3	2	
Colombia		155	3	1	6	9	1	2		5	4	4	1	6	2	15	11	4	3	7			11	2		1		1	47			9		
Mexico		435	8	3	8	14	5	2	5	12	23	4	5	15	28	11	12	8	5	17	1	8	22	14	10		1	4	117	15	3	42	13	
Peru		114	1		4	6	2	1	1	2	1	2	1	5	5	2	5	2	4	10	2		6	4	2		2	1	24	2		12	5	
Puerto Rico & Virgin Islands		222	7	4	9	21	6	3	1	7	5	7	1	7	12	16	11	6	2	18			1	8	2	2	1	1	2	47	2	1	9	3
Rio de Janeiro		135	2	1	4	5	3	1	2	1	3	1	2	4	5	11	4	5	2	16			4	4	4		2		41	3		4	1	
Sao Paulo		131	8	2	6	2	1	4	3	10	7	1	1	4	3	7	6	3	5	5			5	4	2	2	2	2	26	1		6	3	
Venezuelan	1	343	8	6	21	14	3	7	2	4	10	5	2	8	13	10	12	25	7	49	1	1	14	5	4	3	3	1	73	2	1	25	4	
Subtotal Territory not assigned to IEEE Sections	2	2,006	57	22	78	113	24	24	18	63	67	33	18	79	76	113	103	85	57	151	6	16	102	39	27	8	10	12	411	30	5	116	43	
	2	2,196	64	32	83	120	26	31	19	68	73	34	20	83	89	119	111	93	63	169	6	17	106	43	30	8	11	12	455	31	6	130	44	

REGION 10

Section	Total Affiliates	Total Group Members	A&E G-1	B G-2	AP G-3	CT G-4	NS G-5	VT G-6	R G-7	BTR G-8	IM G-9	AES G-10	IT G-12	IECI G-13	EM G-14	ED G-15	C G-16	MTT G-17	EMB G-18	Com Tech G-19	SU G-20	PMP G-21	AC G-23	E G-25	EWS G-26	EMC G-27	MMS G-28	GeoS G-29	P G-31	EI G-32	MAG G-33	IGA G-34	SSC G-35
Kanpur (India)		15			1		1				1						1	3		1				6									
New Zealand		75	2	1	7	4	1	4	2		2	2	2	2	3	1	5	3	3	4	3	1	4	2		1	2		7			2	5
Tokyo	14	3,334	83	67	143	183	69	57	77	91	109	98	144	104	56	294	214	216	80	160	79	108	134	52	46	52	55	46	137	81	112	104	83
West Pakistan	1	36					3					1	1		1	1	7	1	1	2	1		1		1		1	12					2
Subtotal Territory not assigned to IEEE Sections	15	3,460	85	69	150	188	73	61	79	92	111	101	147	106	60	297	229	220	84	167	83	109	145	54	47	53	58	46	157	81	112	106	90
	4	1,581	56	40	56	106	27	24	18	61	52	34	36	61	69	80	85	53	39	91	12	16	90	37	31	10	11	10	271	19	25	25	36
	19	5,041	141	109	206	294	100	85	97	153	163	135	183	167	129	377	314	273	123	258	95	125	235	91	78	63	69	56	428	100	137	131	126
U. S. Possessions & Military Overseas	4	741	37	13	51	27	14		5	4	18	86	16	4	47	25	50	30	14	96	7		33		20	11	8	9	44		3		69

- G-1 Audio & Electroacoustics
- G-2 Broadcasting
- G-3 Antennas & Propagation
- G-4 Circuit Theory
- G-5 Nuclear Science
- G-6 Vehicular Technology
- G-7 Reliability
- G-8 Broadcast & Television Receivers
- G-9 Instrumentation & Measurements
- G-10 Aerospace & Electronic Systems
- G-12 Information Theory
- G-13 Industrial Electronics & Control Instrumentation
- G-14 Engineering Management
- G-15 Electron Devices
- G-16 Computer
- G-17 Microwave Theory & Techniques
- G-18 Engineering in Medicine & Biology
- G-19 Communication Technology
- G-20 Sonics & Ultrasonics
- G-21 Parts, Materials & Packaging
- G-23 Automatic Control
- G-25 Education
- G-26 Engineering Writing & Speech
- G-27 Electromagnetic Compatibility
- G-28 Man-Machine Systems
- G-29 Geoscience Electronics
- G-31 Power
- G-32 Electrical Insulation
- G-33 Magnetics
- G-34 Industry & General Applications
- G-35 Systems Science & Cybernetics



SECTION C

TABLE 3 - GROUP CHAPTER ACTIONS IN 1968

Region and Section	New Group Chapters	Expansion of Existing Chapters	Merger of Existing Chapters	Chapters Dissolved
<u>REGION 1</u>				
Boston	G-33			
Connecticut	G-18			G-15
Rochester		G-31 to G-31/34		
Syracuse		G-31 to G-31/34		G-26
Worcester County	G-31			
<u>REGION 2</u>				
Columbus	G-31, G-6			
Dayton		G-31 to G-31/34		
Lehigh Valley				G-33
Philadelphia	G-35			
Pittsburgh	G-35			
<u>REGION 3</u>				
Atlanta				G-10
Fla. West Coast			G-2/6/19	
Jacksonville	G-19			
Miami	G-18			G-9
Middle Tenn.		G-31 to G-31/34		
Mississippi	G-18			
<u>REGION 4</u>				
Arkansas	G-31			
Chicago	G-32		G-13/34	
Milwaukee	G-33	G-17 to G-15/17		
NE Wisconsin	G-31			
SE Michigan	G-25			
Illinois Valley	G-31/34			
<u>REGION 5</u>				
Dallas	G-12/35			
Fort Worth	G-10			
Houston	G-27			G-9, G-21
Oklahoma City	G-16			
Panhandle				G-31
<u>REGION 6</u>				
Idaho				G-5/9
Las Vegas	G-31			
L. A. Council	G-29			
San Diego	G-23			
Tucson	G-4/15			
Utah				G-9, G-10
<u>REGION 7</u>				
Montreal	G-7			
Montreal/Ottawa	G-32			
Toronto	G-14			
<u>REGION 8</u>				
United Kingdom & Republic of Ireland	G-16			

## SECTION C

TABLE 4 - IEEE GROUP CHAPTERS  
as of December 31, 1968

Group Code #	Name of Group	No. of Chapters	Section Locations		
G-10	Aerospace & Electronic Systems	40	Baltimore	Huntsville	Rochester
			Binghamton	Lima	St. Louis
			Boston	Long Island	San Diego
			Buffalo	Los Angeles	San Francisco
			Canaveral	Middle Tenn.	Seattle
			Central Ind.	Mohawk Valley	South Carolina
			Chicago	Nebraska	SE Michigan
			Cleveland	New Jersey Coast	Syracuse
			Columbus	NY/No. Jersey	Tucson/Fort
			Dayton	Oklahoma City	Huachuca
			Daytona	Orlando	Twin Cities
			Denver	Ottawa	Vancouver
			Forth Worth	Philadelphia	Washington
G-3	Antennas & Propagation	32	Houston	Providence	
			Akron	Huntsville	Phoenix
			Baltimore	Kansas City	St. Louis
			Boston	Long Island	San Diego
			Buffalo	Los Angeles	San Francisco
			Chicago	Montreal	Seattle
			Columbus	New Hampshire	SE Michigan
			Connecticut	New Orleans	Syracuse
			Dallas	North Carolina	Toronto
			Dayton	Affiliation	Tucson
			Denver	Orange County	Vancouver
			Foothill	Philadelphia	Washington
			G-1	Audio & Electroacoustics	14
Chicago	Kitchener-Waterloo	San Francisco			
Cincinnati	Waterloo	Shreveport			
Cleveland	Ottawa	Twin Cities			
Connecticut	Philadelphia	Washington			
G-23	Automatic Control	24	Baltimore	Long Island	San Diego
			Buffalo	Los Angeles	San Francisco
			Central Virginia	Milwaukee	Schenectady
			Chicago	New York	Seattle
			Dallas	North Jersey	SE Michigan
			Dayton	Philadelphia	Toledo
			Houston	Phoenix	Twin Cities
			Huntsville	Pittsburgh	Vancouver
G-2	Broadcasting	7	Cleveland	Philadelphia	Washington
			Fla. West Coast	Twin Cities	Winston-Salem
			Houston		
G-8	Broadcast & TV Receivers	3	Central Ind.	Chicago	Philadelphia
G-4	Circuit Theory	13	Central Ill.	Los Angeles	Syracuse
			Central Texas	Nebraska	Tucson
			Chicago	Philadelphia	United Kingdom &
			Cleveland	Portland	Republic of Ireland
G-19	Communication Technology	42	Houston	San Francisco	
			Alabama	Houston	Phoenix
			Atlanta	Jacksonville	Pittsburgh
			Baltimore	Long Island	Rochester
			Boston	Los Angeles	Sacramento
			Canaveral	Mohawk Valley	San Diego
			Charlotte	Montreal	San Francisco
			Chattanooga	Nebraska	Seattle
			Chicago	New Jersey Coast	Shreveport
			Columbus	New Orleans	SE Michigan
			Connecticut	New York	Syracuse
			Dallas	North Jersey	Toronto
			Denver	Orlando	Twin Cities
East Tenn.	Ottawa	Vancouver			
Fla. West Coast	Philadelphia	Washington			

Group Code #	Name of Group	No. of Chapters	Section Locations					
G-16	Computer	39	Akron	Huntsville	Pittsburgh			
			Baltimore	Long Island	Portland			
			Binghamton	Los Angeles	St. Louis			
			Boston	Mohawk Valley	San Diego			
			Central Texas	Nebraska	San Francisco			
			Chicago	New Jersey Coast	Schenectady			
			Cleveland	New York	SE Michigan			
			Connecticut	North Jersey	Syracuse			
			Dallas	Oklahoma City	Tokyo			
			Dayton	Orange County	Twin Cities			
			Daytona	Orlando	Vancouver			
G-25	Education	3	French	Philadelphia	Washington			
			Houston	Phoenix	United Kingdom & Republic of Ireland			
			San Francisco	Utah	SE Michigan			
			G-27	Electromagnetic Compatibility	16	Atlanta	Houston	New Orleans
						Boston	Huntsville	NY/LI/No. Jersey
						Canaveral	Los Angeles	Philadelphia
						Central Texas	Mohawk Valley	San Francisco
						Chicago	New Jersey Coast	Seattle
			G-15	Electron Devices	19	Washington		Washington
						Abuquerque	NY/LI/No. Jersey	San Francisco
						Boston	Philadelphia	Schenectady
Lehigh Valley	Phoenix	SE Michigan						
Los Angeles	Pittsburgh	Syracuse						
G-14	Engineering Management	26	Milwaukee	Portland	Tucson			
			Nebraska	St. Louis	Twin Cities			
			Baltimore	Dayton	Orange County			
			Binghamton	Denver	Philadelphia			
			Boston	Houston	San Francisco			
			Buenaventura	Huntsville	Seattle			
			Canaveral	Los Angeles	Syracuse			
			Central Ind.	Mohawk Valley	Toronto			
			Chicago	New Orleans	Twin Cities			
			Cleveland	NY/LI/No. Jersey	Vandenberg			
			Connecticut		Washington			
G-18	Engineering in Medicine & Biology	28	Dayton	Nebraska	Seattle			
			Denver	New Jersey Coast	Twin Cities			
			Houston	New Orleans	Washington			
			Baltimore	Los Angeles	NY/LI/NJ/Prin.			
			Boston	Memphis	Philadelphia			
			Central Texas	Miami	Portland			
			Chicago	Milwaukee	Rochester			
			Cleveland	Mississippi	San Diego			
			Connecticut	Montreal	San Francisco			
			Dayton		Seattle			
			G-26	Engineering Writing & Speech	4	Buffalo	Los Angeles	North Jersey
		Philadelphia						
		Washington						
G-29	Geoscience Electronics	5	Houston	Providence	Washington			
			Los Angeles	Tulsa				
G-13	Industrial Electronics & Control Instrumentation	7	Beaumont	Cleveland	San Francisco			
			Boston	Connecticut	Vancouver			
			Chicago					
G-34	Industry & General Applications	27	Akron	Delaware Bay	Rochester			
			Baltimore	Houston	Sacramento			
			Boston	Illinois Valley	St. Louis			
			Buffalo	Los Angeles	San Francisco			
			Chicago	Middle Tenn.	Schenectady			
			Cincinnati	Milwaukee	Seattle			
			Cleveland	NY/LI	SE Michigan			
			Connecticut	Philadelphia	Syracuse			
			Dayton	Pittsburgh	Vancouver			

Group Code #	Name of Group	No. of Chapters	Section Locations		
G-12	Information Theory	14	Baltimore	Dallas	San Francisco
			Boston	Los Angeles	SE Michigan
			Buffalo	Nebraska	Syracuse
			Chicago/Central	NY/LI/No.Jersey	Washington
			Ill. /Central	Philadelphia	
			Ind/South	Phoenix	
			Bend		
G-9	Instrumentation & Measurement	11	Boston	Montreal	Portland
			Chicago	NY/LI/No.Jersey	San Francisco
			Los Angeles	Ottawa	Shreveport
			Philadelphia	Washington	
G-33	Magnetics	6	Boston	Milwaukee	San Francisco
			Los Angeles	Princeton	Twin Cities
G-28	Man Machine Systems	1	New Jersey Coast		
G-17	Microwave Theory & Techniques	35	Baltimore	Long Island	Phoenix
			Boston	Los Angeles	St. Louis
			Buffalo	Milwaukee	San Diego
			Chicago	Montreal	San Francisco
			Columbus	New Hampshire	Schenectady
			Connecticut	New York	Seattle
			Dallas	North Carolina	SE Michigan
			Denver	Affiliation	Syracuse
			Fla. West Coast	North Jersey	Tokyo
			Foothill	Orange County	Toronto
			Huntsville	Orlando	Tucson
			Kansas City	Philadelphia	Washington
G-5	Nuclear Science	7	Boston	Dayton	San Francisco
			Chicago	Los Angeles	Washington
			Connecticut		
G-21	Parts, Materials & Packaging	12	Baltimore	Los Angeles	Philadelphia
			Boston	Nebraska	San Francisco
			Chicago	New Jersey Coast	Seattle
			Dayton	NY/LI/No.Jersey	Washington
G-31	Power	80	Akron	Denver	Orlando
			Alabama	East Tenn.	Ottawa
			Arkansas	Fla. West Coast	Philadelphia
			Baltimore	Foothill	Phoenix
			Beaumont	Fort Worth	Pittsburgh
			Berkshire	Houston	Portland
			Binghamton	Illinois Valley	Rochester
			Boston	Kansas City	Sacramento
			Buenos Aires	Las Vegas	St. Louis
			Buffalo	Lehigh Valley	San Diego
			Canaveral	Los Angeles	San Francisco
			Canton	Madison	Schenectady
			Central Ill.	Maine	Seattle
			Central Ind.	Memphis	Sharon
			Central Texas	Miami	Shreveport
			Charlotte	Mid Hudson	SE Michigan
			Chattanooga	Middle Tenn.	Spokane
			Chicago	Milwaukee	Syracuse
			Cincinnati	Montreal	Tokyo
			Cleveland	Nebraska	Toledo
			Columbus	New Hampshire	Toronto
			Connecticut	New Orleans	Tulsa
			Corpus Christi	NY/LI	Twin Cities
			Dallas	North Jersey	Utah
			Dayton	NE Wisconsin	Vancouver
			Delaware Bay	Oklahoma City	Washington
		Worchester County			

Group Code #	Name of Group	No. of Chapters	Section Locations		
G-7	Reliability	19	Baltimore Binghamton Boston Canaveral/ Daytona Chicago Connecticut	Fla. West Coast Huntsville Los Angeles Mohawk Valley Montreal New Jersey Coast NY/LI	North Jersey Philadelphia San Diego San Francisco Twin Cities Washington
G-35	Systems Science & Cybernetics	10	Boston Dallas Los Angeles	Montreal New Jersey Coast Philadelphia	Pittsburgh San Francisco Schenectady Washington
G-6	Vehicular Technology	17	Chicago Cleveland Columbus Dallas Fla. West Coast Los Angeles	Montreal Nebraska NY/LI/No. Jersey Philadelphia Pittsburgh San Francisco	SE Michigan Toronto Twin Cities Vancouver Washington
30 Groups		561*		104	Sections

\* Of this number, 53 Group Chapters are operated jointly by more than one Section or more than one Group. A total of 508 single or joint Group Chapters have been established as of 12/31/68.

SECTION D

Table 1 - IEEE Group Affiliates, December 31, 1968; 4-Year Comparison

Group No.	Group Name	12/31/68	12/31/67	12/31/66	12/31/65
1	Audio & Electroacoustics	5	3	2	2
2	Broadcasting	-	-	-	-
3	Antennas & Propagation	3	3	3	3
4	Circuit Theory	1	1	-	1
5	Nuclear Science	141	138	99	55
6	Vehicular Technology	9	11	4	-
7	Reliability	19	21	20	19
8	Broadcast & Television Receivers	-	-	-	-
9	Instrumentation & Measurements	1	1	1	1
10	Aerospace & Electronic Systems	9	11	8	8
12	Information Theory	17	19	19	22
13	Industrial Electronics & Control Instrumentation	-	-	-	-
14	Engineering Management	49	46	37	31
15	Electron Devices	105	109	114	69
16	Computer	125	115	89	68
17	Microwave Theory & Techniques	14	11	6	5
18	Engineering in Medicine & Biology	141	129	120	76
19	Communication Technology	-	2	3	1
20	Sonics & Ultrasonics	11	8	10	8
21	Parts, Materials & Packaging	1	3	4	4
23	Automatic Control	8	2	2	2
25	Education	2	2	-	-
26	Engineering Writing & Speech	26	30	13	15
27	Electromagnetic Compatibility	2	3	1	-
28	Man-Machine Systems	12	12	9	7
29	Geoscience Electronics	-	-	1	2
31	Power	-	-	-	1
32	Electrical Insulation	11	11	13	16
33	Magnetics	107	114	114	84
34	Industry & General Applications	-	-	-	-
35	Systems Science & Cybernetics	26	26	27	10
		<u>845</u>	<u>831</u>	<u>719</u>	<u>510</u>

JOURNAL AND TRANSACTION STATISTICS

Journal of Quantum Electronics (G-15)	93	94	98	63
Journal of Quantum Electronics (G-17)	11	9	4	2
	<u>104</u>	<u>103</u>	<u>102</u>	<u>65</u>
Journal of Solid-State Circuits (G-4)	1	1		
Journal of Solid-State Circuits (G-15)	4	1		
Journal of Solid-State Circuits	2	3		
	<u>7</u>	<u>5</u>		
Transactions on ED (G-15)	16			
Transactions on MTT (G-17)	3			

## SECTION E

## ORGANIZATIONAL UNITS OF IEEE BY REGION

Region Number	1	2	3	4	5	6	7	8	9	10	Other	Total
<u>1968</u>												
Membership	40,492	25,957	14,055	18,794	13,886	30,851	8,043	4,443	1,720	1,131	2,996	162,368
Sections	23	23	38	22	20	32	17	13	9	4		201
Subsections	9	5	12	6	7	11	1	-	-	-		51
Group Chapters	107	105	54	68	52	93	22	3	1	3		508*
Student Branches	67	43	35	40	34	47	27	12	13	1		319
<u>1967</u>												
Membership	39,534	25,881	13,889	18,442	13,309	30,375	7,568	3,486	1,579	880	3,274	158,217
Sections	23	23	38	22	20	32	17	11	9	2		197
Subsections	9	5	12	6	6	12	1	-	-	-		51
Group Chapters	108	90	51	65	49	93	19	2	1	3		481*
Student Branches	65	42	33	40	35	43	24	7	10	-		299
<u>1966</u>												
Membership	39,871	26,512	14,436	18,338	13,422	31,411	7,382	3,938	1,416	2,509	835	160,070
Sections	23	23	38	22	20	32	17	11	7	2		195
Subsections	9	6	12	6	7	12	1	-	-	-		53
Group Chapters	105	89	48	64	42	85	15	1	1	2		452*
Student Branches	62	41	32	36	36	45	24	5	5	-		286
<u>1965</u>												
Membership	38,522	25,854	13,999	17,941	12,982	30,235	6,825	3,513	3,579		748	154,198
Sections	23	23	38	22	18	32	16	10	8			190
Subsections	9	7	11	6	9	14	1	-	-			57
Group Chapters	97	98	43	70	47	93	13	0	2			463*
Tech. Discussion Groups	13	20	9	8	3	6	5	-	-			64
Student Branches	63	41	31	35	35	41	24	4	4			278

\*Joint Chapters of two or more Sections or two or more Groups are counted as one Chapter.

## SECTION F

Table 1 - IEEE Technical Publications Output, 1968

	Editorial Pages	Advertising Pages & Filler	Total Pages	Number of Papers	Number of Letters
<u>Regular Journals</u>					
IEEE SPECTRUM	1,300	666	1,966	82	66
PROCEEDINGS OF THE IEEE Group TRANSACTIONS & JOURNALS	2,300	239	2,539	146	526
IEEE STUDENT JOURNAL	19,847	---	19,847	2,374	673
	312	---	312	48	---
Subtotals	23,759	905	24,664	2,650	1,265
<u>Other Publications</u>					
Translated Journals	9,979	---	9,979	1,123	509
Conference Records*	2,760	---	2,760	607	---
Preprints	2,536	---	2,536	236	---
Subtotals	15,275	---	15,275	1,966	509
Totals	39,034	905	39,939	4,616	1,774

\*Produced through Editorial Department.

Table 2 - Group TRANSACTIONS and JOURNALS, 1968

	Number of Issues	Editorial Pages	Number of Papers	Number of Letters
AEROSPACE & ELECTRONIC SYSTEMS	6	968	96	31
ANTENNAS & PROPAGATION	6	810*	105	82
AUDIO & ELECTROACOUSTICS	4	566*	61	4
AUTOMATIC CONTROL	6	804*	105	145
BIO-MEDICAL ENGINEERING	4	376	35	9
BROADCAST & TELEVISION RECEIVERS	3	264	25	--
BROADCASTING	4	238*	23	--
CIRCUIT THEORY	4	538*	44	47
COMMUNICATION TECHNOLOGY	6	871*	116	5
COMPUTERS	12	1298*	147	21
EDUCATION	4	284*	68	26
ELECTRICAL INSULATION	4	136	17	--
ELECTROMAGNETIC COMPATIBILITY	4	396	61	--
ELECTRON DEVICES	12	1100*	120	32
ENGINEERING MANAGEMENT	4	228	22	--
ENGINEERING WRITING & SPEECH	3	180*	21	5
GEOSCIENCE ELECTRONICS	4	228*	22	--
INDUSTRIAL ELECTRONICS & CONT. INSTR.	2	100*	20	--
INDUSTRY & GENERAL APPLICATIONS	6	734*	85	--
INFORMATION THEORY	6	904	100	63
INSTRUMENTATION & MEASUREMENT	4	448*	63	--
MAGNETICS	4	758*	200	2
MAN-MACHINE SYSTEMS	4	164*	15	3
MICROWAVE THEORY & TECHNIQUES	12	1131*	110	118
NUCLEAR SCIENCE	6	1572	198	2
PARTS, MATERIALS & PACKAGING	4	132*	13	6
POWER APPARATUS & SYSTEMS	12	2101*	245	--
QUANTUM ELECTRONICS	12	1086*	128	51
RELIABILITY	4	220*	35	3
SOLID-STATE CIRCUITS	4	482*	51	21
SONICS & ULTRASONICS	4	252	25	1
SYSTEMS SCIENCE & CYBERNETICS	4	468	55	--
VEHICULAR TECHNOLOGY	1	36	4	--
TOTALS	179	19,847	2374	673

\* Estimated. Final issue not published at time of count.



**TABLE 3 - GROUP NEWSLETTERS PUBLISHED  
IN 1968**

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
A&E		X			X			X			X	
AES	X		X	X	X		X	X	X	X	X	X
AP		X			X		X			X		
AC		X		X			X			X		
BTR	DOES NOT PUBLISH NEWSLETTER											
B				X		X			X			X
CT		X			X			X			X	
COMTECH	X		X		X			X			X	
COMPUTER	X		X		X		X		X		X	
EDUCATION	DOES NOT PUBLISH NEWSLETTER											
EI			X				X				X	
EMC		X		X		X	X		X			X
ED	X			X			X			X		
EM	X	X	X		X				X		X	
EMB	X				X		X			X		
EWS			X						X			X
GE		X					X	X			X	
IECI					X		X		X		X	
IGA	X		X		X		X		X			X
IT		X						X		X		
IM	X					X			X			
MAG		X				X			X			X
MMS		X						X		X		X
MTT	X			X			X			X		
NS							X					
P						X			X		X	
PMP		X			X					X		
REL	X			X			X			X		
SU									X			
SSC			X			X			X			X
VT				X			X		X		X	
CADAR NEWS	X			X			X		X		X	

## SECTION G

TABLE 1 - IEEE &amp; JOINTLY SPONSORED MAJOR TECHNICAL MEETINGS - 1968

Name of Meeting	Sponsors	Place	Date	Paid Registration	Exhibits	Additional Exhibit Attendance
Reliability Symposium	G-R, ASQC et al	Boston, Mass.	Jan. 16-18	810	No	
Winter Power Meeting	G-P	New York, N. Y.	Jan. 28 - Feb. 2	2320	No	
Aerospace & Electronic Systems Winter Convention (WINCON)	G-AES, L. A. Council	Los Angeles, California	Feb. 13-15	881	No	
Int'l Solid State Circuits Conference	SSC Council, Phila. Section, Univ. of Penna.	Philadelphia, Penna.	Feb. 14-16	1853	No	
Scintillation & Semiconductor Counter Symposium	G-NS, U.S. Atomic Energy Comm., NBS	Washington, D. C.	Feb. 28 - March 1	558	Yes	
IEEE Int'l Convention & Exhibition	IEEE	New York, N. Y.	March 18-21	64800	Yes	
Princeton Conference on Information Sci. & Systems	G-CT, Princeton Sec.	Princeton, New Jersey	March 25-26	270	No	
Joint Railroad Conference	G-IGA, ASME	Chicago, Illinois	March 27-28	415	No	
Mining Technical Conference	G-IGA, MEMMA	Greensburg, Penna.	April 1	500	No	
Rubber & Plastics Industries Technical Conference	G-IGA	Akron, Ohio	April 1-2	341	No	
Int'l Magnetics Conference (INTERMAG)	G-MAG	Washington, D. C.	April 3-5	910	Yes	
Western Water & Power Symposium	L. A. Council, ASME, ASCE	Los Angeles, California	April 8-9	547	No	
National Telemetry Conference	G-AES, G-Com Tech	Houston, Texas	April 9-11	525	Yes	
USNC/URSI-IEEE Spring Meeting	USNC, URSI et al	Washington, D. C.	April 9-12	500	No	
Southwestern IEEE Conference & Exhibition (SWIEEEO)	Region 5	Houston, Texas	April 17-19	1200	Yes	1925
Interference Problems Associated with the Operation of Microwave Comm. Sys.	IEE, IEEE U. K. & Rep. of Ire. Section	London, England	April 22-24	235	No	
Region III Convention	Region III	New Orleans, Louisiana	April 22-24	485	No	
Cybernetics Conference	German Sec. of IEEE, DGK, NTG	Munich, F. R. Germany	April 23-26	750	No	
Rural Electrification Conference	G-IGA	Atlanta, Georgia	April 29-30	235	No	
Spring Joint Computer Conference	G-C, AFIPS	Atlantic City, New Jersey	April 30 - May 2	5105	Yes	12794
Southeastern Textile Ind. Technical Conference	G-IGA	Atlanta, Georgia	May 2-3	315	No	

Name of Meeting	Sponsors	Place	Date	Paid Registration	Exhibits	Additional Exhibit Attendance
Human Factors in Electronics Symposium	G-MMS	Washington, D. C.	May 6-7	213	Yes	
Rocky Mountain Bioengineering Symposium	G-EMB, Rocky Mtn. Bio-engineering Symp. Inc.	Denver, Colo.	May 6-7	77	No	
Aerospace Electronics Conference (NAECON)	G-AES, Dayton Section	Dayton, Ohio	May 6-8	1072	Yes	
Appliance Technical Conference	G-IGA	Columbus, Ohio	May 7-8	360	No	
Ind. & Comm. Power Sys. & Elec. Space Heating & Air Conditioning Jt. Tech. Conf.	G-IGA, St. Louis Section	St. Louis, Mo.	May 7-10	249	No	
Electronic Components Technical Conference	G-PMP, EIA	Washington, D. C.	May 8-10	750	No	
Midwest Symposium on Circuit Theory	G-CT, Univ. of Notre Dame	Notre Dame, Indiana	May 13-14	153	No	
Int'l Quantum Electronics Conference	JCQE, G-ED, G-MTT, AIP	Miami, Florida	May 14-17	995	Yes	400
Pulp & Paper Industry Technical Conference	G-IGA	Milwaukee, Wisc.	May 15-17	193	No	
Region 6 Conference	Region 6, Portland Sec.	Portland, Ore.	May 20-22	420	No	
Int'l Microwave Symposium	G-MTT	Detroit, Mich.	May 20-22	493	No	
Cement Industry Technical Conference	G-IGA	St. Louis, Mo.	May 20-24	515	No	
Southeastern Electromagnetic Compatibility Symposium	G-EMC, Canaveral Sec.	Cocoa Beach, Florida	May 21-22	102	Yes	
Vehicular Communications Systems Symposium	G-VT	Los Angeles, California	May 23	205	No	
Product Assurance Conf. & Technical Exhibit	ASQC, SES, IEEE	Hempstead, Long Island	June 7-8	206	Yes	102
Int'l Communications Conference	G-ComTech, Phila. Section	Philadelphia, Penna.	June 12-14	1200	Yes	300
Chicago Spring Conference on Broadcast & TV Receivers	G-BTR, Chicago Section	Chicago, Illinois	June 17-18	1691	Yes	
Microelectronics Symposium	G-PMP, G-ED, G-CT, St. Louis Section	St. Louis, Mo.	June 17-19	192	No	
IFAC Symposium on Optimal Systems Planning	G-SSC, IFAC	Cleveland, Ohio	June 20-22	107	No	
Summer Power Meeting	G-P, Chicago Section	Chicago, Illinois	June 23-28	855	No	
Case Studies in Systems Control	G-AC	Ann Arbor, Mich.	June 24-25	85	No	
Precision Electromagnetic Measurements Conference	G-IM, NBS, URSI	Boulder, Colo.	June 25-27	388	No	
Computer Conference	G-C	Los Angeles, California	June 25-27	685	No	

Name of Meeting	Sponsors	Place	Date	Paid Registration	Exhibits	Additional Exhibit Attendance
Joint Automatic Control Conference	G-AC, AACC	Ann Arbor, Michigan	June 26-28	685	No	
Nuclear & Space Radiation Effects Conference	G-NS, Univ. of Montana	Missoula, Montana	July 15-18	284	No	
Design Automation Workshop	SHARE-ACM G-C	Washington, D.C.	July 15-18	155	Yes	
Electromagnetic Compatibility Symposium	G-EMC	Seattle, Washington	July 23-25	415	Yes	185
Intersociety Energy Conversion Engineering Conference	IEEE et al	Boulder, Colo.	Aug. 13-16	600	No	
Western Electronic Show & Convention (WESCON)	Region 6, WEMA	Los Angeles, California	Aug. 20-23	4,517	Yes	43,963
Solid State Devices Conference	IEE, U.K. & Rep. of Ire. Sec. Inst. of Phys. & Phys. Soc., IERE	Manchester, England	Sept. 3-6	318		
Petroleum & Chemical Ind. Technical Conference	G-IGA	Dallas, Texas	Sept. 9-11	375	No	
Electronics & Aerospace Sys. Convention (EASCON)	G-AES	Washington, D.C.	Sept. 9-11	1,116	Yes	2,701
G-AP Int'l Symp. & Fall USNC/URSI Meeting	G-AP, URSI	Boston, Mass.	Sept. 9-12	666	No	
Int'l Broadcasting Convention	IEE, U.K. & Rep. of Ire. Sec. IERE, RTS, EEA, SMPTE	London, England	Sept. 9-13	420		
Solid State Sensors Symposium	G-ED, Twin Cities Section, ISA	Minneapolis, Minnesota	Sept. 12-13	346	No	
Jt. Power Generation Conference	G-P, ASME	San Francisco, California	Sept. 15-19	500	No	
Int'l Conf. on Microwave & Optical Generation & Amplification	German Sec. of IEEE, VDE & NTG	Hamburg, F.R. Germany	Sept. 16-20	430	No	
Tube Techniques Conference	G-ED	New York, N.Y.	Sept. 17-18	262	No	
Fall Broadcast Symposium	G-B	Washington, D.C.	Sept. 19-21	263	No	
Electronics Design Conference	IEE, U.K. & Rep. of Ire. Sec. IERE	Cambridge, Eng.	Sept. 23-27	220	No	
Ultrasonics Symposium	G-SU	New York, N.Y.	Sept. 25-27	400	No	
IGA Group Annual Meeting	G-IGA	Chicago, Illinois	Sept. 29 - Oct. 3	904	No	
Jt. Engineering Management Conference	G-EM, 8 other societies	Philadelphia, Penna.	Sept. 30 - Oct. 1	342	No	
EHV Transmission Conference	G-P	Montreal, Queb. Canada	Sept. 30 - Oct. 2	560	No	
Conference on Tropospheric Wave Propagation	IEE, U.K. & Rep. of Ire. Sec. IERE	London, England	Sept. 30 - Oct. 2	180		

<u>Name of Meeting</u>	<u>Sponsors</u>	<u>Place</u>	<u>Date</u>	<u>Paid Registration</u>	<u>Exhibits</u>	<u>Additional Exhibit Attendance</u>
Allerton Conference on Circuit & System Theory	G-CT, G-AC, Univ. of Ill.	Monticello, Illinois	Oct. 2-4	148	No	
Symposium on Applications of Ferroelectrics	Catholic Univ. of Am., G-IM, G-SU	Washington, D. C.	Oct. 10-11	151	No	
Thermionic Energy Conversion Specialists Conference	G-ED	Framingham, Mass.	Oct. 14-15	110	No	
System Science & Cybernetics Conference	G-SSC	San Francisco, California	Oct. 14-16	250	No	
Symp. on Switching & Automata Theory	G-C	Schenectady, New York	Oct. 15-18	150	No	
Nat'l Convention of Elec. & Electronic Engineers in Israel	Israel Section of IEEE, Israel Inst. of Technology	Tel-Aviv, Israel	Oct. 20-22	1,300	Yes	700
Int'l Electron Devices Meeting	G-ED	Washington, D. C.	Oct. 23-25	1,371	No	
Nuclear Science Symposium	G-NS	Montreal, Queb. Canada	Oct. 23-25	205	Yes	
Applied Superconductivity Conference & Exhibition	Oak Ridge Nat'l Lab., USAEC, APS, G-MAG	Gatlinburg, Tenn.	Oct. 28-30	282	Yes	
Machine Tools Industry Technical Conference	G-IGA, Rock River Valley Section	Rockton (Rockford) Illinois	Oct. 28-30	589	No	
Asilomar Conference on Circuits and Systems	Naval P.G. School, Santa Clara Univ., G-CT, G-AC	Pacific Grove, California	Oct. 30 - Nov. 1	228	No	
North Carolina Affiliation Symposium	Aff. of N. Carolina Sec.	Greensboro, North Carolina	Nov. 6-7	580	Yes	
Northeast Res. & Engrg. Meeting (NEREM)	New England Sections	Boston, Mass.	Nov. 6-8	9,150	Yes	13,350
West Coast Conference on Broadcasting	G-B	Los Angeles, California	Nov. 6-8	122	No	
Canadian Symposium on Communications	Canadian Region, Montreal Section	Montreal, Queb. Canada	Nov. 7-8	1,000	Yes	1,500
Automatic Support Systems for Advanced Maintainability Symposium	G-AES, St. Louis Section	St. Louis, Mo.	Nov. 12-14	255	No	
Engineering in Medicine & Biology Conference	G-EMB, JCEMB	Houston, Texas	Nov. 17-21	1,545	Yes	
Magnetism & Magnetic Materials Conference	G-MAG, AIP	New York, N. Y.	Nov. 17-21	1,003	Yes	
7th Region. III IEEE Convention	Region III, Cansveral Section	Cocoa Beach, Florida	Nov. 18-20	283	Yes	394
Photovoltaic Specialists Conference	G-ED	Pasadena, Calif.	Nov. 19-21	150	No	

Name of Meeting	Sponsors	Place	Date	Paid Registration	Exhibits	Additional Exhibit Attendance
Seminario de Tele- comunicaciones Y Tele- control	IEEE Mexico Sec., SCT and Nat'l Inst. of Comm.	Mexico City, Mexico	Nov. 27-30	160	Yes	
Conference on Applications of Simulation	G-C, G-SSC, ACM, SHARE & SCI	New York, N. Y.	Dec. 2-4	856	No	
Reliability Physics Symposium	G-R, G-ED	Washington, D. C.	Dec. 2-4	380	No	
Vehicular Technology Conference	G-VT	San Francisco, California	Dec. 3-4	350	Yes	114
Symposium on Circuit Theory	G-CT	Miami Beach, Florida	Dec. 4-6	255	No	
Int'l Electrical Insulation - West Coast	G-EI, NEMA, NAVSEC	Los Angeles, California	Dec. 8-12	644	Yes	456
Consumer Electronics Symposium	G-BTR, G-AE, G-ED	Chicago, Illinois	Dec. 9-10	480	No	
National Electronics Conference	Region 4, et al	Chicago, Illinois	Dec. 9-11	16,157	Yes	
Fall Joint Computer Conference	G-C, AFIPS	San Francisco, California	Dec. 9-11	6,312	Yes	18,264
Adaptive Processes Symposium	G-SSC, G-AC, G-IT, UCLA	Los Angeles, California	Dec. 16-18	116	No	

## SECTION G

Table 2 - IEEE INTERNATIONAL CONVENTION STATISTICS

The Convention is internationally recognized as one of the largest Conventions of its kind in the world. An exhibition became part of the Annual Convention activities in 1930. Convention activities, from the first Convention held in 1926 through 1968, are indicated in the comparison figures listed below.

Date	Year	Attendance	Firms Represented	Exhibits	Sq. Ft. Occupied	Papers Presented	Location
January	18-19 1926	*	0	0	0	6	New York, N. Y.
January	10-12 1927	425**	0	0	0	5	New York, N. Y.
January	9-11 1928	800	0	0	0	9	New York, N. Y.
May	13-15 1929	555	0	0	0	37	Washington, D. C.
August	18-21 1930	575	*	20**	*	23	Toronto, Canada
June	4-6 1931	400	*	50	*	19	Chicago, Illinois
April	7-9 1932	461	*	25**	*	23	Pittsburgh, Pa.
June	26-28 1933	487	*	35	*	24	Chicago, Illinois
May	28-30 1934	940	*	56	*	32	Philadelphia, Pa.
July	1-3 1935	586	*	34	*	21	Detroit, Michigan
May	11-13 1936	360	*	40	*	19	Cleveland, Ohio
May	10-12 1937	1,189	*	37	*	30	New York, N. Y.
May	15-17 1938	1,866	*	29	*	49	New York, N. Y.
September	20-23 1939	1,668	*	34	*	26	New York, N. Y.
June	27-29 1940	1,071	*	35**	*	44	Boston, Mass.
January	9-11 1941	1,310	*	30**	*	28	New York, N. Y.
June	23-25 1941	353	0	0	0	33	Detroit, Michigan
January	12-14 1942	1,790	*	30**	*	25	New York, N. Y.
June	( 29- ) 1942	256	0	0	0	23	Cleveland, Ohio
July	1)						
January	28 1943	1,750	0	0	0	11	New York, N. Y.
January	28-29 1944	1,704	0	0	0	22	New York, N. Y.
January	24-27 1945	3,000	*	39	*	43	New York, N. Y.
January	23-26 1946	7,200	1,571	135	13,220' **	88	New York, N. Y.
March	3-6 1947	12,013	2,845	177	20,830'	118	New York, N. Y.
March	22-25 1948	14,459	3,059	180	25,900'	130	New York, N. Y.
March	7-10 1949	15,710	3,427	225	30,700'	144	New York, N. Y.
March	6-9 1950	17,689	4,088	253	33,600'	163	New York, N. Y.
March	19-22 1951	22,919	5,082	277	45,672'	198	New York, N. Y.
March	3-6 1952	28,673	6,306	365	54,246'	211	New York, N. Y.
March	23-26 1953	35,642	7,493	412	63,033'	214	New York, N. Y.
March	22-25 1954	39,302	8,799	605	87,192'	242	New York, N. Y.
March	21-24 1955	42,133	9,504	704	95,782'	248	New York, N. Y.
March	19-22 1956	41,017***	8,851	716	98,684'	277	New York, N. Y.
March	18-21 1957	53,811	11,757	840	105,240'	284	New York, N. Y.
March	24-27 1958	55,811	12,555	950	110,828'	285	New York, N. Y.
March	23-26 1959	60,050	13,509	1,200	114,117'	263	New York, N. Y.
March	21-24 1960	69,760	15,889	1,200	113,597'	261	New York, N. Y.
March	20-23 1961	67,451	15,170	1,237	113,711'	274	New York, N. Y.
March	26-29 1962	74,734	16,246	1,307	116,412'	275	New York, N. Y.
March	25-28 1963	71,337	15,507	970	116,192'	251	New York, N. Y.
March	23-26 1964	66,541	14,967	966	122,336'	307	New York, N. Y.
March	22-26 1965	58,462	13,150	884	116,448'	359	New York, N. Y.
March	21-25 1966	63,650	14,270	731	115,410'	305	New York, N. Y.
March	20-23 1967	59,196	12,731	722	121,790	320	New York, N. Y.
March	18-21 1968	63,749	13,710	680	121,777'	230	New York, N. Y.

\* Figures not available

\*\* Estimated

\*\*\* Reduction in attendance due to blizzard

SECTION G

TABLE 3 - SECTION, SUBSECTION, GROUP CHAPTER MEETINGS AND CONFERENCES

S - Section Meetings  
 SS - Subsection Meetings  
 G - Group Chapter Meetings  
 STC - Section Technical Conferences

Section and Subsection	Meetings				Section and Subsection	Meetings			
	S	SS	G	STC		S	SS	G	STC
<u>Region 1</u>					<u>Region 2 - cont'd.</u>				
Berkshire	8		5		Erie	15			
Binghamton			16		Johnstown	13			
Boston	5		108		Lehigh Valley	10		13	
Lynn		8			Lima	6		2	
Merrimack Valley		7			North Central Ohio	8			
Buffalo	9		19		Ohio Valley	6			
Connecticut	12		19		Philadelphia	12		87	
Fairfield County		4			Pittsburgh	2		17	
New London		6			Upper Monongahela		7		
Elmira-Corning	8				Sharon	6		2	
Ithaca	5				Southern New Jersey	9			
Long Island	2		8		Susquehanna	7			
Maine	7		1		Washington	5		90	
Mid-Hudson	7		2		West Virginia	4			
Catskill		3				175	26	315	2
Mohawk Valley	0		12		<u>Region 3</u>				
St. Lawrence Intn'l		5			Alabama	9		17	
New Hampshire	13		3		Atlanta	10		16	
New Jersey Coast	1		16		Macon-Warner Robins		4		
New York	1		73		Rome		4		
Westchester		2			Baton Rouge	6			
North Jersey	9		20		Lafayette		6		
Princeton	3		2		Canaveral	8		24	
Providence	5		1		Central North Carolina	7		3	
Southeastern Mass.		0			Central Virginia	6			
Rochester	6		18		Charlotte	6		8	1
Schenectady	6		14		Chattanooga	6		3	
Adirondack		6			Daytona	9		5	
Springfield	7				Eastern North Carolina	5			
Syracuse	2		19		East Tennessee	8		4	
Vermont	9				Upper East Tennessee		5		
Worcester County	6			1	Evansville-Owensboro	9			
	131	41	366	1	Paducah		7		
<u>Region 2</u>					Florida West Coast	6		18	
Akron	9		12		Fort Walton	6			
Allegheny Mountain	10			1	Gainesville	4			
Baltimore	3		28		Hampton Roads	9			
Annapolis		3			Huntsville	10		17	
Eastern Shore		8			Muscle Shoals		7		
Canton	9		3		Jacksonville	10			
Central Pennsylvania	5				Lexington	8			
Cincinnati	16		5		Louisville	10			1
Cleveland	3		21	1	Memphis	10		14	
Columbus	6		15		Jackson		7		
Chillicothe		2			Miami	8		3	
Zanesville		6			Middle Tennessee	9		5	
Dayton	2		16		Mississippi	8			
Delaware Bay	9		4		Northeast Mississippi		5		

(Cont'd)



Section and Subsection	Meetings				Section and Subsection	Meetings			
	S	SS	G	STC		S	SS	G	STC
<u>Region 3 - cont'd.</u>					<u>Region 5 - cont'd.</u>				
Mobile	10				Beaumont	5		6	
Nashville	8				Lake Charles		5		
New Orleans	7		14		Central Texas	7		4	
North Carolina Affiliation of Sections					Corpus Christi	8		2	
Oak Ridge	9				Victoria-Port Lavaca		5		
Orlando	15		24		Dallas	1		30	
Palm Beach					Denver	6		20	
Panama City	8				Black Hills		4		
Pensacola	9				Pikes Peak		4		
Richmond	1				El Paso	10			
Savannah	9				Fort Worth	6		3	
South Carolina	1		2		Houston	5		35	
Central Savannah River		9			(1) Clear Lake				
Charleston		6			Freeport		1		
Columbia		7			Kansas City	5		1	
Piedmont		9			Oklahoma City	6		5	
Virginia Mountain	5				Ozark	9			
Western North Carolina	9				Panhandle	10			
Winston-Salem	7				Permian Basin	9			
	285	76	177	2	St. Louis	1		24	
					Shreveport	8		2	
					Monroe		9		
					South Plains	6			
					Tulsa	8		6	
					West Central Texas	7			
					Wichita				
						126	28	138	0
<u>Region 4</u>					<u>Region 6</u>				
Arrowhead	10				Alamogordo-Holloman	8			
Cedar Rapids	5				Alaska	9			
Central Illinois	4		1		Albuquerque	4		4	1
Central Indiana	2		8		Los Alamos-Santa Fe		5		
Bloomington		5			Antelope Valley	4			
Central Iowa	5				Boise	10			
Chicago	1		61		Buenaventura	3		6	
Calumet		7			China Lake	1			
Fox Valley		8			Foothill	8		6	
Fort Wayne	9				Fort Huachuca	5		8	
Illinois Valley	13				Hawaii	10			
Iowa-Illinois	6				Idaho	6			
Burlington		3			Las Vegas	4			
Madison	7				Los Angeles Council	1		69	
Milwaukee	6		19		Met. Los Angeles	3			
Racine-Kenosha		7			Montana	2			
Nebraska	10		10		Billings		4		
Northeast Michigan	12				Butte		6		
Northeastern Wisconsin	9		2		Helena		1		
Rock River Valley	6				Orange County			12	
Siouxland	10				Phoenix	4		10	
South Bend	1				Portland	5		15	
Southeastern Michigan	6		30		Eugene		4		
Southern Minnesota	7		8		Richland	8			
Toledo	8				Walla Walla		6		
Twin Cities	3		37		Sacramento	8		8	1
Red River Valley		3			Reno		8		
West Michigan	9				San Joaquin		3		
	149	33	176	0	Shasta				
<u>Region 5</u>									
Arkansas	9								

(Cont'd)

Section and Subsection	Meetings			
	S	SS	G	STC
<u>Region 6 - cont'd.</u>				
San Diego	5		10	
San Fernando Valley	1			
San Francisco	4		107	
East Bay		6		
Santa Clara Valley		7		
San Gabriel Valley	3			
Santa Barbara	7			
Santa Monica Bay	4			
Seattle	10		38	
(2) Tacoma				
South Bay Harbor	5			
Spokane	5		1	
Tucson	9		3	
Utah	5		1	
Vandenberg	4		5	
Wenatchee	1			
	<u>166</u>	<u>50</u>	<u>303</u>	<u>2</u>

Region 7

Bay of Quinte	2			
Canadian Atlantic	7			
Hamilton	11			1
Kitchener-Waterloo	4		1	
Guelph		1		
London	4			
Montreal			23	
Niagara International	5			
Northern Alberta				
Ottawa	4		11	
Quebec				
Regina	8			1
St. Maurice	1			
Southern Alberta	9			
Toronto	19		12	
Vancouver	5		10	1
Victoria	8			
Winnipeg	6			
	<u>93</u>	<u>1</u>	<u>57</u>	<u>3</u>

Section and Subsection	Meetings			
	S	SS	G	STC
<u>Region 8</u>				
Benelux		9		1
(3) Denmark				
Egypt		8		
France		1		1
Germany (West)		5		1
Israel		1		1
Middle & South Italy		5		
North Italy		5		
Norway		5		
(4) Spain				
Sweden		7		
Switzerland		17		1
United Kingdom & Republic of Ireland		<u>15</u>		<u>3</u>
		<u>78</u>		<u>4</u>

Region 9

Buenos Aires		6		1
Chile		4		
Colombia				
Mexico		6		
Peru		1		
Puerto Rico & Virgin Islands		7		
Rio de Janeiro				
Sao Paulo				
Venezuelan				
		<u>24</u>		<u>1</u>

Region 10

Kanpur (India)				
(5) New Zealand				
Tokyo		7		
(6) West Pakistan		<u>1</u>		
		<u>8</u>		

TOTALS

Section	1,235
Subsection	255
Group Chapter	1,526
Section Technical Conference	15
<b>GRAND TOTAL</b>	<b>3,031</b>

- (1) New Subsection established 11/18/68
- (2) Subsection dissolved 11/18/68
- (3) New Section established 8/18/68
- (4) New Section established 4/16/68
- (5) New Section established 5/16/68
- (6) New Section established 9/19/68
- (7) Note: The Monmouth Subsection of the New York Section was elevated to full Section status and named the New Jersey Coast Section on 3/20/65

## SECTION G

TABLE 3 - SECTION, SUBSECTION, GROUP CHAPTER MEETINGS AND CONFERENCES

Region Number	1	2	3	4	5	6	7	8	9	10	Total
<b>1968</b>											
Sections	131	175	285	149	126	166	93	78	24	8	1,235*
Subsections	41	26	76	33	28	50	1	-	-	-	255*
Group Chapters	366	315	177	176	138	303	57	4	-	-	1,536*
Section Technical Conference	1	2	2	-	-	2	3	4	1	-	15*
Student Branches	103	85	55	88	58	53	35	6	6	3	492*
Total Meetings	642	603	595	446	350	574	189	92	31	11	3,533
<b>1967</b>											
Sections	141	179	301	176	160	240	131	58	44	9	1,439
Subsection	61	29	91	47	43	65	6	-	-	-	342
Group Chapters	611	333	154	171	131	384	40	5	-	11	1,840
Section Technical Conference	-	2	6	2	-	3	3	3	-	-	19
Student Branches	346	210	197	210	212	261	85	5	7	-	1,533
Total Meetings	1,159	753	749	606	546	953	265	71	51	20	5,173
<b>1966</b>											
Sections	158	196	313	184	168	234	104	33	26	-	1,416
Subsections	52	34	78	45	53	74	6	-	-	-	342
Group Chapters	355	323	127	134	107	398	38	-	1	-	1,483
Section Technical Conference	1	1	2	-	-	1	1	3	2	-	11
Technical Discussion Group	78	19	4	11	-	10	9	-	-	-	131
Student Branches	235	205	139	230	195	201	97	-	6	-	1,308
Total Meetings	879	778	663	604	523	918	255	36	35	-	4,691
<b>1965</b>											
Sections	140	170	269	150	123	198	102	57	45	-	1,254
Subsections	49	31	100	36	56	44	4	-	-	-	320
Group Chapters	240	227	82	96	65	165	14	-	-	-	889
Technical Discussion Group	54	57	61	19	9	12	21	-	-	-	233
Student Branches	290	220	167	254	190	243	84	32	10	-	1,490
Total Meetings	773	705	679	555	443	662	225	89	55	-	4,186

\*As reported to Headquarters through January 20, 1969

## SECTION H

### I. PUBLICATIONS AND INFORMATION SERVICES

#### 1. TECHNICAL PUBLICATIONS

##### GENERAL

The Publications Board gave primary attention in 1968 to reviewing and evaluating the quality and effectiveness of the IEEE publications program and took a number of steps to expand and improve the services available to the membership and the profession.

In 1967 a survey of membership attitudes was conducted for the IEEE by a professional opinion research organization. The results were analyzed and expanded by an IEEE staff committee, and a report of the survey was given in the December 1968 issue of SPECTRUM by President Herwald. The survey questionnaire contained 85 questions, of which 46 were concerned with publications, providing an important aid to the Publications Board in evaluating the publications programs.

The evaluation of Group publications, begun in 1967, was continued on an improved basis in 1968, with the Groups participating in the procedure more directly. A task force, consisting of a representative of the Publications Board, of TAB OpCom, and of the Group, was appointed for each of the 16 TRANSACTIONS evaluated during the year. The reports of these task forces were sent to the Groups in question for comment before forwarding to the Publications Board and TAB OpCom. It is expected that the reports will be extremely helpful to the Groups in strengthening their publications.

Five Group publications adopted a policy of voluntary page charges beginning in 1968. Under the page charge system, which has been adopted by a growing number of engineering and scientific societies, an author's company is asked to pay a voluntary charge to assist in defraying the cost of publication of a paper. This voluntary IEEE charge is currently \$50 per printed page. Seven additional journals have adopted page charges for the coming year; these are the PROCEEDINGS OF THE IEEE, the IEEE JOURNAL OF SOLID-STATE CIRCUITS, and the TRANSACTIONS of the following Groups: Audio and Electroacoustics, Circuit Theory, Man-Machine Systems, Microwave Theory and Techniques, and Sonics and Ultrasonics.

A study was carried out to determine if some type of microform publication would be desirable and valuable for the users of IEEE journals. As a result of this study, three publications will be made available in microfiche form beginning in 1969. These are the TRANSACTIONS of the Aerospace and Electronic Systems, the Computer, and the Power Groups. A microfiche is a 105-mm by

148-mm positive film transparency containing the images of up to 60 printed pages reduced in size by a factor of approximately 20. Microfiche editions of these journals are available instead of, or in addition to, the printed versions.

The IEEE Advertising Department underwent a reorganization during 1968. Advertising space sales is now the direct responsibility of William R. Saunders, who joined the IEEE staff to fill the newly created post of Advertising Director for Publications. Mr. Saunders reports to Ralph H. Flynn, Director of IEEE Publishing Services. In addition, the New York firm of Blanchard-Short Associates was retained as advertising sales representative for the East Coast of the United States, joining the sales representatives in Chicago, Los Angeles, San Francisco, Minneapolis, Japan, and Europe.

During 1968 the IEEE Editorial Department processed 3,493 papers and 1,774 correspondence items for printing in IEEE publications, excluding the translated journals, giving a total output of 29,054 editorial pages. Of these, 23,759 pages were published in the regular journals of the Institute, an increase of nearly 11% compared to the previous year's output.

##### IEEE SPECTRUM

An important event in the SPECTRUM year was the appointment of a new Editor, J.J.G. McCue of M.I.T. Lincoln Laboratory. Dr. McCue replaced C. Chapin Cutler, who had provided valuable leadership for two years as the first Editor of SPECTRUM. Dr. McCue was assisted throughout the year by an Editorial Board of distinguished engineers.

The survey of the IEEE membership noted above revealed that a majority of members (59 percent) read SPECTRUM articles in both their own and in other fields. It is felt that this fact indicates that the Institute's membership magazine is achieving its objective of broadening the interests of its readers. The survey also indicated that many members wanted more articles on practical applications. An independent study by the Publications Board corroborated this need, and a new program of publishing applications-oriented articles in each issue was inaugurated in the November issue.

A total of 82 articles were published during the year. As is usual, most of these were invited or contributed, but 14 were written by members of the editorial staff. In addition, 66 letters

## IEEE SPECTRUM (continued)

were published in "Technical Correspondence" and in "IEEE Forum." The total pages published in SPECTRUM numbered 1966, of which 1300 were devoted to technical and editorial material and 666 to paid advertising and related material.

Seymour Tilson joined SPECTRUM as a staff writer late in the year. He replaced Gordon Friedlander, who left to take a position with a technical history library.

## PROCEEDINGS OF THE IEEE

The highlights of the PROCEEDINGS year were the special issuers, each of which was devoted to a single area of major interest. Four were published, the subjects covered being transportation (April), studies of neural elements and systems (June), magnetohydrodynamic power generation (September), and electronic scanning (November). The April issue was somewhat of a departure from the usual special issue in that it emphasized the social as well as the technical aspects of the important subject of transportation. The September MHD issue had the unique feature of being a cooperative project with the American Institute of Aeronautics and Astronautics, and 13 of the 18 papers in the PROCEEDINGS were published simultaneously in the AIAA Journal. The membership survey described above revealed that special issues are considered more valuable than regular issues by 54 percent of the readers.

Nine invited papers reviewing progress in areas of wide general interest were published in regular issues during the year. These invited reviews are very well received, and plans call for publishing an increasing number of them in the future.

The section devoted to technical letters continued as a widely accepted vehicle for quickly and briefly announcing new research results. During the year, 618 pages were used in printing 526 letters.

The year saw the appearance of 2539 pages in the PROCEEDINGS, of which 2300 were editorial pages while the remainder contained paid advertising and related material. The total number of papers published was 146, of which 96 appeared in special issues.

Professor M. E. Van Valkenburg of Princeton University and a distinguished Editorial Board guided the PROCEEDINGS throughout the year. Besides playing a day-to-day role in the editorial process, members of the Editorial Board identified subjects and authors for invited papers and assisted with the planning of special issues. A major contribution of effort and talent was made in 1968, as in previous years, by the guest editors who organized the special issues.

## GROUP PUBLICATIONS

The technical publications of the Groups again encompassed a major portion of the IEEE editorial output. During the year 179 issues constituting 19,847 pages were published. This represents an increase of 13% over the 17,528 pages published in 1967.

The number of TRANSACTIONS published remained at 31 and the number of JOURNALS at 2. Of these 33 publications, 5 were issued monthly, 7 bimonthly, 16 quarterly, and 5 appeared aperiodically.

The Publications Board shared with the Groups a concern for improving the scheduling of publications so that they can be produced with minimum delay. This concern was heightened by extra delays introduced by a labor dispute at one of the printers. Part of the problem is that sharp workload peaks have occurred both at the printers and at the IEEE Editorial Department, but with the cooperation of the Editors the publications have been rescheduled for 1969 so that the workload-versus-time curve will be much smoother. As a consequence, it is expected that the "on-time" record will be improved substantially.

## IEEE STUDENT JOURNAL

Frank S. Barnes of the University of Colorado was appointed Editor of the STUDENT JOURNAL at the beginning of the year. Under his leadership, this publication has taken on a new look. Besides greater emphasis on graphics, each issue is now being organized around a single theme of special career importance to students. As another step in providing increased support to the publication, C.W. Beardsley was added to the IEEE editorial staff as Assistant Managing Editor of the STUDENT JOURNAL.

In 1967 it was decided that student members should be allowed to choose between receiving the STUDENT JOURNAL or SPECTRUM as part of their dues. The 1968 experience was that 53% of the new students and 43% of the renewing students chose the STUDENT JOURNAL instead of SPECTRUM.

During the year 48 signed articles as well as other technical and career information appeared in the 312 pages and 6 issues of this publication.

## TRANSLATED JOURNALS

The institute continued its sponsorship of the program for translating and publishing papers from 4 Russian and 2 Japanese technical journals. The journals translated from the Russian have become self supporting and are published by the IEEE's former contractor, but National Science Foundation support continued for the Japanese journals. In addition, the National Science Foundation awarded grants to the IEEE for

## TRANSLATED JOURNALS (continued)

translation and publication of SOVIET AUTOMATIC CONTROL, a Ukrainian journal, and ELECTRONICS IN MAINLAND CHINA, a four-part monograph.

In 1968 nearly 10,000 English pages were published in this translation program, of which 5,719 were translated from Russian and Ukrainian and 4,260 from Japanese.

Advance tables of contents of issues to be translated were carried each month in SPECTRUM, as were signed critical reviews of selected papers that had been published in English.

## 2. INFORMATION SERVICES

During 1968 the Information Services Department, in its second year, began to offer technical information services products to the membership and to the public. It also extended its capabilities for use of electronic digital computers and automatic phototypesetting equipment in the information dissemination area.

The agreement reached in 1967 with the Institution of Electrical Engineers (London) to become joint publisher of Electrical and Electronics Abstracts became an operational reality. IEEE marketed, distributed, and participated editorially in that publication throughout 1968. This phase of the Department's operation was financially self-supporting. The agreement with the IEE was extended into 1969, and enlarged to include a new publication, Computer and Control Abstracts, as well as companion titles journals, Current Papers in Electrical and Electronics Engineering and Current Papers on Computers and Control.

The development with the IEE of an improved classification scheme for the electrical-electronics-computer-control area was actively pressed during 1968, and substantial progress made. It is expected, however, that significant changes will continue to be made in the classification scheme for the next few years.

Collaboration in the foregoing efforts with Engineering Index, Inc., continued, and is expected to continue into the future.

Computer programs were developed for the establishment, maintenance, and use of an IEEE Bibliographic Data Base. Many of the year-end indexes to 1968 IEEE periodicals are being photocomposed on Photon 901 from computer tapes produced by the Information Services Department BDB programs.

Activities external to the Institute by the Department staff continued to be significant part of the work. An informal Joint Agreements Group was established in collaboration with the American Institute of Physics, Association for Computing Machinery, and the National Bureau of Standards Technical Information Exchange Center for Computer Science and Technology.

Several other organizations subsequently became affiliated with JAG. Substantial progress was made toward agreements on common magnetic computer tape practices for bibliographic products. Each of these organizations hopes to make tapes available to the public within the next year or so.

Department personnel have also continued to participate in the advisory panels to Tripartite Committee, the Engineering Societies Library Board, and U. S. A. Standards Institute committees. At the end of the year, membership in the National Federation of Science Abstracting and Indexing Services was obtained by IEEE to further the approach of the Department toward the maximum possible cooperation with similar activities in other societies and in society-related not-for-profit abstracting and indexing services.

Since a major problem of the department during 1968 was an amount of work greater than the staff could comfortably accommodate, expansion of staff was planned for 1969, and a first request for external funding was submitted to the National Science Foundation.

## 3. REGIONAL PUBLICATIONS

Two Regional publications, inaugurated in 1967, continued publication in 1968. Four issues of IEEE ELECTROLATINA were published and distributed to the approximately 2,000 members in Region 9 (Latin America). Region 8, serving over 4,000 members in Europe, published the IEEE REGION 8 NEWSLETTER four times during the year.

## 4. SECTION PUBLICATIONS

A major activity of many Sections is the publication of a monthly Bulletin for the announcement of the local activities. Seventy IEEE Sections are now issuing monthly publications as listed below:

<u>Section</u>	<u>Publication</u>
Akron	Akron Section Bulletin
Albuquerque	The Blast
Allegheny Mountain	IEEE News Letter
Atlanta	The Atlanta Circuit
Baltimore	Newsletter
Binghamton	Pulse
Boston	The Reflector
Buenos Aires	Boletin
Canaveral	Impulse
Cedar Rapids	Corona
Central Indiana	The Reporter
Central Pennsylvania	Newsletter
Central Texas	The Analog
Chicago	IEEE Scanfax
Cincinnati	Cincinnati Section News
Cleveland	Cleveland Section News
Connecticut	The CONNECTor
Dallas	Direction
Dayton	Conductor
Delaware Bay	Newsletter
Evansville-Owensboro	The Transmitter

SECTION PUBLICATIONS (continued)

Section	Publication
Florida West Coast	Suncoast Signal
Fort Walton	The Courier
Fort Wayne	The Announcer
Houston	The Scope
Huntsville	The Live Wire
Lehigh Valley	Newsletter
Long Island	The Pulse
Los Angeles Council:	IEEE Bulletin
Antelope Valley	
Buenaventura	
China Lake	
Foothill	
Met. Los Angeles	
Orange County	
San Fernando Valley	
San Gabriel Valley	
Santa Barbara	
Santa Monica Bay	
South Bay Harbor	
Vandenburg	
Mohawk Valley	Echoes
Montreal	Current PHASE Courante
New Jersey Coast	The Scanner
New Orleans	Section Bits IE <sup>3</sup>
New York	The Monitor
North Carolina Affili-	IEEE Bulletin
ation of Sections:	
Central No. Carolina	
Charlotte	
Eastern No. Carolina	
Western No. Carolina	
Winston-Salem	
North Jersey	The IEEE Newsletter
Orlando	Orlando Section Notes
Ottawa	Ottawa Section Bulletin
Philadelphia	Almanack
Pittsburgh	IEEE Bulletin
Portland	The BEEEP
Princeton	The P. S.
St. Louis	The Mighty MHO
San Diego	San Diego Section Bulletin
San Francisco	IEEE Grid
Schenectady	IEEE News Bulletin
Seattle	Data Link
South Bend	The Nucleus
South Carolina	Southern Corona
Southeastern Michigan	IEEE News
Syracuse	Syracuse Scanner
Tokyo	Denshi Tokyo
Twin Cities	Radiator
Washington	The Washington Bulletin
Worcester County	Newsletter

5. ELECTRICAL ENGINEERING

This bimonthly newsletter of 6 to 8 pages, first issued in 1964, notes changes in the structure, Bylaws, policies, and operations of the Institute and the evolution of its organizational units. Under supervision of the Internal Communications Committee, its mission is to encourage communication among committees, Groups, Sections, and Headquarters staff. A feature is "feedback" from the field units to Headquarters. Its distribution includes about 3,500 officers and members of these units. In 1968, to 46 pages of text were added 13 supplements with supporting tabulations, information, and forms.

6. INFORMATION SERVICES

During 1968 the information services department, in its second year, began to offer technical information services products to the membership and to the public. It also extended its capabilities for use of electronic digital computers and automatic typesetting equipment to the information dissemination area.

The agreement reached in 1967 with the Institution of Electrical Engineers (London) to become joint publisher of Electrical and Electronics Abstracts became an operational reality. IEEE marketed, distributed, and participated editorially in that publication throughout 1968. This phase of the department's operation was financially self-supporting. The agreement with the IEE was extended into 1969, and arranged to include a new publication, Computer and Control Abstracts, as well as companion titles Current Papers in Electrical and Electronics Engineering and Control, Papers on Computers and Control.

The development with the IEE of an improved classification scheme for the electrical-electronics-computer control area was actively pressed during 1968, and substantial progress made. It is expected, however, that significant changes will continue to be made in the classification scheme for the next few years.

Collaboration in the foregoing efforts with Engineering Index, Inc., continued, and is expected to continue into the future.

Computer programs were developed for the establishment, maintenance, and use of an IEEE Bibliographic Data Base. Many of the year-end indexes for 1968 IEEE periodicals are being photocopied on Photon 301 from computer tapes produced by the information services department BDB program.

Activities external to the Institute by the Department were continued to be significant part of the work. An informal Joint Agreement Group was established in collaboration with the American Institute of Physics, Association for Computing Machinery, and the National Bureau of Standards Technical Information Exchange Center for Computer Science and Technology.

II. TECHNICAL ACTIVITIES1. Technical Activities Board, Groups, and General Committees.

(1) The indicators of technical activity levels, which are shown in the tabulations accompanying this report, once again show a steady growth and expansion throughout 1968. The simplest indicators are the number of individuals involved to varying degrees with the IEEE technical programs. The number of Group memberships has grown to 146, 244, held by 82, 400 individuals. The number of memberships per individual has continued the downward trend first noticed several years ago. This trend is probably the result of two factors, namely, a generally tightening economic environment of which increased dues and fees are a part, and the easy availability of copies of individual papers via the omnipresent office copying machine as opposed to personal copies of periodicals. The major conferences and symposia sponsored or co-sponsored by IEEE had a total paid attendance exceeding 75, 000. About 8, 900 were authors of papers presented at these conferences. Another 5, 000 participated in small workshops or research seminars devoted to highly specialized technical topics; some 7, 300 participated in the Groups' Technical Committees and Subcommittees, of which more will be said in a later paragraph.

(2) The Technical Activities Board met four times, equally divided between east and west coasts. Between these meetings, there was strong support by the TAB Operating Committee, the Councils, Standing Committees, and several ad hoc committees. If a single subject had TAB's principal attention in 1968, it was the changing technology, with the emergence of interdisciplinary areas and the fading of the boundary lines that once defined the domains of engineering and the sciences. The need for better internal communications, so strongly emphasized in 1967, was answered, in part, by TAB encouragement of direct, informal conversations between Group Chairmen and representatives; the TAB Chairman provided such opportunities at breakfast, luncheon, and dinner meetings scheduled in conjunction with regular meetings and the resulting inter-Group exchanges have increased by at least a factor of five over the previous norm. The problem of matching IEEE's structure to the changing technology was not fully solved. But a consensus developed that the present 31 Groups are proven operational mechanisms and the match with changing technology should be at the level of the Technical Committees. The Groups appear to be in three classes--small, medium, and large--as defined by the simple basis of memberships. The 14 Groups with memberships of 2000 or less have different characteristics and operational problems than do the larger Groups. A study, by the Computer Group's officers and the TAB OpCom, showed that the very large Groups have many of the attributes of independent societies. Proposals to modify the structural relationship and procedures for such large Groups are currently being developed.

(3) Other general matters receiving attention were finances, publications, and the relationship of Group, Region, and Section activities. Through the TAB Finance Committee, work continued on the identification of all items of income and expense related to technical activities. The IEEE Finance Committee and Headquarters Staff have joined in an effort to improve the format of budgets and financial statements to show more clearly the relationships among these items. The TAB Finance Committee has developed a computer program for Group budgets and financial statements. This program is now in operation on computers available to two members of the Committee and trial tests are currently being made to insure that the program may be accepted with a minimum of delay and confusion when the new IEEE Headquarters computer is installed.

The TAB Publications Committee has reviewed the publication problems of Group newsletters, has developed a plan to equalize the work load of issues processed through IEEE Headquarters, and is preparing a newsletter manual. Jointly with the IEEE Publication Board, a new cycle of evaluations were undertaken for the Transactions and Journals. An ad hoc task force was organized for each of about one third of these publications, with members nominated by the IEEE Publications Board, TAB, and the relevant Group; the evaluation reports have been reviewed by the respective Groups and the constructive criticisms and suggestions for improvement have generally been accepted for implementation. Meanwhile, the TAB Publications Committee undertook a survey of a small randomly selected sample of the readership of each publication; the survey was designed to reveal the degree of satisfaction with technical scope and quality, timeliness, value compared to other publications in the same technical area, and similar factors. Although the samples were small, the results showed some interesting, sometimes not anticipated, readership evaluations; the survey results are currently being studied by the IEEE Publication Board and TAB.

The Group/Region/Section interface is most obvious in the case of Chapters and Group-sponsored conferences held at a city within the Section. An ideal solution has not been found. But informal communications have been encouraged as the first step towards mutual understanding and eventual solutions on a case-by-case basis. The Region 8 Director drew special attention to the fact that most of the Sections in the Region corresponded to national boundaries and one or more national societies within each such bounded area had technical interests closely related to the interests of IEEE and the individual Groups. A plan was adopted for the designation of a Groups Coordinator in each Section, who would help with the sensitive task of matching Group activities with those of the national societies.



(4) A number of special problems received attention in 1968. The Group on Engineering in Medicine and Biology had received a broadened charter from the IEEE Board at its November 1967 meeting. The situation has greatly stabilized. The Group has emerged with a stronger sense of purpose and scope, with an improved arrangement for bringing in life scientists as active members, and with clearer understanding of the role of the Group within IEEE. Pressures for the formation of an elite Society were relieved by the formation of such a society outside and without any ties to IEEE; its role will become clear with the passage of time. Efforts to bring biological and medical organizations into a more active sponsorship of the annual inter-society conference led to the conclusion that a fresh start would be psychologically more acceptable than a reorganization of the present Joint Committee on Engineering in Medicine and Biology. IEEE is supporting but is avoiding any domination of the planning that is currently proceeding for a new inter-society arrangement.

The two General Committees received attention. A special Task Force was organized to review the present overall standards programs, and to recommend revisions of the IEEE Standards Programs, the role of the IEEE Standards Committee, and the relationship of this Committee to the Groups and their Technical Committees, and the procedures and staff support necessary for the proposed programs. The task force is continuing its work.

TAB OpCom, through its officers and then as a committee-of-the-whole, made a thorough review of the New Technical and Scientific Activities Committee. The conclusion was that the NTSAC, and its subcommittees, had evolved into a mixture of policies, planning, monitoring, and operational activities, without clear guidelines and communication channels. TAB needs to have the technical planning function continued but many of the other activities are duplicative and should be merged or eliminated.

TAB support continued for computer aided design (CADAR). An exploratory program was initiated to determine the degree of membership interest in manufacturing technology. An ad hoc committee, with membership open to all Groups, is examining both the general application of electrical engineering technology to the manufacturing of any products and the more specialized problems of manufacturing the many components and devices that go into modern electrical and electronic systems.

(5) This report of technical activities under the cognizance of the Technical Activities Board closes with only a brief mention of innovations by the individual Groups. For many years, the Groups have been aware of the growing importance of interdisciplinary areas. This awareness is most easily evident in the cosponsorship of conferences with other organizations. In 1968, fully one-third of the major conferences and symposia were cosponsored. The Groups are experimenting with new inputs to their Chapters, for example, with sponsored lecturers or with prepared materials for use by one or more local experts. These latter efforts are being coordinated with the Educational Activities Board. Several Groups have given particu-

lar attention to Student Members, recognizing that encouragement of students to identify with the Group and IEEE leads to an active and participating member in the years ahead. The Geoscience Electronics Group has offered its Newsletter as an inter-Group coordinating mechanism for oceanography; it will be sent free upon request by any IEEE member, following the example of the CADAR newsletter. Some Groups have initiated a bibliographic service, to provide titles or abstracts for the relevant literature not published by IEEE; this is in addition to the interaction between the Groups and the IEEE Information Services, under the cognizance of the IEEE Publications Board and reported elsewhere.

2. The Joint Technical Advisory Committee (JTAC), sponsored by the IEEE and EIA (Electronic Industries Association), held five meetings during 1968. There have been four subcommittees active during the year.

Subcommittee 63.1 - Electromagnetic Compatibility: This Subcommittee was established to undertake a study of the needed technical areas and to formulate objectives for dealing with the subject.

The study was initiated at the suggestion of the White House that JTAC "might well consider becoming a focal point for initial study of needed technical programs, and for the formulation of objectives for dealing with the subject as a national problem." The JTAC presented its four-year study, a 2,000-page report, SPECTRUM ENGINEERING—THE KEY TO PROGRESS, to the Director of Telecommunications Management and the FCC Chairman at a formal meeting in Washington, D. C., on July 12, 1968.

The paramount recommendation made in the report is that technical procedures relating to allocation and assignment of the radio spectrum must be markedly changed through the adoption of a spectrum engineering philosophy and system design concept which will lead to the establishment of the "next generation" spectrum engineering system. As a step toward establishing the "next generation" spectrum engineering system, the JTAC recommended the formation of a "Pilot Project" which would put the recommended frequency selection concept into experimental operation in a trial region.

This report contained for the first time results of studies in depth which were conducted in the following areas:

- frequency coordination and monitoring resources in the U. S. ;

- a system to determine radio spectrum usage information;
- a detailed study on the problem of antenna farms leading to classification and recommended procedures;
- compilation of a complete survey of all available data on man-made noise; and
- the relationship between man's use and natural phenomena has been suggested as an area for better organized study.

Subcommittee 65.1 - Future Needs and Uses of the Spectrum: The Subcommittee, in conjunction with the Office of Telecommunications Management, conducted a survey to develop information on prospective future uses of electromagnetic spectrum. The JTAC contacted industry while the OTM devoted its survey to government agencies. In releasing a concise report which charted the results of the Subcommittee's survey, JTAC recommended that a single appropriate entity be formed in order to properly coordinate the projected developments requiring radio spectrum allocation. This further substantiated the recommendation made in JTAC's earlier book, SPECTRUM ENGINEERING - THE KEY TO PROGRESS, in which the JTAC recommended the establishment of a new Spectrum Engineering Entity to cope with the burgeoning demands for more frequencies and increased complexity and engineering effort required to meet those demands.

Subcommittee 66.2 - Testing Sharing of TV Channels by LMRS: This Subcommittee was established by the JTAC in order to continue to assist the FCC in the tests now being conducted by the Commission, as a result of a recommendation made to the FCC in an earlier JTAC report "Mobile Radio Services," to further determine the feasibility of sharing television channels by stations in the land mobile radio services.

Subcommittee 67.1 - Spectrum Utilization Aspects in the Use of Space Techniques: This Subcommittee was established in February 1967 to study spectrum utilization aspects of space techniques and issue a report as a supplement to RADIO SPECTRUM UTILIZATION to include the space requirements which have resulted by the enormous strides in satellite and space communications.

### III. EDUCATIONAL ACTIVITIES

1968 marked the formal inauguration of the Educational Activities Board, which held four meetings during the year. Four standing committees of the Board have now been established: Pre-College Guidance, Student Activities, Accreditation, and Continuing Education.

Pre-College Guidance. The Chairman of this Committee is responsible for pre-college guidance activities of the Institute. He receives staff support from the Coordinator of Student Activities. The following pre-college guidance activities were initiated during 1968:

- (1) A wide segment of business, professional societies, and technical colleges was surveyed in an effort to determine those guidance activities that are in existence. The IEEE wishes to supplement and complement appropriate guidance activities rather than duplicate or conflict with them.
- (2) The Pre-College Guidance Committee launched a program based on the following five points:
  - IEEE activities in this area should be coordinated with ECPD.
  - IEEE Groups and Sections should be encouraged to promote the distribution of existing brochures, films, etc.
  - The IEEE guidance program should be broad in scope, covering skilled craftsmen, technicians, professional engineers.
  - The IEEE guidance program should supply accurate information on engineering as a career.
  - High school guidance counselors should be provided assistance in becoming aware of career opportunities in engineering.
- (3) A new guidance film, "Engineering - Challenge of the Future," cosponsored by IEEE and HKN was produced and is being distributed for loan and purchase.
- (4) The IEEE guidance brochure, "Your Challenge in Electrical Engineering," is being widely distributed.
- (5) Many inquiries by high school students in the area of engineering as a career have been answered.

Student Activities. Two meetings of the Student Activities Committee were held in 1968. The Annual Vincent Bendix Award program was administered with grants to five Student Branches totalling \$2,075. The second Student Branch Counselors meeting was held at the 1968 International Convention. This program has been evaluated and considered worthy of continuance. The first Student Convocation was held

during the 1968 International Convention; it is planned to continue this program biennially in the future.

IEEE Student and Student Associate Branches enjoyed a growth of 19, making a total of 319 operating as follows:

Region	Student Branches	Associate Branches	Total Branches
1	48	19	67
2	36	7	43
3	32	3	35
4	32	8	40
5	29	5	34
6	40	7	47
	<u>217</u>	<u>49</u>	<u>266</u>
7	17	10	27
8	10	0	10+Sec.Br.
9	12	1	13
10	1	0	1
	<u>257</u>	<u>60</u>	<u>319</u>

Total IEEE Student/Student Associate membership grew from 22, 248 on December 31, 1967 to 23, 930 on December 31, 1968.

Accreditation. As in the past, IEEE maintains and continually updates a listing of appropriate and competent volunteer members who may be called upon by the Engineers' Council for Professional Development to form special teams whose function is to evaluate curricula at universities in the United States.

The Accreditation Committee works closely with both volunteers and the Engineers' Council for Professional Development to ensure that the channels of communication are effectively use.

Continuing Education. The Educational Activities Board decided to consider activities in this area as a committee of the whole for this first year. Among many projects considered the following were acted upon:

- (1) Slide Tape Lectures. This series of one-half hour audio visual lectures, started in late 1967 and available to Sections and Student Branches for their use as either educational or general program material, were continued. Special attempts were made to produce material with both widespread appeal and educational value. To this end, a series was envisioned encompassing the activities of specific areas of engineering activity in the National Institute of General Medical Sciences of the National Institutes of Health. Because of the nature of the work involved, it will be sometime in 1969 before a number of these lectures will be completed. In addition, special two-day seminar on Hybrid Microelectronics conducted during WESCON was recorded and will be made available in early 1969. Other lectures have

been recorded; however, financial commitments limit the total number of lectures which can be made available.

- (2) Short Course Listing. A new service to members was inaugurated this year by developing and publishing in SPECTRUM a list of all available short courses being offered by universities throughout the United States and Canada. This service is a continuing one and the listings are scheduled to be published at least three times a year - fall, winter and spring - and will cover offerings available during the following six-month period.
- (3) Educational Film Listing. A listing of films available on loan from Headquarters as well as a comprehensive listing of film sources was produced and distributed to the Sections and Student Branches. The listing will be updated periodically as needed.
- (4) Convention Tutorial Seminars. In view of the excellent acceptance of the tutorial seminars presented at the 1968 IEEE International Convention, the Educational Activities Board decided to enhance this activity and augment the number by one. Three seminars, entitled "Fundamentals of Integrated Circuits," "Fundamentals of Reliability," and "Effective Engineering Writing," will be presented during the 1969 IEEE International Convention.
- (5) IEEE Short Courses. In an attempt to determine further the needs and desires of our members, the Educational Activities Board authorized the development of two Short Courses to be presented at different locations at various times throughout the year. Titles of the courses are "Computer Programming for Electrical Engineers" and "Problem Solving for Electrical Engineers Using Time Shared Computers."
- (6) Home Study Courses. The Educational Activities Board also authorized the procurement of a home study course which could be made available to the general membership. A course entitled "Management Games Seminar" was selected and an agreement was entered into with the Management Games Institute to produce these courses during 1969.

Descriptions of all the foregoing material was prepared and bound in loose-leaf notebook form, and made available to appropriate individuals in the Sections, Chapters and Student Branches.

IV. BOARD AND STANDING COMMITTEE ACTIVITIES

1. Admission and Advancement Committee. During the year 30,400 membership applications for admission and transfer were processed. Of these applications, 1,302 required review by the Admission and Advancement Committee during the twelve meetings held in 1968, when action was taken as follows:

	Senior Member	Member
Admissions approved	214	565
Admissions rejected	66	42
Transfers approved	286	84
Transfers rejected	35	10
	<u>601</u>	<u>701</u>

Following a recommendation received from the Director of Region 8, membership applications were printed in Spanish and are now available upon request to the IEEE.

2. Awards Board. In 1968 the Awards Board held three meetings, all of which were in New York. Recommendations from its Committees for candidates for the five Major, eight Field, three Prize Paper and two Scholarship Awards of the Institute were considered and approved for submission to the IEEE Board of Directors for approval. A portion of the first meeting of the year, scheduled during the IEEE International Convention, was devoted to a joint session with representatives from the different IEEE Groups for the main purpose of conducting a general discussion of all the Institute awards and the External Awards. This proved to be very enlightening and it was believed to be a good step towards studying the various problems encountered, which would be considered later when the review of the entire award structure is undertaken in 1969.

During the year the Field Awards were presented at several locations throughout the country. Presentations were made at the Winter Power Meeting in New York; the International Conference on Communications in Philadelphia; the Western Electronic Show and Convention in Los Angeles; the Electronics and Aerospace Systems Convention and the International Electron Devices Meeting in Washington, D. C.; the Northeast Electronics Research and Engineering Meeting in Boston; and the National Electronics Conference in Chicago. The Medal of Honor, Major Annual Awards and the Prize Paper Awards were presented at special affairs during the IEEE International Convention.

Regarding the External Awards, which are awards given by outside organizations but are of interest to IEEE and its members, recommendations were submitted for the John Fritz

Medal, the Hoover Medal, the Kelvin Gold Medal, the National Medal of Science, the Alfred Noble Prize, the Elmer A. Sperry Award and the Washington Award. In view of the expiration of terms of some of the IEEE Representatives on the John Fritz Medal Board of Award, the Sperry Board of Award and the Washington Award Commission, new appointments were made to replace the outgoing Representatives. Brief information on the External Awards has been included in the 1968 edition of the Awards Board Brochure, "IEEE Awards - An Invitation to Nominate."

With reference to the Charles LeGeyt Fortescue Fellowship, a recommendation was made and approved that the stipend be increased to \$3,000. This Fellowship is given for one year of graduate work to a student of electrical engineering who has received a degree from a recognized college or university.

3. Educational Activities Board. (See Section H-III)
4. Fellow Committee. The Committee held two meetings and conducted much activity by correspondence during the year. Upon the recommendation of the Committee, the Board of Directors amended two IEEE Bylaws: (1) increasing the number on the Committee from sixteen to seventeen and (2) changing the number of Fellow grade candidates to be recommended to the Board each year from 125 to a maximum total equal to one two-hundredth of the number of Senior Members enrolled as of December 31 of the preceding year.

The Committee submitted to the Board of Directors the names of 127 candidates, with accompanying citations, recommended for elevation to Fellow grade.

Forms and literature relating to Fellow Committee activities were streamlined in 1968. A subcommittee is now developing a handbook, to be published in 1969, to assist sponsors in submitting Fellow grade nominations.

5. Finance Committee. In 1968 this Committee held five meetings, at which it reviewed the trends and financial results of operations of IEEE and compared them with the 1968 Budget.

The results of the annual Audit, performed by Price Waterhouse & Co., were accepted by the Committee and the statements were recommended for printing in SPECTRUM.

A five-year statistical comparison of departmental employees, membership and publishing statistics, and income and expense items, was requested by the Committee and prepared by the staff to assist the members of the Long Range Planning Committee.

It was recommended that the present method of handling Group surplus funds continue but that the \$175,000 to be received by the Computer Group be handled on an exception basis because of the unusual circumstances; these funds may be placed in the General Institute Investment Fund where they would participate in capital gains and losses and interest and dividend income in the same manner as other funds.

The 1969 Budget was prepared and submitted in November 1968 to the Board of Directors with a detailed explanation of all items. This preliminary review was to allow sufficient time to make the necessary adjustment to reflect the Board of Directors' decisions before it was presented for final approval in January to the 1969 Board of Directors.

The Finance Committee recommended to the Board of Directors and the Board accepted a new method of determining what part of the income and increase in market value of investments is available for present expenditures and what part must be reserved for the future.

6. History Committee. One of the goals of this Committee is to stimulate articles on historical subjects for referral to the SPECTRUM Editor for publication consideration. Activity in this direction continued during 1968.

A major project of the History Committee is the preparation of a history of the formation of the IEEE from the merger of the Institute of Radio Engineers and the American Institute of Electrical Engineers. This project is being carried out under the auspices of the Committee by Nelson Hibshman, retired IEEE Executive Consultant.

A formal meeting was held during the March International Convention, but most of the Committee work was carried on by correspondence.

7. Internal Communications Committee. The ICC held six meetings during 1968. It has operated as a far-ranging advisory group to the Institute and has sought to improve the interface between many operating entities of the Institute and its members.

The Committee has reviewed and commented on many communications activities, including billing notices, a review of the solicitation card seeking a member's personal information, and letters to the immediate superior in the organization from which newly elected Fellows are appointed. In addition, the Committee has reviewed the whole family of certificates which had mushroomed over the years, and a stylized form has now been adopted - the ICC gave a presentation of its suggested program to the chairmen of the Institute's committees concerned. The new certificates have been approved by the Executive Committee and should be available in early 1969.

The ICC felt that students should be aware of the concept of electrical and electronics engineering and a program of campus technical pictures should be initiated - Chairman Bregar presented the ICC program to the Educational Activities Board. The Board endorsed the program and has taken it under its jurisdiction.

ELECTRICAL ENGINEERING, the Institute's management newsletter on IEEE operations to encourage communication among committees, Groups, Sections, and staff, is published under the aegis of the ICC. Additional information on this publication could be found in the publication section of this report.

8. Intersociety Relations Committee. During 1968 the ISRC completed its Manual incorporating the Committee charter, including its charge from the Board of Directors, IEEE policy regarding the various areas of intersociety relations and its policy concerning the appointment of IEEE representatives to other organizations. The Manual also spells out and illustrates the operational responsibilities of the ISRC and the implementation of IEEE policy. The Manual will serve as an orientation tool for new members of the Committee and a basic document on the operation of the ISRC.

The ISRC also developed a format for its annual report to the Executive Committee regarding outside organization representation and presented its first comprehensive report based on input from each of the Standing Committees or Boards to which it had delegated responsibility for appointing representatives under the new implementation of Policy #21 developed and put into effect in 1967.

The IEEE representative on the ECPD Board and Executive Committee reported that ECPD was handicapped in some of its activities by lack of funds. The ISRC recommended to the IEEE Executive Committee that IEEE find ways to augment its financial assistance to ECPD.

The ISRC reviewed a number of policy matters such as the Professional Relations Committee's Statement of Ethics, the possibility of abandoning reciprocal entrance fee agreements with other organizations and the development of a feasible relationship between the IEEE and separate organizations which evolve from special Groups within the IEEE.

During 1968 Bylaw 309.6 was changed to officially specify that the Senior Past President of IEEE shall be the Chairman of the ISRC and the IEEE representative on the ECPD Executive Committee shall serve as a member or ex-officio member of the ISRC.

The ISRC Subcommittee on Scientific and Cultural Exchanges between the United States and the Soviet Union and Eastern European Nations started exploring ways to expand its activities to include exchanges comparable to the IEEE/Popov Society

exchange with other Eastern European nations. In 1968, IEEE delegates to the Popov Society Congress had the privilege of visiting Novosibirsk and other facilities. The Subcommittee is confident that the expanded exchange will be much more meaningful to all concerned in the future. IEEE has expanded its delegation to fourteen for the 1969 Popov Meeting due to an unusual show of interest by the membership in being a part of the delegation. A new "1969 Guide" for the delegates was produced and distributed.

9. Life Member Fund Committee. The Committee, at its annual meeting in March, reconfirmed the apportionment of \$10,000 for five years, beginning in 1966, for supporting IEEE participation in the field of such international standards as are in the scope of IEEE.

It was also reconfirmed that the award of \$50 in cash and a certificate to the Institute Best Student Paper second prize winners should be implemented. For practical reasons this implementation may begin with the prizes awarded for 1968.

There was active discussion and general agreement that the Life Member Fund Committee would feel it appropriate to support the work of the History Committee. It is expected that a formal request from the History Committee will be received outlining the needs and amount required to support the work on the compilation of the technological history of important events in the communications, electronics, and electrical engineering fields.

10. Long Range Planning Committee. There were two meetings of this Committee in 1968, at which the responsibilities of the Committee were defined and tasks organized.

The Committee established a basic sequence of analysis within which it would examine and recommend: (1) objectives of the Institute, (2) activities directed at meeting these objectives, (3) organization to effectively manage and carry out these activities, (4) an overall long range financial projection, and (5) plans for future Committee actions.

A Committee report was compiled and submitted to the Board of Directors. Similar reports, summarizing the accomplishments and recommendations of the Committee, will be prepared annually in the future.

11. Membership and Transfers Committee. Three meetings of the Committee were held in 1968. Most of the activity during the year was devoted to the Membership Drive known as OPERATION GIT (G-Growth, I-Improvement, T-Transfers) and considerable communication with the Sections, whose support and cooperation was

needed to make the Drive a success. All those on the Committee became "working" members, charged with the task of relaying information to, and keeping posted on, the membership activities of selected Sections to which each had been assigned as Coordinator.

Group Membership Committee Chairmen were invited to attend and participate in joint efforts on IEEE and Group membership recruitment. Following the suggestion of the Committee, a Group Chapter Operations Manual was developed and distributed to Group Chapter Chairmen.

During the year, IEEE staff members operated Membership Services Desks at 23 major IEEE conferences, and this service from IEEE will continue at selected conferences in 1969.

Among the subjects considered by the Committee, in addition to member recruitment, were: (1) promoting enrollment of women members, (2) actions to be taken on members in dues arrears, (3) promoting transfers in grade, (4) developing interest of high school students in the engineering profession and (5) encouraging the involvement of members, particularly recent Student graduates, in Section activities.

12. Nominations and Appointments Committee. Three meetings of the Committee were held in 1968 to fulfill its responsibilities. After reviewing all recommendations submitted by IEEE organizational units and individual members, actions were taken to recommend to the Board of Directors candidates for the elective offices of the IEEE and 1969 slates of those Committees and Boards reporting to the Board of Directors. The Committee also submitted the names of recommended candidates for election by the IEEE annual Assembly.

The Board of Directors took favorable action on the recommendation of the Committee to amend the IEEE Bylaws by expanding the Committee membership to twelve to include two members nominated by the Technical Activities Board.

Regional Directors were asked to consider establishment of Regional Nominations and Appointments Committees to encourage maximum participation in the submission of names of suitable candidates to be considered by the Nominations and Appointments Committee for the elective offices and for Standing Committee and Board appointment.

13. Professional Relations Committee. During 1968 it became increasingly clear that the professional relations activities of the Institute had evolved to a state where they could be handled effectively on an ad hoc basis. Accordingly, at the suggestion of the Committee, the IEEE Executive Committee recommended that the Professional Relations Committee be dissolved and that any future activities in this area be handled by a special Ad Hoc Committee appointed by the Executive Committee.

The ongoing activities of the Committee, which consist of overseeing appointments of representatives and involvement with the ECPD Ethics Committee and Development of Young Engineers Committee, as well as the monitoring of the National Council of Engineering Examiners, will continue under the Intersociety Relations Committee.

14. Publications Board. (See Section F and Section H-I)

15. Sections Committee. The following ad hoc committees of the Sections Committee were appointed in 1968 to study and to submit recommendations in areas affecting Section operations. The reports of these ad hoc committees were discussed at two meetings of the Sections Committee in 1968 when actions were taken to refer the recommendations to appropriate Institute Committees and Boards for study.

Long Range Planning for Sections  
Section Programs for Continuing Education  
Section/Student Branch/Group Chapter Relations  
Improved Communications  
Section Chairmen's Forum  
Improving Meeting Attendance

A special study committee appointed in 1968 has recommended that the Constitution for Sections be eliminated in its entirety and that the IEEE Bylaws be revised to incorporate Articles in that Constitution. Following approval of the Sections Committee, this recommendation will be referred to the IEEE Executive Committee for consideration.

16. Technical Activities Board. (See Section H-II)

17. Tellers Committee. This Committee is responsible for supervising the counting of the ballots in the IEEE annual election. Immediately following the deadline for receipt of ballots, the Committee met on November 4, verified the vote counts, and submitted a report to the Board of Directors showing the results of the election.

SECTION H

V. IEEE GROUP INSURANCE PROGRAM

The Insurance Program approved by the Institute for its members showed another substantial increase in participation during 1968. The following table indicates the number of certificates in force for each of the Plans in the Program for the policy years ending in 1968.

<u>Certificates in Force</u>	
Loss of Time	2,994
Major Hospital-Nurse-Surgical	2,780
High-Limit Accidental Death and Dismemberment	3,832
Life Insurance	<u>18,484</u>
Total	28,090

This amounted to a gain of approximately 51%.

The major part of this increase took place in enrollment for the Life Insurance Plan which increased by approximately 100% as a result of a special enrollment period for coverage, without reference to prior medical history, which took place during the early part of the policy year ending August 31, 1968. The information on certificates in force does not include the results of a very successful Charter Enrollment Period for the new Hospital Dollars Plan which started in early October and ended on November 30, 1968. While fully verified data are not yet available, approximately 4,400 members have enrolled for this new coverage. As a result, there were approximately 32,500 certificates in force on December 31, 1968, for all the Plans in the Program.

VI. HEADQUARTERS STAFF ACTIVITIES

As of December 31, 1968, there were 296 permanent employees, plus two part-time consultants, on the IEEE staff. Staff assignments for the years ending 1967 and 1968 are as follows:

	<u>12/31/67</u>		<u>12/31/68</u>	
	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>
Administrative Services				
Accounting		15		19
EDP		24		25
Membership Services		28		26
Operations		100		99
Treasury		<u>4</u>		<u>0</u>
Totals	176	171	174	169
Editorial Services				
Spectrum		12		9
Proceedings		6		7
Group Transactions		38		37
Student Journal		1		3
Other Publications		4		5
General Editorial Office		<u>1</u>		<u>7</u>
Totals	59	62	66	68
Educational Services				
Awards		2		1
Student Branches		3		2
Public Relations		1		2
Support of other organizations		2		3
Career Guidance		0		1
Continuing Education		<u>0</u>		<u>1</u>
Totals	9	8	12	10
Executive Office	17	17	17	17
Information Services		3	5	8
Publication Services			0	3
Technical Services	<u>21</u>	<u>20</u>	<u>20</u>	<u>21</u>
Total	282	281	294	296

Personnel changes during the year included the resignation of John J. Buckley, Manager, Treasury Department, and the addition of the following new members of the staff: Howard Falk, Manager, Information Services Development; Robert J. Loftus, Coordinator, Student Activities; Carl Maier, Advertising Production Manager; H. Lee Nicol, Manager, Public Relations and Promotion; and William R. Saunders, Advertising Director.