

REPORT OF THE SECRETARY

1950

To the Board of Directors  
The Institute of Radio Engineers

Gentlemen:

The tremendously expanding technical field which the Institute represents is reflected in the activities of the organization as portrayed in the following pages of this Report of the Secretary for the year 1950. Not only is the factor of growth shown by the continued increases in almost every item which could represent an index but also by the gradually evolving pattern of dealing with diversified membership interests by technical fields which the Professional Group method represents. This latter approach seems to be progressing successfully in the direction of providing enhanced value of membership to the individual in the Institute.

Attention is particularly directed to the figures concerning membership, Technical Committees and their meetings and the financial statement.

The 1950 National Convention scored a record registration of 17,689 persons as compared with 15,710 in 1949, held 36 technical sessions with 170 papers as compared with 33 and 170 respectively in 1949 and had 253 exhibits as compared with 225 in 1949. Other meetings were:

Fourth Annual Spring Technical Conference (Sponsored by Cincinnati Section)

1950 IRE Technical Conference (Sponsored by Dayton Section)

Radio Fall Meeting (Syracuse)

IRE/URSI Meeting, Commissions 1,6,7,4 (Washington, D.C.)

Conference on Improved Quality Electronic Components (Washington, D.C.)

IRE West Coast Convention (Long Beach, Calif.)

New England Radio Engineering Meeting (Boston)

IRE Conference on Electron Devices (University of Michigan, Ann Arbor, Mich.)

National Electronics Conference (Chicago)

IRE/AIEE Conference on Electronics Instrumentation in Nucleonics and  
Medicine (New York)

National Conference of the IRE Professional Group on Vehicular  
Communications (Detroit)

IRE/AIEE Conference on Electron Tubes for Computers (Washington, D.C.)

UHF-Microwave Conference (Sponsored by Kansas City Section)

The problem of the growing deficit because the revenues from Student dues have, in recent years, been insufficient to cover the basic cost of providing them with the Proceedings has been overcome by increasing them to \$5.00 per year, which amount will become effective in 1951. There has been no increase in Student dues since the establishment of the Student grade in 1932.

The year 1951 brings new problems due to changed world conditions with the inevitable shiftings of industrial and economic emphasis, and technical personnel, that always occur during a National emergency. The management of the Institute has geared itself to keep track of these trends to better organize for providing a maximum of service to its members as changes take place.

Respectfully submitted,

Haraden Pratt,  
Secretary

February 23, 1951

## MEMBERSHIP

At the end of the year 1950, the membership of the Institute, including all grades, was 29,002, an increase of 2,233, or 8% over the previous year. The 2,233 member increase in 1950 was less than 2,400 and 3,332, the increases for 1948 and 1949 respectively. The percentage increase was 11% in 1948, and 14% in 1949. The membership trend from 1912 to date is shown graphically in Figure 2.

The distribution of members in the various grades for the years 1948, 1949 and 1950 is shown in the accompanying plot, Figure 3. Actual figures 1948, 1949 and 1950 are shown in Table 1. Of the 13,518 non-voting Associates, 3,919 have been in that grade for more than five years. 1,786 Students transferred to the Associate grade in 1950, compared to 951 in 1949. The membership ratio of Associates to Higher Grades was 6 to 1 in 1944, 4 to 1 in 1945, less than 3 to 1 in 1946, and about 2 to 1 in 1947, 1948, 1949 and 1950, a very satisfactory trend. Monetary exchange difficulties and devaluation of the pound have contributed to the reduced increase in foreign membership during the past three years.

Detailed analyses can be found on the Tables listed on the following page.

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TABLE I - TOTAL MEMBERSHIP DISTRIBUTION BY GRADES

Grade	As of Dec. 31, 1950		As of Dec. 31, 1949		As of Dec. 31, 1948	
	Number	% of Total	Number	% of Total	Number	% of Total
Fellow	323	1.1	284	1.1	259	1.1
Senior Member	2,726	9.4	2,421	9.0	2,192	9.4
Member	3,803	13.1	3,559	13.3	3,334	14.2
Associate	14,590***	50.3	12,309**	46.0	11,713*	50.0
Student	<u>7,560</u>	26.1	<u>8,196</u>	30.6	<u>5,939</u>	25.3
Totals	29,002		26,769		23,437	

323  
284  
3.9

29  
2  
22

TABLE II - ANALYSIS OF TOTAL MEMBERSHIP DISTRIBUTION BY GRADES

	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A(\$15)</u>	<u>A(\$10)</u>	<u>S</u>	<u>SA</u>	
United States	282	2448	3363	994	3516	8663	6292	890	26,448
U. S. Possessions		5	21	9	20	96	3	2	156
U. S. Overseas Military		<u>7</u>	<u>11</u>	<u>2</u>	<u>6</u>	<u>62</u>	<u>10</u>	<u>6</u>	<u>104</u>
	282	2460	3395	1005	3542	8821	6305	898	26,708
Canada	10	86	144	28	148	326	259	48	1,049
Foreign	<u>31</u>	<u>180</u>	<u>264</u>	<u>39</u>	<u>264</u>	<u>417</u>	<u>40</u>	<u>10</u>	<u>1,245</u>
Totals	323	2726	3803	1072	3954	9564	6604	956	29,002

TABLE III - FIVE-YEAR ANALYSIS OF U. S. AND FOREIGN MEMBERSHIP

	<u>1950</u>	<u>1949</u>	<u>1948</u>	<u>1947</u>	<u>1946</u>
TOTAL	29,002	26,769	23,437	21,037	18,154
U. S. & Possessions	26,708	24,434	21,048	18,723	15,898
Foreign (including Canada)	2,294	2,335	2,389	2,314	2,256
Per Cent Foreign	7.9	8.72	10.2	11.0	12.4

\* Includes 1,260 Voting Associates

\*\* Includes 1,159 Voting Associates

\*\*\* Includes 1,072 Voting Associates

TABLE IV - DISTRIBUTION OF U. S. MEMBERS, 1949 AND 1950  
(Including U. S. Possessions and U. S. Overseas Military)

<u>1950</u>	<u>1949</u>	<u>GAIN</u>	<u>LOSS</u>	
71	91		20	Alabama
93	94	2	1	Arizona
60	58	12		Arkansas
3,012	2,568	444		California
168	117	51		Colorado
413	392	21		Connecticut
33	25	8		Delaware
685	718		33	District of Columbia
296	221	75		Florida
245	224	21		Georgia
29	21	8		Idaho
1,574	1,517	57		Illinois
495	477	18		Indiana
269	253	16		Iowa
152	154		2	Kansas
195	164	31		Kentucky
98	96	2		Louisiana
54	54			Maine
906	784	122		Maryland
1,460	1,281	179		Massachusetts
706	665	41		Michigan
290	350		60	Minnesota
68	62	6		Mississippi
449	474		25	Missouri
33	23	10		Montana
103	93	10		Nebraska
3	7		4	Nevada
39	43		4	New Hampshire
2,501	2,267	234		New Jersey
249	220	29		New Mexico
5,488	5,001	487		New York
202	180	22		North Carolina
19	24		5	North Dakota
1,309	1,246	63		Ohio
149	130	19		Oklahoma
204	202	2		Oregon
1,675	1,453	222		Pennsylvania
78	70	8		Rhode Island
67	59	8		South Carolina
48	42	6		South Dakota
143	120	23		Tennessee
770	732	38		Texas
108	123		15	Utah
17	10	7		Vermont

TABLE IV - DISTRIBUTION OF U. S. MEMBERS, 1949 AND 1950 -Cont'd.  
(Including U. S. Possessions and U. S. Overseas Military)

<u>1950</u>	<u>1949</u>	<u>GAIN</u>	<u>LOSS</u>	
542	465	77		Virginia
437	447		10	Washington
53	56		3	West Virginia
350	355		5	Wisconsin
40	50		10	Wyoming
		<u>1950</u>	<u>1949</u>	<u>Net Gain</u>
<b>TOTAL</b>	<b>26,448</b>		<b>24,278</b>	<b>2,170</b>

UNITED STATES POSSESSIONS

	<u>1950</u>	<u>1949</u>	<u>GAIN</u>	<u>LOSS</u>
Alaska	29	37		8
Canal Zone	3	4		1
Panama	2	3		1
Puerto Rico	16	14	2	
Territories of Hawaii	<u>106</u>	<u>30</u>	<u>76</u>	
<b>TOTAL</b>	<b>156</b>	<b>88</b>	<b>78</b>	<b>10</b>
U. S. Overseas Military	104	68	36	

TABLE V - DISTRIBUTION OF U. S. MEMBERS BY GRADE AND STATE  
As of December 31, 1950

<u>State</u>	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A(\$15)</u>	<u>A(\$10)</u>	<u>S</u>	<u>SA</u>	<u>Totals</u>
Alabama		1	3		5	12	37	13	71
Arizona		7	6	1	15	24	35	5	93
Arkansas	1	2	3		1	23	28	2	60
California	34	206	346	127	468	996	736	99	3,012
Colorado		6	18	1	24	31	78	10	168
Connecticut	9	44	53	14	60	119	101	13	413
Delaware		3	2		4	9	13	2	33
District of Columbia	16	88	126	36	121	196	95	7	685
Florida	1	17	24	19	41	78	106	10	296
Georgia		13	23	2	30	61	94	22	245
Idaho			6	1	3	11	7	1	29
Illinois	8	167	203	68	248	610	222	48	1,574
Indiana	1	41	52	11	79	170	125	16	495
Iowa	2	28	33	4	29	96	58	19	269
Kansas		5	19	1	11	54	54	8	152
Kentucky		7	24	2	10	56	90	6	195
Louisiana	1	5	6	4	11	35	24	12	98
Maine	1	3	3	2	6	11	27	1	54
Maryland	7	102	163	43	153	294	129	15	906
Massachusetts	24	111	181	48	197	407	450	42	1,460
Michigan	1	29	62	33	92	205	242	42	706
Minnesota		12	40	7	38	88	82	23	290
Mississippi		2	2		5	22	35	2	68
Missouri		29	60	8	49	109	165	29	449
Montana			2	1	4	6	20		33
Nebraska		3	17	3	4	36	36	4	103
Nevada		1	1			1			3

TABLE V - DISTRIBUTION OF U. S. MEMBERS BY GRADE AND STATE (Continued)

State	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A(\$15)</u>	<u>A(\$10)</u>	<u>S</u>	<u>SA</u>	<u>Totals</u>
New Hampshire		5	3	2	5	8	13	3	39
New Jersey	61	467	368	146	378	727	311	43	2,501
New Mexico		22	49	4	22	96	49	7	249
New York	93	548	653	195	693	1906	1237	163	5,488
North Carolina	1	12	13	6	17	62	74	17	202
North Dakota			3	1	2	3	10		19
Ohio	3	105	209	37	158	513	258	26	1,309
Oklahoma		4	16	5	22	39	48	15	149
Oregon	1	9	23	8	22	63	69	9	204
Pennsylvania	8	153	198	81	191	597	397	50	1,675
Rhode Island		2	6	3	8	24	27	8	78
South Carolina		1	8	1	9	26	21	1	67
South Dakota			5		3	16	21	3	48
Tennessee	1	9	13	2	18	49	43	8	143
Texas	2	52	133	22	60	282	196	23	770
Utah		4	5		7	24	57	11	108
Vermont		1	2	1		5	8		17
Virginia	4	85	82	19	81	176	88	7	542
Washington	1	26	55	8	66	155	106	20	437
West Virginia		2	1	2	10	15	19	4	53
Wisconsin	1	8	35	12	34	116	126	18	350
Wyoming		<u>1</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>25</u>	<u>3</u>	<u>40</u>
TOTALS	282	2448	3363	994	3516	8663	6292	890	26,448

TABLE VI - DISTRIBUTION OF MEMBERSHIP BY REGION, BY SECTION, BY GRADE  
As of December 31, 1950

<u>Region</u>	<u>Section</u>	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A</u>	<u>S</u>	<u>SA</u>	<u>Section Total</u>	<u>Region Total</u>
1	Boston	35	119	190	53	620	450	48	1,515	2,001
	Connecticut Valley	7	47	62	18	224	113	15	486	
2	New York	51	242	238	95	1207	667	87	2,587	6,445
	Long Island	21	159	228	86	792	227	22	1,535	
	Mid-Hudson	1	4	14	1	48	6	1	75	
	Monmouth	4	63	80	15	184	16	2	364	
	Northern New Jersey	41	270	201	99	692	215	30	1,548	
	Schenectady	6	32	34	9	118	121	16	336	
3	Baltimore	3	47	81	17	228	82	10	468	4,009
	North Carolina-Virginia	1	20	25	9	177	132	22	386	
	Philadelphia	9	162	147	77	646	240	35	1,316	
	Lancaster Subs.	1	10	17	4	43	17		92	
	Princeton	14	64	38	7	87	48	8	266	
	Washington	20	220	288	78	689	176	10	1,481	
4	Akron	1	4	23	6	91	26		151	2,942
	Buffalo-Niagara	1	15	27	10	133	57	6	249	
	Cleveland		26	44	8	148	83	9	318	
	Columbus		10	11	5	56	29	4	115	
	Detroit	1	29	63	31	282	222	40	668	
	Emporium	2	18	34	6	65	19	2	146	
	Pittsburgh	2	34	36	16	181	139	22	430	
	Rochester	3	19	19	7	70	18	4	140	
	Syracuse	12	77	69	9	182	121	35	505	
	Binghamton Subs.		2	17	3	35	11	1	69	
	Toledo		2	10	2	58	31	5	108	
	Williamsport		3	8	2	15	13	2	43	

TABLE VI - DISTRIBUTION OF MEMBERSHIP BY REGION, BY SECTION, BY GRADE (Continued)

Region	Section	F	SM	M	VA	A	S	SA	Section Total	Region Total
5	Cedar Rapids	1	26	24	1	82	32	6	172	4,874
	Chicago	8	174	196	69	888	222	41	1,598	
	Cincinnati	2	13	41	10	90	64	6	226	
	Dayton	1	52	76	8	231	39	3	410	
	Denver		7	24	3	68	106	11	219	
	Des Moines-Ames	1	3	8	2	38	24	7	83	
	Evansville-Owensboro		7	8		32	29	2	78	
	Ft. Wayne	1	12	11	3	49	12	2	90	
	Indianapolis		18	32	6	111	76	7	250	
	Kansas City	1	23	61	9	152	99	15	360	
	Louisville		3	17		43	71	3	137	
	Milwaukee	1	8	33	10	142	135	16	345	
	Omaha-Lincoln		3	19	4	47	38	6	117	
	St. Louis		15	37	5	121	162	31	371	
Twin Cities		12	50	10	156	169	21	418		
6	Atlanta		28	50	6	253	238	46	621	1,878
	Beaumont-Pt. Arthur		1	8	1	32	2	1	45	
	Dallas-Ft. Worth	3	35	67	17	251	173	37	583	
	Houston		17	42	5	112	36	3	215	
	Miami	1	15	24	18	86	101	12	257	
	San Antonio		6	25	3	58	59	6	157	
7	Hawaii		4	6	6	89	2		107	4,402
	Inyokern		3	10		30	6		49	
	Los Angeles	11	127	194	63	935	352	50	1,732	
	New Mexico		23	50	5	130	54	7	269	
	Portland	1	9	23	8	91	66	10	208	



TABLE VII - DISTRIBUTION OF FOREIGN MEMBERS - 1949 - 1950

	<u>1949</u>		<u>1950</u>		<u>1949</u>
	6	Arabia	3	1	Japan
4	141	Argentina	7		Kenya Colony
115	87	Australia		1	Korea
75	1	Bahamas	6	4	Lebanon
2	6	Belgium	1		Malta
7	4	Bermuda	32	30	Mexico
2	29	Brazil		1	Midway Islands
36	1	British Guiana	2	1	Morocco
1	10	British West Indies	12	9	Netherlands
9		Burma		2	Netherlands, West Indies
1	988	Canada	2	1	New Guiana
1049	1	Ceylon	18	27	New Zealand
1	10	Chile	1	2	North Borneo
7	14	China	9	6	Norway
8	7	Colombia	7	6	Pakistan
8	3	Costa Rica		1	Paraguay
1	15	Cuba	6	6	Peru
17	2	Cyprus	7	6	Philippine Islands
2	6	Czechoslovakia	3	3	Portugal
8	16	Denmark	1	1	Rumania
17	4	Ecuador	11	13	Scotland
2	9	Egypt	59	94	South Africa
12	362	England	9	6	Spain
320	2	Ethiopia	9	10	Strait Settlements
2	2	Fiji Islands	2	2	Sudan
1	1	Formosa	35	37	Sweden
1	37	France	41	40	Switzerland
47	6	Germany	2	1	Syria
7	11	Greece	1		Thailand
6	2	Guatemala	4	5	Turkey
2		Honduras	3	3	Uruguay
1	8	Hong Kong	14	13	Venezuela
8	2	Hungary	1		Virgin Islands
2	1	Iceland	2	3	Wales
2	172	India			
159		Indonesia			
2		Iran			
1	2	Iraq			
2	6	Ireland			
5	9	Israel			
10	17	Italy			
22					

1950 1949

GRAND TOTAL 2,294 2,335

OVERSEAS MILITARY MEMBERSHIP

As of December 31, 1950

CANADIAN

	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>15</u> <u>A</u>	<u>10</u> <u>A</u>	<u>S</u>	<u>SA</u>	<u>Totals</u>
London		4	17		13	35	44	4	117
Montreal	3	26	40	10	41	69	58	5	252
Ottawa	3	11	26	5	18	40	19	4	126
Toronto	4	39	51	10	59	130	90	15	398
Vancouver		6	10	3	17	52	48	20	156
	10	86	144	28	148	326	259	48	1,049

U. S. POSSESSIONS

	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>15</u> <u>A</u>	<u>10</u> <u>A</u>	<u>S</u>	<u>SA</u>	<u>Totals</u>
Alaska			7	1	7	12		2	29
Canal Zone			1	1	1				3
Panama			1			1			2
Puerto Rico		1	6	1	2	5	1		16
Hawaii		4	6	6	10	78	2		106
	5	21	21	9	20	96	3	2	156

OVERSEAS MILITARY MEMBERSHIP

	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>15</u> <u>A</u>	<u>10</u> <u>A</u>	<u>S</u>	<u>SA</u>	<u>Totals</u>
P.O. San Francisco Calif.		3	5	1	3	22	8	2	44
P.O. Seattle, Wash.		1				11	1		13
P.O. New York, N.Y.		3	6	1	3	29	1	3	46
P.O. Norfolk, Va.								1	1
	7	11	11	2	6	62	10	6	104

TABLE IX - DISTRIBUTION OF FOREIGN MEMBERS BY GRADE AND COUNTRY  
As of December 31, 1950

<u>Country</u>	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A(\$15)</u>	<u>A(\$10)</u>	<u>S</u>	<u>SA</u>	<u>Total</u>
Arabia		1			1	2			4
Argentina	2	8	3		38	40	19	5	115
Australia	3	18	14	8	18	14			75
Bahama Islands			1		1				2
Belgium			3	1		3			7
Bermuda					1	1			2
Brazil		3	6	3	7	17			36
British Guiana			1						1
British West Indies			3		2	4			9
Burma						1			1
Ceylon						1			1
Chile			2		3	2			7
China		1	2		1	4			8
Colombia		1	2	1	1	3			8
Costa Rica		1							1
Cuba		1	4	1	6	3	1	1	17
Cyprus			1		1				2
Czechoslovakia			3		1	4			8
Denmark		1	2	1	2	11			17
Ecuador			1			1			2
Egypt		1	5		2	2	2		12
England	16	72	75	16	82	55	3	1	320
Ethiopia			1		1				2
Fiji Islands		1							1
Formosa					1				1
France	1	17	7	1	11	8	2		47

TABLE IX - DISTRIBUTION OF FOREIGN MEMBERS BY GRADE AND COUNTRY (Continued)

Country	F	SM	M	VA	A(\$15)	A(\$10)	S	SA	Total
Germany	1		2			4			7
Greece		1	3			1	1		6
Guatemala					1	1			2
Honduras			5			1			1
Hong Kong		1	2	1	3	1	1		8
Hungary		1	3			1			2
Iceland			6		1	1			2
India	1	15	44		16	82	1		159
Indonesia		1	6		7	11			2
Iran		5	1		5	22			1
Iraq					1	1	1		2
Ireland		1			2	2			5
Israel			2		2	6			10
Italy		2	1	1	8	11			22
Japan		2	3		6	1			3
Kenya Colony			5		1	1			7
Lebanon		1	2		1	2			6
Malta	11	180	261	39	264	417	60	10	1,211
Mexico	1	2	3	2	2	16	5	1	32
Morocco		1			1				2
Netherlands		2	4		3	3			12
New Guinea		1			1				2
New Zealand			5	1	6	6			18
No. Borneo		1							1
Norway		1	2	1		3		2	9
Pakistan		1	3			3			7
Peru		2	1		2	1			6

TABLE IX - DISTRIBUTION OF FOREIGN MEMBERS BY GRADE AND COUNTRY (Continued)

Country	<u>F</u>	<u>SM</u>	<u>M</u>	<u>VA</u>	<u>A(\$15)</u>	<u>A(\$10)</u>	<u>S</u>	<u>SA</u>	<u>Total</u>
Philippines	1		1	1	2	2	1		7
Portugal		1	1			1			3
Romania			1						1
Scotland	1	2	5		1	2			11
South Africa		5	12	1	10	29	2		59
Spain		2	3			4			9
Strait Settlements			6		1	2			9
Sudan			1			1			2
Sweden	2	3	6		7	17			35
Switzerland	3	5	6		5	22			41
Syria						1	1		2
Thailand						1			1
Turkey						4			4
Uruguay			1	1		1			3
Venezuela			3		6	5			14
Virgin Islands			1						1
Wales					1	1			2
	31	180	264	39	264	417	40	10	1,245

GRAND TOTAL 1,245

TABLE X - MEMBERSHIP CHANGES, BY GRADES, IN 1950

<u>GAINS</u>	<u>F</u>	<u>SM</u>	<u>M</u>	<u>A</u>	<u>S</u>	<u>Total</u>
Elections	1	108	299	1,301	3,809	5,518
Reinstatements	-	18	30	230	63	341
Transfers to	29	265	237	1,786	6	2,323
<b>TOTAL GAIN</b>	<b>30</b>	<b>391</b>	<b>566</b>	<b>3,317</b>	<b>3,878</b>	<b>8,182</b>
<hr/>						
<u>LOSSES</u>						
Transfers from	-	28	138	360	1,797	2,323
Deaths	6	13	6	25	6	56
Resignations	1	31	66	433	293	824
Delinquents	1	24	122	922	1,987	3,056
<b>TOTAL LOSS</b>	<b>8</b>	<b>96</b>	<b>332</b>	<b>1,740</b>	<b>4,083</b>	<b>6,259</b>
<hr/>						
<b>NET GAIN</b>	<b>28</b>	<b>295</b>	<b>234</b>	<b>1,477</b>	<b>-205</b>	<b>1,929</b>

The net gain of 1,929 shown above compares with 3,125 for 1949.

TABLE XI - ANALYSIS OF TRANSFERS, BY GRADES, 1950

	<u>Transfers from</u>				<u>Total</u>
	<u>SM</u>	<u>M</u>	<u>A</u>	<u>S</u>	
Transfers to F	28	1	-	-	29
Transfers to SM	-	137	127	1	265
Transfers to M	-	-	227	10	237
Transfers to A	-	-	-	1,786	1,786
Transfers to S	-	-	6	-	6
<b>TOTAL</b>	<b>28</b>	<b>138</b>	<b>360</b>	<b>1,797</b>	<b>2,323</b>

TABLE XII - ANALYSIS OF HIGHER-GRDE APPLICATIONS FOR 1950

	<u>Approved</u>	<u>Rejected</u>
<u>Admission Applications</u>		
Senior Member	108	14
Member	299	39

<u>TRANSFER MEMBERS</u>		
<u>Transfer Applications</u>		
Senior Member	265	24
Member	237	23

<u>MEMBERS</u>		
<ul style="list-style-type: none"> <li>E. S. Alexander (A'43, N'44)</li> <li>L. B. Ellis (A'45, N'45)</li> <li>Margaret S. Hoagy (N'46)</li> </ul>	<ul style="list-style-type: none"> <li>Leonard B. Scallino (N'49)</li> <li>Paul E. Waples (N'46)</li> <li>Robert C. Woodhead (A'37, N'46)</li> </ul>	

<u>VOTING ASSOCIATES</u>		
<ul style="list-style-type: none"> <li>George W. Bala (A'31, VA'39)</li> <li>John G. Bala (A'36, VA'39)</li> <li>Robert J. Bala (A'32, VA'39)</li> </ul>	<ul style="list-style-type: none"> <li>Aristote Navrogonis (A'30, VA'39)</li> <li>Albert J. Muchow (A'35, VA'39)</li> <li>Walter E. Poor (A'29, VA'39)</li> </ul>	

<u>ASSOCIATES</u>		
<ul style="list-style-type: none"> <li>W. E. B. Agnew (A'44)</li> <li>Morris D. Douglas (A'48)</li> <li>Gaylor E. Durham (A'44)</li> <li>Elmer W. Everson (A'47)</li> <li>Loren B. Farrell (A'43)</li> <li>Warner G. Kruger (A'48)</li> <li>Richard L. Laudenslager (A'49)</li> <li>Douglas S. Mackiernan (A'41)</li> <li>Arthur G. Mohaupt (A'44)</li> <li>Charles E. Morris (S'45, A'48)</li> </ul>	<ul style="list-style-type: none"> <li>Alexander Hadooy (A'39)</li> <li>Alfred P. O'Connor (A'42)</li> <li>Henry F. Parks (A'48)</li> <li>S. Sengat (A'47)</li> <li>Robert H. Schott (S'49, A'50)</li> <li>William P. Seaman (A'38)</li> <li>G. S. Seshu-iyer (A'48)</li> <li>George S. Staron (S'46, A'47)</li> <li>Max D. Weinberg (A'48)</li> </ul>	

<u>STUDENTS</u>		
<ul style="list-style-type: none"> <li>William M. Cory (S'49)</li> <li>Robert W. Gardner (S'49)</li> <li>Donald R. Garrett (S'47)</li> </ul>	<ul style="list-style-type: none"> <li>Henry P. Kuz (S'49)</li> <li>Donald W. Mease (S'49)</li> <li>Nicholas Slajak (S'49)</li> </ul>	

It is with deep regret that this office records the death of  
the following members of the Institute during the year 1950:

FELLOWS

Edwin H. Colpitts (A'14, F'26)  
Lawrence C. F. Horle (A'14, M'23, F'25)  
Karl G. Jansky (A'28, M'34, SM'43, F'47)  
Fred Kolster (A'12, M'13, F'16)

William D. Loughlin (A'29, M'29, F'35)  
Roger M. Wise (A'26, M'30, F'37)

SENIOR MEMBERS

John E. Allen (A'23, SM'45)  
Francis E. Bash (SM'45)  
John F. Bates (A'36, SM'45)  
Norman R. Beers (SM'50)  
Lloyd A. Briggs (M'29, SM'43)  
Roy W. Chesnut (M'42, SM'43)  
Frederick A. Cobb (A'26, M'28, SM'43)

B. Ray Cummings (A'18, M'20, SM'43)  
Hammond H. Hollis (A'28, M'38, SM'43)  
James H. Ludwig (A'37, VA'39, SM'48)  
George O. Milne (M'43, SM'43)  
John V. Murphy (SM'47)  
Nicholas M. Oboukhoff (M'23, SM'43)  
Otis W. Pike (A'26, M'29, SM'43)

MEMBERS

M. S. Alexander (A'43, M'44)  
A. B. Ellis (A'35, M'45)  
Margaret S. Heagy (M'46)

Leonard D. Scalise (M'49)  
Paul E. Waples (M'46)  
Robert C. Woodhead (A'37, M'46)

VOTING ASSOCIATES

George W. Bain (A'31, VA'39)  
John C. Bain (A'36, VA'39)  
Robert J. Hare (A'32, VA'39)

Aristote Mavrogenis (A'38, VA'39)  
Albert J. Muchow (A'35, VA'39)  
Walter E. Poor (A'29, VA'39)

ASSOCIATES

W. B. R. Agnew (A'44)  
Morris D. Douglas (A'48)  
Gaylord E. Durham (A'44)  
Elmer W. Everson (A'47)  
Loren B. Harrell (A'43)  
Werner C. Kruger (A'48)  
Richard L. Laudenslager (A'49)  
Douglas S. Mackiernan (A'41)  
Arthur G. Mohaupt (A'44)  
Charles E. Morris (S'45, A'48)

Alexander Nadosy (A'39)  
Alfred P. O'Connor (A'42)  
Henry F. Parks (A'42)  
S. Sampat (A'47)  
Robert H. Schott (S'49, A'50)  
William F. Seeman (A'35)  
C. S. Sessa-iyer (A'49)  
George S. Stancu (S'46, A'47)  
Max D. Weinberg (A'48)

STUDENTS

William M. Cory (S'49)  
Robert W. Gardner (S'49)  
Donald B. Garrett (S'47)

Henry P. Kun (S'49)  
Donald W. Maas (S'49)  
Nicholas Sidjak (S'49)

A condensed summary of income and expenses for 1950 is shown in Table XIII, and a balance sheet for 1950 is shown in Table XIV. Income and expenses for each year since 1914 are shown graphically in Figure 4.

TABLE XIII- SUMMARY OF INCOME AND EXPENSES, 1950

INCOME

Advertising	\$211,021.40	
Member Dues and Conventions	434,596.55	
Subscriptions	50,575.45	
Sales Items, Binders, Emblems, etc.	15,811.38	
Investments Income	11,415.65	
Miscellaneous Income	<u>282.35</u>	
TOTAL INCOME		\$723,702.78

EXPENSES

PROCEEDINGS Editorial Pages	\$170,806.71	
Advertising Pages	116,565.09	
Yearbook	49,030.14	
Section and Student Branch Rebates	28,916.62	
Sales Items	9,090.08	
Miscellaneous Printing	2,387.15	
General Operations	174,707.08	
Convention Cost	<u>108,975.04</u>	
TOTAL EXPENSES		\$660,477.91

SURPLUS

TOTAL SURPLUS		<u>\$ 63,224.87</u>
Reserve for Depreciation		<u>7,106.77</u>
NET SURPLUS		\$ 56,118.10

TABLE XIV - BALANCE SHEET - DECEMBER 31, 1950

ASSETS

Cash and Accounts Receivable	\$234,505.04	
Inventory	<u>13,267.59</u>	
Total Current Assets		\$ 247,772.63
Investments at Cost	488,059.14	
Building and Land at Cost	356,687.30	
Furniture and Fixtures at Cost	76,014.32	
Other Assets	<u>14,602.49</u>	
Total		<u>935,363.25</u>
Total Assets		\$1,183,135.88

LIABILITIES AND SURPLUS

Accounts Payable	\$ 8,891.00	
Federal Taxes on Emblems, etc.	<u>85.58</u>	
Total Current Liabilities		\$ 8,976.58
*Deferred Liabilities		<u>260,103.96</u>
Total Liabilities		269,080.54
Reserve for Depreciation		26,878.80
Surplus - Donated	597,281.03	
Surplus - Earned	<u>289,895.51</u>	
Total Surplus		<u>887,176.54</u>
Total Liabilities and Surplus		\$1,183,135.88

\* 1951 Items, PROCEEDINGS for members and subscribers, Advertising, and Convention Service

## EDITORIAL DEPARTMENT

During the year 1950 there were published in the PROCEEDINGS OF THE I.R.E. a total of 2,532 pages, including covers. Of these, 1,516 were editorial pages and 1,016 advertising pages.

The total of 2,532 pages published during the year compares with 2,404 in 1949, and 2,452 in 1948. The number of editorial pages (1,516) compares with 1,532 in 1949, and 1,592 in 1948. Advertising pages numbered 872 in 1949 and 860 in 1948. The number of editorial pages published each year since 1913 is shown in Fig. 1.

Technical papers totaling 186 were published in 1950, as against 183 in 1949. In addition, 6 IRE Standards were published in 1950 as against 4 in 1949. Authorship of these papers was by 252 individuals of whom 182, or 73 per cent, were members of the Institute. In 1949, 183 of the 252 authors, or 73 per cent, were members.

The volume of papers submitted for publication continues at a high rate. During 1949, 287 papers totaling an estimated 1,894 PROCEEDINGS pages were submitted, or an average of 24 papers and 158 pages per month. During 1950, 271 papers of 1,547.2 pages were received, or 23 papers and 129 pages per month.

The backlog of papers on hand in the Editorial Department at the end of 1950 consisted of 141 papers totaling 777 PROCEEDINGS pages, of which 81 papers or 436 pages had been accepted for publication, the remainder being under review. This represented a noticeable increase over the record low

backlog total at the end of 1949 of 103 papers or 585 pages, but was substantially lower than the 1948 total of 141 papers or 981 pages.

In a move to consolidate the technical material in the PROCEEDINGS, the Waves and Electrons Section was discontinued with the January, 1950 issue. This did not affect the contents of the journal, but offered a more closely integrated arrangement of technical and editorial material.

An important innovation in papers procurement activities is being carried out by the Tutorial Papers Subcommittee of the IRE Committee on Education. The Subcommittee, under the chairmanship of Ernst Weber, is engaged in procuring, and recommending for publication, a series of tutorial papers on a wide variety of topics of both present and historical interest. These papers, which will appear at frequent intervals during 1951 and 1952, are to be educational in nature, of exceptional clarity, and prepared in each case by an authority in the corresponding field. It is believed that members in all grades will derive considerable benefit from this series.

During the year, the Editorial Department co-operated closely with IRE Professional Groups on the publication of technical papers and news items of interest to Group members in order to give this important Institute activity full expression in the pages of the PROCEEDINGS. Some of the steps taken by the Editorial Department are as follows: the procurement of papers of particular interest to Groups; the referral of submitted papers to Professional Groups for publication consideration; prompt publication of papers recommended by Groups; publication of 100-word abstracts of papers delivered at Group-sponsored conferences; publication of monthly columns on Professional Group News in the Institute News and Notes Section of the PROCEEDINGS; and bimonthly publication of a list of Professional Groups, together with the names and addresses of their chairmen. In addition, the Advertising Department frequently devoted the first page to publicizing Group-sponsored meetings, as well as other IRE conferences.

In recognition of the important work of the Editorial Administrative Committee in determining the acceptability of technical material for publication, the Board of Directors raised its status to that of a Standing Committee of the Institute and changed its name to Administrative Committee of the Board of Editors.

The 1950 IRE Directory (formerly known as the IRE Yearbook) was published on a considerably shortened production schedule, despite the substantial increase in size over prior years. The closing date for membership listings was changed from December 31 of the prior year to May 15 of the current year, and the mailing date was shifted from July to September 15.

The Editorial Department is directed by Editor Alfred N. Goldsmith in matters of editorial policy, content, and format, and by Executive Secretary George W. Bailey in matters of finance and administration. Both function through Technical Editor E. K. Gannett and an effective staff. It has been greatly assisted by the counsel and co-operation unstintingly given by the members of the Board of Editors, Papers Review Committee, and the Administrative Committee of the Board of Editors.

The policy of publishing standards in the PROCEEDINGS was adopted in late 1949. Issues of the 1950 PROCEEDINGS containing standards are identified by a red band on the cover and spine. This method of publication is still being carried on and Reprints of standards appearing in the PROCEEDINGS may be purchased from Headquarters for a nominal sum. Six standards were published during 1950.

The following standards were prepared by Technical Committees and appeared

1950

TECHNICAL COMMITTEES. During 1950, twenty-three technical committees, with their subcommittees, task groups and planning committees for conferences or symposia, held 146 meetings at the Institute Headquarters, five meetings at the Hotel Commodore during the National Convention and ten meetings at other points, a grand total of 161 meetings.

A report on the activities of the IRE Technical Committees and their Subcommittees is compiled in the office of the Technical Secretary and published each month in the PROCEEDINGS.

In addition to IRE committee meetings, the National Television System Committee held forty meetings at Headquarters. Several of the NTSC Panels requested and received secretarial assistance from the Office of the Technical Secretary. Eleven meetings of committees jointly sponsored by IRE and other outside organizations were also held at Headquarters, many requiring secretarial services. During the year twenty-one conferences, symposia, technical sessions and national meetings were sponsored by IRE Professional Groups, by Technical Committees or co-sponsored by IRE and other organizations. All of these functions were well attended and met with enthusiastic audience response. The major portion of the work involved in the preparation of these joint conferences and symposia was done by the Office of the Technical Secretary.

The policy of publishing standards in the PROCEEDINGS was adopted in late 1949. Issues of the 1950 PROCEEDINGS containing standards are identified by a red band on the cover and spine. This method of publication is still being carried on and Reprints of standards appearing in the PROCEEDINGS may be purchased from Headquarters for a nominal sum. Six standards were published during 1950.

The following standards were prepared by Technical Committees and appeared

in various issues of the PROCEEDINGS during 1950:

Standards on Electron Tubes: Definitions of Terms, 1950.

Standards on Electron Tubes: Methods of Testing, 1950.

Standards on Designations for Electrical, Electronic and Mechanical Parts and their Symbols, 1949 (appeared Feb. '50).

Standards on Television: Methods of Measurement of Television Signal Levels, Resolution, and Timing of Video Switching Systems, 1950.

Standards on Television: Methods of Measurement of Time of Rise, Pulse Width, and Pulse Timing of Video Pulses in Television, 1950.

Standards on Wave Propagation: Definitions of Terms, 1950.

The following standards, prepared by IRE Technical Committees, have been approved by the Standards Committee and will be published in forthcoming issues of the PROCEEDINGS.

Standards on Circuits: Definitions of Terms in Network Topology, 1950.

Standards on Electroacoustics: Definitions of Terms, 1950.

Standards on Electronic Computers: Definitions of Terms, 1950.

Standards on Abbreviations of Radio-Electronic Terms, 1950.

Standards on Television: Methods of Measurement of Electronically Regulated Power Supplies, 1950.

The Annual Review Committee has prepared its survey, The Radio Progress Report During 1950, which will appear in the PROCEEDINGS within a short time.

The Master Index of Terms prepared in 1949 under the supervision of the Definitions Coordinating Subcommittee, was made available to all IRE Committees and upon request to other Societies. It is presently being revised for the IRE Definitions Coordinating Subcommittee by the Office of the Technical Secretary.

The Institute approved the formation of the IRE Coordination Committee with International Technical Organizations. This Committee will provide liaison with CCIR and other international standardizing bodies with which IRE is concerned. Mr. Axel G. Jensen has been appointed Chairman. This Committee will report directly to the IRE Executive Committee; it will work through the U.S. Department

of State with the CCIR; and with other international bodies. When the CCIR or any other Group requests assistance of IRE, this new Committee will establish an ad hoc group to study the problem and provide a recommended solution. When the Standards Committee feels that a matter should be brought to the attention of an international standardizing body, it will in turn be referred to this Committee.

The Joint IRS Committee was formed by IRE, RTMA, and SMPTE to avoid duplication of effort in the preparation of standards in the fields associated with television. Messrs. Axel G. Jensen, Millard W. Baldwin, Jr., and Dr. R. L. Garman are the IRE representatives on the Committee.

A Joint IRE/AIEE Committee on Noise Definitions has been organized for the specific task of critically reviewing all existing noise definitions and adding such new definitions as may be required.

The Institute has also approved the IRE participation in a newly organized Committee which is known as the Joint IRE/AIEE Committee on High Frequency Measurements. Professor Ernst Weber, of Polytechnic Institute of Brooklyn is the Chairman. The personnel of this Committee is composed of an equal number of IRE and AIEE members. Mr. E. I. Green is the leader of the IRE group. As a Joint Committee, it is autonomous and can engage in any activities which are of interest to technical committees of both sponsoring societies and to the IRE Professional Groups. It is the duty of IRE members on this Committee to keep in contact with the IRE and AIEE activities. This Joint Committee has already sponsored two conferences.

IRE maintains liaison with ASA Sectional Committees. During the year several IRE members were appointed to represent IRE on various ASA Committees. The Office of the Technical Secretary is alert to the importance of maintaining adequate liaison with these committees.

#### PROFESSIONAL GROUP SYSTEM

There are ten Professional Groups presently in existence in the following fields: Antennas and Propagation, Audio, Broadcast and Television Receivers,

Broadcast Transmission Systems, Circuit Theory, Instrumentation, Nuclear Science, Quality Control, Radio Telemetry and Remote Control and Vehicular Communications.

The total membership is in excess of 8500, and is increasing steadily. It is anticipated that a petition to form the eleventh IRE Professional Group on Airborne Electronics will be approved by the Executive Committee. An example of the growth of the Professional Group System is evidenced by the fact that at the 1950 National Convention, five Groups sponsored Symposia, while all of the Groups will sponsor symposia at the 1951 National Convention. Each has nominated a representative to serve on the Technical Program Committee for the Convention.

IRE Sections are constantly informed of the activities of the Groups through the media of Newsletters, Conference Notices and Minutes from the Office of the Technical Secretary. Steps are being taken in the various Sections towards the stimulation of Group activities. As a result of membership drives, many new members have been enrolled in IRE. During the year a number of Groups sponsored Joint Symposia, National Meetings and Technical Sessions. All Groups are interested in securing papers for publication in the PROCEEDINGS. The Professional Group Manual was revised in June 1950.

#### THE JOINT TECHNICAL ADVISORY COMMITTEE

There were eleven meetings during the year. Members of the JTAC attended demonstrations given by CBS, and the Hazeltine Electronics Corporation, of various matters within their field of interest. Volume V, Adjacent-Channel Interference In Monochrome Television, was published and submitted with a letter to the Federal Communications Commission; Volume VI, (correspondence and minutes) was authorized and work commenced; the publication of a supplement to Volume IV, Comments On The Proposed Allocation Of Television Broadcast Services, was prepared. A 'Supplemental Statement' prepared for the FCC in connection with Volume IV was formally presented in evidence before the Commission. The membership was appointed for the year July 1, 1950 to June 30, 1951, and Mr. J. V. L. Hogan was unanimously

elected Chairman. Messrs. Melville Eastham and E. K. Jett were unable to continue their duties with JTAC. Mr. I. J. Kaar and Dr. T. T. Goldsmith succeeded Messrs. Eastham and Jett. Several reports from technical associations and industry have been circulated for comment, and reports on current topics exchanged with other technical bodies, such as the BEC.

Evansville-Osnabro (March) 1950  
 Hawaii (February) 1950  
 Miami (February) 1950  
 Vancouver (September) 1950

1951  
 Phoenix  
 Tulsa  
 Okla. State

The total number of Sections is now 57. Reference to Table IV will show that there has been a substantial increase in membership of these Sections with a few exceptions. It should be borne in mind that most Sections with noticeable decreases in membership released substantial numbers of members to new Sections.

The Subsections of Sections now total 12, the following being formed in 1950:

Ringhaston (Syracuse Section) May, 1950  
 Mid-Indiana (New York Section) December, 1950

1951  
 Raleigh  
 Rome

SECTION ACTIVITIES

We were glad to welcome four new Sections into the Institute during the past year. They are as follows:

Evansville-Owensboro	(March) 1950
Hawaii	(February) 1950
Miami	(February) 1950
Vancouver	(September) 1950

1951  
Phoenix  
Tulsa  
Oklahoma City

The total number of Sections is now 57. Reference to Table XV will show that there has been a substantial increase in membership of these Sections with a few exceptions. It should be borne in mind that most Sections with noticeable decreases in membership released substantial numbers of members to new Sections.

The Subsections of Sections now total 12, the following being formed in 1950:

Binghamton (Syracuse Section)	May, 1950
Mid-Hudson (New York Section)	November, 1950

1951  
Palo Alto  
Rome

TABLE XV - SECTION MEETINGS AND MEMBERSHIP

Sections	Number of Meetings			Membership of Sections					
	1950	1949	1948	1950	%1	1949	%1	1948	%1
Akron	9	1	-	151	- 4	158	-	-	-
(1) Atlanta	10	11	10	621	-20	777	+26	616	+17
Baltimore	10	9	10	468	+12	417	+ 4	400	+16
Beaumont Port-Arthur	11	11	11	145	+18	138	+27	130	- 9
Boston	9	12	5	1515	+22	1239	+ 5	1185	+10
Buenos Aires	14	18	11	115	-18	141	-17	170	+ 8
Buffalo-Niagara	9	9	9	249	+57	158	- 1	160	+ 8
Cedar Rapids	11	11	10	172	+ 4	165	+ 8	152	- 1
Chicago	7	9	5	1598	+ 1	1587	- 1	1609	+ 9
Cincinnati	11	9	10	226	+14	198	+17	169	+ 1
Cleveland	11	11	8	318	+ 1	314	-18	382	+26
Columbus	9	10	6	115	- 3	119	+ 8	110	-13
Conn. Valley	11	11	10	486	+ 9	444	- 1	450	+ 9
Dallas-Ft. Worth	10	10	9	583	+13	517	+57	330	-38
Dayton	9	12	11	410	+ 9	377	+25	302	+22
Denver	9	7	-	219	+12	195	-	-	-
Des Moines-Ames	7	7	5	83	+ 6	78	-17	94	-20
Detroit	9	9	9	668	+ 2	653	+21	539	+ 6
Emporium	9	9	7	146	- 1	148	+10	134	+16
*Evansville-Owensboro	8	-	-	78	-	-	-	-	-
Ft. Wayne	6	5	-	90	+23	73	-	-	-
*Hawaii	8	-	-	107	-	-	-	-	-
Houston	10	9	14	215	- 8	234	+ 5	223	+73
(3) Indianapolis	10	8	10	250	- 6	265	+18	224	+ 3

TABLE XV - SECTION MEETINGS AND MEMBERSHIP (Continued)

Sections	Number of Meetings			Membership of Sections					
	1950	1949	1948	1950	%1	1949	%1	1948	%1
Inyokern	8	8	-	49	+29	38	-	-	-
Kansas City	10	7	7	360	+ 2	352	- 8	383	+14
London	10	9	11	117	+ 5	111	- 3	115	-17
Los Angeles	10	11	10	1732	+22	1422	+20	1186	+19
(2) Louisville	9	8	8	137	-26	186	+141	77	+24
*Miami	2	-	-	257	-	-	-	-	-
Milwaukee	10	19	12	345	- 4	359	+36	264	+52
Montreal	11	9	10	252	+ 7	235	+ 7	220	- 9
New Mexico	11	12	8	269	+13	238	+41	167	-
New York	12	15	12	6109	+ 8	5649	+ 4	5422	+12
North Carolina- Virginia	7	5	6	386	+ 4	370	+20	307	+20
Omaha-Lincoln	7	6	-	117	+12	104	- 7	112	-
Ottawa	10	10	11	126	+23	102	+13	90	-11
Philadelphia	7	6	8	1408	+15	1227	+21	1011	+ 9
Pittsburgh	9	10	9	430	+ 1	425	+31	325	+16
Portland	13	17	10	208	+ 4	200	+19	168	+11
Princeton	7	8	8	266	+ 2	260	+ 7	242	-14
Rochester	8	6	16	140	+18	119	+12	106	- 4
Sacramento	4	8	9	78	+18	66	+ 3	64	+25
(4) St. Louis	8	6	8	371	- 7	399	+35	295	+76
Salt Lake	6	7	2	130	- 6	139	+40	99	-
San Antonio	10	7	6	157	+ 8	145	-20	181	-
San Diego	12	11	12	262	+13	231	+14	203	+ 2
San Francisco	17	11	11	1025	+ 1	1017	+24	818	+ 6

TABLE XV - SECTION MEETINGS AND MEMBERSHIP (Continued)

<u>Section</u>	<u>Number of Meetings</u>			<u>Membership of Sections</u>					
	<u>1950</u>	<u>1949</u>	<u>1948</u>	<u>1950</u>	<u>%1</u>	<u>1949</u>	<u>%1</u>	<u>1948</u>	<u>%1</u>
Schenectady	6	-	-	336	+21	278	-	-	-
Seattle	11	10	10	542	+14	477	+28	373	+27
Syracuse	8	9	7	574	+17	489	+30	375	+41
Toledo	10	10	6	108	- 2	110	+64	67	-
(5) Toronto	8	5	10	398	- 8	540	+19	452	- 1
Twin Cities	12	10	9	418	- 4	434	+ 5	414	+57
*Vancouver	4	-	-	156	-	-	-	-	-
Washington	11	10	10	1481	+10	1343	+11	1213	+11
Williamsport	5	5	2	43	- 8	47	+27	37	-35
	520	483	418	27,715	+ 9	25,407	+15	22,068	+15
Total Membership of Institute .....				29,002	+ 8	26,769	+14	23,437	+11

<sup>1</sup>Percentage increase or decrease based on preceding year.

\*Sections formed during 1950.

- (1) Decrease in membership due to release of territory to new Miami Section formed in 1950.
- (2) Decrease in membership due to release of territory to new Evansville-Owensboro Section formed in 1950.
- (3) Decrease in membership due to release of territory to new Evansville-Owensboro Section formed in 1950.
- (4) Decrease in membership due to release of territory to new Evansville-Owensboro Section formed in 1950.
- (5) Decrease in membership due to release of territory to new Vancouver Section formed in 1950.

TABLE XVI - SUBSECTION MEETINGS

<u>Subsection</u>	<u>Parent Section</u>	<u>Number of Meetings</u>
Amarillo-Lubbock	Dallas-Ft. Worth	5
Binghamton	Syracuse	2
Centre County	Emporium	8
Hamilton	Toronto	6
Lancaster	Philadelphia	3
Long Island	New York	9
Mid-Hudson	New York	2
Monmouth	New York	7
Northern New Jersey	New York	8
South Bend	Chicago	-
Urbana	Chicago	-
Winnipeg	Toronto	-
		<hr/>
		50
British Columbia, University of	IRE-AIEE	10/15/50
Brooklyn, Polytechnic Institute of	IRE (Evening Div.)	
Brooklyn, Polytechnic Institute of	IRE (Day Div.)	6/5/50
Bucknell, University of	IRE-AIEE	1/3/50
California Institute of Technology	IRE	
California State Polytechnic College	IRE	
California, University of	IRE-AIEE	
Carnegie Institute of Technology	IRE-AIEE	
Case Institute of Technology	IRE	
Clarkson College of Technology	IRE	
Colorado, University of	IRE-AIEE	

TABLE XVII - STUDENT BRANCHES, 1950

The Institute's program with respect to Student Branches continued to flourish in 1950. The number of Student Branches formed during 1950 was 17, 14 of which operate as joint IRE-AIEE Branches. The total number of Student Branches is now 105, 60 of which operate as joint IRE-AIEE Branches. This increase of Student interest was accompanied by a large increase in Student members.

Following is a list of the Student Branches:

<u>School</u>	<u>Branch</u>	<u>Formed 1950</u>
✓ Agricultural and Mechanical College of Texas ✓	IRE-AIEE	
✓ Akron, University of ✓	IRE-AIEE	5/5/50 5/9/50
✓ Alabama Polytechnic Institute ✓	IRE	
✓ Alberta, University of ✓	IRE	
✓ Arizona, University of ✓	IRE-AIEE	
✓ Arkansas, University of ✓	IRE	
✓ British Columbia, University of ✓	IRE-AIEE	10/18/50
✓ Brooklyn, Polytechnic Institute of ✓	IRE (Evening Div.)	
✓ Brooklyn, Polytechnic Institute of ✓	IRE (Day Div.)	6/6/50
✓ Bucknell, University of ✓	IRE-AIEE	1/3/50
✓ California Institute of Technology ✓	IRE	3/4/50
✓ California State Polytechnic College ✓	IRE	3/2/50
✓ California, University of ✓	IRE-AIEE	
✓ Carnegie Institute of Technology ✓	IRE-AIEE	
✓ Case Institute of Technology ✓	IRE	12/5/50
✓ Clarkson College of Technology ✓	IRE	
✓ Colorado, University of ✓	IRE-AIEE	

STUDENT BRANCHES (Cont'd.)

<u>School</u>	<u>Branch</u>	<u>Formed 1950</u>
✓ Columbia, University of ✓	IRE-AIEE	
✓ Connecticut, University of ✓	IRE-AIEE	5/9/50
✓ Cooper Union ✓	IRE-AIEE	5/9/50
✓ Cornell, University of ✓	IRE-AIEE	
✓ Dayton, University of ✓	IRE	
✓ Delaware, University of ✓	IRE-AIEE	
✓ Denver, University of ✓	IRE-AIEE	5/9/50
✓ Detroit, University of ✓	IRE	
✓ Drexel Institute of Technology ✓	IRE-AIEE	9/5/50
✓ Fenn College ✓	IRE	
✓ Florida, University of ✓	IRE-AIEE	
✓ George Washington University ✓	IRE	
✓ Georgia School of Technology ✓	IRE	
✓ Illinois Institute of Technology ✓	IRE	
✓ Illinois, University of ✓	IRE-AIEE	
✓ Iowa, State University of ✓	IRE	
✓ Iowa State College ✓	IRE-AIEE	
✓ John Carroll University ✓	IRE	
✓ Johns Hopkins University ✓	IRE-AIEE	3/6/51
✓ Kansas State College ✓	IRE	
✓ Kansas, University of ✓	IRE-AIEE	3/23/51
✓ Kentucky, University of ✓	IRE	
✓ Lafayette College ✓	IRE-AIEE	
✓ Lehigh University ✓	IRE	
✓ Louisiana State University ✓	IRE-AIEE	12/5/50
✓ Louisville, University of ✓	IRE	
✓ Maine, University of ✓	IRE	

STUDENT BRANCHES (Cont'd.)

<u>School</u>	<u>Branch</u>	<u>Formed 1950</u>
✓ Manhattan College ✓	IRE - AIEE *	
✓ Marquette University ✓	IRE-AIEE	
✓ Maryland, University of ✓	IRE-AIEE	
✓ Massachusetts Institute of Technology ✓	IRE-AIEE	
✓ Miami, University of ✓	IRE	1/31/50
✓ Michigan College of Mining and Technology ✓	IRE-AIEE	3/10/50
✓ Michigan State College ✓	IRE-AIEE	
✓ Michigan, University of ✓	IRE-AIEE	
✓ Minnesota, University of ✓	IRE-AIEE	
✓ Mississippi State College ✓	IRE	
✓ Missouri School of Mines and Metallurgy ✓	IRE-AIEE	
✓ Missouri, University of ✓	IRE-AIEE	
✓ <del>Montana State College</del> ✓	IRE-AIEE	
✓ Nebraska, University of ✓	IRE-AIEE	
✓ Newark College of Engineering ✓	IRE	
✓ New Mexico College of Agriculture and Mechanic Arts ✓	IRE-AIEE	3/10/50
✓ New Mexico, University of ✓	IRE	
✓ New York, College of the City of ✓	IRE	
✓ New York University (Day Division) ✓	IRE	
✓ New York University (Evening Division) ✓	IRE-AIEE	
✓ North Carolina State College ✓	IRE	
✓ North Dakota, University of ✓	IRE-AIEE	
✓ Northeastern University ✓	IRE-AIEE	7/12/50
✓ Northwestern University ✓	IRE-AIEE	

✓ 122 Branch 1948  
 ✓ Joint Branch 1950

STUDENT BRANCHES (Cont'd.)

<u>School</u>	<u>Branch</u>	<u>Formed 1950</u>
✓ Notre Dame, University of ✓	IRE-AIEE	
✓ Ohio State University ✓	IRE-AIEE	
✓ Oklahoma Agricultural and Mechanical College ✓	IRE - AIEE *	5/9/50 2/28/50
✓ Oregon State College ✓	IRE	
✓ Pennsylvania, University of	IRE-AIEE	
✓ Pennsylvania State College, The ✓	IRE-AIEE	
✓ Pittsburgh, University of ✓	IRE	
✓ Pratt Institute ✓	IRE	
✓ Princeton University ✓	IRE-AIEE	
✓ Purdue University ✓	IRE	
✓ Rensselaer Polytechnic Institute ✓	IRE-AIEE	2/28/50
✓ Rhode Island State College ✓ <i>University of</i>	IRE-AIEE	
✓ Rutgers University ✓	IRE-AIEE	
✓ San Diego State College ✓	IRE	
✓ San Jose State College ✓	IRE	
✓ Seattle University ✓	IRE	
✓ South Carolina, University of ✓	IRE-AIEE	
✓ South Dakota School of Mines and Technology ✓	IRE	
✓ Southern California, University of ✓	IRE-AIEE	
✓ Southern Methodist University ✓	IRE-AIEE	
✓ Stanford University ✓	IRE-AIEE	
✓ St. Louis University ✓	IRE	
✓ Stevens Institute of Technology ✓	IRE-AIEE	3/10/50

\* Joint Branch June, 1951

STUDENT BRANCHES (Cont'd.)

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<u>School</u>	<u>Branch</u>	<u>Formed 1950</u>	PAGES
✓ Syracuse, University of	IRE-AIEE		
✓ Tennessee, University of	IRE		
✓ Texas, University of	IRE-AIEE		
<del>Toledo, University of</del>			
✓ Toronto, University of	IRE-AIEE	2/28/50	500
✓ Tufts College	IRE-AIEE		
✓ Tulane University	IRE-AIEE		
✓ Toledo, University of	IRE-AIEE		1000
✓ Utah State Agricultural College	IRE		
✓ Utah, University of	IRE-AIEE		500
✓ Virginia Polytechnic Institute	IRE		
✓ Virginia, University of	IRE		
✓ Washington, University of	IRE-AIEE		0
✓ Wayne University	IRE-AIEE		
✓ Wisconsin, University of	IRE		1000
✓ Worcester Polytechnic Institute	IRE-AIEE		1000
✓ Wyoming, University of	IRE-AIEE		15,000
✓ Yale University	IRE-AIEE		20,000

PAID MEMBER  
 1912 TO 1950

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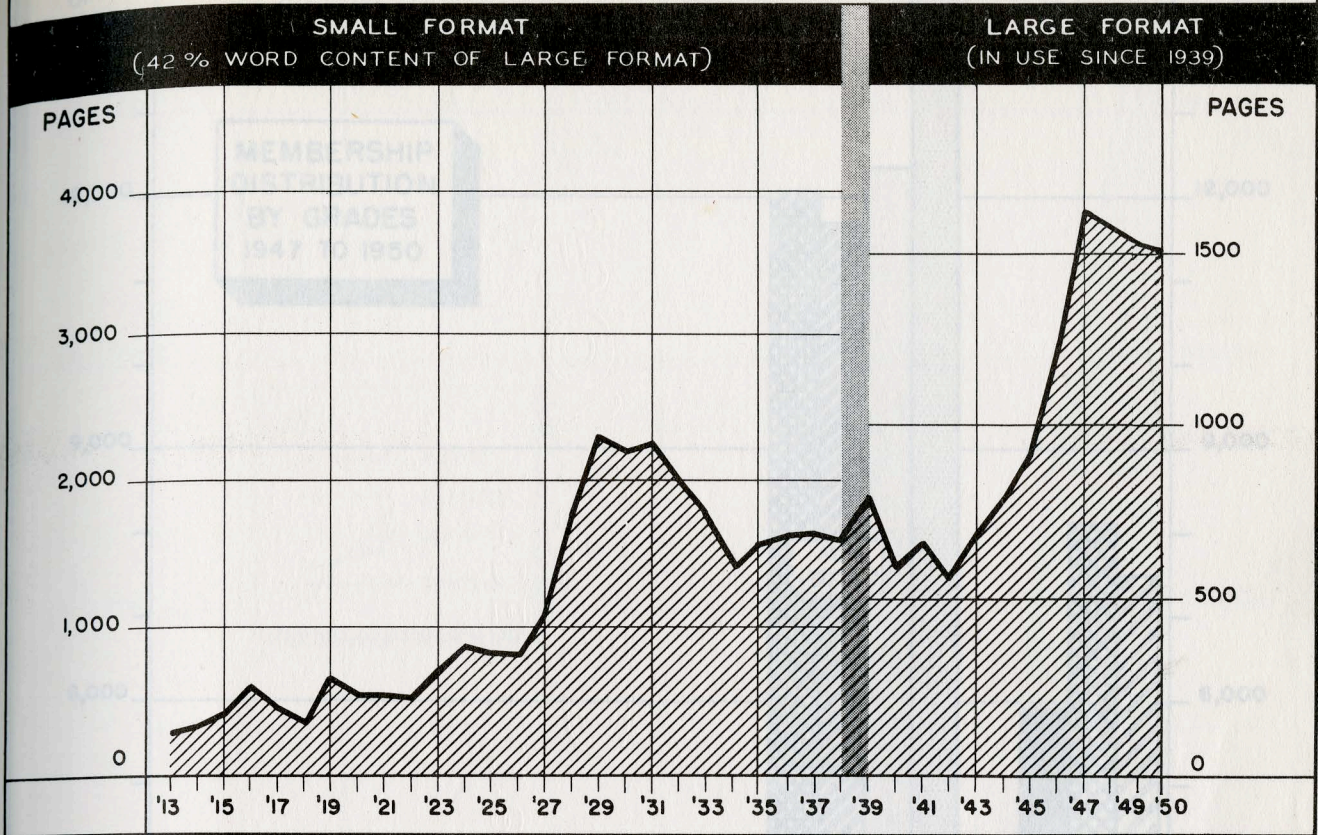


FIGURE 2

