

said he believed that it would be perfectly possible and feasible to release a tele show on film over a "first-run" group of stations and then re-release it in the same locality at a later time to a "second-run" group and finally a "subsequent run" group. He pointed out that any given locality can be fairly and completely covered.

- 18—Seven channels between 174 and 216 megacycles were definitely assigned television by the FCC, with the 480-920 mc. band also reserved for the new wide-band color tele. Six additional tele bands would be provided in the 44-108 mc. region—apportioning of which would be delayed pending further testing.
- 23—IT & T received a telegram from Guy Rabuteau, French scientist in charge of the laboratories of Le Materiel Telephonique, Paris, IT & T associate, which stated that despite German occupation, French research organizations had continued developing television and manufacturers were in a position to deliver pick-up equipment, transmitters, receivers suitable for black and white high definition tele and later on full color television.
- 27—First of a series of television programs covering the world of science and using both "live" talent and film, was inaugurated by the American Museum of Natural History in conjunction with NBC's station WNBT.
- 28—Senators Emil A. Bartunek and Lawrence A. Kane, formally introduced into the Ohio state legislature their bill which amended the Ohio censorship statutes to include television, along with motion pictures and other eligible productions. Proposed amendments included a fee of \$3 for each 10 minutes of televised screen time or fraction thereof. This was the first tele censorship measure and levied fee as well.
- 30—As a contribution to the advancement of television production, George A. Hirliman, prexy of the International Theatrical and Television Corporation, announced that they would sponsor a national contest on July 1st offering 11 prizes which would include a \$10,000 cash award to the best amateur film production submitted.

## JUNE

- 5—A new type of experimentation looking toward development of a broad-band microwave relay system was approved when the FCC granted the Raytheon Mfg. Co., construction permits for five experimental relay stations to be installed between Boston and New York.
- 7—IATSE issued a charter to a new union in the field designated as Television Broadcast-

ing Studio Employees, Local 794 of the Alliance. The new union, having been granted its charter, was expected to launch an intensive drive to unionize tele employees in New York.

- 11—In a move to further its activities in the field of commercial television, CBS revealed the appointment of George Moskovics as commercial manager of television operations, a newly created post made in anticipation of experimental commercial activities in the video field.
- 14—New television plastic lens and receiver, developed by RCA Victor from materials manufactured by Dun Pont, is expected to provide an image five times as large as those obtained with pre-war models, also, brighter images and reduced cost of the receiving sets are indicated, all based on discs of "Lucite" composition as basic material.
- 14—American Television Society held its final official meeting of the season in the auditorium of the Museum of Modern Art, with George T. Shupert, of Paramount Pictures taking over the reins as newly elected president. Awards for television activity during the season were made to various network and inde tele outlets as well as individual effort.
- 18—CBS tele facilities and personnel were made available to network clients on a "working basis" for testing, development and broadcasting of commercial video programs. While there would be no charge for time on the air, there would be a charge of \$150 an hour for use of major studios, personnel and equipment.
- 20—Philco Radio applied to the FCC for three experimental relay broadcast stations to operate in New York, Philadelphia and Washington. Assignment of frequencies between 42 and 10,000 megacycles by the FCC chief engineer was asked.
- 25—John F. Royal, NBC vice-prexy in charge of television, speaking at the opening of the fourth annual NBC-Northwestern U summer radio institute, forecast that television would be a great force for peace during the coming years.
- 26—First large scale relay experiments for tele and FM to be undertaken between Los Angeles and San Francisco were forecast by the application to the FCC of the International Business Machines for relay terminal stations with 15 watts power in those two cities.
- 27—FCC announced the assignment of the first six tele channels. Channel No. 1, 44-50 mc.; channels No. 2 3 and 4, 54-60, 60-66 and 66-72 mc.; channels No. 5 and No. 6, 76-82 and 82-88 mc.

- 27—A large screen tele receiver, which produced a picture 16 x 22 inches and included a radio-phonograph unit was unveiled by GE at a press showing held in New York.
- 29—A RADIO DAILY survey revealed that tele industry leaders were pleased by the FCC's channel allocations.

## JULY

- 9—CBS was reported to have obtained the American rights for 1,000 line television as developed in France and also new foreign patents covering colored television.
- 10—Experimental tele transmission in England will get under way in January, and the commercial aspects of the media, dormant since the outbreak of the war will be stressed in accordance with an ambitious developmental program already mapped out.
- 13—Little criticism was expressed at the informal engineer hearing on FCC's proposed standards and regulations for tele stations.
- 17—Zoning Adjustment Board of the District of Columbia following a seven-hour hearing, denied the Bamberger Broadcasting Service, Inc., permission to locate a transmitting station and 300-foot tele tower in a residential area selected in the northwest section of Washington.
- 18—The FCC released to the industry its proposed technical specifications for tele operation on the 13 six-megacycle bands presently allocated for commercial operation. The industry in general was well pleased with the Commission proposals.
- 19—George E. Markham, manager of WRGB, Schenectady, speaking before a two-day symposium on tele and the future at the University of Michigan, declared that television would supplement the newspapers, radio, theater and the movies, but would not replace them.
- 20—Plans for the first full-fledged television field tests in the New York metropolitan area using higher frequencies as proposed by the FCC reallocations to be conducted by NBC in collaboration with RCA Laboratories, were announced by Dr. C. B. Joliffe, vice-president in charge of the RCA Labs.
- 25—Music Corporation of America announced that it had added a new television department, to be under the head of Roger Carlin, former legit theater producer and Paramount man.
- 3—Bcb Feiner, Jr., program assistant for WCBW, CBS tele station, was named assistant director of television programs for CBS.
- 7—Purchase for post-war delivery of a 40 kilowatt television transmitter was announced by Harry R. Lubcke, tele director of Don Lee Tele and Don Lee Broadcasting Systems. The west coast web has filed with the FCC for permission to install the transmitter 5,800 feet above sea level on Mt. Wilson.
- 9—A plan for utilizing stratosphere airplanes cruising six miles in the air for the transmission of television and FM was revealed by execs. of the Westinghouse Electric Corp. in collaboration with the Glenn L. Martin Company.
- 20—CBS announced that it would install a new ultra-high frequency television transmitter in the Chrysler Bldg. in December. The transmitter would broadcast tele in high definition color, on a frequency of 485 megacycles. A coaxial cable carrying the 10-megacycle signal would connect the transmitter to the labs at Madison Ave., via the studios in Grand Central Terminal.
- 24—Television stations will have a total national payroll of over 16 million dollars, Paul E. Carlson, merchandising manager of Allen B. Dumont Laboratories, Inc., predicted in an address before the opening session of the Board of Education sponsored War Industries Training Program in New York.
- 27—The Chicago public school system will use television as an integral part of its educational program for the first time, starting the week of September 17, it was announced by George Jennings, director of the Radio Council of the Board of Education. In cooperation with Balaban and Katz tele station, WBKB, Jennings has arranged a weekly series of 13 experimental telecasts to originate in the station's studios. The shows will be picked up on special receivers to be installed in two schools.
- 30—John Wanamaker Company announced that a deal has been consummated with the Allen B. DuMont Laboratories, Inc., for the installation of three complete television studios in the main New York store.

## SEPTEMBER

- 11—Announcement was made of the resignation of Gilbert Seldes, director of CBS television programs, effective as of September 28, in order to be free to do independent work in the video field. No successor was appointed.
- 11—Ted Collins, Kate Smith manager and partner, confirmed rumors that he would undertake a \$1,000,000 tele laboratory enterprise in Jacksonville, Fla.
- 18—WABD, DuMont television station in New York, left the air until December 15 in order

to make the switchover from Channel 4 to Channel 5. The suspension of tele transmission of activities during the period of technical readjustment was approved by the FCC.

- 19—The American Broadcasting Company announced that following the conclusion of telecasting activities at DuMont's station WABD, television operations would be carried on from station WRGB, Schenectady.
- 20—Recalling its statement of May 25th that insufficient frequencies are available below 300 mc. to provide "a truly nation-wide and competitive television system," the FCC issued its proposed allocation of frequencies among the rural, metropolitan and community telecasters.
- 24—Technical operations of CBS television are being integrated with the web's other New York broadcasting operations. Progress of various phases of CBS television research under Dr. Peter Goldmark's department of engineering research and development has made integration possible.
- 25—The FCC threw out 16 applications for experimental tele and developmental FM facilities on the grounds that clear need for these stations to carry on meritorious research plans was not shown.
- 27—Edward Sobol, NBC tele producer told a panel and members of the American Television Society that the script is the most important part of the television program, and script writers would become a very important cog in the machine of television production.

### OCTOBER

- 1—The Motion Picture Producers and Distributors Association does not plan to inject itself into the television scene, new proxy Eric Johnston declared during his first press conference after succeeding Will Hays.
- 4—Revision of the tentative assignments of channels for commercial television, including changes in the number of metropolitan stations permitted in many communities, as well as changes in the channel numbers assigned in some cases, were reported by the FCC.
- 5—DuMont Television signed a five-year contract with the Television Studio Broadcasting Employees Union, Local 794 of the IATSE.
- 11—Paul Kesten, CBS vice-president, announced at the FCC Television hearing in Washing-

ton that his company would be ready in a few weeks for public demonstrations of its wide-band polychrome tele service, thereby raising the question as to the extent to which sponsors of the narrow-band service would be willing to invest in the monochrome tele. The second challenge came from TBS, which announced a new allocation setup which would provide seven tele stations for New York City, which was allocated only four under the FCC plan announced earlier, and, in all, 401 stations for 135 cities—59 more stations than provided in the FCC plan.

- 17—Return to native shores of the U. S. Fleet was covered by television both in New York and San Francisco and televised in the East over WNBT by NBC and WCBW by CBS.
- 19—Motion picture film promises to furnish much valuable source material for video programs, what with the constant new developments occurring in the field of research and manufacturing, according to an address by John Flory, of Grant, Flory and Williams, film manufacturers.
- 23—Dr. C. B. Joliffe, v.p. in charge of RCA Labs, revealed that utilization of the recently announced super-high-frequency radio relay system for network television, was not engineered to permit television transmission.
- 25—A revolutionary new development in the camera technique of television was demonstrated to the press and electronics engineers by RCA using a super-sensitive pickup tube known as the "image orthicon." The demonstration proved conclusively that a good image could be obtained through the use of the new electronic eye under ordinary lighting conditions.
- 30—Application for construction of a tele transmitter and studios in San Francisco was filed with the FCC by Television Productions, Inc. Plans of the company also included a West Coast relay network embracing the Hollywood and San Francisco coast-to-coast television web projected by Paramount.

### NOVEMBER

- 1—Extensive television coverage of New York's first peacetime municipal election in six years was scheduled by network video stations, with audiences being provided with newsy, on-the-spot scenes of events taking place during Election Day on November 6.
- 6—The first major intra-store television demonstration undertaken by RCA-Victor in Gim-

bel's Department Store in Philadelphia was proven "eminently successful" and definitely established tele as a powerful selling medium, representatives of both RCA and Gimbels indicated. An RCA representative said that plans were being completed to take the intra-store video unit on a nationwide tour of the largest department stores of America.

- 7—The Studio of Dramatic Arts offered a 16-week course in television acting, designed to "retrain radio actors for the visual medium." Director of the course was John Reich, professor at New York U, and former dramatic director of CBS television.
- 13—The first Television contract in Chicago was signed by International Photographers of the Motion Picture Industries and Television Film Shorts, Inc.
- 15—Keith S. McHugh, vice-president of A T & T, announced that a coaxial cable between Washington and New York would be made available, without charge, to television broadcasters early in January. The first program over the new cable will be a co-operative venture with WNBT, DuMont and WCBW participating in the historic telecast.
- 16—CBS has applied for a license for its new experimental Tele Station to operate on the higher frequencies between 480 and 496 megacycles. CBS disclosed it was "ready to go" on its wider band, full-color broadcasting. Dr. C. B. Jolliffe, vice-president in charge of RCA laboratories, speaking before a meeting of the Radio Executives club in New York, said "Television is ready to go." Dr. Jolliffe stated that the time is here when management must take television out of the engineering laboratory and give it a chance to grow.
- 20—Victory Loan films will be broadcast over nine tele stations for the first concerted drive of its kind, the Treasury Department has announced.
- 23—FCC's Television rules issued. As a whole, FCC followed many industry recommendations in issuing the new rules. Granted seven channels in New York and relaxed its original minimum operating order but did not change its order making chain broadcasting regulations applicable to tele stations.
- 26—Roundup of applications for construction of new commercial television stations now on file with the FCC shows a wide-open scramble is in the making for new tele channel designations. The demand for frequencies far exceeds the supply in major cities.
- 26—A telegraphic survey of the industries reaction to the FCC tele allocations, conducted by Radio Daily, shows, in most instances, the allocations were interpreted as the signal to go ahead with manufacturing and station developments.

## DECEMBER

- 3—Washington was selected as "testing ground" for wide-open scramble for television stations in large cities Friday, when the FCC announced a consolidated hearing on nine applications for the capital's four channels. No date for the hearing has been set.
- 5—Intra-store tele shown by RCA. First New York demonstration draws big merchandising interest. Manufacturers and retailers of consumer goods believe television will play a highly important role in the merchandising of such commodities in the near future.
- 6—Consolidated hearing on nine applications for Washington's four television channels will begin on Jan. 21. The ten-day hearing will end on Feb. 1, the Commission announced in setting the date.
- 7—RCA's tele patents and others in the radio field are to be made generally available to manufacturers, Henry A. Wallace, Secretary of Commerce, announced yesterday.
- 13—A. T. & T. announces construction plans for video relay outlets linking Milwaukee and Chicago.
- 14—RCA demonstrates color television. About five years will elapse before practical home color tele will be available to the public, they said.
- 26—The FCC has announced assignment of channels for six commercial tele licenses and for ten experimental stations.
- 27—President Truman's appearance before Congress next month to deliver his annual message will be televised for the first time in the nation's history. NBC, CBS and DuMont will telecast the event.

# Washington Natural Television Center

By ANDREW H. OLDER, Staff Correspondent, RADIO DAILY

AS PEACE broke out the future of television was more confused than ever. Only one thing was certain—that pre-war estimates of the eventual importance of tele will be not only borne out but actually surpassed. It will be many years before motion pictures and sound broadcasting are displaced by television—if ever—but it will not be so very long before tele takes equal rank in importance alongside these two great media of news and entertainment.

Here in Washington, through the war years, two agencies—War and Navy—have been primarily concerned with television.

With the war over, the new technical developments will again be announced from Camden, Chicago, New York, Philadelphia and the other homes of leading private tele manufacturers. How much of value the industry will gain as German techniques are released by the Department of Commerce is questionable—thus far it seems that American technicians were far ahead of the Nazi researchers in tele. Some aid in color projection may be realized from the enemy processes.

The biggest headache, insofar as overall regulation is concerned, lies with the FCC. For the past two years the FCC has been squarely in the middle as the proponents of “downstairs” and “upstairs” video carry on their battle. Although there are signs that a commission majority believes tele will approach its full utility only on the wider bands above 480 megacycles, a policy of strict impartiality has been maintained as proponents of the two systems battle it out with press releases and feverish experimental work.

The commission has simply insisted that television—without specifying which system—is coming out of its swaddling clothes.

The “downstairs” television interests were not overly pleased with the apportionment of the spectrum below 300 megacycles, justly pointing out that 13 video channels is insufficient for full-magnitude development of the service.

Although the FCC revised its allocation of these channels to make more stations possible in New York and other major centers than it had originally provided, the fact is that so long as licenses are confined to the 13 “downstairs channels” video will not achieve the competitive development scheduled for it.

A year-end development of uncertain importance was the anti-trust suit filed by the Department of Justice against the Scophony Corporation and affiliates of Twentieth Century-Fox and Paramount Pictures. Of far-reaching importance in the development of theater television on a broad nation-wide basis, the importance of the suit as it affects home video could not be clearly established. There are those who believe that the larger projections embodied in Scophony’s “supersonic” system might provide an important improvement for home video sets if inclusion of the necessary design in the sets were freely permitted.

It is claimed also that the “skiatron” system developed by Scophony makes possible use of the subtractive principles of color employed in Technicolor and Kodachrome photography. No commercial sets embodying these principles have been developed, although Paramount—one of the controllers of the patents for the Western Hemisphere—is half owner of the Allen B. DuMont Laboratories.

The big question is what the next year will bring in the line of regulatory policies on television. Most important question, of course, is the extent to which the FCC will indicate its superior faith in the “upstairs” system. And that is a decision which must be reached not on the basis of investments in the two systems but rather on the basis of public interest.

On March 7, 1946, the FCC awarded three of the four Washington television channels to NBC, Bamberger Broadcasting Co., and the Evening Star Broadcasting Co. The fourth channel, sought by both Du Mont and Philco, will be settled at another commission hearing. Both applicants have been invited to present additional arguments.



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# Classification of Television Stations and Allocations Of Frequencies

**R**ULES Governing Television Broadcast Stations. Subpart D. Sections 4,201 through 4,281, are repealed, and the following is substituted (by the FCC) therefor:

§3.601 *Numerical Designation of Television Channels.* — The channels or frequency bands set forth below are available for television broadcast stations.

Channel No.	Megacycles
1	44—50
2	54—60
3	60—66
4	66—72
5	76—82
6	82—88
7	174—180
8	180—186
9	186—192
10	192—198
11	198—204
12	204—210
13	210—216

§3.602 *Sharing of Television Channels.* — Channels 1 through 5 and 7 through 13 are available for assignment to radio services other than television upon a showing that no mutual interference will result.

§3.603 *Community stations.* — (a) A Community station is designed primarily for rendering service to the smaller metropolitan districts or principal cities. Television channel No. 1 is assigned exclusively for Community stations. Channels 2 to 13, inclusive, can also be used for Community stations provided such use complies with Section 3.606.

(b) The power of a Community station may not exceed an effective radiated peak power of 1 kilowatt. The maximum antenna height for such stations shall be 500 feet above the average terrain as determined by methods prescribed in the Standards of Good Engineering Practice concerning Television Broadcast Stations.

(c) The main studio of a Community station shall be located in the city or town served and the transmitter shall be located as near the center of the city as practicable.

§3.604 *Metropolitan stations.* — Metropolitan stations may be assigned to television channels 2 through 13, both inclusive. They are designed primarily to render service to a single metropolitan district or a principal city and to the rural area surrounding such metropolitan district or principal city.

(b) Metropolitan stations are limited to a maximum of 50 kilowatts effective radiated peak power with antenna having a height of 500 feet above the average terrain, as determined by the methods prescribed in Standards of Good Engineering Practice concerning television broadcast stations. Where higher antenna heights are available, they should be used but in such cases the Commission may authorize less than 50 kilowatts effective radiated peak power so that the coverage (within the 5000 uv/m contour) shall be substantially similar to that which would be provided by 50 kilowatts effective radiated peak power and a 500 foot antenna. Where it is shown that an antenna height of 500 feet is not available, the Commission may authorize the use of a lower height antenna but will not permit an increase in radiated power in excess of 50 kilowatts. The service area of Metropolitan stations will not be protected beyond the 5000 uv/m contour and such stations will be located in such a manner as to insure, insofar as possible, a maximum of television service to all listeners, whether urban or rural.

(c) The main studio for Metropolitan stations shall be located in the city or metropolitan district with which the station is associated.  
(Continued on Page 1021)

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**NEW YORK CITY**



# Commercial Television Broadcast Channels

As allocated to Metropolitan Districts by the FCC

Metropolitan District (U. S. Census 1940)	Sales Rank	Population	Channel Nos.	Community	Total Stations Metro-Community
Akron	35	349,705	11		1 1
Albany	23	431,575	2, 4, 7, 9, 11		5
Schenectady					
Troy					
Allentown	43	325,142		8	
Bethlehem					
Easton					
Altoona	111	114,094	9		1
Amarillo	136	53,463	2, 4, 5, 7		4
Asheville	132	76,324	5, 7, 12		3
Atlanta	25	442,294	2, 5, 8, 11		4
Atlantic City	83	100,096		8	1
Augusta, Ga.	135	87,809	6, 12		2
Austin	106	106,193	8, 10, 12		3
□					
Baltimore	13	• 1,046,692	2, 11, 13		3
Port Arthur	90	138,608	3, 6, 8, 10		4
Beaumont					
Binghamton	75	145,156	12		1
Birmingham	42	407,851	4, 9, 13		3
Boston	5	2,350,514	2, 4, 7, 9, 13		5
Bridgeport, Conn.	53	216,621		1	1
Buffalo	14	857,719	4, 7, 9, 13		4
Niagara					
□					
Canton, Ohio	63	200,352		1	1
Cedar Rapids	115	73,219	7, 11		2
Charleston, S. C.	127	98,711	7, 10, 13		3
Charleston, W. Va.	88	136,332	7, 11, 13		3
Charlotte	99	112,986	3, 9, 11		3
Chattanooga	76	193,215	3, 6, 10, 12		4
Chicago	2	4,499,126	2, 4, 5, 7, 9, 11, 13		7
Cincinnati	16	789,309	2, 4, 7, 11		4
Cleveland	9	1,214,943	2, 4, 5, 7, 9		5
Columbia	117	89,555	2, 4, 8		3
Columbus, Ga.	133	92,478	3, 12		2
Columbus, Ohio	29	365,796	3, 6, 8, 10		4
Corpus Christi	121	70,677	3, 6, 8, 10		4
□					
Dallas	27	376,548	4, 8, 12		3
Davenport	67	174,995	2, 4, 5, 9		4
Rock Island					
Moline					
Dayton	44	271,513	5, 13		2

**Commercial Television Channels—Market Areas**

<i>Metropolitan District (U. S. Census 1940)</i>	<i>Sales Rank</i>	<i>Population</i>	<i>Metropolitan Channel Nos.</i>	<i>Community</i>	<i>Total Stations Metro-Community</i>
Decatur	122	65,764	2		1
Denver	26	384,372	2, 4, 5, 7, 9		5
Des Moines	59	183,973	2, 4, 5, 9		4
Detroit	6	2,295,867	2, 4, 5, 7, 9		5
Duluth } Superior }	72	157,098	3, 6, 8, 10		4
Durham	139	69,683	4, 7		2
□					
El Paso	105	115,801	2, 4, 5, 7		4
Erie	95	134,039	12		1
Evansville, Ind.	93	141,614	2, 11		2
□					
Fall River } New Bedford }	55	272,648		1	1
Flint	64	188,554	11		1
Fort Wayne	81	134,385	2, 4, 7, 9		4
Fort Worth	51	207,677	2, 5, 10		3
Fresno	79	97,504	2, 4, 5, 7		4
□					
Galveston	131	71,677	9, 11, 13		3
Grand Rapids	57	209,873	7, 9		2
Greensboro	130	73,055	2, 10		2
□					
Hamilton } Middletown }	110	112,686	9		1
Harrisburg	70	173,367	8		1
Hartford } New Britain }	20	502,193	8, 10		2
Houston	21	510,397	2, 4, 5, 7		4
Huntington, W. Va. } Ashland, Ky. }	92	170,979	5		1
Indianapolis	24	455,357	3, 6, 8, 10, 12		5
□					
Jackson	128	88,003	2, 4, 5, 7		4
Jacksonville	66	195,619	2, 4, 6, 8		4
Johnstown, Pa.	100	151,781	13		1
□					
Kalamazoo	112	77,213	3		1
Kansas City, Mo. } Kansas City, Kans. }	17	634,093	2, 4, 8, 11		4
Knoxville	87	151,829	2, 4, 5, 9		4
□					
Lancaster	91	132,027		4	1
Lansing	94	110,356	6		1
Lincoln	109	88,191	10, 12		2
Little Rock	98	126,724	3, 6, 8, 10		4
Los Angeles	3	2,904,596	2, 4, 5, 7, 9, 11, 13		7

**Commercial Television Channels—Market Areas**

<i>Metropolitan District (U. S. Census 1940)</i>	<i>Sales Rank</i>	<i>Population</i>	<i>Metropolitan Channel Nos.</i>	<i>Community</i>	<i>Total Stations Metropolitan Community</i>
Louisville	33	434,408	5, 9		2
Lowell	45	334,969	6		1
Lawrence					
Haverhill					
□					
Macon	137	74,830	4, 7, 10		3
Madison	101	78,349	9		1
Manchester	118	81,932		1	1
Memphis	37	332,477	2, 4, 5, 7, 9		5
Miami	38	250,537	2, 4, 5, 7		4
Milwaukee	15	790,336	3, 6, 8, 10		4
Minneapolis	11	911,077	2, 4, 5, 7, 9		5
St. Paul					
Mobile	119	144,906	3, 5, 9, 11		4
Montgomery	126	93,697	6, 10		2
□					
Nashville	56	241,769	4, 5, 7, 9		4
New Haven	39	308,228		6	1
New Orleans	31	540,030	2, 4, 6, 7, 10		5
New York	1	11,690,520	2, 4, 5, 7, 9, 11, 13		7
Northeastern					
New Jersey					
Norfolk					
Portsmouth	47	330,396	4, 7, 11, 13		4
Newport News					
□					
Oklahoma City	52	221,229	2, 4, 5, 9		4
Omaha	40	287,269	3, 6, 7		3
Council Bluffs					
□					
Peoria	69	162,566	3, 6, 12		3
Philadelphia	4	2,898,644	3, 6, 10, 12		4
Phoenix	84	121,828	2, 4, 5, 7		4
Pittsburgh	8	1,994,060	3, 6, 8, 10		4
Portland, Maine	89	106,566	3, 8		2
Portland, Oreg.	22	406,406	3, 6, 8, 10, 12		5
Providence, R. I.	18	711,500	11		1
Pueblo	140	62,039	3, 6, 8, 10		4
□					
Racine	97	135,075		1	1
Kenosha					
Reading	73	175,355		5	1
Richmond	48	245,674	3, 6, 8, 10		4
Roanoke	104	110,593	5, 9, 12		3
Rochester	28	411,970	2, 6, 11		3
Rockford	102	105,259	12		1
□					
Sacramento	54	158,999	3, 6, 10		3
Saginaw	77	153,388	3, 8, 13		3
Bay City					
St. Joseph	129	86,991	13		1

**Commercial Television Channels—Market Areas**

<i>Metropolitan District (U. S. Census 1940)</i>	<i>Sales Rank</i>	<i>Population</i>	<i>Channel Nos. Metro- politan</i>	<i>Com- munity</i>	<i>Total Stations Metro- Com- munity</i>	
St. Louis	10	1,367,977	4, 5, 7, 9, 13		5	
Salt Lake City	58	204,488	2, 4, 5, 7, 9		5	
San Antonio	50	319,010	2, 4, 5, 7, 9		5	
San Diego	49	256,268	3, 6, 8, 10		4	
San Francisco } Oakland	7	1,428,525	2, 4, 5, 7, 9, 11		6	
San Jose	78	129,367	13		1	
Savannah	114	117,970	3, 5, 9, 11		4	
Scranton } Wilkes-Barre	30	629,581	11	1	1	1
Seattle	19	452,639	2, 5, 7, 11		4	
Shreveport	96	112,225	2, 4, 6, 8		4	
Sioux City	107	87,791	4, 9, 11, 13		4	
South Bend	80	147,022		1		1
Spokane	71	141,370	2, 4, 5, 7, 9		5	
Springfield, Ill.	103	89,484	8, 10		2	
Springfield, Mass. } Holyoke	32	394,623	3	1	1	1
Springfield, Mo.	134	70,514	2, 4, 5, 9		4	
Springfield, Ohio	125	77,406		1		1
Stockton	108	79,337	8		1	
Syracuse	46	258,352	5, 8, 10		3	
Tacoma	74	156,018	4, 9, 13		3	
St. Petersburg } Tampa	61	209,693	2, 4, 5, 7		4	
□						
Terre Haute	116	83,370	4		1	
Toledo	34	341,663	13		1	
Topeka	123	77,749	7, 11		2	
Trenton	60	200,128		1		1
Tulsa	65	188,562	3, 6, 8, 10		4	
□						
Utica } Rome	68	197,128	3, 13		2	
□						
Waco	138	71,114	3, 6, 9, 11		4	
Washington	12	907,816	4, 5, 7, 9		4	
Waterbury	85	144,822	12		1	
Waterloo	120	67,050	3, 6, 13		3	
Wheeling	82	196,340	12		1	
Wichita	86	127,308	2, 4, 5, 9		4	
Wilmington	62	188,974		7		1
Winston-Salem	124	109,833	6, 8		2	
Worcester	41	306,194	5		1	
York	113	92,627		1		1
Youngstown	36	372,428	13		1	

**FOR COMPLETE EQUIPMENT SECTION CLOSELY ALLIED  
TO TELEVISION — PLEASE REFER TO PAGE 1035**

# Television Broadcasting Stations

As of March 1, 1946

*The term "television broadcast station" means a station licensed for the transmission of transient visual images of moving or fixed objects for simultaneous reception and reproduction by the general public.*

## Commercial Television Broadcast Stations Licensed By The Federal Communications Commission

Location	Licensee	Call Letters	Old* Channel No.	New**	Vis. Aural Power
<b>ILLINOIS</b>					
Chicago	Balaban & Katz Corp.	WBKB	2	3 or 4	4KW 2KW
<b>NEW YORK</b>					
New York	Columbia Broadcasting System, Inc.	WCBW	2		3KW 2.5KW
New York	Allen B DuMont Labs. Inc.	WABD	4		4KW 1KW
New York	National Broadcasting Co. Inc.	WNBT	1	4	5.2KW 2.2KW
Schenectady	General Electric Co.	WRGB	3		40KW 20KW
<b>PENNSYLVANIA</b>					
Philadelphia	Philco Radio and Television Corp.	WPTZ	3		3KW 3KW

## List of Construction Permits Outstanding for Commercial Television Stations

<b>CALIFORNIA</b>					
Hollywood	Don Lee Broadcasting System	KTSL	1	1	4KW 2KW
<b>ILLINOIS</b>					
Chicago	Zenith Radio Corp.	WTZR	1		2KW 2KW
<b>WISCONSIN</b>					
Milwaukee	The Journal Company	WMJT	3	3 or 4	4KW 2KW

\* Old Channel means one of the 18 channels assigned to commercial television stations prior to the Commission's allocation report of June 27, 1945.

\*\*New Channel means one of the 13 channels finally assigned to commercial television stations by the Commission's allocation report of June 27, 1945.

# COMMERCIAL TELEVISION STATIONS

PERSONNEL • FACILITIES • ACTIVITIES

## W B K B CHICAGO CHANNEL 2

Frequency.....61.25 mc.; 65.75 mc.  
Power .....4 Kw.; 2 Kw.  
Effective Signal Radiated.....796  
Owned-Operated By....Balaban & Katz Corp.  
Business Address.....190 N. State St.  
Phone Number.....Franklin 6446  
Transmitter & Antenna Location.190 N. State St.  
Time on the Air...1-2 p.m.; 4-5 p.m.; 7:15-9 p.m.  
News Service.....Transradio  
Transcription Service....World Broadcasting

### Personnel

Director of Television.....William C. Eddy  
General Manager....Reinold Werrenrath, Jr.  
Station Manager.....George W. Thomas  
Program Manager.....A. Warren Jones  
Publicity Director.....Herbert T. Lyons  
Chief Engineer.....A. H. Brolly

### FACILITIES

One studio, three camera chains (two for live talent and one for film), one mobile unit for outdoor pickups (not being used for the duration).

### ACTIVITIES

News, fashion shows, sports (indoor) such as judo, fencing, boxing; dramatic shows; musical comedies; operettas; music and variety acts such as ventriloquists, puppets, marionettes, magicians, etc.; quiz shows; educational; lessons in dancing, Spanish, exercises for health and beauty.

## W9XZV—(WTZR) W9XZC CHICAGO CHANNEL 1 (Experimental)

Frequency: W9XZV, 50-56 mc.; W9XZC, 512-528 mc. Power: Sight and Sound, 1000 Watts  
Effective Radiated Signal.....1270  
Owned-Operated By.....Zenith Radio Corp.  
Business-Studio Address....6001 Dickens Ave.  
Phone Number.....Berkshire 7500  
Transmitter & Antenna Location..6001 Dickens Ave.  
Time on the Air.....Unlimited license

### Personnel

President-General Mgr.....E. F. McDonald, Jr.  
Station Manager.....J. E. Brown  
Program Director.....E. F. Classen, Jr.

## W C B W NEW YORK CITY CHANNEL 2

Frequency.....54-60 mc.; Sight, 61250;  
Sound, 65700  
Owned-Operated By...Columbia Broadcasting System  
Business Address.....15 Vanderbilt Ave.  
Phone Number.....Murray Hill 6-6340  
Studio Address.....15 Vanderbilt Ave.  
Transmitter & Antenna Location.....Chrysler Building  
Time on the Air...Tues. 8-9:30 p.m.; Wed. 8-9:45 p.m.; Fri. 8-9 p.m.; plus remote pickups  
News Service .....UP

### Personnel

V.-P. in Charge.....Lawrence W. Lowman  
Station Manager.....Worthington Miner  
Commercial Manager....George Moskovics  
Sales Promotion.....Harry H. Barnhart, Jr.  
Asst. Program Director.....Ben Feiner, Jr.  
Production Manager.....Charles Holden  
Publicity Director.....James J. Kane  
Musical Director.....Paul Belanger  
Director Research-Development.....Dr. Peter C. Goldmark  
In Charge of Operations.....Merritt Coleman  
Director CBS Tele Audience Research Institute.....Dr. Donald Horton  
In Charge Technical Operations.....Henry Grossman  
Director Television Plans Div....Leonard Hole

## W 6 X Y Z HOLLYWOOD (Paramount Studio Lot) CHANNEL 5 (Experimental)

Frequency.....76-82 mc.; Power: Visual 4 Kw; Oral 1 Kw.  
Owned-Operated By...Television Productions, Inc..  
Business Address.....5451 Marathon St., Hollywood 38

## COMMERCIAL TELEVISION STATIONS

Phone Number ..... Hollywood 2411  
 Transmitter and Antenna Location.

Mount Wilson  
 Time on the Air ..... Six Hours Per Week

### Personnel

President ..... Paul Raibourn  
 Vice-President ..... Bernard Goodwin  
 Vice-President ..... Y. Frank Freeman, Jr.  
 Station Director ..... Klaus Landsberg

### FACILITIES

Equipment includes complete apparatus for studio as well as field operation. Cameras and transmitters were built by Allen B. DuMont Laboratories, Inc. and many additional units, including electronic special-effect equipment, were designed and built by Television Productions, Inc. A relay transmitter, W6XLA, to operate in conjunction with W6XYZ, was also developed and constructed by the company. A special antenna system combining a double-cone type of antenna for video and a special four di-pole antenna for audio of its own design and construction are used. Studio facilities also include a flexible lighting arrangement, slide and background projection apparatus and screens.

### ACTIVITIES

W6XYZ has operated regularly since February 1, 1943, each Wednesday and Friday night and has been producing a weekly total of four to six hours of live-talent programs. These programs were entirely dedicated to the training of Civilian Defense volunteers until the summer of 1943, since which time entertainment as well as educational programs have been aired.

# K T S L

LOS ANGELES (HOLLYWOOD)—

EST. 1931

CHANNEL 1

MUTUAL—DON LEE BDCT. SYSTEM

Frequency .....  
 Power: Sight, 4000 Watts; Sound, 2000 Watts  
 Effective Signal Radiated ..... 5600  
 Owned-Operated By ..... Don Lee Broadcasting System

Business Address ..... 3800 Mount Lee Drive  
 Phone Number ..... Hollywood 8255  
 Transmitter & Antenna Location ..... 3800 Mount Lee Drive

Time on the Air ..... Alternate Mondays, 7 to 10 p.m.

News Service ..... AP, INS  
 Transcription Service ..... World  
 Representative ..... John Blair

### Personnel

President ..... Thomas S. Lee  
 Vice-President and General  
 Manager ..... Lewis Allen Weiss

Station Manager ..... Harry R. Lubcke  
 Chief Television Engineer ..... Harry W. Jury  
 Commercial Manager ..... Sydney Gaynor  
 Sales Promotion ..... Herb Sonnenberg  
 Production Manager ..... Jack Stewart  
 Stage Manager ..... Ted Driscoll  
 Publicity Manager ..... Harriet Crouse  
 Film Editor ..... Marjorie Campbell  
 Asst. Program Director ..... Grace Neville  
 Record M. C. .... Johnny Courcier

### FACILITIES

SYSTEM IN USE: 525 line 30-60 frame F.C.C., Standard, all electronic cathode-ray. Horizontal Polarization. Three Studio Cameras and film equipment. Two cameras of Orthicon type. Complete 100 ft. square two story television building housing one 100 ft. x 60 ft. x 30 ft. television stage, one 46 ft. x 26 ft. x 16 ft. stage, monitor, film, transmitter, makeup, and lounge rooms, offices, shop, transformer vaults, etc. Three hundred foot tower, antenna elevation 2000 ft.

The Pasadena Community Playhouse and other organizations have presented plays such as Ibsen's "Master Builder," "Alice in Wonderland" and others.

RECEIVERS: There are some 400 television receivers in the service area of W6XAO, some as far as Pomona at 35 miles away, a number in Long Beach at 25 miles away and many in cities at lesser distance. The predominant commercially manufactured television receiver is the TRK12 or 120 of RCA. There are some RCA TRK9, and approximately 50 TT5 RCA television receivers. A number of the latter are operating satisfactorily in Long Beach at 25 miles from W6XAO.

# W M J T

MILWAUKEE

CHANNEL 3

(C. P. Only)

Owned-Operated By ..... The Journal Co.  
 Business Address ..... 333 W. State St.  
 Studio Address ..... 720 East Capitol Drive  
 Phone Number ..... Marquette 6000  
 Transmitter & Antenna Location ..... 720 East Capitol Drive  
 Newspaper Affiliation ..... The Journal Co.

# W A B D

NEW YORK CITY

CHANNEL 5

Frequency ..... 76-82 mc.  
 Power... Sight, 4000 Watts; Sound, 1000 Watts  
 Owned-Operated By ..... Allen B. Du Mont Laboratories, Inc.

Business-Studio Address ..... 515 Madison Ave.  
 Studios ..... Wanamakers, Broadway at 9th St.  
 Phone Number ..... Plaza 3-9800

## COMMERCIAL TELEVISION STATIONS

Transmitter and Antenna Location..... Same  
Time on the Air..... Unlimited

### Personnel

President..... Allen B. Du Mont  
General Manager..... Samuel H. Cuff  
Asst. Gen. Mgr..... Robert F. Jamieson  
Chief Engineer..... Sal Patreimo  
Chief Operating Engineer..... Otis Freman

### FACILITIES

The 160-foot tower of WABD atop a 42-story building raises the antenna to 650 feet above sea level. Covering a service range of 35 to 50 miles, the station has regular viewers as distant as 100 miles. It is completely equipped by Du Mont Laboratories. WABD has two studios for live talent shows as well as film-projection facilities. It operates on a commercial license.

### ACTIVITIES

This outlet serves not only as a commercial telecast service but also as a laboratory for practical experience. Engineering, programming and advertising sponsorship aspects of television broadcasting are being worked out in actual practice. Broadcasters, engineers, producers, performers, advertisers, advertising men and others interested in television have been granted use of station facilities.

## W N B T

NEW YORK CITY  
CHANNEL 4

Frequency..... 66-70 mc.  
Power Sight, 5000 Watts; Sound, 3000 Watts  
Effective Signal Radiated..... 1800  
Owned-Operated By..... National Broadcast-  
ing Co.  
Business Address..... 30 Rockefeller Plaza  
Phone Number..... Circle 7-8300  
Studio Address..... 30 Rockefeller Plaza  
Transmitter & Antenna Location..... Empire  
State Bldg. Tower  
Time on the Air... Approx. 18 hours per week

### Personnel

NBC Vice-President, in  
Charge of Television..... John F. Royal  
NBC V.-P. & Chief Engineer... O. B. Hanson  
Manager of Television Dept... Noran E. Kersta  
Executive Producer..... Warren Wade  
NBC Press Dept..... Sydney H. Eiges  
Television Editor..... Allan H. Kalmus  
Eastern Sales Manager..... Reynold R. Kraft  
Business Manager..... John T. Williams

## W P T Z

PHILADELPHIA  
CHANNEL 3

Frequency..... 60-66 mc.;  
Sight, 4 Kw.; Sound, 4 Kw.

Effective Signal Radiated... Approximately 335  
Owned-Operated By..... Philco Radio &  
Television Corp.

Business Address..... Tioga and C Sts.  
Phone Number..... Nebraska 5100  
Transmitter & Antenna Location... Wyndmoor,  
Pa.

Time on the Air: Monday, Wednesday & Friday  
evenings, 7:45-9:45; Experimental W3XE,  
Monday through Friday afternoons, 1:30-2:30.

### Personnel

Vice-President-Television  
Broadcasting Div..... Ernest B. Loveman  
Chief Television Engineer..... F. J. Bingley  
Station Manager..... Walter Merkle  
Program Manager..... Paul Knight

## W R G B

SCHENECTADY, N. Y.  
CHANNEL 3

Frequency..... 66-72 mc.; Power: Visual,  
40,000 Watts, Oral, 20,000 Watts  
Owned-Operated By..... General Electric Co.  
Effective Signal Radiated..... 3100  
Business Address..... 60 Washington Ave.  
Phone Number..... 4-2211  
Transmitter & Antenna Location... New Scot-  
land, N. Y.  
Time on the Air..... Nine Hours Weekly

### Personnel

Vice-President and Manager of  
Broadcasting..... Robert S. Peare  
Assistant Manager..... B. W. Rowan  
Manager..... G. E. Markham  
Acting Supervisor of  
Production..... H. T. Rhodes  
Chief Engineer..... B. H. Cruger

### FACILITIES

Technical facilities of Station WRGB include a direct pickup studio for live talent productions, located at 60 Washington Ave., Schenectady. It is fitted with five camera channels. A film scanning room has two cameras and three motion picture projectors—two for 35 mm. and one for 16 mm. films. Film slide, lantern slide and projectors of small opaque pictures and objects are also available.

Signals from the WRGB transmitter, located in the Helderberg mountains, New Scotland, N. Y., near Schenectady, are received over a service area with a radius of approximately 50 miles, which includes the Troy-Albany-Schenectady area.

WRGB claims the first television relay station, picking up programs from NBC in New York City, 129 miles away, and relaying them to the Capitol district.



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# ***Pending Applications for Commercial Television Broadcast Stations***

<i>City</i>	<i>Applicant</i>	<i>City</i>	<i>Applicant</i>
Akron, Ohio	United Broadcasting Co.	Cleveland	National Broadcasting Co., Inc.
Albany, N. Y.	General Electric Co.	Cleveland	Scripps-Howard Radio, Inc.
Albuquerque, New Mex.	Albuquerque Broadcasting Co.	Cleveland	United Broadcasting Co.
Ames, Iowa	Iowa State College of Agri. & Mech. Arts	Cleveland	The WGAR Broadcasting Co.
Baltimore	Hearst Radio, Inc.	Cleveland	WJW, Inc.
Baltimore	Maryland Broadcasting Co.	Columbus	Centrol Ohio Broadcasting Co.
Baltimore	The Tower Realty Co.	Columbus	The Crosley Corp.
Baltimore	Jos. M. Zamoiski Co.	Columbus	United Broadcasting Co.
Baltimore	E. Anthony & Sons, Inc.	Dallas	Interstate Circuit, Inc.
Boston	Allen B. DuMont Lab. Inc.	Dallas	KRLD Radio Corp.
Boston	Filene's Television, Inc.	Dayton	The Crosley Corp.
Boston	New England Theaters, Inc.	Denver	KLZ Broadcasting Co.
Boston	Westinghouse Radio Stations, Inc.	Detroit	The Evening News Assn.
Boston	The Yankee Network, Inc.	Detroit	International Detrola Corp.
Boston	The Connecticut Television Co.	Detroit	The Jam Handy Organization, Inc.
Bridgeport (6½ miles out)	WEER, Inc.	Detroit	King Trendle Broadcasting Corp.
Buffalo	American Broadcasting Co., Inc.	Detroit	United Detroit Theatres Corp.
Chicago	Balaban & Katz Corp.	Detroit	WJR, The Goodwill Station
Chicago	Johnson Kennedy Radio Corp.	Fresno, Calif.	J. E. Rodman
Chicago	National Broadcasting Co., Inc.	Harrisburg, Pa.	Keystone Broadcasting Corp.
Chicago	Raytheon Mfg. Co.	Hartford	The Travelers Broadcasting Service Corp.
Chicago	Zenith Radio Corp.	Hartford	The Yankee Network, Inc.
Chicago	WGN, Inc.	Indianapolis	The Wm. H. Block Co.
Cincinnati	Cincinnati Broadcasting Co.	Indianapolis	Capital Broadcasting Corp.
Cincinnati	The Crosley Corp.		

• • • **COMMERCIAL TELE APPLICANTS** • • •

<i>City</i>	<i>Applicant</i>	<i>City</i>	<i>Applicant</i>
Indianapolis	Indianapolis Broad- casting Inc.	New York	Metropolitan Tele- vision, Inc.
Indianapolis	WFBM, Inc.	New York	National Broad- casting Co., Inc.
Jacksonville,	Jacksonville Broad- casting Corp.	New York	News Syndicate Co., Inc.
Florida	WJAC, Inc.	New York	Philco Radio & Tele- vision Corp.
Johnstown, Pa.	The Kansas City Star Co.	New York	Raytheon Mfg. Co.
Kansas City, Mo.	Lancaster Television Corp.	New York	Twentieth Century- Fox Film Corp.
Lancaster	WGAL, Inc.	New York	WLIB, Inc.
(3½ miles out)	American Broadcast- ing Co., Inc.	New York	WKY Radiophone Co.
Lancaster	Earle C. Anthony, Inc.	Oklahoma City	Radio Station WOW, Inc.
Los Angeles	Consolidated Broad- casting Corp., Ltd.	Omaha	World Publishing Co.
Los Angeles	Fox-West Coast Theatres	Omaha	World Publishing Co.
Los Angeles	Don Lee Broadcast- ing System	Philadelphia	Barberger Broad- casting Service, Inc.
Los Angeles	Hughes Productions, Division of Hughes Tool Co.	Philadelphia	Pennsylvania Broad- casting Co.
Los Angeles	Metro-Goldwyn- Mayer Studios, Inc.	Philadelphia	Philadelphia Daily News, Inc.
Los Angeles	National Broadcast- ing Co., Inc.	Philadelphia	The Philadelphia In- quirer, a Division of Triangle Pub- lications, Inc.
Los Angeles	Television Produc- tions, Inc.	Philadelphia	Philco Radio & Tele- vision Corp.
Los Angeles	The Times-Mirror Co.	Philadelphia	Seaboard Radio Broadcasting Corp.
Los Angeles	Warner Bros. Broad- casting Corp.	Philadelphia	WCAU Broadcasting Co.
Louisville	WAVE, Inc.	Philadelphia	WDAS Broadcasting Station, Inc.
Miami Beach	A. Frank Katzentine	Philadelphia	Westinghouse Radio Stations, Inc.
Milwaukee	Hearst Radio, Inc.	Philadelphia	WFIL Broadcasting Co.
Milwaukee	The Journal Co.	Philadelphia	Allen B. DuMont Lab. Inc.
Nashville	J. W. Birdwell Bremer Broadcast- ing Corp.	Pittsburgh	Scripps-Howard Ra- dio, Inc.
Newark	Loyola University	Pittsburgh	WCAE, Inc.
New Orleans	Maison Blanche Co.	Pittsburgh	Westinghouse Radio Stations, Inc.
New Orleans	American Broadcast- ing Co., Inc.	Pittsburgh	Oregonian Publish- ing Co.
New York	Bamberger Broad- casting Service, Inc.	Pittsburgh	E. Anthony & Sons, Inc.
New York	Columbia Broadcast- ing System, Inc.	Portland	The Outlet Co.
New York	Debs Memorial Ra- dio Fund, Inc.	Providence	The Yankee Net- work, Inc.
New York	Allen B. DuMont Lab. Inc.	Providence	Havens & Martin, Inc.
New York	Palmer K. & Lois C. Leberman	Richmond, Va.	The Broadcasting Corp. of America
New York	Marcus Loew Book- ing Agency	Riverside, Calif.	

<i>City</i>	<i>Applicant</i>	<i>City</i>	<i>Applicant</i>
Rochester	Stromberg-Carlson Co.	Spokane	Division of Hughes Tool Co.
St. Louis	Michael Alfend, Truman L. Brown, Samuel I. Berger and Sidney J. Heiman d/b as ALFCO Co.	Stockton	Radio Sales Corp. Louis Wasmer, Inc.
St. Louis	Globe-Democrat Publishing Co.	Waltham, Mass	E. F. Pepper Raytheon Mfg. Co.
St. Louis	Thomas Patrick, Inc.	Washington, D. C.	Bamberger Broadcasting Service, Inc.
St. Louis	The Publitzer Publishing Co.	Washington, D. C.	Capital Broadcasting Co.
St. Paul	Star - Times Publishing Co.	Washington, D. C.	Allen B. DuMont Lab. Inc.
St. Louis	KSTP, Inc.	Washington, D. C.	The Evening Star Broadcasting Co.
Salt Lake City	Frank C. Carman, David G. Smith, Jack L. Powers and Grant R. Wrathall d/b as Utah Broadcasting Co.	Washington, D. C.	Marcus Loew Book- ing Agency
Salt Lake City	Intermountain Broadcasting Corp.	Washington, D. C.	National Broadcast- ing Co., Inc.
San Francisco	The Associated Broadcasters, Inc.	Washington, D. C.	Eleanor Patterson tr/as The Times- Herald
San Francisco	Don Lee Broadcast- ing System	Washington, D. C.	Philco Radio & Tele- vision Corp.
San Francisco	Hughes Productions,	Washington, D. C.	Scripps-Howard Radio, Inc.
Seattle		White Plains, N. Y.	Westchester Broad- casting Corp.
		Wilkes Barre, Pa.	Louis G. Baltimore
		Wilmington, Del.	WDEL, Inc.

## ALLOCATION *(Continued from Page 1009)*

tion is associated and the transmitter should be located so as to provide the maximum service to the city or metropolitan district served.

§3.605 *Rural stations.*—(a) Licensees of Metropolitan stations or applicants who desire to qualify as licensees of Rural stations must make a special showing to the Commission that they propose to serve an area more extensive than that served by a Metropolitan station and that the additional area proposed to be served is predominantly rural in character. In addition, a showing must be made that such use of the channel will not cause objectionable interference to other television stations or prevent the assignment of other television stations where there is reasonable evidence of the probability of such station being located in the future.

(b) Channels 2 through 13 are available for assignment to Rural stations. The service area of Rural stations will be determined by the Commission.

(c) The main studio of Rural stations shall be located within the 500 uv/m contour:

§3.606 *Table Showing Allocation of Television Channels to Metropolitan Dis-*

*tricts in the United States.*—(a) The Table below sets forth the channels which are available for the areas indicated. The table below will be revised from time to time depending upon the demand for television stations which may exist in the various cities. Where it is desired to use a different channel in any such area, or to use one of the channels in another area conflicting therewith, it must be shown that public interest, convenience, or necessity will be better served thereby than by the allocation set forth in the table.

(b) Only the first 140 metropolitan districts are listed in the table below. Stations in other metropolitan or city areas not listed in the table will not be assigned closer than 150 miles on the same channel or 75 miles on adjacent channels, except upon an adequate showing that public interest, convenience, or necessity would be better served thereby or that by using lower power or by other means equivalent protection is provided.

(c) Persons desiring to enter into a voluntary sharing arrangement of a television channel may file application therefor with the Commission pursuant to the provisions of Section 3.661(c).

# ***Rules Governing Video Broadcast Stations***

**R**ULES Governing Television Broadcast Stations as promulgated by the FCC, include Administrative Procedure and those relating to Licensing Policies. Both these are given below in full.

Subpart D. of the Commission's Rules, also include Designation of Television Channels, Community and Metropolitan Stations and Table Showing Allocation of Television Channels to Metropolitan Districts in the United States. These will be found in the preceding pages of Television Year Book.

## ***Administrative Procedure***

§ 3.611 Application for television stations.—Each applicant for a construction permit for a new television broadcast station, change in facilities of any existing television broadcast station, or television station license or modification of license shall file with the Commission in Washington, D. C., three copies of applications on the appropriate form designated by the Commission and a like number of exhibits and other papers incorporated therein and made a part thereof. Only the original copy need be sworn to. If the application is for a construction permit for a new television station, Form FCC No. 330 should be filed; for a television station license, Form FCC No. 331 should be filed; and for modification of a television station license or for change in facilities of an existing television station, Form FCC No. 333 should be filed.

§ 3.612 Full disclosures.—Each application shall contain full and complete disclosures with regard to the real party or parties in interest, and their legal, technical, financial, and other qualifications, and as to all matters and things required to be disclosed by the application forms.

§ 3.613 Installation or removal of apparatus.—Applications for construction permit or modification thereof, involving removal of existing transmitting apparatus and/or installation of new transmitting apparatus, shall be filed at least 60 days prior to the contemplated removal and/or installation.

§ 3.614 Period of construction.—Each construction permit will specify a maxi-

imum of 60 days from the date of granting thereof as the time within which construction of the station shall begin, and a maximum of six months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission upon proper showing in any particular case.

§ 3.615 Forfeiture of construction permits: extension of time.—(a) A construction permit shall be automatically forfeited if the station is not ready for operation within the time specified therein or within such further time as the Commission may have allowed for completion, and a notation of the forfeiture of any construction permit under this provision will be placed in the records of the Commission as of the expiration date.

(b) An application (Form FCC No. 701) for extension of time within which to construct a station shall be filed at least thirty days prior to the expiration date of such permit if the facts supporting such application for extension are known to the applicant in time to permit such filing. In other cases such applications will be accepted upon a showing satisfactory to the Commission of sufficient reasons for filing within less than thirty days prior to the expiration date. Such applications will be granted upon a specific and detailed showing that the failure to complete was due to causes not under the control of the grantee, or upon a specific and detailed showing of other matters sufficient to justify the extension.

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## TELEVISION STATION RULES

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§ 3.616 **Equipment tests and proof of performance.**—(a) Upon completion of construction of a television station in exact accordance with the terms of the construction permit, the technical provisions of the application therefor and the rules and regulations and standards of good engineering practice governing television stations and prior to filing of application for license, the permittee is authorized to test the equipment for a period not to exceed 90 days: **Provided**, that the inspector in charge of the district in which the station is located and the Commission are notified 2 days in advance of the beginning of tests.

(b) The Commission may notify the permittee to conduct no tests or may cancel, suspend, or change the date of beginning for the period of such tests as and when such action may appear to be in the public interest, convenience, and necessity.

(c) Within the 90-day period prescribed by this section for equipment tests, field intensity measurements in accordance with the methods prescribed in the Standards of Good Engineering Practice Concerning Television Broadcast Stations shall be submitted to the Commission. The Commission may grant extensions of time upon showing of reasonable need therefor.

§ 3.617 **Program tests.**—(a) When construction and equipment tests are completed in exact accordance with the terms of the construction permit, the technical provisions of the application therefor, and the rules and regulations and standards of good engineering practice governing television stations, and after an application for station license has been filed with the Commission showing the equipment to be in satisfactory operating condition, the permittee is authorized to conduct program tests in exact accordance with the terms of the construction permit for a period not to exceed 30 days: **Provided**, That the inspector in charge of the district in which the station is located and the Commission are notified 2 days in advance of the beginning of such tests.

(b) The Commission reserves the right to cancel such tests or suspend, or change the date of beginning for the period of such tests as and when such action may appear to be in the public interest, convenience, and necessity by notifying the permittee.

(c) The authorization for tests embodied in this section or Section 3.616 shall not be construed as constituting a license to operate but as a necessary part of the construction.

§ 3.618 **Normal license period.**—All television broadcast station licenses will be issued so as to expire at the hour of 3 a.m. E.S.T. and will be issued for a normal license period of 1 year.

§ 3.619 **License, simultaneous modification and renewal.**—When an application is granted by the Commission necessitating the issuance of a modified license less than 60 days prior to the expiration date of the license sought to be modified, and an application for renewal of said license is granted subsequent or prior thereto (but within 30 days of expiration of the present license) the modified license as well as the renewal license shall be issued to conform to the combined action of the Commission.

§ 3.620 **Renewal of license.**—(a) Unless otherwise directed by the Commission, each application for renewal of a television station license shall be filed at least 60 days prior to the expiration date of the license sought to be renewed (Form FCC No. 311). No application for renewal of license of a television broadcast station will be considered unless there is on file with the Commission, the information currently required by Sections 1.301-1.304, reference to which by date and file number shall be included in the application.

(b) Whenever the Commission regards an application for a renewal of a television station license as essential to the proper conduct of a hearing or investigation, and specifically directs that it be filed by a date certain, such application shall be filed within the time thus specified. If the licensee fails to file such application within the prescribed time, the hearing or investigation shall proceed as if such renewal application had been received.

§ 3.621 **Temporary extension of station licenses.**—Where there is pending before the Commission any application, investigation, or proceeding which, after hearing, might lead to or make necessary the modification of, revocation of, or the refusal to renew an existing television license, the Commission may, in its discretion, grant a temporary extension of such license: **Provided, however**, That no such temporary extension shall be con-

strued as a finding by the Commission that the operation of any radio station thereunder will serve public interest, convenience, and necessity beyond the express terms of such temporary extension of license: **And provided further,** That such temporary extension of license will in no wise affect or limit the action of the Commission with respect to any pending application or proceeding.

§ 3.622 **Repetitious applications.**—(a) Where an applicant has been afforded an opportunity to be heard with respect to a particular application for a new television broadcast station, or for change of existing service or facilities, and the Commission has, after hearing or default, denied the application or dismissed it with prejudice, the Commission will not consider another application for a station of the same class to serve in whole or in part the same area, by the same applicant or by his successor or assignee, or on behalf of or for the benefit of the original parties in interest, until after the lapse of 12 months from the effective date of the Commission's order.

(b) Where an appeal has been taken from the action of the Commission in denying a particular application, another application for the same class of broadcast station and for the same area, in whole or in part, filed by the same applicant or by his successor or assignee, or on behalf of or for the benefit of the original

parties in interest, will not be considered until the final disposition of such appeal.

§ 3.623 **Assignment or transfer of control.**—(a) **Voluntary:** Application for consent to voluntary assignment of a television station construction permit or license or for consent to voluntary transfer of control of a corporation holding a television station construction permit or license shall be filed with the Commission on Form FCC No. 314 (assignment of license) or Form FCC No. 315 (transfer of control) at least 60 days prior to the contemplated effective date of assignment or transfer of control.

(b) **Involuntary:** In the event of the death or legal disability of a permittee or licensee, or a member of a partnership, or a person directly or indirectly in control of a corporation, which is a permittee or licensee:

(1) the Commission shall be notified in writing promptly of the occurrence of such death or legal disability, and

(2) within thirty days after the occurrence of such death or legal disability, application on Form FCC No. 314 or 315 shall be filed for consent to involuntary assignment of such television station permit or license or for involuntary transfer of control of such corporation to a person or entity legally qualified to succeed to the foregoing interests under the laws of the place having jurisdiction over the estate involved.

## *Licensing Policies*

§ 3.631 **Exclusive affiliation of station.**—No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied with a network organization<sup>1</sup> under which the station is prevented or hindered from, or penalized for, broadcasting the programs of any other network organization.

§ 3.632 **Territorial exclusivity.**—No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which prevents or hinders another broadcast station serving substantially the same area from broadcasting the network's programs not taken by the former station, or which prevents or hinders another broadcast station serving a substantially different area from broadcasting any program of the network organization. . . .

§ 3.633 **Term of affiliation.**—No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which provides, by original terms, provisions for renewal, or otherwise for the affiliation of the station with the network organization for a period longer than two years: **Provided,** that a contract, arrangement, or understanding for a period up to two years, may be entered into within six months prior to the commencement of such period.

§ 3.634 **Option time.**—No license shall be granted to a television broadcast station which options<sup>1</sup> for network programs any time subject to call on less than 56 days<sup>2</sup> notice, or more time than a total of three hours<sup>2</sup> within each of four segments of the broadcast day. . . .



## TELEVISION STATION RULES

§ 3.635 **Right to reject programs.**—No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which (a), with respect to programs offered pursuant to an affiliation contract, prevents or hinders the station from rejecting or refusing network programs which the station reasonably believes to be unsatisfactory or unsuitable; or which (b), with respect to network programs so offered or already contracted for, prevents the station from rejecting or refusing any program which, in its opinion, is contrary to the public interest, or from substituting a program of outstanding local or national importance.

<sup>1</sup> As used in this section, an option is any contract, arrangement, or understanding, express or implied, between a station and a network organization which prevents or hinders the station from scheduling programs before the network agrees to utilize the time during which such programs are scheduled, or which requires the station to clear time already scheduled when the network organization seeks to utilize the time.

<sup>2</sup> All time options permitted under this section must be specified clock hours, expressed in terms of any time system set forth in the contract agreed upon by the station and network organization. Shifts from daylight saving to standard time or vice versa may or may not shift the specified hours correspondingly as agreed by the station and network organization.

<sup>3</sup> These segments are to be determined for each station in terms of local time at the location of the station but may remain constant throughout the year regardless of shifts from standard to daylight saving time or vice versa.

§ 3.636 **Network ownership of stations.**—No license shall be granted to a network organization, or to any person directly or indirectly controlled by or under common control<sup>1</sup> of a network organization, for a television broadcast station in any locality where the existing television broadcast stations are so few or of such unequal desirability (in terms of coverage, power, frequency, or other related matters) that competition would be substantially restrained by such licensing.

§ 3.637 **Dual network operation.**—No license shall be issued to a television broadcast station affiliated with a network organization which maintains more than one network of television broadcast stations: **Provided**, that this regulation shall not be applicable if such networks are not operated simultaneously, or if there is no substantial overlap in the territory served by the group of stations comprising each such network.

§ 3.638 **Control by networks of station rates.**—No license shall be granted

to a television broadcast station having any contract, arrangement, or understanding, express or implied with a network organization under which the station is prevented or hindered from, or penalized for, fixing or altering its rates for the sale of broadcast time for other than the network's programs.

§ 3.639 **Use of common antenna site.**—No television license or renewal of a television license will be granted to any person who owns, leases, or controls a particular site which is peculiarly suitable for television broadcasting in a particular area and (1) which is not available for use by other television licensees; and (2) no other comparable site is available in the area; and (3) where the exclusive use of such site by the applicant or licensee would unduly limit the number of television stations that can be authorized in a particular area or would unduly restrict competition among television stations.

§ 3.640 **Multiple ownership.**—(a) No person (including all persons under common control)<sup>2</sup> shall, directly or indirectly, own, operate, or control more than one television broadcast station that would serve substantially the same service area as another television broadcast station owned, operated, or controlled by such person.

(b) No person (including all persons under common control shall, directly or indirectly, own, operate, or control more than one television broadcast station, except upon a showing (1 that such ownership, operation, or control would foster competition among television broadcast stations or provide a television broadcasting service distinct and separate from existing services, and (2 that such ownership, operation, or control would not result in the concentration of control of television broadcasting facilities in a manner inconsistent with public interest, convenience, or necessity; provided, however, that the Commission will consider the ownership, operation, or control of more than five television broadcast stations to constitute the concentration of control of television broadcasting facilities in a manner inconsistent with public interest, convenience, or necessity.

<sup>1</sup> The word "control" as used herein, is not limited to full control but includes such a measure of control as would substantially affect the availability of the station to other networks.

<sup>2</sup> The word "control" as used herein is not limited to majority stock ownership, but includes actual working control in whatever manner exercised.

# Commercial Television Programs—1945

Following is a list of commercial television programs on leading stations during the year ending Dec. 31, 1945. Listing is alphabetically by program title, and giving the sponsor, product, type of program, station and advertising agency handling the account. Abbreviations: L, Live Talent; F, Film.

TITLE	SPONSOR-PRODUCT	TYPE	STATION	ADVERTISING AGENCY
<b>Adam Hat Sport Parade</b>	Adam Hats Hats	Sports (L-F)	WABD	Buchanan & Co.
<b>Alden's Fashions</b>	Alden Chicago Mail Order House	Fashion (L)	WABD	Buchanan & Co.
<b>Airomagic Fashions</b>	Airomagic Shoe Co. Shoes	Fashion (L)	WABD	Norman D. Waters & Associates
<b>American Television Society Shows</b>	American Television Society	Variety, Drama, Musical (L)	WABD	ATS Laboratories
<b>At Ease</b>	Ben Pulitzer Fashions Pulitzer Ties	Fashion (L)	WABD	L. S. Gamble Productions
<b>Football Games</b>	Atlantic Refining Co. Gas and Oil	Football	WPTZ, WNBT and WRGB	N. W. Ayer & Son
<b>Aunt Jenny Stories</b>	Lever Brothers	Drama (L)	WCBW	Ruthrauff & Ryan
<b>Author Author</b>	Allen B. DuMont Labs., Inc. Institutional	Educational (L)	WABD	
<b>Backstage at Gimbels</b>	Gimbel Bros. (Phila.) Dept. store mdse.	Dramatic	WRGB	Direct
<b>Benrus Time</b>	Benrus Watch Co. Watches	Time Signals (L)	WCBW	Young & Rubicam
<b>Big Sister</b>	Lever Brothers	Drama (L)	WCBW	Ruthrauff & Ryan
<b>Boys from Boise, The</b>	Esquire, Inc. Esquire Magazine	Musical, Variety (L)	WABD	Charles Storm Agency
<b>Botany Cartoons</b>	Botany Woolen Mills Botany Woolens	Movie Cartoons (F)	WABD	
<b>Breakfast Club</b>	Swift & Co. Institutional	Variety (L)	WABD	American Broadcasting Company

Bulova Time	Bulova Watch Co. Watches	Time Signal (L)	WNBT	The Biow Co., Inc.
Bulova Time	Bulova Watch Co. Watches	Time Signal (L-F)	WCBW	The Biow Co., Inc.

Canada Dry Cartoons	Canada Dry Bottling Co. Spur	Movie Cartoons (F)	WABD	
Carter's Mystery Program	Carter's Personal Products Arrid	Mystery (L)	WABD	Small & Seiffer
Cavalcade of Sports	Gillette Safety Razor Co., Inc.	Sports (L)	WNBT	Maxon Agency
Cincinnati Fashions	Cincinnati Fashion Frocks	Fashion (L)	WABD	Keeler & Dietz
Circus Folks	International Shoe Co. Shoes	Variety, Drama (L)	WABD	Westheimer & Co.
Coty's Fashions	Coty's Products	Fashion (L)	WABD	Glorianne Lehr
Conquest Over Darkness	General Electric Electricity	Dramatic	WRGB	Direct

Dana Fashions	Charles Dana Gowns	Fashion (L)	WABD	Glorianne Lehr
DuBarry Fashions	DuBarry Success School Institutional	Fashion (L)	WABD	Kenyon & Eckhardt
Dunhill Program	Alfred Dunhill, Ltd. Tobacco and Pipes	Drama (L)	WABD	Charles Storm Agency

Elgin Time	Elgin Watch Co.	Time Signal (L)	WBKB	J. Walter Thompson Co.
Elgin Time	Elgin Watch Co.	Time Signal (L)	WCBW	J. Walter Thompson Co.
Elgin Time	Elgin Watch Co.	Time Signal (L)	WNBT	J. Walter Thompson Co.
Esso Program	Esso	Educational (F)	WABD	Marschalk & Pratt
Esther Dorothy Fashions	Esther Dorothy Furs Furs	Fashion (L)	WABD	Glorianne Lehr

TITLE	SPONSOR-PRODUCT	TYPE	STATION	ADVERTISING AGENCY
Fair Fashions, The	The Fair Store	Fashion (L)	WBKB	The Fair Store
Fashion Ballet	John J. Myers (Albany) Dept. Store Mdse.	Dramatic-Ballet	WRGB	Direct
Fashions Coming and Becoming	Cluett, Peabody & Co. Sanforized Fabrics	Fashion (L)	WABD	Young & Rubicam
Marshall Field Fashions	Marshall Field & Co.	Fashion (L)	WBKB	Marshall Field & Co.
Food in Armor	Can Mfgs. Institute and Quartermaster Corps.	Dramatic	WRGB	Direct
Four Hundred Years in Four Minutes	Canned Foods General Mills Co.	(F)	WCBW	
Frederics Fashions	John Frederics Hats	Fashion (L)	WABD	Glorianne Lehr
Fun With Fay	Schutter Candy Co. Old Nick, Bit-O-Honey	Variety (L)	WABD	Westheimer & Co. Kaplan, Siesel & Bruck
Gotham Variety Show	Gotham Gold Stripe Hosiery	Variety (L)	WABD	Norman D. Waters & Associates
Hearst Variety Show	Hearst Magazines, Inc. Harper's Bazaar	Variety (L)	WABD	Abbott-Kimball, Inc.
Here's How	Colgate Palmolive Peet Co. Supersuds	Variety (L)	WABD	William Esty
Hillman Program	Hillman Publications Real Story	Variety (L)	WABD	Charles Storm Agency
Hobby-Hall of Fame	Press-On-Mending Tape Co. Mending Tape	Variety (L)	WABD	Reiss Agency Television Workshop
How's Your Imagination	DuPont Misc.	Demonstration	WRGB	BBD&O

If Men Played Cards as Women Do	Proctor Electric Co. Institutional	Comedy (L)	WABD	Newell-Emmett Co.
I. J. Fox Fashions	I. J. Fox Co. Furs	Fashion (L)	WABD	Giorianne Lehr
Ike on Sports, The	Allen B. DuMont Labs., Inc. Institutional	Sports (L-F)	WABD	
Inside Facts About Food	American Institute of Farm & Home Products	Educational (L)	WABD	

Ladies Be Seated	Chef Boy-Are-Dee	Variety (L)	WRGB	(ABC Television) McLunkin Advt. Co.
Lanz Fashions	Lanz, Fifth Avenue Lanz Clothes	Fashion (L)	WABD	Glorianne Lehr
Letter to Your Serviceman	American Broadcasting Co. John David Menswear	Variety (L)	WABD	ABC Television
Lily Dache Fashions	Lily Dache Chapeaux	Fashion (L)	WABD	Glorianne Lehr
Looking Thru' Gimbel's Window	Gimbel Brothers Men's Suits	Fashion (L)	WABD	Television Workshop
Lovely Lady	Diana Corset Co. Corsets	Fashion (L)	WABD	Lester Harrison

Mademoiselle	Street & Smith, Inc. Institutional	Fashion (L)	WABD	Direct
Magazine of the Air	U. S. Rubber Co. Institutional	Educational (L-F)	WABD	Campbell-Ewald
Magic Carpet, The	Alexander Smith Carpet Co. Carpets	Travel (L-F)	WABD	Anderson, Davis & Platte
Magic Carpet	Alex. Smith Carpet Co. Rugs	Dramatic	WRGB	Anderson, Davis & Platte
Magic from Aladdin's Lamp	Schwartz Television & Radio Repair Corp.	Variety (L)	WBKB	Direct
Miles News	Miles Laboratories Alka-Selzer, One-a-Day Vitamins	News (L)	WABD	Wade Agency



Society of Amateur Chefs, The	Nash-Kelvinator Kelvinator	Comedy (L)	WABD	Geyer, Cornell & Newell
Socony-Vacuum Show	Socony-Vacuum Oil Co. Duz—Ivory Soap—Mobiloil	Variety (L)	WABD	Compton Advertising Agency
Spanish Dance	Duff-Gordon Wine Co. Wines	Variety (L)	WABD	DuMont
Stardust Fashions	Stardust Garment Co. Slips	Fashion (L)	WABD	Norman D. Waters & Associates
Stories from Colliers	Winthrop Shoe Co. Institutional	Drama (L)	WABD	Westheimer & Co.

**T**

Telequizcalls	Edison Co.	Variety (L)	WBKB	Edison Advertising Department
Tele-Shopping With Martha Manning	R. H. Macy Co. Institutional	Fashion (L)	WABD	RKO Television Corp.
Television Quarterback	U. S. Rubber Co.	Sports (L)	WNBT	
Television Specialties	Casual Clothes Sports Clothes	Variety (L)	WABD	Charles M. Storm Agency
Thanks for Looking	Allen B. DuMont Labs., Inc. Abraham & Straus Gifts	Quiz (L)	WABD	
The Care and Feeding of Whiskers	Pal Blade Co. Razor Blades	Comedy (L)	WABD	Al Paul Leffton Co.
The Queen Was in the Kitchen	American Central Mfg. Co. American Kitchen Co., Inc.	Comedy (L)	WABD	Bruno, N. Y.
The Vanishing Princess	Loft Candy Co. Loft Candies	Mystery (L)	WABD	Al Paul Leffton Co.
Triangle Variety Show	Triangle Publications Click Magazine—Official Detective	Variety (L)	WNBT	Charles Storm Agency
Thrills & Chills	Allen B. DuMont Labs., Inc. Institutional	Adventure (L-F)	WNBT	Buchanan & Co.

**V**

Voice of Firestone	Firestone Tire & Rubber Co.	Televues (F)	WNBT	Sweeney & James Co.
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TITLE	SPONSOR-PRODUCT	TYPE	STATION	ADVERTISING AGENCY
Waltham Time	Waltham Watch Co. Watches	Time Signal (L)	WNBT	N. W. Ayer & Son, Inc.
Weather Reports	Botany Woolen Mills Botany Woolens	Weather Report (L)	WNBT	Alfred J. Silberstein-Bert Goldsmith, Inc.
Wednesdays at Nine Is Lever Bros. Time	Lever Brothers Rinso—Spry—Lifebuoy	Drama, Variety, News (L)	WABD	Ruthrauff & Ryan
Wide Horizons	Boot Aircraft Nut Mfg. Co. Institutional	Variety (L)	WABD	Cecil & Presby
Wings of Democracy	Pan-American World Airways	Travel (F)	WNBT	J. Walter Thompson Co.
WNEW Programs	Radio Station WNEW Institutional	Drama, Variety (L)	WABD	Direct
Woman of Tomorrow	American Broadcasting Co. Institutional—Tangee Cosmetics	Variety (F)	WABD	ABC Television
World in Your Home, The	RCA Victor Division of RCA	(F)	WNBT	J. Walter Thompson Co.
WOR Presents	Radio Station WOR	Variety, Drama, Musicals (L)	WABD	Direct
You Give What You Got	General Foods Post-Ten Cereal	Drama (L)	WABD	Benton & Bowles
Your World Tomorrow	Dur-Ez Plastics Institutional	Educational (L)	WABD	Television Workshop

*Television and radio production, as well as the advertising agencies handling such accounts are closely integrated. Complete listing of Advertising Agencies and their radio-television accounts will be found on pages 100-7. For list of radio-television producers, please see page 665.*



FRANK H. McINTOSH

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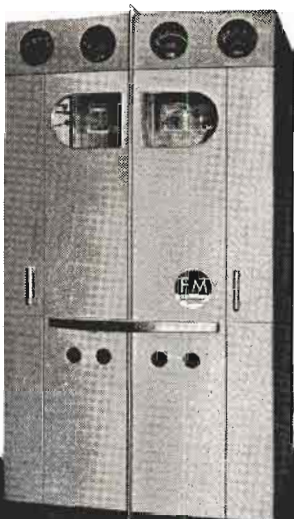
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# FOR BETTER BROADCASTING

## AM or FM

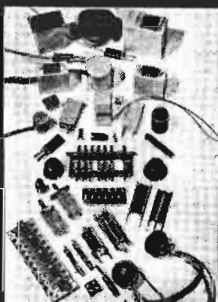
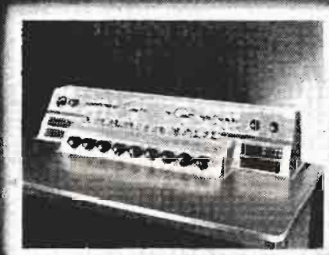
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*Equipping For Television*

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*New Tubes And Circuits*

•

*Expanded Facilities*

•

*RMA In Peacetime Role*

•

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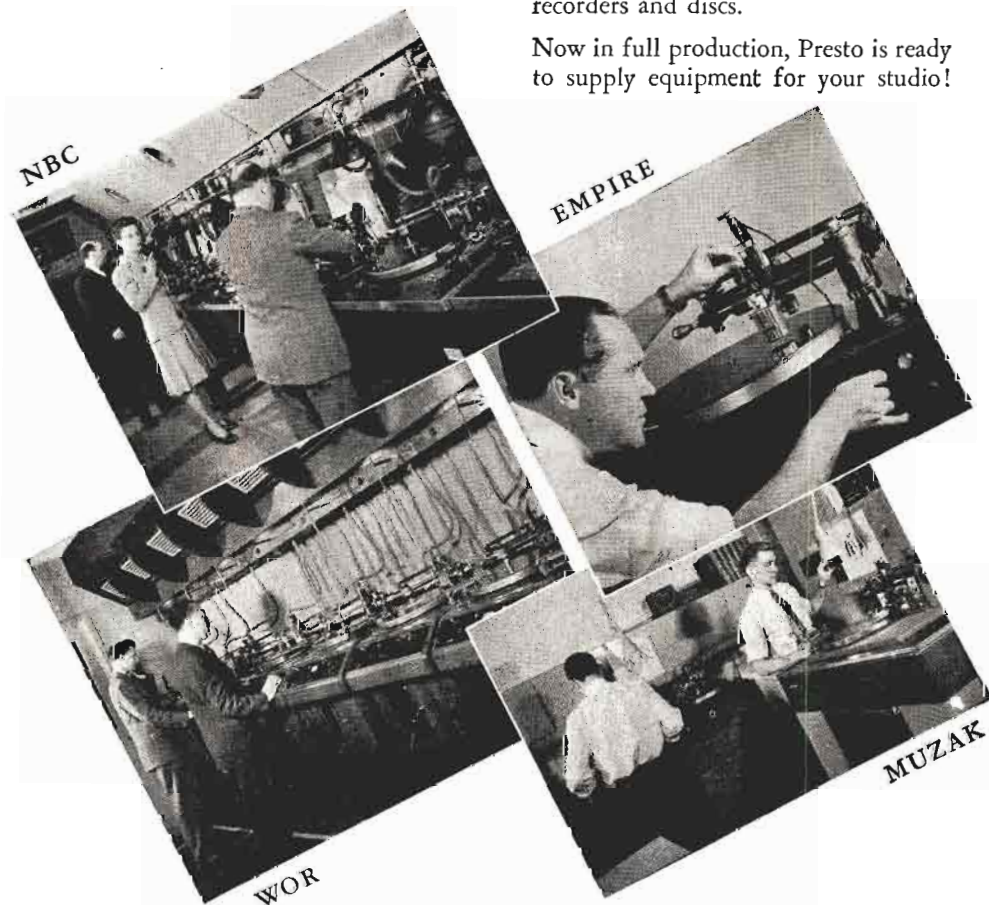
*Radio Equipment Manufacturers*

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# Proper Equipment For Television

By P. G. CALDWELL, Television Equipment Sales Manager, GE

AT THE outset, may I remind the reader, that proper master control equipment is necessary in planning for the development of your television station. This article briefly explains why the initial purchase of flexible equipment is necessary for orderly expansion from a small community television station to the larger metropolitan type as this new medium grows.

A study of the probable growth of commercial television, with full regard for the economic problems involved, indicates that a new television broadcaster will be interested primarily in purchasing equipment initially which will allow for easy future expansion. Only a few of the over 400 possible licensees in this country will be able to justify elaborate facilities at the start.

## Basic Equipment

It is of interest, therefore, to examine the basic equipment needed for a television station and see how flexibility may be built in and future expansion made easy.

A small community station undoubtedly will derive most of its programming from motion picture film (16 mm), outside pickup of special events, and perhaps a very limited studio operation capable of handling news reports and commercials. These announcements can be made with a permanently installed camera channel or by studio operation of the outside pickup cameras. Later, when network program service will be available, this will obviously be an immediate and rich source of new programs.

To carry out a program service such as described in the preceding paragraph, a small station will obviously require a visual and aural transmitter, an antenna system, an outside pickup unit, and film projector equipment. It will also need a flexible master control system capable of monitoring and switching. Monitoring must be available to at least watch the outgoing program and the program coming next. General Electric has designed a master control desk which basically provides facilities for switch-

ing and monitoring (a) outside pickups, (b) networks, and (c) programs from as many as six studios. (Film would be fed through one of the studio channels.) This master control desk incorporates a distribution console to provide switching of the above program sources, and also two monitor consoles allowing the basic monitoring described above. Extra monitor consoles may be added as desired. All of these monitors will handle composite television signals.

## Other Facilities

In addition to the facilities necessary for monitoring and switching the picture, the master control desk has provision for switching the audio portion of the program simultaneously with the picture. This feature simplifies the operator's job and minimizes errors in handling the program. Conveniently located on the distribution console is a talk-back microphone for calling any desired portion of the station as well as a telephone handset for private conversations.

As previously mentioned, the master control desk provides for expansion to handle the output from as many as six studios. In this expansion process each studio should have its own control room with camera monitors and program console\* so that it may operate as an individual program unit, independent of any other studio in the building. The program from each studio may then be fed to the master control desk where the final output of the station is determined.

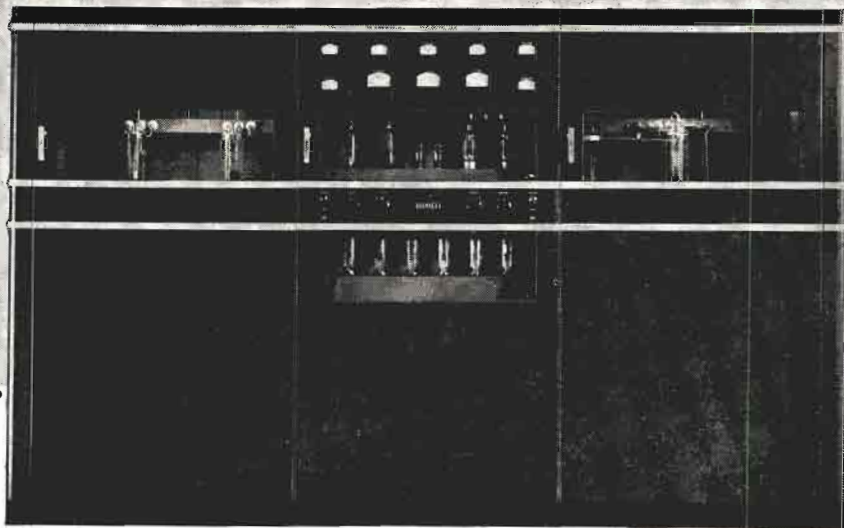
## Adding Studios

A television broadcaster who has purchased this flexible type of master control equipment for a community type station is automatically in a position to add one or more studios, or extra outside pickup circuits without additional expenditure for master control equipment.

When the decision has been made to add one or two fully-equipped studios to the small station, thus bringing it to the status of a metropolitan station, careful study should be given to the equipment

(Continued on Page 1050)

# The New Collins 21A, 5kw Broadcast Transmitter



## Fulfilling the Tradition of Collins Quality Leadership

THE 21A is a thoroughly developed 5 kw AM broadcast transmitter, and an excellent example of characteristically superior Collins engineering and construction.

Based on sound, well-proved principles of design, the 21A has been completely modernized within recent months. New components of improved design, with longer life and higher safety factors than were previously available, assure reliable continuous operation.

The response curve is flat, within  $\pm 1/2$  db. from 30 to 10,000 cycles. Reduced power to 1 kw is obtained by instantaneous lowering of plate voltages, permitting uninterrupted program transmission.

We will be glad to send you detailed information regarding the 21A, other Collins transmitters, the 12Y remote amplifier, the 12Z four channel remote amplifier and Collins high quality studio equipment. Collins Radio Company, Cedar Rapids, Iowa; 11 West 42nd Street, New York 18, N. Y.



### The Collins 12Y Remote Amplifier

A one channel remote amplifier for unattended operation from a 115 volt a.c. power source, the 12Y provides the advantages of quick set-up, small size, light weight, high fidelity, simple operation, utmost reliability and low cost. It is practically hum free due to the removal of the isolation transformer, which is in the power cable.

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Collins equipment is sold in Canada  
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# New Tubes-Circuits FM-AM '46 Feature

*By MEADE BRUNET and J. B. ELLIOTT, RCA Victor Division*

**B**BROADCAST equipment of new and improved commercial design for both standard broadcast and frequency modulation radio stations has been placed in production by the Engineering Products Division of the Radio Corporation of America and initial units are scheduled to come off production lines during the first part of 1946.

Limited quantities of new RCA Victor table model radios and Victrola radio-phonographs, and a pocket-size Personal Radio, have already been shipped from the company's plants to its distributors throughout the country, and production is being increased as rapidly as possible.

RCA Victor will supply, as it did before the war, all of the equipment needed for radio broadcasting stations, from microphone to antenna.

Initial units of FM equipment, to be available in the spring, will include transmitters with output power ratings of 250 watts, 1 kilowatt, and 3 kilowatts, while 10-kilowatt and 50-kilowatt FM transmitters are scheduled to be ready for delivery later.

Standard broadcast (AM) transmitters, the first of which are also due to leave production lines during the first quarter, will include units with output power ratings of 250 watts, 1 kilowatt, 5 kilowatts, 10 kilowatts, and 50 kilowatts.

Among numerous design and circuit improvements in the company's initial postwar line of broadcast equipment, an outstanding feature is a new grounded-grid amplifier circuit which is being incorporated in all FM transmitters. This circuit provides a marked improvement in amplifier stability at the high frequencies used for FM broadcasting. It also permits the use of smaller tubes than those required in pre-war FM transmitters, making possible a reduction in operating costs.

Increased transmitter efficiency and reduced operating costs have also been achieved in the new AM transmitters through the use of new type tubes which were not available before the war. To

meet special demands of the armed services, RCA designed and built 200 entirely new types of electron tubes, many of which will have applications in new radio transmitters, control and monitoring units, and receivers.

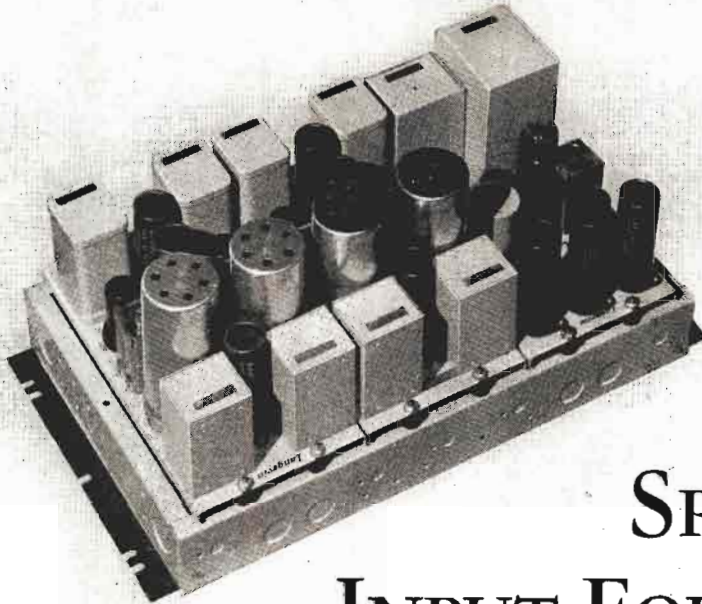
The market which is waiting represents the pent-up demand accumulated during four years of war work. There are now before the Federal Communications Commission a total of more than a thousand applications for new frequency allocations for radio broadcast purposes alone, exclusive of television—about 675 for FM stations and 425 for AM.

A design and engineering achievement featured in RCA Victor promotion of all of its postwar home instruments is the "Golden Throat," signifying exact coordination of the three basic elements essential to convert inaudible radio waves into audible sound waves—the electronic amplifier system, the loudspeaker, and acoustical qualities of the cabinet. The perfect matching of these requisites for life-like, balanced reproduction is declared to be the result of 26 years of RCA engineering research, blended with Victor's 47-year musical heritage.

Production is continuing on receivers and combination instruments at a pace limited only by the supply of materials.

RCA Victor will also offer a comprehensive line of FM radio receivers, including both table models and consoles, all featuring a new "ratio detector" circuit which is insensitive to electrical interference of all kinds, whether man-made by ignition systems, oil burners, or domestic appliances, or natural, such as atmospheric static. These receivers will also be equipped for standard broadcast reception.

Not only is the new circuit free of a critical threshold signal level, operating effectively regardless of the strength of the received signal, but its use eliminates the need for special tubes and parts formerly required.



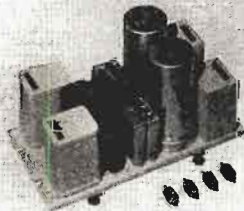
AT LEFT. Two Langevin Type 111-A Dual Pre-Amplifiers and one Langevin 102-A Line-Amplifier mounted on a 3-A Mounting Frame. This unit provides four pre-amplifiers and one line-amplifier, or three pre-amplifiers, one booster-amplifier and one line-amplifier, all in 10½" of rack mounting space. External power supply such as the Langevin 201-B Rectifier, as shown below, is required.

# SPEECH INPUT EQUIPMENT

*Worthy of an Engineer's Careful Consideration*



TYPE 102A Amplifier is one of the 102 Series Line Amplifiers of which four different types are available. The "A" is mostly used to drive the line after the master gain control. It is quiet, has excellent frequency characteristic and ample power output with low distortion products.

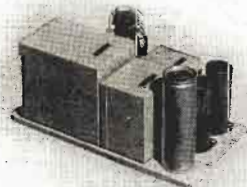


The 111-A Amplifier consists of two individual pre-amplifiers on a single chassis for use in high quality speech input equipment. Its compact unitized construction saves rack space. Input impedances of 30, 250 and 600 ohms; output impedance 600 ohms. It is quiet and has excellent frequency characteristics and ample power output with low distortion products.

Every unit of Langevin speech input equipment is held to a rigid standard of performance. These units may be cascaded in accordance with good engineering practices and still be well within the allowable limits of FM requirements as to frequency response, noise and distortion products.

All Langevin speech input equipment units are mounted on standard 5¼" x 10¼" chassis. Three of these units can be mounted on a Langevin 3-A Mounting Frame, which occupies 10½" of space on any standard rack. Wall mounting steel cabinets for housing these units are also available.

We are proud of the products which bear the name *Langevin*. It will only appear on good apparatus.



The 201-B Rectifier is one of the 201 Series Rectifiers, of which two types are available, the "B" having additional filtering, thereby giving a slightly lower ripple content than the "A." This unit is capable of supplying power for one 102 Series Line Amplifier and three 111 Pre-Amplifiers (six pre-amplifiers).



The 108-A Amplifier is one of the 108 Series Monitor Amplifiers, of which four different types are available. The "A" is ordinarily used to drive a monitor system from a 600 ohm or bridging source. Its distortion is low for this type of service. It is quiet and has ample power with excellent frequency characteristics.

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# Expanded Facilities Is The 1946 By-Word

By RALPH C. POWELL, General Sales Mgr., Presto Recording Corp.

AS THIS is written, radio broadcasting and communication facilities are about to experience the greatest expansion in their history.

New frequency channels have been opened for use by FM and Television Stations. Additional stations are being licensed in the standard broadcasting band, radio relay links spanning the country are about to replace or augment our wire communication system. International short-wave broadcasting facilities, built for war-time services, are making American entertainment available throughout the world.

Walky-talkies will shortly be in private use as well as radio communication equipment for private automobiles, planes and boats. Pocket radios no larger than your hand are in production.

Most important from an economic standpoint will be the expansion of our broadcasting facilities. It has been estimated that over 2,000 FM broadcasting stations and 250 television stations, will be placed in operation during the next three years. Assuming that a total of 2,500 stations, standard, FM and television are erected, we can produce some interesting figures on equipment and services that will be required in addition to the broadcasting equipment itself. For example, the erection of each of these stations will call for the erection and/or alteration of 3000 to 3500 buildings, the fabrication and erection of 2,500 steel towers, legal and engineering services, pianos, furniture, office equipment, telephone, electric power, water services and employment of possibly 30,000 additional technical, program, sales and administrative personnel.

According to recent figures, the cost of placing a local standard (250 watt) broadcasting station on the air with all equipment ready for business with reasonable allowance for working capital to start operation, will be between 25 and 30 thousand dollars. The cost of a community FM station ready for business will be between 35 and 50 thousand dollars, the metropolitan FM station 100 thousand dollars, the community televi-

sion station assuming that their operation will include mainly the broadcasting of motion picture entertainment and the relaying of programs from nearby metropolitan television stations 200 to 250 thousand dollars, metropolitan television stations, other than those in the major talent centers, 500 thousand dollars.

Taking average figures for existing stations as compiled by the FCC the annual revenue of a local standard broadcasting station will be between 55 and 60 thousand dollars and the profit on operations about 8.5 per cent. In the case of the community FM station, the revenue, after it becomes established, may approach the same figure, but such earnings will have to await the general distribution and use of high frequency FM receivers in their locality. Local FM broadcasting service is the key to home receiver sales and conversely receiver sales are essential to the profitable operation of an FM station.

The community television station operating mainly to rebroadcast programs from other stations along with motion pictures, will operate at an expense of around 120 thousand dollars annually, and the operating revenue at such time as a sufficient number of receivers are in use to provide a commercial advertising medium, might approach 160 thousand dollars a year.

The figures for revenue and operating expense for a metropolitan television station may vary over an extremely wide range, depending upon the availability of a network connection and the working capital available for production of live talent programs during the period in which television receivers are coming into use. It has been variously estimated that the minimum cost would be 350 thousand dollars annually and that if an ambitious program schedule were undertaken including live studio programs and pickup of outside events, this cost might increase to over 750 thousand dollars annually. The revenue will be proportional to the program service rendered.

# RMA Converting To Peacetime Role

*By BOND GEDDES, Executive Vice-President, RMA*

**T**HE Radio Manufacturers Association represents all phases of the radio manufacturing industry. It includes in its membership—now at a record peak of more than 300—most set manufacturers and a large representation of the component producers: radio parts, tube, transmitter, and amplifier and sound equipment manufacturers.

Having achieved a remarkable wartime production, during which the productive capacity of the industry was multiplied about 1200 per cent, the radio industry is resuming its peacetime job with bright prospects despite current handicaps which have retarded reconversion several months.

To better serve the industry, RMA is reviving many of its pre-war services and establishing new aids necessitated by post-war conditions. Among the pre-war services being resumed on a more extensive scale are industry statistics on both end equipment and components.

One of the principal new services is an industrial relations program to provide a variety of information to RMA members on wages, hours, labor practices, collective bargaining technique, and the like.

Besides the long-established engineering standards service carried on by the RMA Engineering Department, RMA has recently inaugurated a uniform system for identifying the source and the date of production of radio products.

Civilian radio production in 1945 was disappointingly small. Only about 300,000 radio sets were manufactured between V-J Day and the end of the year despite an optimistic forecast of the War Production Board that the industry's capacity would permit a production of 3,500,000 sets during that period. Pricing difficulties, particularly in the radio parts field, plus some material shortages and labor readjustments, were chiefly responsible for this failure of the industry to get going as quickly as had been hoped.

Indicative of the determination of many of the war-born radio manufac-

turers to remain in the post-war industry of FM, television and industrial electronics is the growing membership of RMA. At the first quarterly meeting of the RMA Board of Directors this year 35 new members were admitted, and others are being received constantly. There are more than twice as many radio set manufacturers licensed now than there were before the war, and the parts industry is equally expanded.

While it is too early to estimate 1946 production, due to the many uncertainties, manufacturers agree that the first full year of production after volume output is achieved will far surpass the peak pre-war of 1941 when nearly 14,000,000 sets were sold. In addition to a tremendous backlog of would-be buyers whose radios are outmoded or outworn, FM and television broadcasting as they develop will open new markets. Practically every family in the United States is a potential buyer of an FM or AM-FM set and a television receiver once the transmitting services are available.

RMA is a trade association which not only is made up of radio manufacturers but is governed by them as well. Besides a Board of Directors, a third of which is elected annually for three-year terms, the Association includes numerous committees charged with responsibilities of studying and acting upon problems confronting their segments of the industry.

There are five divisions with RMA: the Set, Tube, Transmitter, Parts, Amplifier & Sound Equipment. A sixth division probably may be formed later this year out of a newly-organized section of the Parts Division. This is the Amateur Radio Activities Section which is concerned with servicing and promoting the interests of the growing army of radio amateurs.

RMA is ever alert to the interests of the radio industry as recently when certain government agencies threatened to discard manufacturer-agent contracts for the disposal of radio and electronic war material Surpluses.

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# Extensive Gains In Communications

*By WES SUMMERFIELD, Chief Sales Researcher, Press Wireless Mfg.*

**VISITORS** at the Winter Technical Meeting of the Institute of Radio Engineers held at the Hotel Astor in New York City last January saw an imposing display of radio telecommunications equipment in the spot-lit stage exhibit of Press Wireless. They saw a radio teleprinter circuit in actual simultaneous operation with voice broadcast on a single radio-frequency carrier; facsimile equipment transmitting and recording together with line and compressor amplifiers, dual-diversity radio receivers, a newly developed frequency shift keyer and monitor, single receivers, tone keyers, electronic rectifier-drivers, VT keyers and many other high-grade radio communications apparatus constituting nearly a score of equipment engineered and manufactured by Press Wireless Manufacturing Corporation. This represented a few of the important items developed by this aggressive young company and brought to their present state of perfection over a scant sixteen years. Huge fifty-kilowatt, ten-ton PW radio transmitters and their smaller twenty-kilowatt companions were not shown nor were many other units including the five, two-and-a-half kilowatt or the famous four-hundred watt transmitters. But this display marked a significant page in the history of PW.

During and immediately following World War I the strangle hold of an international cartel on cable services bottle-necked press traffic to paralyzing proportions. Enjoying a higher tariff rate commercial messages moved with top priority while the world waited anxiously for news dispatches that piled high in cable traffic offices for days of delay and often were never transmitted at all. To break this hold on the transmission of international news a small group of energetic United States publishers made an experiment. They tried trans-Atlantic radio! Their humble but diligent efforts met instantly with a great promise of success. Seven of these publishers and four world-wide news services formed and incorporated Press Wireless in 1929. The following year this

new enterprise was under way with an intercept service between Halifax, Nova Scotia, and New York City. This was soon followed by the installation of New York to Chicago and Los Angeles circuits, then a service to Mexico City and Paris. Growth of this service has been rapid and continuous until today Press Wireless operates 27 major press circuits reaching more than 90 per cent of the civilized world. In sixteen years PW has advanced from a humble experiment to a significant global telecommunications operation. Last year alone PW handled over 154-million words of news dispatches together with an amazing volume of radio-photos besides thousands of hours of program transmission service for the broadcasting networks.

To accomplish and maintain these world-wide circuits required the design and development of new equipment and methods. Press Wireless has pioneered in the development of entire systems for 24-hour-a-day 365-days-a-year telecommunications circuits over long and short haul distances around the globe and during World War II initiated a manufacturing operation to supply our Armed Forces with high quality dependable radio equipment.

Landed on the Normandy beach in France D-Day-plus-4 a PW crew unloaded and installed directly behind the front lines a Press Wireless 400-watt transmitter which was destined to make international communications history. This transmitter and another "400" mounted on army trucks followed the allied armies through France, Belgium, Holland and to Germany transmitting directly to the United States war correspondents' dispatches from directly behind the lines. Another famous "Fighting 400" was installed on Leyte immediately after the beginning of the Philippine invasion and again carried to the world "news in the making."

Among the outstanding achievements of PW engineers has been the successful

and practical development of Radio Frequency Carrier Shift or "Frequency Shift" transmission which presages a tremendous advancement in the science of radio communications. The advantages of this new FS system of transmission is evidenced in the rapidly increasing number of installations throughout the world.

On December 1, 1945, the Manufacturing Division of Press Wireless, Inc., was re-formed and re-organized into a separate operation set up as Press Wireless Manufacturing Corporation with Executive and Sales Offices in the Times Square Building, New York City. Manufacturing facilities have been considerably expanded at Hicksville, Long Island, providing for mass production of communications equipment from small line-operating units up to huge 50,000 watt radio transmitters.

A new modern engineering laboratory containing approximately 18,000 square

feet, located in Long Island City, houses the PW engineering staff which is designing and developing diversity remote-controlled radio receivers, FS keyers, FS converters, precision tunable h-f oscillators, monitors, electronic drivers, facsimile and photo transmission units, high and medium powered radio transmitters and scores of other telecommunications apparatus all of modern design and founded solidly on years of significant radio communications engineering experience and know-how in meeting the toughest specifications anywhere—those of the press of the United States.

Tomorrow Press Wireless, Inc., will transmit and receive many thousands of words of press traffic across the oceans and continents of the world, and tomorrow Press Wireless Manufacturing Corporation, with its newly expanded facilities for engineering and manufacturing, will build radio communications equipment for entire network systems for commercial airlines and foreign governments on every continent.

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## TELE EQUIPMENT --- (Continued from Page 1037)

purchased for this purpose, and to its location in the broadcast plant.

A television station with even a single studio requires a considerable number of equipment racks—some for sound and some for picture equipment. (There is one rack, for example, for each studio camera.) Experience at General Electric's television station WRGB has shown that these racks should be located in an equipment room separate from any studio. This room would also include the studio-to-transmitter link equipment plus any other required terminal apparatus. In some cases the equipment room might also house the master control desk.

### Additional Space

There are several advantages in having a separate room for the bulk of the apparatus needed in the studio building. For one thing, maintenance can be carried on without interfering with any of the program personnel. Also, the heat generated by the large number of tubes in the various chassis is kept away from

performers, producers, and technical operators.

Use of a separate equipment room allows each studio to be a self-contained unit with only the cameras, microphones, accessories and other necessary control room equipment. The program and technical personnel of a particular studio may thus operate independently of any other studio or of the master control room. This makes for smooth programming as a given studio becomes simply an additional program source added to the station's facilities.

Undoubtedly each television station will have problems and possibilities peculiar to its own service area.

To meet these demands, and to allow for future expansion, the G.E. television equipment has been designed with an inherent flexibility that assures an orderly growth from a small community station to one of the larger metropolitan types.

\* See "Versatile Multichannel Television Control Equipment" by Norgaard and Jones, May, 1941. Proceedings of I.R.E.

# Chief Engineers

Of Stations in United States and Canada  
As of March 1, 1946

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Bessemer WJLD.....Rufus Jones  
Birmingham, WSGN.....Gordon Bishop  
WBRC.....Jerry Hayman  
WAPI.....Norman S. Hurley  
Decatur, WMSL.....J. V. Rozer  
Gadsden, WJBY.....William Pigg  
Mobile, WMOB.....T. L. Greenwood  
WALA.....R. B. Hurley  
Montgomery, WSFA.....Cliff Shelkofsky  
WCOV.....W. D. Weatherly  
Muscle Shoals.....Lynn V. Mcmoran  
Selma, WHBB.....T. F. Kelly, Jr.  
Tuscaloosa, WJRD.....James Arendale

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KOY.....Lewis Sublett  
Prescott, KYCA.....George Eitel  
Yuma, KYUM.....Leavenworth Wheeler

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KTHS.....Cecil Suitt  
Jonesboro, KBTM.....John E. Douglas  
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KGHI.....V. O. Van Dusen  
KARK.....Dan L. Winn  
Siloam Springs, KUOA.....Kenneth Maxwell

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KGER.....Jay Tap  
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KMTR.....Earl Buchanan  
KMPC.....Mel Cody  
KFVD.....Jack Fredericks  
KFSG.....Harvey Haas  
KHJ.....Frank Kennedy  
KFWB.....Harry Myers  
KGFJ.....Homer Obuchon  
KECA.....T. B. Palmer  
KFAC.....Calvin J. Smith  
KFI.....H. L. Blatterman  
KFI.....Curtis Mason  
Marysville, KMYC.....Joe D. Carroll  
Monterey, KDON.....Omar Wright  
Oakland, KROW.....C. E. Downey  
KLX.....Roswell Smith  
Palm Springs, KCMJ.....William Murtough  
Pasadena, KXLA.....Jack Reader  
KWKW.....Paul W. Spargo  
Redding, KVOV.....Russell Pope  
Riverside, KPRO.....Cecil Caves  
Sacramento, KCRA.....Marvin D. Myers  
KFBK.....Stam Sronce

San Bernardino, KFXM.....George W. Ewing  
San Diego, KGB.....William G. Collins  
KFMB.....Caleb Frisk  
KFSD.....Richard Gartner  
San Francisco, KGO.....A. E. Evans  
KSFO.....Royal V. Howard  
KFRC.....J. J. McArdle  
KJBS.....William Nielsen  
KSAN.....Norwood J. Peterson  
KPO.....Curtis D. Peck  
KYA.....Paul C. Schulz  
San Jose, KQW.....Kenneth Owen  
Santa Ana, KVOE.....Stan Guenther  
Santa Barbara, KDB.....William C. Buckley  
KTMS.....Al Nicolay  
Santa Rosa, KSRO.....Howard McCauley  
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Colorado Springs, KVOR.....H. C. Strang  
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WTIC.....H. D. Taylor  
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WNHC.....Garro W. Ray  
New London, WNLC.....Gerald J. Morey  
Stamford, WSRR.....Edward L. Markman  
Waterbury, WATR.....Russell Jensen

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WINX.....Ralph Cannon  
WTOP.....Clyde M. Hunt  
WMAL.....Daniel Hunter  
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 Freeport, WGBB.....G. Graham  
 Ithaca, WHCU.....True McLean  
 Jamestown, FJTN.....Harold J. Kratzert  
 Newburg, WGNV.....Marvin S. Seimes  
 New York, WEVD.....Charles Brown  
 WHN.....Paul Fuelling  
 WABC.....Henry Grossman  
 WOY.....Hills Holt  
 WJZ.....George Milne  
 WOR.....J. R. Popple  
 WBNX.....A. L. Solbrig  
 WQXR.....Russell Valentine  
 WMCA.....Pierre C. Versepul  
 WVEF.....F. A. Wankel  
 WNEW.....Max Weiner  
 Niagara Falls, WHLD.....E. D. Hiatt, Jr.  
 Ogdensburg, WSLB.....Clifford W. Moore  
 Olean, WHDL.....Thomas J. Gill  
 Plattsburg, WMFF.....Jack Nazak  
 Poughkeepsie, WKIP.....Marvin S. Seimes  
 Rochester, WSAY.....Gorden P. Brown  
 WHAM.....Kenneth Gardner  
 WHEC.....Bernard C. O'Brien  
 Schenectady, WSNY.....Irving P. Beck  
 WGY.....W. J. Purcell  
 Syracuse, WSYR.....G. Armand  
 WAGE.....Charles Brannen  
 WOLF.....Tom Crimmins  
 WFBL.....Alfred C. March  
 Troy, WTRY.....Albert Chismark  
 Utica, WIBX.....John T. Dowdell  
 Watertown, WWNY.....Maynard B. Davis  
 White Plains, WFAS.....Frank A. Seitz  
 Woodside, WWRL.....Joseph Franz

### North Carolina

Asheville, WISE.....Madeline Hollerith  
 WWNC.....Cecil Hoskins  
 Charlotte, WAYS.....Paul T. Absher  
 WSOC.....L. L. Caudle Jr.  
 WBT.....M. J. Minor

# CHIEF ENGINEERS

Durham, WDNC.....Walter S. Hill  
 Elizabeth City, WCNC.....Ross C. Askey  
 Gastonia, WGNB.....W. C. Groves Jr.  
 Goldsboro, WGBR.....Daniel B. Trueblood  
 Greensboro, WBIG.....Earl Allison  
     WGBB.....James Stewart  
 Greenville, WGTC.....James H. Mayo  
 Henderson, WHNC.....Lewis Hiland  
 Hickory, WHKY.....Edmund S. Long  
 High Point, WMFR.....R. P. Boyd  
 Jacksonville, WJNC.....R. M. Chamberlain  
 Kinston, WFTC.....Herman Civils  
 New Bern, WHIT.....David E. Hardison  
 Raleigh, WPTF.....Henry Hulick Jr.  
 Roanoke Rapids, WCBT.....Claude Meares  
 Rocky Point, WWED.....Issac G. Murphrey  
 Salisbury, WSTP.....Carl B. Watson  
 Washington, WRRF.....George P. Martin  
 Wilmington, WMFD.....Edward I. Herrung Jr.  
 Winston-Salem, WSJS.....Phil Hedrick  
     WAIR.....Lee King  
 Wilson, WGTM.....William H. Malone

## North Dakota

Devils Lake, KDLE.....Richard Moritz  
 Fargo, WDAY.....Julius Hetland  
 Grand Forks, KILQ.....Arnold Petrich  
     KFJM.....Arnold Petrich  
 Jamestown, KSJB.....Lloyd R. Amoo  
 Mandan, KGCU.....LeRoy Gunderson  
 Valley City, KOVC.....Kermit Holm

## Ohio

Akron, WHKK.....James S. Hill  
     WADC.....John L. Wildermuth  
 Ashtabula, WICA.....H. R. Johnson  
 Canton, WHBC.....Kenneth Silker  
 Cincinnati, WCPO.....Glen Davis  
     WLW.....R. J. Rockwell  
     WSAI.....William E. Symons  
     WCXY.....C. H. Topmiller  
     WKRC.....George A. Wilson  
 Cleveland, WHK.....R. H. DeLany  
     WTAM.....Edwin S. Leonard  
     WGAR.....Morris R. Pierce  
 Columbus, WOSU.....Charles H. Boehnker  
     WCOL.....Leo DeConnick  
     WHKC.....William C. Minor  
     WBNS.....Lester H. Nafzger  
 Dayton, WHIO.....Ernest Adams  
 Findlay, WFIN.....Edgar C. Smith  
 Lima, WLOK.....Darrell J. Hunter  
 Mansfield, WMAN.....W. E. Morrison  
 Marion, WMRN.....Joe Peters  
 Portsmouth, WPAY.....Maurice L. Myers  
 Springfield, WIZE.....Victor L. Bushong  
 Steubenville, WSTV.....Joseph M. Troesch  
 Toledo, WTOL.....John Sheehan  
 Warren, WRRN.....Robert V. Kinney  
 Youngstown, WFMJ.....Frank Dieringer  
     WKBN.....B. T. Wilkins  
 Zanesville, WHIZ.....William Hunt

## Oklahoma

Ada, KADA.....Harold Walker  
 Bartlesville, KWON.....Dallas E. Degraffenreid  
 Enid, KCRC.....Murray Coleman  
 Lawton, KSWO.....W. E. Billington  
 Norman, WNAD.....Jack Boyer  
 Oklahoma City, KOCY.....George W. Brock  
     KTOK.....Clifford Easum  
     KOMA.....Morris W. Thomas  
 Okmulgee, KHBG.....J. H. Smith Jr.  
 Ponca City, WBBZ.....N. J. DeFrancesco  
 Shawnee, KGFF.....Salvatore Riccionl  
 Tulsa, KOME.....Roy Brown  
     KTUL.....Robert E. Snider

## Oregon

Albany, KWIL.....Bül Hansen

Bend, KBND.....Wallace Guthrie  
 Coos Bay, KOOS.....Roger L. Spaugh  
 Corvallis, KOAC.....Grant Feikert  
 Eugene, KORE.....Harold Gander  
 Grants Pass, KUIN.....Edward A. Malone  
 Klamath Falls, KFJI.....Robert Davenport Jr.  
     KFLW.....Gilbert E. Walters  
 LaGrande, KLBM.....Sidney Williams  
 Pendleton, KWRC.....Robert M. Eaton  
 Portland, KOIN.....Louis Bookwalter  
     KEX.....T. T. Ely  
     KALE.....A. E. Richmond  
     KWJJ.....Harold C. Singleton  
     KGW.....Harold S. Singleton  
 Roseburg, KRNR.....LeRoy E. Hlatt  
 Salem, KSIM.....C. R. Carlton

## Pennsylvania

Altoona, WFBG.....George R. Burg  
 Butler, WISR.....Paul F. Rex  
 Easton, WEST.....J. E. Mathiot  
 Erie, WLEU.....Clarence A. Baker  
 Grove City, WSAJ.....Dale O. Smock  
 Harrisburg, WHP.....Daniel E. Leibensperger  
     WKBO.....J. E. Mathiot  
     HGB.....H. G. Schlegal  
 Hazleton, WAZL.....J. E. Mathiot  
 Johnstown, WJAC.....Nevin L. Straub  
 Lancaster, WGAL.....J. E. Mathiot  
 New Castle, WKST.....Robert Emch  
 New Kensington, WKPA.....W. W. Neeley  
 Philadelphia, WFIL.....Louis E. Littlejohn  
     WIP.....James M. Tisdale  
 Pittsburgh, WWSW.....Henry B. Kaiser  
     KDKA.....T. C. Kenne  
     KQV.....John Price  
     WCAE.....James Schultz  
 Reading, WEEU.....Harold E. Schearer  
 Scranton, WGBI.....Kenneth R. Cooke  
 Sunbury, WKOK.....John W. Keller Jr.  
 Wilkes-Barre, WBRE.....Charles Sakoski  
 York, WORK.....J. E. Mathiot  
     WSBA.....Willis Weaver

## Rhode Island

Pawtucket, WFCI.....Gilbert Johnson  
 Providence, WEAN.....Harry Tilley

## South Carolina

Anderson, WAIM.....Randall Davidson  
 Charleston, WCSC.....Wilbur Albee  
     WTMA.....D. M. Bradham  
 Columbia, WCOS.....Harry L. Clippard  
     WKIX.....Edwin Davis  
     WIS.....Herbert Eidson  
 Florence, WOLS.....W. T. Pritchett  
 Greenville, WMRO.....George D. Tate  
 Rock Hill, WRHI.....James S. Beaty Jr.  
 Spartanburg, WSPA.....Harold Beckholt  
     WORD.....Francis I. Harr

## South Dakota

Aberdeen, KABR.....Delbert T. Hunt  
 Bismark, KFYP.....Ivar Nelson  
 Pierre, KGFX.....Robert H. Dye  
 Sioux Falls, KELO.....Max Staley  
     KSOO.....Max Staley  
 Vermillion, KUSD.....Steve Graf

## Tennessee

Bristol, WOPI.....Robert H. Smith  
 Chattanooga, WDEF.....B. C. Baker  
     WAPO.....B. B. Barnes  
     WDOD.....Julius C. Vessels  
 Clarkesville, WJZM.....Gene Pentecost  
 Johnson City, WJHL.....O. K. Garland  
 Knoxville, WNOX.....John L. Cole, Jr.  
     WROL.....James N. Gilbert  
     WBIR.....J. Rex Horton

# CHIEF ENGINEERS

Memphis, WMC.....E. C. Frase  
 WEBQ.....W. M. Roy  
 WREC.....S. D. Wooten, Jr.  
 Nashville, WLAC.....F. D. Binns  
 WSM.....George Reynolds

## Texas

Abilene, KRBC.....J. B. Casey  
 Amarillo, KFDA.....Sanford Helt  
 KGNC.....W. H. Torrey  
 Austin, KTBC.....Leland Seay  
 Beaumont, KRIC.....Arthur Kay  
 KFDM.....L. M. Sanders  
 Big Springs, KBST.....Andrew M. Jones  
 Brady, KNEB.....David Gattis  
 Brownsville, KVAL.....Robert Bush  
 Brownwood, KBWD.....A. W. Stewart  
 College Station, WTAW.....Frank J. Sosolik  
 Corpus Christi, KWBU.....Nestor Cuesta Jr.  
 KEYS.....Harold Griffith  
 Dallas, WFAA.....Paul Barnes  
 KRLD.....Roy Flynn  
 WRR.....D. J. Tucker  
 El Paso, KTSM.....Kenneth J. Walton  
 Fort Worth, KFJZ.....Truett Kimzey  
 WBAP.....R. C. Stinson  
 Harlingen, KGBS.....Sherman L. Spencer  
 Houston, KXYZ.....Gerald R. Chinski  
 KTRH.....Tom Hiner  
 KTHT.....Louis I. Jelly  
 KPRC.....T. H. Wheeler  
 Huntsville, KSAM.....Sam Love  
 Laredo, KPAB.....Hulan K. Smith  
 Lubbock, KFYO.....W. S. Bledsoe  
 Palestine, KNET.....Bill Laurie  
 Pampa, KPDN.....Douglas E. Smith  
 Paris, KPLT.....C. L. Thompson  
 Pecos, KIUN.....Harry Boehnemann  
 Plainview, KVOP.....Carl Cook  
 Port Arthur, KPAC.....Glenn Boatright  
 San Antonio, KMAC.....Ed. E. Case  
 KTSA.....W. G. Egerton  
 KONO.....George W. Ing  
 WOAI.....Fred S. Sterling  
 KABC.....Paul Wolf  
 Sherman, KRRV.....T. E. Spellman  
 Sweetwater, KXOX.....George W. Dotson  
 Temple, KTEM.....Paul Shaw  
 Texarkana, KCMC.....Harvey Robertson  
 Victoria, KVIC.....Robert McCown  
 Weslaco, KRGV.....O. L. Hartwig  
 Wichita Falls, KWFT.....John Adams

## Utah

Cedar City, KSUB.....Herschell Urie  
 Logan, KVNU.....Carroll Sechrist  
 Ogden, KLO.....Wayne T. Boothe  
 Provo, KOVO.....Parley P. Rasmussen  
 Salt Lake City, KDYL.....John M. Baldwin  
 KUTA.....Wendell C. Bell  
 KALL.....Stanley Benson  
 KSL.....Richard C. Evans  
 KNAK.....James B. Littlejohn

## Vermont

Burlington WCAX.....James Tierny  
 Waterbury, WDEV.....Harold Grout

## Virginia

Alexandria, WPIK.....Carl L. Lindberg  
 Charlottesville, WCHV.....Walter Gray  
 Covington, WKEY.....James Barber  
 Danville, WBTM.....Harry W. Spencer  
 Fredericksburg, WFVA.....Walter Harris  
 Lynchburg, WLVA.....John Orth  
 Martinsville, WMVA.....Dewey W. Muse

Newport News, WGH.....William P. Grether  
 Norfolk, WTAR.....Julius Grether  
 Petersburg, WSSV.....Edward Schwarz  
 Portsmouth, WSAP.....Frederic Clair  
 Richmond, WLEE.....George McGuigan  
 WRNL.....Walter R. Selden  
 WMBG.....Wilfred H. Wood  
 Roanoke, WSLB.....Philip Briggs  
 Suffolk, WLPM.....Fred Wagner  
 Winchester, WINC.....Philip B. Whitney

## Washington

Aberdeen, KXRO.....Glen Barnett  
 Bellingham, KVOS.....Mel Featherkile  
 Centralia, KELA.....Melvin York  
 Everett, KRKO.....Earl Gerdon  
 Longview, KWLK.....Rollie Mietzke  
 Olympia, KGY.....Charles A. Roark  
 Pullman, KWSC.....Herman Gelbach  
 Seattle, KJR.....F. J. Brott  
 KXA.....John Dubuque  
 KRSC.....George A. Freeman  
 KEVR.....John Kelly  
 KIRO.....Homer Ray Jr.  
 KTW.....James S. Ross  
 Spokane, KFIO.....Lowell C. Brown  
 KFPY.....G. E. Langford  
 KHQ.....Al G. Sparling  
 KGA.....Al G. Sparling  
 Tacoma, KMO.....Joe D. Kolesar  
 KTBI.....Don McCroskey  
 KVI.....Willard T. Tiffany  
 Vancouver, KVAN.....Edgar R. Means  
 Wenatchee, KPQ.....Robert B. Sutton  
 Yakima, KTYW.....Walter Howe  
 KIT.....H. B. Murphy

## West Virginia

Beckley, WJLS.....A. J. Ginkel  
 Bluefield, WHIS.....P. T. Flanagan  
 Charleston, WCHS.....Odes Robinson  
 WGKV.....Gus Zaharis  
 Clarkesburg, WBLK.....Jos. A. Wright  
 Fairmont, WMMN.....Robert D. Hough  
 Huntington, WSAZ.....Leroy Kilpatrick  
 Morgantown, WAJR.....Raymond C. Spence  
 Parkersburg, WPAR.....Cecil Knowles  
 Welch, WBRW.....Howard King  
 Wheeling, WKWK.....Fred A. Baker  
 WWVA.....Robert W. Bullio

## Wisconsin

Appleton, WBBY.....George Merkl  
 Ashland, WATW.....Hine Dahlbacka  
 Green Bay, WTAQ.....Wallace Stangel  
 Janesville, WCLO.....Wayne A. Clay  
 La Crosse, WKBH.....Alvan Leeman  
 Madison, WIBA.....Norman Hahn  
 WHA.....John H. Stiehl  
 Manitowoc, WOMT.....W. F. Duben  
 Marinette, WHAM.....Leo Stewart  
 Milwaukee, WTMJ.....Dan Gellerup  
 WTMJ.....William Hebal  
 WISN.....N. J. Richards  
 Oshkosh, WOSH.....Nathan Williams  
 Racine, WRJN.....Lee Dechant  
 Rice Lake, WJMC.....Robert P. Kolsky  
 Sheboygan, WHBL.....Hertart J. Mayer  
 Superior, WDMS.....J. Melvin Laskey  
 Wausau, WSAU.....Roland W. Richardt  
 Wisconsin Rapids, WFHR.....Bert Zielesch

## Wyoming

Cheyenne, KFBC.....William C. Grove  
 Powell, KPOW.....Harold Delton Brandt  
 Sheridan, KWYO.....Bob Crosthwaite

*For Chief Engineers Canada, Please See Stations of Canada.*



**AN UP-TO-THE-MINUTE LIST OF IMPORTANT  
RADIO, TELEVISION & FM**

# Equipment Firms

## The Acme Elec. & Mfg. Co.

50 Water St., Cuba, N. Y.  
Phone Cuba 4

President.....C. H. Bunch  
Vice-President.....J. A. Comstock  
Treasurer.....L. E. Williams  
Secretary.....W. F. Radon  
Sales Manager.....W. E. Wilson  
Chief Engineer.....E. A. Miller

PRODUCTS: Transmitting transformers, broadcast equipment, audio reactors, output and microphone input transformers, and other types of transformers.

## H. W. Acton Co., Inc.

370 Seventh Ave., New York, N. Y.  
Phone LOngacre 5-4884

President.....Harry W. Acton  
Treasurer.....Harold A. Benguefield

BRANCH OFFICE: Lowell, Mass.

PRODUCTS: Transcription, phonograph cutting and semi-permanent needles.

## Admiral Corporation

3800 Cortland St., Chicago 47, Ill.  
Phone: SPAlding 1400

President.....Ross D. Siragusa  
Exec. Vice-Pres.....John B. Huarisa  
Vice-Pres., Radio Div.....Richard A. Graver  
Vice-Pres., Appliance Div.....L. H. D. Baker  
Treasurer.....L. C. Park  
Field Activities.....W. C. Johnson  
Director of Engineering.....K. Turner  
Service Manager.....M. J. Schinke  
Purchasing Agent.....Frank Kazda

PRODUCTS: Receiving Sets, Radio-Phone Combinations, FM Receiving Sets, Record Players, Portables, Farm Sets, and Radio Parts, Table and Console television receivers.

## Aerovox Corporation

740 Belleville Ave., New Bedford, Mass.  
Phone: 6-8221

President.....W. Myron Owen  
Sales Manager—Jobber

Div. ....Charles Golenpaul  
Sales Manager—Manufacturing

Div. ....Frank Marshall

Vice-President-Chief

Engineer .....Stanley Green  
Advertising Manager.....George Balsom  
Export Manager.....Rocke International Corp.

PRODUCTS: Capacitors—paper, electrolytic and mica for radio transmitting. Receiving and electronic applications, including paper, oil and wax impregnated, moulded mica, bakelite cased and ceramic cased mica capacitors, power factor correction equipment, insulated carbon and wire wound vitreous resistors, motor starting capacitors, capacitor test instruments.

## Airdesign & Fabrication, Inc.

241 Fairfield Avenue, Upper Darby, Pa.  
Phone: Allegheny 4-3305

President & Chief Engineer...L. E. Pamphilon  
Plant Superintendent.....W. R. Keenly  
Vice-President & Treasurer....W. C. Faust  
Design Engineer.....D. W. Jensen  
Sales Manager.....R. L. Clark  
Purchasing Agent.....L. R. Dieterich

PRODUCTS: Transformers—power, audio, reactors, tuned filters, for all communications equipment.

## Air King Products Co., Inc.

1523 63rd St., Brooklyn, N. Y.  
Phone: BE 2-6700

President.....J. P. Silberman  
V. P.—Purchasing.....M. Markowitz  
V. P.—Engineering.....F. A. Hinners  
V. P.—Exporting.....Allen Strauss  
Production Manager.....R. Kalb

PRODUCTS: Home radio sets AM-FM, television receivers, electronic equipment for U. S. Government, short wave, portable radio sets.

## Allen-Bradley Company

136 W. Greenfield Ave., Milwaukee 4, Wisc.  
Phone: Mitchell 5151

President.....Harry L. Bradley  
V. P.—General Manager.....F. F. Look  
V. P.—Works Manager.....R. W. Whitmore  
Treasurer.....A. F. North  
Purchasing Agent.....Theron C. Child

PRODUCTS: Fixed and variable composition resistors.

## The Alliance Manufacturing Co.

Mahoning Rd., Alliance, O.

Phone: 6237

President.....Owen L. Lewis  
General Manager.....R. F. Doyle  
Treasurer.....R. F. Doyle  
Secretary.....Mrs. Lorraine Reynolds  
Chief Engineer.....Emmur V. Schneider  
Purchasing Agent.....R. W. Hobbs  
Sales Manager.....John Bentia  
Personnel Director....Mrs. B. Y. McCreadie

PRODUCTS: Phonograph motors, record changer motors, recording motors, tuning motors, space heater motors.

## American Condenser Co.

4410 Ravenswood Ave., Chicago 40, Ill.

Phone: Longbeach 1386

General Manager.....I. Menschik  
Chief Engineer.....H. C. Kreiniek  
Purchasing Agent.....F. C. Friedly  
Works Manager.....M. E. Hussey  
Specification Engineer.....A. J. Hersey  
Sales Manager.....W. J. Johnston

PRODUCTS: Condensers.

## American Microphone Co.

1915 S. Western Ave., Los Angeles, Calif.

Phone PA 1161

General Manager.....F. A. Yarbrough

PRODUCTS: Microphones, accessories, spares.

## American Transformer Co.

178 Emmet St., Newark 5, N. J.

Phone: Bigelow 3-4444

President-Treasurer.....Thomas M. Hunter  
Executive Vice-President....Stuart F. Marvin  
Vice-President.....A. A. Enlen  
Vice-President.....Walter Garlick, Jr.  
Secretary-Controller.....John M. Wollmer  
Assistant Secretary.....Rowland B. Cook  
Senior Commercial

Engineer.....Ivor B. Watts  
Chief Design Engineer.....John F. Harris  
Purchasing Manager.....Ernest H. Bard  
Advertising Manager.....George G. Felt

PRODUCTS: Amplifiers, ballast transformers for fluorescent lighting, distribution transformers, electronic components, industrial-dry type-indoor or outdoor use industrial transformers, air cooled industrial phase changers, modulation reactors, modulation transformers, net work transformers, oil or abestol-immersed plate transformers, power transformers, precipitation transformers, radio type "P" precision line, radio silcor line audio components, rectifiers, regulators, test sets, transtats, "W" type transmitter, wave filters, welding and soldering transformers.

## Amperex Electronic Corp.

79 Washington St., Brooklyn, N. Y.

Phone Main 5-2050

Vice-Pres.-Sales Manager.....S. Norris

PRODUCTS: Electronic tubes for communication, industrial, television, electro-medical and special purposes.

## Amplifier Co. of America

398 Broadway, New York 13, N. Y.

CAnal 6-7612

General Manager.....N. M. Haynes

Purchasing Agent.....R. Epstein

PRODUCTS: Electronic equipment, Regulated Power Supplies, Transformers, Filter Networks, Saturable Reactors, Pre-Amplifiers, Power Amplifiers.

## Amy, Aceves & King, Inc.

11 West 42nd St., New York 18, N. Y.

Phone LOngacre 5-6622

President.....Ernest V. Amy

V. P.-Treasurer.....Frank King

Secretary.....Julius G. Aceves

Sales Manager.....F. A. Klingenschmitt

PRODUCTS: Antenna Systems, Radio Transmitters and Receivers, Electronic Developments.

## Andrea Radio Corp.

43-20 34th Street, Long Island City, N. Y.

Phone: STillwell 4-5411

President.....F. A. D. Andrea

PRODUCTS: Receiving sets, television sets.

## Ansley Radio Corp.

41 St. Joes Ave., Trenton, N. J.

Phone: 4-1175

President.....Arthur C. Ansley

Vice-President.....Anne Klein Ansley

Assistant Secretary.....Harriet Westin

Plant Superintendent.....Anthony Quadrine

Purchasing Agent.....C. A. Clinton

BRANCH OFFICE: Empire State Bldg., New York, N. Y., Phone, Longacre 3-2768, Anne Klein Ansley.

PRODUCTS: Radio-phonograph combinations (Ansley Dynaphone), Electronic piano (Ansley Dynatone), Built-in-wall radio (Ansley Paneltone), Photo-flash synchronizer (Ansley Dynafash).

## The Astatic Corp.

Harbor & Jackson Sts., Conneaut, Ohio

Phone: 12-656

Pres.-Gen. Mgr.....F. H. Woodworth

V. P.-Research Engineer...C. M. Chorpeneing

Asst. General Manager-

Treasurer.....C. B. Fraser

Sales Mgr.—Jobber Div...R. T. Schottenberg

Sales Mgr.—Manufacturing

Div.....W. J. Doyle

Purchasing Agent.....H. J. Green

Service Manager.....H. A. Moyer

PRODUCTS: Microphones, Phonograph pickups, pickup cartridges, recording heads, hearing aid equipment, stands, accessories.

**Audak Company**

500 Fifth Ave., New York, N. Y.  
Phone LA 4-3723

Contact.....Geo. V. Sullivan  
BRANCH OFFICES: All key cities.  
PRODUCTS: Microdyne Pickups, Cutting  
Heads, and Acoustic Instruments.

**Audio Devices, Inc.**

444 Madison Ave., New York 22, N. Y.  
Phone: PLaza 3-0973

President.....Wm. C. Speed  
Vice-President-Sec.....Bryce Haynes  
Treasurer.....N. K. Hoskins  
Research Engineer.....E. J. Franck  
National Sales Manager.....C. C. Pell, Jr.  
PRODUCTS: Instantaneous recording  
blanks, master discs (audio discs), cutting  
and playback stylii.

**The Audio-Tone Oscillator  
Company**

237 John Street, Bridgeport 3, Connecticut  
Phone: Bridgeport 5-3173 and 5-3174

President.....W. Robert Dresser  
Chief Engineer.....W. Robert Dresser  
Purchasing Agent.....M. E. Todd  
Sales Manager.....Romeo Tetrault  
PRODUCTS: Audio-tone graphic recording  
instruments, audio-frequency test records,  
power line fault locators, signal generators,  
electronic and photo-electric controls.

**Automatic Manufacturing Corp.**

Harrison, New Jersey

President & Gen. Mgr....Martin H. Benedek  
Vice-Pres., Charge of Sales...Bert E. Smith  
Chief Engineer.....Joseph R. Mazzola  
Credit Manager.....M. E. Silver  
Purchasing Agent.....J. A. Heimbruch  
BRANCH OFFICE: (Factory) 900 Passaic  
Ave., East Newark, N. J., Phone, Harrison  
6-6630.

PRODUCTS: Mica trimmer condensers,  
intermediate frequency transformers, radio  
frequency coils, R. F. choke coils, adjustable  
padder condensers, and permeability tuners.

**John F. Beasley Construction Co.**

P. O. Box 1624, Muskogee, Okla.  
Phone Muskogee 4762

Owner.....John F. Beasley  
BRANCH OFFICE: 1614 Mercantile Bank  
Bldg., Dallas, Texas, Phone, Riverside 3228.  
PRODUCTS: Steel construction (radio  
towers).

**Bendix Radio (Division of Bendix  
Aviation Corp.)**

East Joppa Rd., Towson, Md. (Gen. Offices)  
Phone: Tuxedo 4020

Gen'l Mgr.....W. P. Hilliard  
Chief Engineer.....W. L. Webb  
Sales Manager.....J. W. Hammond  
Advertising Mgr.....E. L. Hadley  
Credit Manager.....C. T. Dwyer  
Sales Manager—Broadcast and  
Television Receivers.....L. C. Truesdell  
Dir. of Purchases.....R. A. Anderson

PRODUCTS: Aviation radio receivers,  
transmitters, radio compasses, electronic  
measuring equipment and accessories, com-  
binations, television receivers, headphones,  
microphones.

**The Benwood Linze Co.**

1815 Locust St., St. Paul 3, Mo.  
Phone: Central 5830

President.....Harold J. Wrape  
Vice-Pres.-Gen. Mgr.....Carl E. Peters  
Sec.-Sales Mgr.....J. C. Henning, Jr.  
Treasurer.....I. W. Veigel  
Personnel Manager.....George V. Skelton  
Service Manager.....Garry S. McGlasson  
Purchasing Agent.....Alonzo R. Kieffer

PRODUCTS: Dry metallic rectifiers; recti-  
fier transformer assemblies for radio; com-  
munication, signal, telegraph and telephone  
work; also other electronic devices, AC to  
DC.

**Blaw-Knox Co.**

Pittsburgh, Pa.  
Phone St. 2700

BRANCH OFFICES: Peoples Gas Bldg.,  
Chicago; Brown-Marx Bldg., Birmingham,  
Ala.; 342 Madison Ave., N. Y. C.; 1617  
Pennsylvania Blvd., Phila.; Munsey Bldg.,  
Wash., D. C. PRODUCTS: Radio Towers.

**Boonton Radio Corp.**

518 Main St., Boonton, N. J.  
Phone Boonton 8-0795

President.....W. D. Loughlin  
Treasurer.....N. D. Campbell  
General Mgr. Vice-

President.....G. A. Downsborough  
Purchasing Agent.....J. Frucht  
Sales Supervisor.....L. Washington  
Chief Engineer.....L. P. Blakely

PRODUCTS: Type 110-A QX-Checker,  
type 140-A Beat Frequency Generator, type  
150-A FM Signal Generator, type 160-A Q-  
Meter, type 170-A Q-Meter, type 210-A  
Supersonic Oscillator, type 120-A VHF Cir-  
cuit Checker.

### **William Brand & Co.**

276 Fourth Ave., New York 10, N. Y.  
Phone: ALgonquin 4-4930

Partners: William Brand, William Naumburg  
BRANCH OFFICE: 325 W. Huron St.,  
Chicago, Ill., Phone, Superior 1782, Manager,  
Earl W. Brinson.

PRODUCTS: Electrical insulating materials; flexible varnished oil tubing; saturated sleeving; extruded (plastic) sleeving; varnished glass sleeving; mica plate; mica-plate segments and products; block mica; mica condenser films; varnished cambric; varnished paper; varnished tapes; insulating composites, extruded insulated wire.

### **Browning Laboratories, Inc.**

750 Main St., Winchester, Mass.  
Phone: Winchester 2121, 2850, 2851

President.....G. H. Browning  
V. P.-Sales Manager.....R. L. Purrington  
General Manager.....C. H. Day  
Production Manager.....R. C. Caldwell  
Chief Engineer.....F. A. Spindell

PRODUCTS: Frequency meters, FM deviation meters, 60 cycle calibrators for power companies, WWV frequency calibrators, capacity relays, special cathode ray oscilloscopes, square wave generators and power supplies in the 10 and 3 centimeters bands, signal generators in the 10 and 3 centimeter bands, high gain audio amplifiers for laboratory purposes, special radio receivers.

### **Brush Development Company**

3405 Perkins Ave., Cleveland 14, Ohio  
Phone: Endicott 3315

General Sales Manager.....Blair Foulds  
Mgr. Magnetic Recording

Dept.....R. B. Matheson  
Mgr. Acoustic and Hearing

Aid Dept.....J. E. Brickenden  
Mgr. Instrument Dept.....M. P. Odell

PRODUCTS: Microphones, headphones, record cutters, phonograph pickups, "Hushatone" (pillow-speaker), magnetic recording equipment, hearing aids and industrial instruments.

### **William W. L. Burnett Radio Lab.**

4814 Idaho St., San Diego 4, Calif.  
Phone Talbot 4943

Chief Eng.-Owner...William W. L. Burnett

PRODUCTS: Piezo-Electric Crystals, Holders, Constant Temperature Ovens, Frequency Measuring Equipment, Laboratory Equipment, Conducting of Radio Laboratory Measurements, Frequency Monitoring Service, Special Laboratory Testing Equipment.

### **California Telephone & Electric Co.**

6075 W. Pico Blvd., Los Angeles 35, Calif.  
President.....C. W. Evans  
Supt., Intercommunicating Equipment

M. E. Harris  
Foreman, Microphone Dept....O. B. Carrier

PRODUCTS: Microphones, intercommunicating telephones, talk-back equipment, amplifiers.

### **Chicago Condenser Corp.**

3255 W. Armitage Ave., Chicago 47, Ill.  
Phone: Capitol 7070

President.....A. N. Genovese  
V. P.-Treasurer.....P. Phillips

PRODUCTS: Oil and wax paper capacitors.

### **Chicago Telephone Supply Co.**

1142-1228 W. Beardsley Ave., Elkhart, Ind.  
Phone: Elkhart 1205

President.....F. C. Best  
Sales Manager.....W. A. Nicely  
Chief Engineer.....N. C. Schellenger  
Credit Manager.....M. F. Schneck  
Purchasing Agent.....B. S. Turner

PRODUCTS: Volume controls, tone controls, switches, plugs, jacks, headsets, ringers, generators, remote controls, switch keys, push switches.

### **Chicago Transformer Division**

Essex Wire Corporation  
3501 W. Addison St., Chicago 18, Ill.  
Phone: Indiana 1120

V. P.-General Manager.....Arni Helgason  
Sales Manager.....L. S. Racine  
V. P.-Sales.....Earle Knight  
V. P.-Sales.....W. J. Leidy  
V. P.-Sales.....George Blackburn  
Chief Engineer.....Don Schwennesen

PRODUCTS: Power transformers for radio transmitting and receiving circuits, audio transformers, audio and filter reactors, vibrator transformer, wave filters, instrument transformers, general purpose power transformers, ignition coils.

### **Cinch Manufacturing Corp.**

2335 W. Van Buren St., Chicago 12, Ill.  
Phone: Chesapeake 2000

President.....Lester W. Tarr  
Vice-Pres. & Genl. Mgr.....Cary C. Wilson  
Treasurer.....A. W. Kimbell  
Asst. Secy.....John R. Nicholson  
Sales Manager.....E. J. Pool

PRODUCTS: Radio terminal strips, molded and laminated miniature octal and lokaal sockets, miscellaneous laminated bakelite and metal assemblies, miscellaneous molded plastic and metal assemblies.

### **Clarostat Mfg. Co., Inc.**

130 Clinton St., Brooklyn, N. Y.  
Phone: Main 4-1190

Pres.-General Manager.....Victor Mucher  
Treasurer.....William Mucher  
Secretary.....Charles H. Burnell  
Chief Engineer.....George Mucher  
Sales Enginecr.....I. J. Youngblood

**BRANCH OFFICES:** 540 No. Mich. Ave., Chicago. **PRODUCTS:** Fixed and Variable Power Resistors, Power Rheostats, Power Resistor Decade Boxes, Wire Wound Potentiometers, "T" "L" Cism Pads, 25 and 10 Watt Attenuators, Special Resistor Products, and Composition Potentiometers.

**Collins Radio Co.**

Cedar Rapids, Iowa  
Phone: 3-3281

President.....Arthur A. Collins  
Exec. V. P.—New York.....W. J. Barkley  
Vice President.....R. S. Gates  
Secretary.....Rose Hansen  
Treasurer.....S. J. Storm

**BRANCH OFFICE:** 11 W. 42nd St., New York, N. Y. Phone, Lackawanna 4-0229.  
Executive Vice President, W. J. Barkley.

**PRODUCTS:** Design and manufacture transmitting and receiving equipment for aviation, commercial, broadcast and amateur use.

**Colonial Radio Corp.**

254 Rane St., Buffalo, N. Y.  
Phone: Riverside 2450

President-Treasurer.....A. H. Gardner  
V. P. in charge of Eng.....H. C. Forbes  
Secretary-Comptroller.....H. E. Riordon  
Works Manager.....J. C. Ryan  
Director of Purchases.....B. F. Valliere  
Purchasing Agent.....J. K. McDonough  
Manager-Industrial Relations.....C. J. Kolb  
Sales Mgr.—Home Set

Division.....T. P. Cunningham  
Sales Mgr.—Automotive

Division.....C. H. Symington  
Service Manager.....William Bruyere

**PRODUCTS:** AM and FM radio receivers, automobile receivers, battery operated radio receivers, radio-phonograph recorder combinations, television receivers.

**Communication Equipment & Engineering Co.**

5646 W. Race St., Chicago, Ill.  
Phone: EStebrook 3109-10

President.....Robert A. Clark  
Vice-President.....R. Farrell  
Secretary-Treasurer.....R. E. Meyers

**PRODUCTS:** Transmitters, receivers, amplifiers and test equipment, carriers telephone and telegraph equipment.

**Continental Carbon, Inc.**

13900 Lorain Ave., Cleveland 11, Ohio  
Phone: CLeawater 6500

President-Sales Manager....G. F. Benkelman  
**PRODUCTS:** Fixed composition resistors, suppressors, precision resistors.

**Continental Electric Co.**

Geneva Illinois  
Phone: Col. 1216

President & Treasurer.....H. A. McIlvane  
Secretary.....O. T. McIlvane  
Vice-President.....W. S. Sims  
Vice-Pres. in Charge of Publicity & Sales  
R. E. Smiley  
Vice-Pres. in Charge of Engineering

J. H. Hutchings  
Export Manager.....E. D. Magnus

**BRANCH OFFICE:** 188 W. Randolph St., Chicago, Ill., Phone Andover 5029, Vice-President in charge of Publicity and Sales.  
R. E. Smiley.

**PRODUCTS:** Electronic tubes, phototubes, rectifier tubes, grid control tubes, fluorescent lamps, ultra violet and stationery lamps. Special tubes of all kinds.

**Cornell-Dubilier Electric Corp.**

333 Hamilton Blvd., S. Plainfield, N. J.  
Phone: PLainfield 6-9000

President.....Octave Blake  
Vice-President.....William Dubilier  
Vice-Pres.-Treas.....Haim Beyer  
Vice-President.....Wm. M. Bailey  
Vice-President.....Paul McK. Deeley  
Vice-President.....Felix Weiss  
Vice-President.....T. E. Abeel  
Vice-President.....Max Bleich  
Secretary.....Kenneth E. Ryan  
Asst. Treasurer.....L. F. Geiser  
Asst. Secretary.....M. F. Keating  
Comptroller.....J. A. Bertolacci

**PRODUCT:** Capacitors.

**Corning Glass Works**

Corning, New York  
Phone: Corning 372

President.....Glen W. Cole  
Vice-President.....W. C. Decker  
Sales Manager.....C. J. Phillips  
Contact.....Charles Oliver

**PRODUCTS:** Glass envelopes for tubes used for radio receiving, broadcasting, cathode ray, television and all other electronic purposes, tubing and special sealing glasses, insulators, coil forms, resistor tubes.

**Cornish Wire Co., Inc.**

15 Park Row, New York, N. Y.  
Phone CO 7-2525

President.....John Cook  
Contact.....W. F. Osler, Jr.

**PRODUCTS:** Radio and Electrical Wires and Cables.

**Crescent Industries, Inc. & Crescent Tool & Die Co.**

4132-54 W. Belmont Ave., Chicago 41, Ill.  
Phone: Mulberry 1200

President & Treas.....Henry H. Gefvert  
 Vice-Pres. & Genl. Mgr.....Nels G. Lenberg  
 Secretary.....Leonard C. Larsen  
 Vice-Pres. & Chief Eng.....Valoran Russell  
 Production Manager.....John T. Steupak  
 Administrative Officer.....Henry Anderson  
 Shop Supt.....William L. Rollins  
 Export Manager.....Harry J. Scheel  
 Purchasing Agent.....Jenny Henriksen

PRODUCTS: Manufacturers of radio loudspeakers, record changers, tools, dies, jigs, fixtures and metal stampings.

### **Croname, Inc.**

3701 Ravenswood Ave., Chicago, Ill.  
 Phone: BITtersweet 7500

President.....E. C. Coolidge  
 Sales Manager.....Marvin M. Lane  
 Chief Engineer.....Arnold Leline  
 Credit Manager.....E. G. Carlson  
 Purchasing Agent.....J. P. Wray  
 Advertising Manager.....A. F. Nosek  
 Export Manager.....W. L. Rayner  
 Service Manager.....J. L. Robinson

PRODUCTS: Escutcheons, dials, cabinets, tuning devices, knobs, pointers, name-plates.

### **The Crosley Corp.**

1329 Arlington St., Cincinnati, Ohio  
 Phone: KIRby 6600

President.....I. B. Babcock  
 Vice-President & General Manager,  
 Manufacturing Div.....R. C. Cosgrove  
 V. P. in Charge of  
 Production.....F. A. Schotters  
 Vice-Pres. in Charge of Research &  
 L. M. Clement

V. P.-General Sales Manager  
 (Mfg. Div.).....S. D. Mahan  
 Mgr. of Distribution.....E. C. Brode  
 Radio Product Mgr.....Clarence Felix  
 Dir. of Exports.....J. W. DeLind, Jr.  
 Dir. of Purchases.....Frank Warner  
 Asst. Secy. & Asst. Treas.....E. J. Ellig  
 Legal Counsel.....A. D. Redfield  
 Dir. of Industrial Relations...G. F. Gamber  
 Controller.....L. W. Adkins  
 Cincinnati Works Manager...H. W. Deuker  
 Richmond, Ind. Works Mgr.....J. W. Craig  
 Dir. of Facilities.....F. W. Scholder

BRANCH OFFICE: Crosley Distributing Corp., Phone, Medalion 3-1830, Branch Manager, Lee Conover.

PRODUCTS: Crosley Shelvador refrigerators, Howe radio receivers, kitchen equipment, laundry equipment.

### **Crystal Research Laboratories, Inc.**

29 Allyn St., Hartford, Conn.  
 Phone: 7-3215

President-General Manager..Samuel I. Ward  
 Vice-President.....Henry F. Jochim  
 General Production Mgr....Ernest B. Lewis  
 Crystal Engineer.....Sydney E. Warner  
 Comptroller.....H. Kirk Jackson  
 Sales Engineer.....Ed Dench  
 Special Engineer.....Jules Pinsky

Purchasing Agent.....Ken O. Jacobs  
 Special Engineer.....W. Waffle  
 Condenser Division Head....Philip Schaar  
 PRODUCTS: Quartz oscillating crystals, supersonics equipment and devices, electronic devices, fused quartz and Boule fabrications, metallic coating, mica and ceramic condensers, capacitors.

### **Demornay-Budd, Inc.**

475 Grand Concourse, New York 51, N. Y.  
 Phone: Melrose 5-1900

President.....R. DeMornay  
 Sales Manager.....Eugene L. Berman  
 Chief Electrical Engineer...Leonard Sherbin  
 Comptroller.....Roger Baker  
 Production Manager.....Louis Della Penna  
 Sales Engineer.....Maxwell S. Symon  
 Chief Mechanical

Engineer.....Andrew A. Gass  
 Purchasing Agent.....Sylvia R. Crawford  
 Advertising Manager.....Ben Kerner

PRODUCTS: Navigational equipment, marine and aircraft radar, R. F. transmission lines, stub-supported coaxial lines, mixers, rotating joints, directional couplers, H. F. test equipment, modulators, amplifiers, I. F. strips, antennae, bench and field testing equipment, wave guides.

### **Doolittle Radio, Inc.**

7421 S. Loomis St., Chicago 36, Ill.  
 Phone: Radcliffe 4100

President.....E. M. Doolittle  
 Chief Engineer.....Dudley Gray  
 Sales Manager.....H. V. Carlson  
 Purchasing Agent.....J. Domotor

BRANCH OFFICES: Manufacturers representatives throughout the United States.

PRODUCTS: Emergency radio communications equipment, including station transmitters and receivers, mobile transmitters and receivers and all accessories. Concentric transmission line, frequency monitors, distortion meters, broadcast frequency monitors.

### **Allen B. DuMont Labs., Inc.**

2 Main Ave., Passaic, N. J.  
 Phone Passaic 3-1616

President.....Allen B. Du Mont  
 Vice-President.....Leonard F. Cramer  
 Secretary.....Bernard Goodwin  
 Treasurer.....Paul Raibourn  
 Sales Manager.....Leonard F. Cramer  
 Dir. of Research.....Thos. T. Goldsmith, Jr.  
 Chief Engineer.....P. S. Christaldi  
 Controller.....B. L. Graham  
 Tube-Instrument Div....C. Edwin Williams  
 Television Div.....Ernest A. Marx  
 Plant Supt.....Bruce T. DuMont  
 Contracts Dept.....Walter A. Knoop  
 Purchasing Div.....R. P. Rice  
 Personnel Director.....H. Houston  
 Mgr. Station WABD.....Samuel H. Cuff  
 BRANCH OFFICE: 515 Madison Ave., New York, N. Y., Phone, ELdorado 5-4822, Manager, Samuel H. Cuff.

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• • • **EQUIPMENT MANUFACTURERS** • • •

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**PRODUCTS:** Television Receivers, Transmitters and Studio Equipment, Cathode-Ray Tubes and Oscillographs and Material Test Instruments (Cyclograph).

**Dumont Electric Corp.**

34 Hubert St., New York, N. Y.

Phone: CAnal 6-7980

President & Sales Manager...Philip Dubilier

**PRODUCTS:** Paper, electrolytic and mica condensers.

**DX Crystal Co.**

1200 N. Claremont Ave., Chicago 22, Ill.

Phone: Armitage 3740

Co-owner.....Louis J. Patla

Co-owner.....Maurice P. McLean

Sales Manager.....George H. Timmings

Chief Engineer.....John Lahan

Credit Manager.....Corliss Bangart

Purchasing Agent.....Jane Sullivan

Advertising Manager.....Michael Mayger

**PRODUCTS:** Quartz xtals, toroid coils, coil transformers, screw machine parts, universal joints and mechanical assemblies, loudspeakers.

**Eastern Electronics Corp.**

41 Chestnut St., New Haven 11, Conn.

Phone: New Haven 8-3191

President.....Amy G. Annis

Director of Engineering..Roland S. Bruneau

Office Manager.....James T. Hagerty

Secretary-Treasurer.....John J. Sullivan

Chief Engineer.....Manfred Johnson

**PRODUCTS:** Radio and electronic test equipment, precision wire wound resistors, wheatstone bridges, impedance bridges, radio receiving sets, phono-record players, radio-phone combinations, phono-motor turntable units.

**Eastern Mike-Stand Co.**

56 Christopher Ave., Brooklyn, N. Y.

Phone Dickens 2-3538

General Manager.....S. Sherman

**BRANCH OFFICES:** 43 E. Ohio St., Chicago, Ill., Phone, Delaware 4566. W. L. Holst,

Rep.; P. O. Box 3113, Houston, Texas, Phone,

Jackson 2-8459, M. F. Kliepera, Rep.; 1456

Waterbury Road, Cleveland 7, Ohio, Phone,

Academy 4932, John O. Olson, Rep.

**PRODUCTS:** Microphone stands, microphone boom stands.

**Hugh H. Eby, Inc.**

18 W. Chelton Ave., Philadelphia, Pa.

Phone: TENnessee 1800

President.....James L. Hawley

V. P.-Treasurer.....Frank Holmstrom

Secretary.....T. J. Mullaney

Chief Engineer.....L. Wannan

Purchasing Agent.....J. Gould

**PRODUCTS:** Binding posts, sockets, plugs, terminal strips, metal stampings, screw machine parts, custom moldings, electrical assemblies of all types like radio and radar, telephone, headsets and microphones.

**Eckstein Radio and  
Television Co., Inc.**

914-18 LaSalle Ave., Minneapolis, Minn.

Phone: Main 8359

Pres.-Chief Engineer.....E. A. Eckstein

Sales Dept.....E. R. Bostrom

Purchasing Dept.....E. A. Eckstein

Export Manager.....Harry J. Scheel

**PRODUCTS:** Radio receivers, sound equipment and sound amplifiers.

**Electrical Reactance Corp.**

49 Elm St., Franklinville, N. Y.

Phone: 196-197

President.....C. E. Krampf

Chief Engineer.....D. W. Wagner

Purchasing Agent.....C. W. Bauer

Sales Manager.....John H. Wick

Personnel Director.....F. G. Schermerhorn

Accountant.....E. J. Thompson

Secretary to President.....Mary C. Lennon

**PRODUCTS:** Condensers, resistors, choke coils, loop antennas.

**Electronic Corp. of America**

45 W. 18th St., New York 11, N. Y.

Phone: Watkins 9-1870

President-Treasurer.....Samuel J. Novick

Vice-President.....B. Fein

Sales Manager.....J. Geartner

Purchasing Agent.....T. Karlin

V. P. in Charge of Export....L. M. Braun

Chief Engineer.....F. Lester

**PRODUCTS:** AM, FM radio sets, record players, phonographs, television sets.

**Electronic Engineering Co.**

3223 Armitage Ave., Chicago, Ill.

Phone: Capitol 3130

General Sales Manager.....E. D. Rehfeldt

Chief Engineer.....H. Holubow

Chief Accountant.....T. D. Thorkelson

Purchasing Agent.....F. M. Falk

Superintendent.....S. Matz

Credit Manager.....K. C. Hawkins

Jobber Sales Manager.....J. S. Cislak

**PRODUCTS:** Transformers and chokes of all types, wave filters, saturable core reactors, rectifiers.

**Electronic Laboratories, Inc.**

24 W. 24th St., Indianapolis, Indiana

Phone: Talbot 2442, Riley 1551

President.....William W. Garstang

Vice-President-Engineering.....R. H. Frye

Vice-President-Sales.....W. E. Peek

Vice-President-Manufacturing....H. C. May  
 Treasurer.....T. D. Scheidler  
 Secretary.....W. J. Lochhead  
 Comptroller.....A. L. Mack  
 Chief Inspector.....H. Palin  
 Quality Control Head.....R. M. Loomis  
 Purchasing Agent.....D. A. Wilson  
 PRODUCTS: Vibrators, vibrator power supplies, inverters, fluorescent lighting, electrical toys, RR marine and bus fluorescent lighting.

**Electronic Specialty Co.**

3456 Glendale Blvd., Los Angeles 26, Calif.  
 Phone: No. 2-2168

Manager.....D. A. Marcus  
 Chief Engineer.....S. K. Babcock  
 Purchasing Agent.....W. C. Keeler  
 Controller.....Frank C. Mann  
 PRODUCTS: Ranger aircraft radio equipment; transmitters, receivers, and interphones.

**Electronic Tube Corp.**

1200 E. Mermaid Ave., Phila. 18, Pa.  
 Phone: Chestnut Hill 6800

President-Treasurer.....Seymour Turner  
 Chief Engineer.....Henry Bemford  
 Sales Manager.....Deas Sinkler  
 Purchasing Agent.....Mary R. Scott  
 PRODUCTS: Cathode ray tubes, special electronic tubes (all types), electronic equipment (various types).

**Electro-Voice, Inc.**

1239 South Bend Ave., South Bend 24, Ind.  
 Phone: 21431

President.....Albert Kahn  
 Vice-President.....R. E. Siekman  
 Sales Manager.....W. F. Soules  
 Chief Engineer.....L. R. Burroughs  
 Research Director.....A. M. Wiggins  
 Treasurer.....M. M. Wilson  
 PRODUCTS: Microphones.

**Emerson Radio & Phonograph Corp.**

111 Eighth Ave., New York 11, N. Y.  
 Phone: Chelsea 2-1800

President.....Benjamin Abrams  
 Secretary-Treasurer.....Max Abrams  
 V. P.-Engineering & Production  
     Dorman D. Israel  
 V. P.-Controller.....Morton E. Ornitz  
 Sales Manager.....Edgar G. Herrmann  
 Dir. of Purchases-Electrical....J. L. Herold  
 Dir. of Purchases-Mechanical—H. J. Dostal  
 BRANCH OFFICES: 666 Lake Shore Drive., Chicago, Ill., Phone, Superior 7485.  
 E. N. Greenebaum, Jr., Manager. Subsidiary, 221 E. Cullerton St., Chicago 16, Ill., Phone, Victory 1613. Miss B. Engel, Secretary.

PRODUCTS: Radio electronic devices for military use, receiving sets, radio-phonograph combinations, television sets, FM receiving sets, record-players, tubes, parts.

**Ensign Coil Co.**

2516 S. Pulaski Rd., Chicago 23, Ill.  
 Phone: Crawford 4905

President.....G. S. Ensign  
 Vice-President.....D. G. Ensign  
 Vice-President.....F. M. Wesley  
 PRODUCTS: Complete line of electrical coils and associated products.

**Espey Manufacturing Co., Inc.**

33 W. 46th St., New York, N. Y.  
 Phone: Bryant 9-2300

President-General Manager...Nathan Pinsley  
 Secretary-Chief Engineer..Jacob Rosenbaum  
 V. P.-Production.....James Valladares  
 V. P.-Sales.....Herman Lewis  
 Exec. Ass't to President...Arthur Dankner  
 Mdse. Control Director.....Gordon Poole  
 Comptroller.....Max Goldberg  
 Personnel Director.....Julius Treuman  
 Mdse. Manager.....Michael Ross  
 PRODUCTS—Receiving sets, radio-phonograph combinations, FM receiving sets, record-players, television sets.

**Erco Radio Laboratories Inc.**

Hempstead, Long Island  
 Phone: Hempstead 6985-985

PRODUCTS: Receivers, Transmitters, Radio Airport Traffic Control Equipment, Radio Frequency Standards, Radio Communications Equipment, Radio Test Equipment. (\*resonance meters.)

AFFILIATED COMPANY: Aero Communications, Inc., Hempstead, Long Island, N. Y., Phone, Hempstead 6985-985.

PRODUCTS: Receivers, transmitters, radio airport traffic control equipment, radio frequency standards, radio communications equipment, radio test equipment, and resonance meters.

**Fada Radio & Electric Co., Inc.**

30-20 Thomson Ave., Long Island City, N. Y.  
 Phone: Ironsides 6-5400

President.....J. M. Marks  
 Assistant to President.....E. C. Nicholides  
 Secretary-Treasurer.....D. I. Marks  
 Director of Procurement.....I. N. Marks  
 Sales Manager.....A. Wellington  
 Chief Engineer.....C. E. Honeywell  
 Comptroller.....H. Carlsh  
 Plant Manager.....J. Lewandowski

PRODUCTS: Radio receivers, radio-phonograph combinations, portable receivers, portable phonograph amplifiers, phonograph wireless record players, FM receivers and radio-phonograph combinations, television receivers.

**Fairchild Camera and Instrument Corporation**

88-06 Van Wyck Blvd., Jamaica 1, N. Y.  
 Phone Jamaica 6-3800

President.....J. S. Ogsbury  
 Exec. Vice-Pres.....E. Robinson



• • • **EQUIPMENT MANUFACTURERS** • • •

Vice-President—Sales.....C. A. Harrison  
 Vice-Pres. & Secy.....C. L. Terrill  
 Vice-President.....J. A. Hewlett  
 Treasurer.....J. H. Dalton  
 Dir. Eng. & Research.....R. H. Lasche  
 Asst. Vice-Pres. & Works Manager

R. A. Draghi  
 Asst. Vice-President.....R. G. Sanders  
 Purchasing Agent.....J. E. Kaiser  
 Dir. of Publicity.....R. H. Bailey  
 Advertising Manager.....H. K. Yulke

PRODUCTS: Sound recorders (console and portable), amplifier-equalizers, transcription turntables, dynamic pick-ups, magnetic cutterheads, radio direction finders, precision potentiometers, special motors.

**Farnsworth Television & Radio Corp.**

3702 E. Pontiac St., Fort Wayne, Indiana  
 Phone: Anthony 5301

President.....E. A. Nicholas  
 Vice-President—Engineering

B. Ray Cummings  
 Vice-President—Sales.....E. H. Vogel  
 Vice-President-Secretary.....E. M. Martin  
 Vice-President—Manufacturing..J. P. Rogers  
 Manager of Research.....Madison Cawein  
 Chief Engineer—Fort Wayne..J. C. Ferguson  
 Public Relations Director...Pierre Boucheron  
 Purchasing Manager.....R. L. Colfax  
 Sales Manager—Farnsworth..E. H. McCarthy  
 Sales Manager—Copehart....I. C. Hunter  
 Advertising-Sales Promotion...J. S. Garceau

BRANCH OFFICES: 3301 S. Adams St., Marion, Indiana (Bluffton, Huntington, Indiana). Phone, 4600. J. P. Rogers, Manager; J. H. Pressley, Chief Engineer.

PRODUCTS: AM/FM radios, AM/FM radio-phonographs, automobile radios, television receivers, television transmitting equipment, television studio equipment, FM transmitters, railroad communications, police communications, mobile equipment, television tubes, Copehart automatic record changers, television antennas.

**Federal Recorder Co., Inc.**

630 S. Wabash Ave., Chicago, Ill.  
 Phone Har. 8330

General Manager.....Ralph Rubenstein  
 Engineer.....Earl Kent

BRANCH OFFICES: 251 Fourth Ave., Gramercy 5-0711, New York, N. Y.; 150 Marietta St., N. W., Atlanta, Ga.; 569 Mission St., San Francisco, Calif. PRODUCTS: 12 and 16" Recording Discs, Cutter Heads, Recording Amplifiers, Home Recorders, Cutting and Playback Needles, Steel, Glass and Paper Base Recording Blanks.

**Federal Telephone and Radio Corp.**

591 Broad St., Newark, N. J.  
 Phone: Mitchell 2-5942

V.P.—Finance & Public Relations

H. C. Roemer  
 V.P.—Radio Engineering & Sales

E. N. Wendell  
 V.P.—Telephone Engineering & Sales

R. E. Smith  
 V.P.—Manufacturing.....T. M. Douglas

Purchasing Agent.....L. C. Mercier

PRODUCTS: Aviation and Point-To-Point equipment, Broadcast AM & FM, Megatherm, High Frequency Heating Equipment, FM Mobile Equipment, Rectifier Equipment, Vacuum Tubes, Crystals, Rectifier Stacks, Cables, Transformers.

**Felt Products Mfg. Co.**

1504-16 Carroll Ave., Chicago 7, Ill.  
 Phone: Mon. 6750-56

President.....A. Mecklenburger  
 Mgr. of Industrial Division...B. J. Schwinn

PRODUCTS: Felt washers, paper parts, paper insulation special shapes, acetate cellulose special shapes, radio backs, and special shapes die cutting.

**Ferranti Electric, Inc.**

30 Rockefeller Plaza, New York, N. Y.  
 Phone: Circle 7-0912

Vice-President.....W. R. Spittal

PRODUCTS: Audio and power, transformers, chokes, filters, wiring and assembly, sheet metal, and bakelite fabrication.

**Finch Telecommunications, Inc.**

4th & Virginia Sts., Passaic, N. J.  
 Phone: Passaic 2-3440

President.....H. G. H. Finch  
 Treasurer-Controller.....Harold J. Frees

Secretary.....Frank R. Brick  
 Asst. Secretary.....Margaret C. Harkey

Plant Mgr.-Chief Engineer..Richard E. Mathes  
 Sales Manager.....Herman H. Rathkamp

BRANCH OFFICES: 10 E. 40th St., New York 16, N. Y. Phone, Murray Hill 5-7976.

W. G. H. Finch, President. 1 Pleasant Ave., Clifton, N. J.

PRODUCTS: Facsimile, graphic arts, radar, custom built equipment.

**A. W. Franklin Mfg. Corp.**

175 Varick St., New York 14, N. Y.  
 Phone: Walker 5-9620

President.....Albert W. Franklin  
 V.P.—Engineering.....Joseph M. Vananzi

Credit Manager.....Fred Weller  
 Purchasing Agent.....Joseph Avick

Service Manager.....William Telmoss

PRODUCTS: Sockets, plugs, switches, terminal strips, plastic and metal fabrications and assemblies, locking rings, metal stampings.

### **Freed Radio Corp.**

200 Hudson St., New York 13, N. Y.

Phone: WALKER 5-8765

President.....Max Adelsberg  
Vice-President.....Arthur Freed  
Treasurer.....Melvin Zalkin

PRODUCTS: Radio-phonograph combinations all with FM.

### **Freeland & Olschner Products, Inc.**

611 Baronne St., New Orleans, La.

Phone: Raymond 4756

President.....W. T. Freeland  
Vice-President.....G. E. Olschner, Jr.  
Secretary-Treasurer.....J. H. Dallmann  
Director of Sales.....Howard S. Frazier  
Chief Engineer-Production Mgr.  
Paul M. Reyling

PRODUCTS: Radio transmitting tubes.

### **Billings S. Fuess**

2-4 Lackawana Place, South Orange, N. J.

Phone: 2-2820

Chief Engineer-Proprietor—Billings S. Fuess  
Credit Manager.....Lucile Fuess  
Proprietor.....Billings S. Fuess

PRODUCTS: Loud speaker cones, spiders, moulded and formed products.

### **Galvin Mfg. Corporation**

4545 Augusta Blvd., Chicago 51, Ill.

Phone: SPAulding 6500

President.....Paul V. Galvin  
Vice-President in Charge of Production  
Frank J. O'Brien

Vice-President in Charge of Automotive  
Division.....Elmer H. Wavering  
Vice-President in Charge of Home Products  
Division.....W. H. Stellner

PRODUCTS: Motorola Home Receiving Sets, Radio Phonograph Combinations, FM Receiving Sets, Automatic Record Players, Auto Radio Receiving Sets, AM and FM 2-Way Police Radio Communication Systems, Aircraft Radio.

### **Garod Radio Corp.**

70 Washington St., Brooklyn, N. Y.

Phone: MAIn 4-6044

President.....Max W. Weintraub  
Sales Manager.....Louis Silver  
Chief Engineer.....B. S. Trott

PRODUCTS: Receiving sets, radio-phonograph combinations, FM receiving sets, electronic equipment.

### **General Electric Electronics Department**

1 River Rd., Schenectady, N. Y.

Phone: SCHenectady 4-2211

President of Company.....C. E. Wilson  
Vice-Pres. in Charge of Electronics Dept.  
Dr. W. R. G. Baker

Genl. Sales Mgr.....A. A. Brandt  
Acting Publicity Mgr.....E. L. Robinson

BRANCH OFFICES: 570 Lexington Avenue, New York, N. Y., District Manager, N. Y. H. J. Mandernach; 140 Federal Street, Boston, Mass., District Manager, R. L. Hanks; 1405 Locust Street, Philadelphia, Pa., District Manager, T. B. Jacobs; 4966 Woodland Avenue, Cleveland, Ohio, District Manager, R. P. VanZile; 840 South Canal Street, Chicago, Ill., District Manager, G. S. Peterson; 1801 North Larmar Street, Dallas, Texas, District Manager, T. B. Willard; 235 Montgomery Street, San Francisco, Calif., District Manager, W. A. Boland; 187 Spring Street, N. W., Atlanta, Ga., District Manager, R. N. Fowler; 106 West 14th Street, Kansas City, Mo., District Manager, R. J. Meigs.

PRODUCTS: Receivers, Transmitters, Tubes, Components.

### **General Electronics Inc.**

1819 Broadway, Room 1410

New York 23, N. Y.

Phone: Circle 7-8093

Vice-President-Treasurer....D. E. Replogle  
Sales Manager.....T. A. Haish

PRODUCTS: Electron power and transmitting tubes.

### **The General Industries Co.**

Olive & Taylor Sts., Elyria, Ohio

Phone: 2235

President.....A. W. Fritzsche  
Treasurer.....C. F. Russert  
Vice-Pres., Factory Mgr.-Plastics Div.  
O. W. Marsh

Vice-Pres., Factory Mgr.-Mech. Div.  
W. A. Schmittgen

Vice-Pres., Sales Mgr. of Mechanical Div.  
H. E. Moon

Vice-Pres., Sales Mgr. of Plastics Div.  
Steve Hiltbrant

PRODUCTS: Molded plastics — electric spring phonograph motors, record changers; recorders — combination record changer; heater and defroster motors.

### **General Instrument Corp.**

Subsidiaries:

General Instrument & Appliance Corp.

General Electronic Apparatus Corp.

829 Newark Ave., Elizabeth 3, N. J.

Phone: Elizabeth: 3-4400

Chairman of the Board.....Samuel Cohen  
President-Treasurer.....A. Blumenkrantz  
Executive Vice-President....Richard E. Laux  
Vice-President—Sales.....Don J. Phelps  
Sales Manager.....George P. Marron  
Speaker Division.....Leon Golder  
Chief Engineer.....Berne N. Fisher

PRODUCTS: Variable condensers, push button devices, record changers, loud speakers.

**General Laminated Products, Inc.**

2857 South Halsted Street, Chicago 8, Ill.  
 Gen. Manager.....Edward Metzger  
 Sales Manager.....Morris Perlman  
 Chief Engineer.....Gunnard Swedlund  
 Credit Manager.....Vera Ludwig  
 Purchasing Agent.....Ernest Neustadter

PRODUCTS: Coil Forms, Terminal Strips, Radio Backs, Baffle Boards, Loop Forms, Sockets and Special Assemblies, Fabricators of Laminated Phenolic Materials and other products.

**General Magnetic Corp.**

2126 E. Fort St., Detroit, Mich.  
 Phone: FITzroy 5760

President.....Charles M. Hofman  
 Sales Manager.....O. H. Hofman  
 Chief Engineer.....J. R. Hoven  
 Laboratory Director.....M. R. Klippel  
 Credit Manager.....F. E. Wiley  
 Purchasing Agent.....W. M. Tilli

PRODUCTS: Magnets.

**General Radio Co.**

275 Massachusetts Ave., Cambridge 39, Mass.  
 Phone: TRowbridge 4400

Chairman of Board.....H. B. Richmond  
 President.....E. H. Locke  
 Vice-Pres. for Sales.....A. E. Thiessen  
 Vice-Pres. for Production.....C. C. Carey  
 Secretary-Treasurer.....F. L. Tucker  
 Asst. Secretary-Treasurer.....C. E. Hills, Jr.  
 Chief Engineer.....M. Eastham

PRODUCTS: Radio and electronic instruments.

**Goat Metal Stampings, Inc.**

314 Dean Street, Brooklyn 17, N. Y.

President.....Walter Goat  
 Vice-President.....Jens Mortensen  
 Secretary.....Edward F. Staver  
 Sales Manager.....Edward M. Haines

PRODUCTS: Tube shields—small intricate drawn, formed and stamped parts, manufactured to very close tolerances from the difficult working metals and alloys.

**The Hallicrafters Co.**

2611 S. Indiana Ave., Chicago, Ill.  
 Phone: Calumet 1600

President.....W. J. Halligan  
 Vice-President.....R. W. Durst  
 Vice-President—Engineering R. E. Samuelson  
 Secretary-Treasurer.....J. J. Frendreis  
 Assistant Secretary.....E. J. Corcoran  
 Assistant Treasurer.....M. P. Heinz  
 Advertising Manager.....E. G. Brown

PRODUCTS: Short-wave radio communications, receivers and transmitters.

**Hamilton Radio Corp.**

510 Sixth Ave., New York 11, N. Y.  
 Phone: GRamercy 7-5210

President.....A. A. Juviler  
 Vice-President.....P. L. Schoenen  
 Asst. Treasurer.....M. Sobin  
 Director of Sales.....J. F. Crossin  
 Chief Engineer.....J. Ravdin  
 Purchasing Engineer.....M. Z. Landau  
 Office Manager.....L. Haber

PRODUCTS: Complete line of home receivers. AM and FM television receivers.

**The Hammarlund Mfg. Co., Inc.**

460 West 34th St., New York 1, N. Y.  
 Phone LONgacre 5-1300

President.....Lloyd A. Hammarlund  
 V-P & Treasurer.....Joseph Lush  
 V-P.....H. B. Macartney  
 Secretary-Comptroller.....E. A. Wittmer  
 Advertising Mgr.....G. W. Shuart

PRODUCTS: Manufacturers of precision communications equipment.

**Harco Steel Construction Co., Inc.**

1180 E. Broad St., Elizabeth 4, N. J.  
 Phone: Elizabeth 2-0826

President & Treasurer.....Harold Cohen  
 Secretary.....Hugo E. Kern  
 Vice-President.....C. S. Loftus

PRODUCTS: Radio masts and towers.

**Frederick Hart & Co., Inc.**

(Formerly Amertype Recordgraph Corp.)  
 350 Madison Ave., New York 17, N. Y.  
 Phone: Vanderbilt 6-3236

Vice-President.....Albert D. Stern  
 PRODUCTS: Sound recording-reproducing instruments for radio stations, 2-way telephone conversations where authorized, radio interception and monitoring, film recorder-reproducers, magnetic recorder-reproducers.

**Hartenstine Zane Co., Inc.**

225 Broadway, New York, N. Y.  
 Phone BA 7-8390

Secretary-Gen.-Mgr.....Chas. J. Hartenstine  
 BRANCH OFFICE: 571 Springdale Ave., East Orange, N. J. Phone, Orange 4-6054. M. A. Hartenstine, Asst. Secretary. PRODUCTS: Antennae Installation including all field work for foundations, erection, painting, lighting, and servicing radio towers. Installing ground systems and coaxial cable.

**Harvey Radio Laboratories, Inc.**

417 Concord Avenue, Cambridge 38, Mass.  
 Phone: Trowbridge 2800

President.....Frank Lyman, Jr.  
 Sales Manager.....James E. McDonald  
 Chief Engineer.....Bernard J. Cosman

**PRODUCTS:** FM Broadcast Transmitters, Marine Radio Equipment, Police Radio Equipment, Regulated Power Supplies, Electronic Equipment, Communications Equipment.

### Haydu Brothers

P. O. Box 1226, Plainfield, New Jersey

Phone: Plainfield 6-0878

Partner-Sales Manager...George K. Haydu  
Partner.....Zoltan Haydu  
Chief Engineer.....Zoltan Haydu  
Purchasing Agent.....E. Sichel

**PRODUCTS:** Precision stampings and wire forms for radio, radar and television tubes; burner equipment for glass forming machinery.

### Hazeltine Corporation

1775 Broadway, New York 19, N. Y.

Phone: COLUMbus 5-0793

Chairman.....Edgar Rickard  
President.....Jack Binns  
Vice-Pres.-Chief Eng.....W. A. McDonald  
Asst. Treas.....Herbert F. Clough

**PRODUCTS:** Patents and engineering service to manufacturers.

### Hewlett-Packard Co.

395 Page Mill Road, Palo Alto, Calif.

Phone: Palo Alto 2-4651

Partner.....David Packard  
Partner.....William R. Hewlett  
General Manager.....Glenn Zieber  
Sales Manager.....W. Noel Eldred  
Chief Development Engineer..Bruton Bauer  
Plant Superintendent.....Albert A. Spear

**PRODUCTS:** Laboratory instruments.

### Hoffman Radio Corp.

3761 S. Hill St., Los Angeles 7, Calif.

Phone: Prospect 3446

President-General Manager...H. L. Hoffman  
Vice-President.....W. D. Douglas  
Vice-President—Engineering..W. S. Harmon  
Secretary-Treasurer.....R. A. Yarcho  
General Sales Manager.....R. J. McNeely  
Asst. Sales Manager.....D. D. Spence  
Purchasing Agent.....P. L. Fleming  
Advertising-Sales Promotion..W. A. Watson

**PRODUCTS:** Radios, table models, consoles, combinations, combinations with recorders, box kites (commercial).

### Howard Radio Co.

1731-35 Belmont Ave., Chicago 13, Ill.

Phone: Diversey 2000

President.....Joseph F. Riley  
Vice-President.....I. M. Munig  
Vice-President.....Howard C. Briggs  
Treasurer.....G. L. Turnquist  
Chief Engineer.....W. James  
Purchasing Agent.....N. J. McCurdie  
Asst. Sales Mgr.....Frank E. Burt

**PRODUCTS:** AM-FM radios and phonograph combinations, television receivers, recording discs and other electronic products.

### Hytron Corp.

76 Lafayette St., Salem, Mass.

Phone: Salem 2260

President.....Bruce A. Coffin  
Treasurer.....Lloyd H. Coffin  
Sales Manager.....John Q. Adams  
Chief Engineer.....C. F. Stromeyer  
Credit Manager.....M. S. Jones  
Purchasing Agent.....Edward R. Carroll  
Advertising Manager.....Harry G. Burnett  
Export Manager.....W. L. Urquhart

**PRODUCTS:** The following vacuum tubes: receiving, ballast, hearing-aid, very-high-frequency triodes and pentodes, miniatures, medium and low-power transmitting triodes, R. F. beam tetrodes (particularly instant-hearing), R. F. pentodes, gaseous voltage regulators, and rectifiers.

### Ideal Fluorescent Products Co.

150 Summit St., Newark, N. J.

Phone: MI 2-6466

Manager.....Herman K. Kuthe  
**PRODUCTS:** "Ideal" fluorescent starter switches, and electronic tubes.

### The Indiana Steel Products Co.

6 N. Michigan Ave., Chicago, Ill.

Phone: FRAnklin 1114

President & Treas....A. D. Plamondon, Jr.  
Vice-Pres. & Genl. Mgr....Joseph F. Drennan  
Secretary.....Albert Kahn  
Asst. Secretary.....M. J. Drew

**PRODUCTS:** Permanent magnets, radar magnet assemblies, alloy castings. 149 Devonshire Court, Rochester, N. Y., Gerald Troy.

### Industrial & Commercial Electronics

601 O'Neill Ave., Belmont, Calif.

Phone: Belmont 664

President.....Ralpb C. Shermund  
Vice-President.....Charles V. Litton  
Chief Engineer.....D. Gordon Clifford  
Credit Manager.....G. C. Stuparich  
Purchasing Agent.....M. M. Fisch

**PRODUCTS:** Industrial transmitting tubes, vacuum condensers, vacuum relays.

### Insuline Corp. of America

3602-10 35th Ave., Long Island City, N. Y.

Phone AStoria 8-3738

President.....S. J. Spector  
Sales Manager.....Edward J. Cohen  
Vice-Pres.-Treas.....Edward J. Cohen  
Production Manager.....C. W. Peterson

**PRODUCTS:** Radio Receiving-Transmitting Parts and Accessories, Stamping Metal Goods, Radio Chassis, Metal Cabinets, Plugs, Jacks, Sockets, Screw Machine Parts, Test Tools, Test Leads.

**International Detrola Corporation**

Beard Avenue at Chatfield, Detroit 9, Mich.  
Phone: Vinewood 1-8100

President.....C. Russell Feldmann  
Treasurer.....R. J. Nixon  
Service Manager.....K. L. Granger  
Purchasing Agent.....R. H. Wann  
V.-P.—Mfg. Eastern Div....Fleming Johnson  
Director of Eng.....R. M. Daugherty

PRODUCTS: Electric sets: compact, table, portable, consoles; battery sets: automobile, portable, portable AC-DC, table; combinations: radio-phonograph-radio phonograph automatic record changers; frequency-modulation sets; console, also aviation sets and record-players.

**International Resistance Co.**

407 N. Broad St., Phila. 8, Pa.  
Phone: Walnut 2166

President.....Ernest Searing  
Vice-Pres., Sales.....Harry Ehle  
Vice-Pres., Chief Eng.....Jesse Marsten  
Manager, Industrial Div.....H. G. Beebe  
Manager, Radio Division.....C. H. Griffith  
Manager, Merchandise Div....Robert Baggs

BRANCH OFFICE: 165 Broadway, Room 1438, New York, N. Y., Manager, A. H. Hard-dick, Sales Engineer, Malcolm Newbold.

PRODUCTS: Fixed and variable resistors, volume and tone controls, potentiometers, attenuators, and power rheostats.

**Irvington Varnish & Insulator Co.**

6 Argyle Terrace, Irvington 11, N. J.  
Phone: ESsex 3-4200

Pres. & Genl. Mgr.....A. E. Jones  
Credit Manager.....F. M. Miller  
Genl. Sales Manager.....J. J. Connors  
Purchasing Agent.....K. C. Johnson  
PRODUCTS: Insulating material, tubing.

**Isolantite Inc.**

343 Cortlandt St., Belleville, N. J.  
Phone: Belleville 2-4600

Directors.....Paul H. Mouraud,  
L. E. O'Rourke, A. F. Heard  
Ceramic Sales Manager.....William West  
Radio Sales Manager.....L. C. Sanford  
Works Manager.....Paul Mourand  
Treasurer.....A. F. Heard  
BRANCH OFFICES: 43 East Ohio Street, Chicago, Ill., Phone, Superior 5925, District Engineer, H. Pretat; Bulkley Building, Cleveland, Ohio, District Representative, C. E. White.

PRODUCTS: Steatite, high frequency radio insulators, coaxial transmission line and accessory equipment, special antenna equipment, radar assemblies.

**The Jackson Electrical Instrument Co.**

16-18 S. Patterson Blvd., Dayton 1, O.  
Phone: Hemlock 4076

President-Sales Manager...Paul F. Jackson  
Chief Engineer.....George M. Buchard  
PRODUCTS: Test equipment.

**Jefferson Electric Co.**

25th Ave. & Madison St., Bellwood, Ill.  
Phone: MANsfield 7161

President.....J. C. Daley  
Exec. Vice-Pres.....Alfred E. Tregenza  
Vice-Pres. & Secy.....J. M. Bennan  
Vice-President.....R. A. Hoagland  
V.-P., Engineer.....L. Mauerer  
Executive Engineer.....R. J. Horstman  
Credit Manager.....Victor E. Lee  
Export Manager.....M. J. Schmitt  
Director of Purchases...Edward J. Banigan

PRODUCTS: Power transformers, chokes and audio input and output transformers, television deflecting yokes, horizontal and vertical scanning transformers, centering and focusing coils.

**Jensen Radio Manufacturing Co.**

6601 S. Laramie Ave., Chicago 38, Ill.  
Phone: Portsmouth 7600

President.....Thomas A. White  
Vice-President.....Hugh S. Knowles  
Comptroller.....Herbert F. Harris  
Purchasing Agent.....George H. Turner  
Secretary.....A. L. Oliver  
Advertising Manager.....Bayard H. Clark  
Chief Engineer.....Hugh S. Knowles  
Export Manager.....Bayard H. Clark

BRANCH OFFICE: Box 825, Oakland, Calif. Phil Bechamber, rep.

PRODUCTS: Loudspeakers, reproducers.

**J. F. D. Manufacturing Co.**

4117 Fort Hamilton Parkway, Brooklyn, N. Y.  
Phone: WIndsor 8-3100

President.....Julius Finkel  
General Manager.....Albert Finkel  
Chief Engineer.....William Kissel  
Credit Manager.....Ethel Siegel  
Purchasing Agent.....Joseph Shapiro  
Sales Manager.....Edward Finkel

PRODUCTS: Antennas, replacement ballast tubes, dial belts, battery plugs, battery adapters.

**Johns-Manville Corp.**

22 East 40th St., New York 16, N. Y.  
Phone LExington 2-7600

PRODUCTS: Sound-control materials and acoustical-engineering service.

## Kellogg Switchboard & Supply Co.

6650 S. Cicero Ave., Chicago, Ill.  
Phone: Portsmouth 6900

President.....J. G. Kellogg  
Executive Asst. to President...C. D. Manning  
Secretary.....J. H. Kellogg  
Treasurer.....H. C. McCluskey  
Sales Manager.....F. M. Parsons  
Purchasing Agent.....J. Geiger

PRODUCTS: Oil and wax condensers, communications equipment, microphones, earphones, noise filters, volume controls, retractable electrical cords (Coiled Kords).

## Ken-Rad Tube & Lamp Corp., Inc.

Owensboro, Ky.  
Phone: Owensboro 2000

President.....Roy Burlew  
Sales Manager.....R. W. Metzner  
PRODUCTS: Receiving, transmitting, cathode ray and special purpose tubes.

## Kenyon Transformer Co., Inc.

840 Barry St., New York 59, N. Y.  
Phone DAYton 9-0100

President.....Franklin P. Kenyon  
Vice-President & Chief Engineer

Richard B. Shimer

PRODUCTS: Transformers, Reactors, Filters.

## Kerrigan Lewis Mfg. Co.

4421 W. Rice St., Chicago 51, Ill.  
Phone: Spaulding 7208

Partner.....Vincent M. Kerrigan  
Partner.....Charles F. Lewis  
PRODUCTS: Magnet and Litzendraht Wire.

## "King Brand" Music Papers

1595 Broadway, New York, N. Y.  
Phone CI 6-0488

Contact....."Wes" Cowen  
BRANCH OFFICE: 3928 Crenshaw Blvd., Los Angeles, Calif. PRODUCTS: Music-Manuscript Paper, Score Paper, Ink, Fountain Pens, Carrying Cases and Covers, Batons, Duplicating Papers, Music Tapes.

## King Laboratories, Inc.

205 Oneida St., Syracuse 4, N. Y.  
Phone: 2-5209

President.....Aden J. King  
Vice-President.....F. M. Michaelian  
General Manager.....W. R. MacLeod  
Secy. & Treas.....George L. King  
PRODUCTS: Special alloys, chemicals and metals, radio tube parts, metal punchings and stampings, barex getters.

## Kludge Electronics Co.

1031 N. Alvarado St., Los Angeles 26, Calif.  
Phone: Exposition 1742

President.....Myron E. Kludge  
Chief Engineer.....Paul D. Langrick

Sales Manager.....Ted Stark  
Production Manager...Edward C. Bickhart  
PRODUCTS: Radio transmitters: broadcast, aviation, police and amateur. Transmitting tubes, frequency monitors, modulation monitors, magnetic recording equipment.

## Kuthe Laboratories, Inc.

150 Summit St., Newark 4, N. J.  
Phone: Mitchell 2-6466

President.....Herman K. Kuthe  
Vice-President.....Bernard Helling  
Treasurer.....Hedwig Kuthe  
PRODUCTS: Electronic transmitting tubes, rectifiers, voltage regulators, indicators, fluorescent starter switches, specialty—gas filled tubes.

## The Langevin Co., Inc.

36 W. 65th St., New York 23, N. Y.  
Phone: Endicott 2-7200

President.....Carl C. Langevin  
V.P.—Sales.....H. B. Miller  
V.P.—Manufacturing.....P. F. Kavanagh  
V.P.—Field Engineering.....W. J. Jurek  
V.P.—Development.....W. J. Dallin  
Secretary.....Fredericka Dekan  
Treasurer.....A. J. Prins  
Purchasing Agent.....J. A. Barry  
Transformer Engineer.....Frank Edmonds  
BRANCH OFFICES: 1050 Howard St., San Francisco 3, Calif., H. A. Wollenberg, Vice-President. 1000 N. Seward St., Los Angeles 38, Calif., W. T. Brown, Vice-President.

PRODUCTS: Speech input equipment and audio amplifying facilities, rectifiers, transformers.

## Lapp Insulator Co., Inc.

Le Roy, N. Y.  
Phone Le Roy 385

President.....J. S. Lapp  
Vice-President.....W. F. Young  
Treasurer.....G. W. Lapp  
Sales Manager.....Brent Mills  
Chief Engineer.....Ralph L. Jenner  
PRODUCTS: Tower footing and guy insulators; standoff, entrance and antenna insulators; radio frequency high voltage condensers.

## Lear, Inc.

110 Ionia Ave., N. W., Grand Rapids 2, Mich.  
Phone: 6-9651

President.....William P. Lear  
Vice-President.....Elmer R. Crane  
Mdse. Manager—Home Radio Div. Nate Hast  
Sales Manager—Aircraft Radio Div.

Hal T. Sagert  
Manager—Wire Recording Div.

Andy W. Korb  
Advertising Manager.....Ben S. Bland  
PRODUCTS: Radio Division (aircraft & home): automatic aircraft antenna reels, shielded antennae, gyro & directional compasses, control tower equipment, automatic

direction finders. Receivers: aircraft, home, beacon, grid marker, portable, phonograph combinations, receiver-transmitters, wire recording combination, ultra high frequency, very high frequency, wire record. Transmitters: aircraft, portable, ultra high frequency, very high frequency. Wire recorders for office, commercial and home use. Trade name, "Learadio."

**Lehigh Structural Steel Co.**

17 Battery Place, New York, N. Y.  
Phone Whitehall 4-1424

Contact.....J. F. Neary

**BRANCH OFFICES:** In all principal cities.  
**PRODUCTS:** Vertical Radiators. Antenna Towers and Masts. Supporting Towers for FM and Television.

**Lektra Laboratories, Inc.**

30 E. 10th St., New York 3, N. Y.  
Phone: Algonquin 4-0230

President.....Milton W. Blatner  
Vice-President.....Ben Eisenberg  
Chief Engineer.....Ben Eisenberg  
Purchasing Agent.....A. Severin  
**PRODUCTS:** Electronic Photo Timers, Electronic Industrial Timers, Electro Shock Therapy equipment, Galvanic Generators, Faradic Generators, Sinusoidal Generators, Electrolysis Equipment.

**Lewyt Corp.**

60 Broadway, Brooklyn 11, N. Y.  
Phone: Evergreen 8-9600

President.....Alex M. Lewyt  
Works Manager.....Arnold Wolf  
Sales Manager.....Jerome L. Strauss  
Chief Electronics Engineer...R. Lee Freeman  
Director of Purchasing....J. Ralph Walker  
Director of Industrial Relations  
W. V. Ronner

**PRODUCTS:** Contract manufacturer of private brand radios, radio-phonograph combinations.

**Libbey Glass**

**Division of Owen-Illinois Glass Co.**

P. O. Box 1035, Toledo 1, Ohio  
Phone: Main 7131

President.....J. P. Lewis  
Vice-Pres.-Dir. of Sales.....F. J. Solon  
Mgr., Industrial Sales.....R. W. Rogers  
Chief Engineer.....H. R. Schutz  
Credit Manager.....C. B. Rairdon  
Purchasing Agent.....C. L. Rice  
Export Manager.....O. R. Hecht  
Production Manager.....G. H. Meeker

**PRODUCTS:** Lead, lime and borosilicate glass handmade bulbs; general lime glass containers.

**Lifetime Sound Equip. Co.**

1101 Adams St., Toledo, O.  
Phone Main 5643

General Manager.....Wm. H. Manoff  
Factory Manager.....M. H. Manoff  
Production Engineer.....F. L. Church  
**PRODUCTS:** Microphones: Carbon, Dynamic, Velocity; Trumpets, Reflex Trumpets, P. M. Trumpet Units, Deflector Baffles.

**John E. Lingo and Son, Inc.**

28th St. and Buren Ave., Camden, N. J.  
Phone Camden 0487

President.....J. E. Lingo  
Chief Engineer.....Wesley Thompson  
Production.....George Burrows  
**PRODUCTS:** Vertical Radiators: Guyed Tubular Steel and Portable Dural; Turnstile and UHF Antennae, Tubular Steel Supporting Poles (for UHF Antennae).

**Machlett Laboratories, Inc.**

Power Tube Division: 25 Grand St.  
Norwalk, Conn.

Phone: Norwalk 6-5581

X-Ray Division: 1063 Hope Street  
Springdale, Conn.

Phone: Stamford 4-5781

President.....R. R. Machlett  
Vice-President.....W. E. Stevenson  
Treasurer.....J. A. Lambert  
General Sales Manager.....H. J. Hoffman  
Manager of Engineering.....T. H. Rogers  
**PRODUCTS:** A complete line of Electronic tubes for X-Ray, radio transmitting, and industrial purposes.

**The Magnavox Company**

Fort Wayne 4, Indiana  
Phone: A-5474

President.....Richard A. O'Connor  
Executive Vice-President...Frank Freimann  
Factory Manager.....L. E. Quinnell  
Chief Electrical Engineer, Radio-Phonograph Division...R. H. Dreisbach  
Sales Manager—Components Div.

Stanley S. Sondles

**PRODUCTS:** Receivers: Combinations radio-phonograph, radio-phonograph modulation-table, console, FM-AM console, television-console, speakers, capacitors, solenoids, sound slide film equipment.

**Majestic Radio & Television Corp.**

St. Charles, Illinois

Phone: St. Charles 3860

President.....E. A. Tracey  
Vice-President.....E. V. Otis  
Vice-President—Engineering...D. E. Foster  
Director of Sales.....Parker H. Erickson  
Assistant Sales Manager...C. V. del Mercado  
Treasurer.....John W. Mathews

Purchasing Agent.....A. Ginsberg  
Works Manager.....John Stevens  
Director of Purchasing.....J. O. Copel  
Personnel Manager.....F. Ryrton

**BRANCH OFFICES:** Majestic Records, Inc., 29 W. 57th St., New York, N. Y. Phone, Plaza 5-2621. James J. Walker, President. Majestic Records, Inc., 223 Raymond Blvd., Newark, N. J. Phone, Market 3-0472. Edward F. Barile, Works Manager.

**PRODUCTS:** Radio receiving and transmitting sets.

### Measurements Corp.

116 Monroe St., Boonton, N. J.  
Phone: Boonton 8-2131

President.....H. W. Houck  
Chief Engineer.....Jerry B. Minter  
Chief Research Engineer...John van Beuren  
Treasurer.....Robert Meyer  
Sales Manager.....Nelson C. Doland, Jr.  
Purchasing Agent.....J. L. Hiss

**PRODUCTS:** Model 58 radio noise & field strength meter, model 62 vacuum tube volt-meter, models 65B, 78 78FM, 80, 84 UHF signal generators, model 71 square wave meter, model 79B pulse generator, megacycle meters, megohm meters, moisture meters, FM & Television test equipment.

### John Meck Industries, Inc.

Liberty at Pennsylvania Sts., Plymouth, Ind  
Phone: Plymouth 33

President.....John S. Meck  
Chief Engineer.....Charles Wexler  
Sales Manager.....H. A. Hutchins  
Purchasing Agent.....B. L. Bethel  
Controller.....R. G. Eggo

**PRODUCTS:** Radio receiving sets, radio-phonograph combinations, phonographs, public address equipment, industrial sound equipment.

### Meissner Mfgr. Division Maguire Industries, Inc.

Mt. Carmel, Illinois  
Phone: 733

Vice-President.....James T. Watson  
Sales Manager.....Oden F. Jester  
Sales Coordinator.....John F. Gibbs  
Director of Purchases....William F. Covert  
Works Manager.....C. W. Hildenbran  
Chief Engineer.....E. J. Stanmyre  
Jobbing Sales Manager.....R. M. Karet  
Asst. Secretary.....Madge A. Hubbard  
Division Accountant.....G. W. Osbeck  
Service Manager.....W. M. Atkins

**PRODUCTS:** Radio-phonographs, radar, television, FM converters, amateur receivers, amateur transmitters, test equipment, recording equipment, R. F. coils, I. F. coils, trimming condensers, padding condensers.

### Merit Coil & Transformer Corp.

4427 N. Clark St., Chicago 40, Ill.  
Phone: Longbeach 6311

President.....Charles C. Koch  
Vice-President-Chief Engineer...Harold Jones  
Secretary-Purchasing Agent. Arthur J. Herold  
Treasurer.....Anne G. Schmidt  
Superintendent.....Harry R. Koch  
Sales Manager.....John I. Crockett, Jr.  
Credit Manager.....Dorothy Tekip  
**PRODUCTS:** Transformers.

### Micamold Radio Corp.

1087 Flushing Ave., Brooklyn 6, N. Y.  
Phone: STagg 2-9820

President.....A. P. Hirsch  
Sales Manager.....E. B. Tyler  
Vice-President.....F. A. Whiting  
Purchasing Agent.....Robert Price  
**PRODUCTS:** Fixed capacitors, resistors.

### Micro Switch Division of First Industrial Corporation

Freeport, Ill.

Phone: State 900

President.....W. B. Schulte  
Exec. Vice-President.....W. W. Gilmore  
Vice-President.....A. L. Riche  
Sales Manager.....F. E. Wilsey

**PRODUCTS:** Precision snap-acting micro switches and auxiliary actuators, micro limit switches, special micro switches, thermally operated micro switches, explosion-proof micro switches, splash-proof micro switches, aircraft switches.

### Midwest Electric Products, Inc.

1710 N. Luett St., Indianapolis 8, Ind.  
Phone: Belmont 5490

President.....W. J. Saeman  
Sales Manager.....W. J. Saeman  
Vice-President.....Wm. C. Hylan  
Chief Engineer.....R. D. Jefferies  
**PRODUCTS:** IF transformer, oscillator and antenna coils, RF chokes, wire harnesses, relays and relay assemblies.

### Miles Reproducer Co., Inc.

812 Broadway, New York, N. Y.  
Phone GRamercy 5-9466

President.....Dr. R. Byrne  
Secretary—Ch. Eng.....J. M. Kuhlík, Sc.D.  
Treasurer.....H. B. Kuhlík  
Advertising Mgr.....A. Altomari  
Vice-President.....C. Ruskin  
Public Relations.....B. Burns  
Electronics Head.....P. Katzoff, E.F.

**PRODUCTS:** Sound-On Film Recorders, Sound-On Film Reproducers, Telephone Recording Machines, Dictating Recording Machines, Dictating Transcribers, Throat Microphones, Sound Protection Equipment, Continuous Recorders and Transcribers for every occasion, "Talkie" Recorders for 8-16 mm. Motion Pictures.



**James Millen Manufacturing Co., Inc.**

150 Exchange Street  
Malden 48, Massachusetts  
Phone: Malden 4108 and 4109

President ..... James Millen  
Sales Manager..... James Millen  
Chief Engineer..... R. Wade Caywood  
Purchasing Agent..... George Pike  
Export Manager..... C. Lohman Janik

PRODUCTS: Radio Transmitters, Receivers and all component parts.

**Mirror Record Corp.**

58 W. 25th St., New York 10, N. Y.  
Phone CH 3-2222

Pres. & Treas..... Paul K. Trautwein  
PRODUCTS: Recording accessories (discs, cutting needles, playback needles).

**The Muter Co.**

1255 S. Michigan Ave., Chicago 5, Ill.  
Phone: Wabash 8800

President-Treasurer..... Leslie F. Muter  
Vice-President-Secretary..... A. A. Dailey  
Vice-President..... Paul J. Pfohl  
Chief Engineer..... K. E. Rollefson  
Production Engineer..... C. M. Kraemer

PRODUCTS: Resistors, switches, ceramic condensers, ballasts, coils, spira shields, antenna loops, I. F. and R. F. transformers.

**National Carbon Co., Inc.**

30 East 42nd St., New York 17, N. Y.  
Phone: MUrray Hill 2-6800

President..... A. V. Wilker  
Vice-Pres. & Gen. Mgr..... J. M. Spangler  
Vice-President..... C. O. Kleinsmith  
General Sales Mgr..... R. P. Bergan  
Mgr. Battery Eng. Dept..... W. H. Fritz

PRODUCTS: Dry Batteries.

**National Co., Inc.**

61 Sherman St., Malden, Mass.  
Phone: Malden 7950

Chairman of Board..... W. B. Hopkins  
President..... W. A. Ready  
Vice-President..... H. W. Cairns  
Treasurer..... W. H. Balcke  
Engineering Manager..... W. J. Larkin

PRODUCTS: Receiving sets, FM receivers, transmitters, transmitting condensers, dials, coils, chokes, receiving condensers, transmitting parts, R. F. and I. F. transformers, sockets, couplings, receiving parts.

**National Design Service**

96 Liberty St., New York, N. Y.  
Phone: Beekman 3-0207

General Manager..... Jules M. Labert  
Executive Manager..... Lawrence Zeitsoff

Chief Engineer..... Irving Brand  
Director of Research..... Clarence Lundy  
Radio Engineer..... Charles Whaley  
Asst. Laboratory Director..... T. McLaughlin  
Chief Mechanical Engineer..... H. Walton  
Field Engineer..... Victor Markosian  
Field Engineer..... Joseph Donnelly  
Field Engineer..... Jules Woelgesy

PRODUCTS: Consultant radio engineers. IF & RF sweep generators, television test equipment, centralized factory test equipment.

**National Union Radio Corp.**

15 Washington St., Newark 2, N. J.  
Phone: HUmboldt 2-5050

President..... S. W. Muldowny  
Controller..... E. O. Sandstrom  
Dir. of Labor Relations..... A. C. Beeson  
Dir. of Distributor Sales..... J. J. Clune  
Production Manager..... F. A. Turnquist  
Credit Manager..... H. A. Pope

PRODUCTS: Receiving Tubes, Cathode Ray Tubes, Television Tubes, Transmitting Tubes, Ballast Tubes, Phototubes, Condensers, Dry Batteries, Volume Controls.

**Noblitt-Sparks Industries, Inc.**

13th St. & Big Four Railroad, Columbus, Ind.  
Phone: Columbus 5521

President..... Q. G. Noblitt  
Vice-President..... G. W. Thompson  
Sales Manager..... Burl Buckner  
Chief Engineer..... A. D. Silva  
Advertising Manager..... Guy C. Cyr

PRODUCTS: AM and FM radios for civilian use, electronic equipment for the Signal Corps.

**Northern Electric Co., Ltd.**

1261 Shearer St., Montreal, Quebec, Canada  
Phone: Wilbank 3131

President..... P. F. Sise  
Vice-Pres.-General Manager.. R. D. Harkness  
Vice-President—Accounts & Finance

William Carswell  
Vice-President—Sales..... M. K. Pike  
Asst. Gen. Mgr.—Manufacture.. J. S. Cameron  
Comptroller..... D. M. Farish  
Secretary-Treasurer..... W. E. McBain  
Manager—Electronics Div..... A. B. Hunt  
Sales Mgr.—Electronics Div... H. R. Varcoc  
Electronics Engineer..... F. F. Fulton  
Works Mgr.—Electronics Div... J. G. Little

PRODUCTS: Aviation radio equipment, broadcasting equipment, round reproducing systems, navigation radio aids, police radio equipment, train radio equipment, radio receivers for home, power line carrier equipment, radio telephone systems, Northern-Hammond Organs, microphones, vacuum tubes, amplifiers.

## Ohio Tool Company

3160 W. 106th St., Cleveland 11, Ohio

Phone: Orchard 3200

Controlling Partner.....L. E. Butzman  
General Manager.....C. E. Quay  
Sales Manager.....O. F. Welshans  
Comptroller.....G. M. Craig  
Production Manager.....R. E. Palmer  
PRODUCTS: Manufacturing radio dynectron rotary converters.

## Ohmite Mfg. Co.

4835 Flournoy St., Chicago 44, Ill.

Phone: Austin 1070

President.....D. T. Siegel  
Vice-Pres., Production.....J. S. Howe  
Vice-Pres., Sales.....R. S. Laird  
Chief Engineer.....H. Levy  
Purchasing Agent.....A. Stolzenfeldt  
PRODUCTS: Rheostats, resistors, rotary tap switches, R. F. and power line chokes, and attenuators.

## Oxford-Tartak Radio Corp.

3911 S. Michigan Ave., Chicago, Ill.

Phone: ATLantic 6161

President.....R. C. Walker  
General Manager.....Robert Adams  
Sales Manager.....James H. Wood  
Chief Engineer.....Madison Jones  
Credit Manager.....David Davis  
Purchasing Agent.....Howard Corey  
Advertising Manager.....Clay Crane  
Plant Manager.....Alexander Polak  
PRODUCTS: Loud speakers, output and line transformers, magnets.

## Pacific Sound Equipment Co., Inc.

130 N. Beaudry Ave., Los Angeles 12, Calif.

Phone Michigan 2381

President.....Robert G. Metzner  
Secretary-Treasurer.....William L. Maas  
BRANCH OFFICE: 4821 Bethesda Avenue, Bethesda 14, Md. (Washington, D. C.), Phone, Wisconsin 3144, Representative, William H. Holmes.

PRODUCTS: Phonographs, electric and acoustic; transcription reproducers; public address systems; etc.

## Packard-Bell Co.

3443 Wilshire Blvd., Los Angeles 5, Calif.

Phone: Fairfax 2141

President.....Herbert A. Bell  
General Manager.....H. D. Thomas, Jr.  
Director of Sales.....J. M. Spain  
Chief Engineer.....R. H. Freck  
Purchasing Agent.....A. T. Baxter

PRODUCTS: Receivers: Electric—Compact, Table, Portable, Console; Battery—Portable, Portable AC-DC; Combinations—Radio-Phonograph, Radio-Phonograph-Recorder; Frequency Modulation—Table, Console, FM-AM Table, FM-AM Console; Television—Table, with FM, with AM, with FM-AM; Console, with FM, with AM, with FM-

AM and Phonograph; Miscellaneous—Amateur, Aviation; also record-players.

## Philco Corp.

Tioga & C Sts., Philadelphia, Pa.

Phone: NEBraska 5100

Chairman of the Board.....Larry E. Gubb  
Chairman of Exec. Comm.....James T. Buckley  
President.....John Ballantyne  
Vice-Pres., Charge of Operations

Wm. Balderston

Vice-Pres., Charge of Sales

Thomas A. Kennally

Vice-Pres., Charge of Merchandising

James H. Carmine

Chief Radio Engineer.....Palmer M. Craig

Chief Television Eng.....F. J. Bingley

Director of Research.....David B. Smith

Vice-Pres., Charge of Service.....R. F. Herr

PRODUCTS: Radio receiving sets, automobile radio receivers, refrigerators, air conditioners, aircraft radio communications and radar equipment. Radio parts, tubes, accessories, dry batteries.

## Philharmonic Radio Corp.

528 E. 72nd St., New York 21, N. Y.

Phone: Butterfield 8-2300

President-Treasurer.....Z. Soucek

Vice-President—Engineering.....V. Brociner

Asst. Secretary-Treasurer.....L. Ertle

Plant Manager.....P. Cassata

Personnel Manager.....I. Juliber

Chairman of Board.....Thomas R. Jones

PRODUCTS: FM-AM radio-phonographs, FM-AM receiving sets, television sets, airborne radar equipment, radio transmitters, test equipment, synchroscopes, square-wave generators, underwater sound equipment, two-band high sensitivity portable receivers, cathode ray equipment, monitor and control equipment.

## Philmore Mfg. Co.

113 University Pl., New York 3, N. Y.

Phone: ALgonquin 4-3363

Manager.....Philip Schwartz

Chief Engineer.....Reginald Burke

Credit Manager.....C. Levine

Export Manager.....M. L. Granat

Purchasing Agent.....Murray Granat

PRODUCTS: Amateur sets, crystal sets, microphones (carbon type), detectors, plugs, 1, 2 and 3-tube receivers, headphones, signal keys, short wave and broadcast plug-in coils, aerial kits, speaker microphones.

## Pilot Radio Corp.

37-06 36th St., Long Island City 1, N. Y.

Phone: Stillwell 4-5455

President.....Isidor Goldberg

Executive Vice-President.....E. L. Hall

Secretary.....I. W. Wyckoff

General Works Manager.....J. Benjamin

Domestic Sales Manager.....Allen D. McGehee

Export Sales Manager.....J. E. Chorlian

Engineer—Radio Design.....E. Jahns  
 Engineer—Television Design.W. Auerbacher  
 Purchasing Agent.....H. Zuckerman

**PRODUCTS:** AM-FM table models and phono combinations, portable radio receivers and television receivers.

**Precision Specialties**

210 N. Western Ave., Los Angeles, Calif.  
 Phone: Hi. 8333

General Manager-Co-owner.....L. Glaser  
 Sales Manager-Co-owner.....J. Raeburn  
 Radio Dept. Head.....W. F. Frankart  
 Chief Purchasing Agent.....C. Gould  
 Chief Engineer—Plastics.....M. R. Roberts  
 Comptroller.....P. Gatov  
 General Sales Manager.....P. Belvin, 3rd  
 Plant Manager—Plastics.....Mr. Washburn  
 Plastic Stylist-Engineer.....Lee McMurray

**PRODUCTS:** Broadcast receivers AC-DC, Phono-combinations, FM-AM consoles, crystal sets, electronic toys, short wave communication equipment, civilian walkie-talkie, radio equipment.

**Premax Products Division—  
 Chisholm-Ryder Co., Inc.**

College & Highland Aves., Niagara Falls, N.Y.  
 Phone 9186

President.....S. M. Ryde:  
 Secretary.....C. S. Maurer  
 Manager.....G. O. Benson

**PRODUCTS:** Vertical Antennas, Mobile Antennas, Insulators, Mountings, Ground Rods.

**Press Wireless Mfg. Corp.**

1475 Broadway, New York 18, N. Y.  
 Phone: Bryant 9-5030

President.....A. Warren Norton  
 Vice-President-General Mgr. Ray De Pasquale  
 Treasurer.....James Humphry, Jr.  
 Secretary.....James E. Denning

**PRODUCTS:** High and low power transmitters for FM and AM, radio receivers for FM-AM including diversity, radio printers systems, modplex and radio voice channeling devices, radiophoto and facsimile transmitters and receivers, central office terminal equipment.

**Presto Recording Corp.**

242 W. 55th St., New York, N. Y.  
 Phone: Circle 5-7760

President.....George J. Saliba  
 Secretary.....Morris M. Gruber  
 Treasurer.....A. Benjamin  
 Comptroller.....Ruth B. Sholes  
 Sales Manager.....Ralph C. Powell

**BRANCH OFFICERS:**18288 Oppoline Ave., Detroit, Mich., Phone, University 1-0180, Art Adams, Manager. 5060 City Line Ave., Phil-

adelphia, Pa., Phone Greenwood 0799, W. G. Stewart, Manager. 350 Lake St., Boston, Mass., Phone, Belmont 4510, H. M. Lane, Manager. 309 Reliance Bldg., Kansas City, Mo., Phone, Victor 4631, C. E. Terry, Manager. 88 S. Tenth St., Minneapolis, Minn., Phone, Atlantic 4216, E. H. VanKrevelen, Manager. 1836 Euclid Ave., Cleveland, Ohio, Phone, Main 1565, E. P. Scott, Manager. 600 S. Michigan Ave., Chicago, Ill., Phone, Harrison 4240, Leroy W. Beier, Manager. Washington, D. C. (Silver Spring, Md.), Phone, Shepherd 4003, Morris F. Taylor, Manager. 7422 Melrose Ave., Los Angeles, Calif., Phone, Whitney 1147, Norman B. Neeley, Manager. 104 Battery St., Seattle, Wash., Phone, Sen. 2560, L. D. March, Manager. P. O. Box 1805, Dallas, Texas, Phone, Tenneson 3-7093, J. Earl Smith, Manager. Dominion Square Bldg., Montreal, Quebec, Phone, Marquette 6368, W. P. Downs, Manager. 4253 Quitman St., Denver, Colo., Phone, Grand 1768, Richard A. Hyde, Manager. 25 Warren St., New York, N. Y. (Export), Phone, Barclay 7-5513, Norman Simons, Manager. 940 Lake Elbert Drive, Winter Haven, Fla., Phone, 22-684, R. H. Van Dusen, Manager. Ellicott Square Bldg., Buffalo, N. Y., Phone, Washington 2517, R. W. Mitscher, Manager. 3535 Dell Trail, Chattanooga, Tenn., Phone, 4-4026, Jesse P. Johnson, Manager. 1067 Alekea St., Honolulu, Hawaii, Phone, 3966, Tommy Kearns, Manager.

**PRODUCTS:** Sound recording equipment, discs, needles, transcription turntables, recording amplifiers and accessory recording equipment.

**Radex Corp.**

53 W. Jackson Blvd., Chicago, Ill.

President.....R. R. Cook  
 Comptroller.....P. S. Deasy  
 Asst. Secretary.....Leonora Webb  
 Engineer.....Harold A. Stein  
 Secretary.....E. S. Cook

**PRODUCTS:** Pocket signal tracer, radiating loop.

**Radio Condenser Co.**

Davis & Copewood Sts., Camden, N. J.  
 Phone: Camden 7300

President.....Stanley S. Cramer  
 Vice-President.....Russell E. Cramer  
 Secy. & Treas.....William W. Paul  
 Factory Manager.....Frank A. Cowgill  
 Chief Engineer.....Joseph S. Robb  
 Purchasing Agent.....James W. Willard  
 Sales Manager.....William J. May

**PRODUCTS:** Variable air condensers and mechanical push-button controls.

## Radio Corp. of America (RCA Victor Division)

Front & Cooper Streets  
Camden, New Jersey  
Phone Camden 8000

Exec.-Vice-Pres., Charge of Division

Frank M. Folsom

Chief Engineer.....Dr. C. B. Jolliffe  
Operating V.-P.....J. G. Wilson  
V.-P.—Engineering Products Division

Meade Brunet

V.-P.—General Attorney....J. H. McConnell  
V.-P.—Home Instrument Dept....J. B. Elliott  
V.-P.—Tube Div.....L. W. Teegarden  
V.-P.—Record Div.....J. W. Murray

PRODUCTS: Custom built communication and sound equipment, sound reinforcing equipment, broadcast transmitters and studio equipment, Industrial Sound Equipment, records and transcriptions, electronic tubes, television transmitting and receiving equipment, FM transmitting and receiving equipment, special electronic apparatus and facsimile equipment.

## Radio Development & Research Corp.

26 Cornelison Ave., Jersey City 4, N. J.

President.....S. Irving Weiss  
Sales Manager.....Isidore B. Meltzer  
Chief Engineer.....Robert Dorr  
Purchasing Agent.....George H. McCaffrey  
Service Manager.....Albert Cohn

PRODUCTS: Home receivers, two-way plane communications, magnetic steel tape recorders, public address systems, ship-to-shore communications. Trade names Magitone, Chronovox.

## Radio Engineering Labs., Inc.

35-54—36th St., Long Island City, N. Y.  
Phone: AStoria 8-1010

President.....Charles M. Srebroff  
Vice-Pres.....Frank A. Gunther  
Secretary.....Marion Wade  
Chief Engineer.....Malbon H. Jennings  
Plant Manager.....Henry Dietz  
Sales Manager.....Joseph Behr  
Director of Purchases.....Marion Wade

PRODUCTS: Broadcast transmitters, frequency modulation and amplitude modulation, antennas, test equipment, FM speech consoles, FM studio to transmitter relays, FM receivers, loudspeaker units, portable transmitters for remote pick-up service, mobile two-way FM transmitters and receivers for Military and Municipal use.

## Raytheon Manufacturing Co.

Waltham 54, Mass.

President.....Laurence K. Marshall  
Vice-Pres.-Treas.....David T. Schultz  
Secretary.....D. L. Trouant  
Vice-President.....Joseph Pierson  
Vice-President.....Ray C. Ellis  
Gen. Sales Dept. Mgr. John H. Fenstermacher

BRANCH OFFICES: Offices in New York, N. Y.; Chicago, Ill.; Los Angeles, Calif.; Waltham, Mass.; Newton, Mass. Plants Located in Newton, Mass.; Waltham, Mass.; Chicago, Ill.

PRODUCTS: Electronic components, equipments, systems.

## Scophony Corp. of America

527 Fifth Ave., New York 17, N. Y.

Phone: MURray Hill 2-5960

President.....Arthur Levey  
Vice-President.....Joseph E. Swan  
Treasurer.....Franklin Field  
Director of Research...Dr. A. H. Rosenthal

BRANCH OFFICES: 40 Gloucester Sq. W., London, Eng. Sir M. B. Carter, Chairman. Wells, Somerset, England, W. G. Elcock, Managing Director.

PRODUCTS: Television projectors, electronic devices.

## Sentinel Radio Corp.

2020 Ridge Ave., Evanston, Illinois

Phone: University 2400

President.....E. Alschular  
Vice-President.....O. F. Taylor  
Production Manager.....I. Jacobsen  
Purchasing Agent.....P. O. Krumm  
Vice-President.....M. D. Block  
Secretary.....C. L. Stout  
Chief Engineer.....W. J. Schnell  
Sales Manager.....E. G. May

PRODUCTS: Radio receiving sets, Radio-Phonograph combinations, FM/AM Receiving sets, Record players.

## Sherron Electronics Co.

(Division of Sherron Metallic Corp.)

1201 Flushing Ave., Brooklyn 6, N. Y.

Phone: Evergreen 7-2820

President.....P. E. Sherron  
Director of Purchases.....M. C. Turner  
Chief Engineer.....M. V. Barasch  
Director of Television.....P. J. Gollhofer  
Sales Engineer.....E. P. Alisch

PRODUCTS: Test equipment for television, vacuum tubes and electrical components. Television, FM, Standard Broadcast, Relay and Fixed Station Transmitters, Studio Control Consoles. Custom-built electronic equipment for industry, designed, developed and manufactured to the customer's specifications and applications. Induction and dielectric heating units. W2XDK Experimental Television Station. Trade Name, Sherron Electronics.

## Sheridan Electro Corp.

2850 South Michigan Ave., Chicago 16, Ill.

Phone: Calumet 2100

President.....John J. Sheridan  
Sales Manager.....Robert Shellow  
Chief Engineer.....Sol Heyton  
Purchasing Agent.....John H. Stackhouse

PRODUCTS: Radio sets, transmitting apparatus, and electrical appliances, combinations, record players.

**Sonora Radio & Television Corp.**

325 N. Hoyne Ave., Chicago, Ill.  
Phone: CHesapeake 2323

President.....Joseph Gerl  
Vice-President.....B. Freund  
Sales Manager.....Edward Harris  
Sales Promotion Mgr.....Herbert S. Hall  
Recording Director.....Maric Ruebens

BRANCH OFFICE: 730 Fifth Ave., New York, N. Y., Phone, Circle 7-5492, National Sales Manager, Record Division, Milton Benjamin.

PRODUCTS: Receiving sets, radio-phonograph combinations, phonograph records.

**Speak-O-Phone Recording & Equipment Co.**

23 West 60th St., New York, N. Y.  
Phone CO 5-1350

General Sales Manager.....C. A. Austin  
Secretary.....R. L. Lee

PRODUCTS: Recording and reproducing equipment.

**Speer Resistor Corp.**

Theresia St., St. Mary, Penna.  
Phone: St. Marys 895

President.....Andrew Kaul, 3rd  
General Manager.....G. G. Herrick  
Chief Engineer.....H. N. Veley  
Sales Manager.....L. J. Weidenboerner  
Purchasing Agent.....A. E. Kroncnwetter

PRODUCTS: Carbon insulated and non-insulated resistors, coil forms.

**Sperry Gyroscope Co. Inc.**

Great Neck, New York,  
Phone: Fieldstone 3-3600

President.....P. R. Bassett  
General Mgr.....C. R. Green  
Gen. Sales Mgr.....H. H. Willis  
Electronics Sales Mgr.....E. F. Lazar

PRODUCTS: KLYSTRON Tubes, radio direction finders; electronic measurement equipment, microwave communication equipment.

**Stamford Electric Products Co., Inc.**

Sunnyside Ave., Stamford, Conn.  
Phone: Stamford 4-7548

President.....Leo Jacobson  
Vice-President.....Jack Siegel  
Manager-Chief Engineer Transformer Div.

W. W. Weiss  
Asst. Chief Engineer.....Steven Powers  
Treasurer.....Joseph Kapp  
Asst. Sales Manager.....Murray Hahn

PRODUCTS: Transformers, transformer specialties, electronic devices.

**Stewart-Warner Corp.**

1826 Diversey Pkwy., Chicago, Ill.  
Phone: Lakeview 6000

Senior Vice-Pres.....F. A. Hiter  
Manager, Radio Dept.....F. D. Masters

PRODUCTS: Receiving sets, radio-phonograph combinations, FM receiving sets, television receiving sets, record-players.

**Stromberg-Carlson Co.**

100 Carlson Road, Rochester, N. Y.  
Phone: Culver 260

Chairman of Board.....Wesley M. Angle  
President.....Ray H. Manson  
Vice-President-General Mgr....Lee CcCanne  
Vice-President—Finance.Edwin C. Rooworth  
Vice-President—Sales..Lloyd L. Spencer  
Vice-President—Engineering

and Research.....Frederic C. Young  
Secretary-Treasurer.....Wilbur W. Hetzel  
Controller.....Gordon G. Hoit  
Assistant Treasurer.....Arthur F. Gibson  
Assistant Treasurer.....George E. Eyer  
Assistant Secretary.....George R. Town

BRANCH OFFICES: 564 W. Adams St., Chicago, Ill., Phone, State 4234; 2017 Grand Ave., Kansas City 8, Mo., Phone, Harrison 6618; 1355 Market St., San Francisco 3, Calif., Phone, Underhill 5388; Stromberg-Carlson Co., Ltd., 211-219 Geary Ave., Toronto, Ont., Canada, Phone, Melrose 2453, Ralph A. Hackbusch, Vice-President-Managing Director.

PRODUCTS: Communications equipment, including radio, television, telephone, sound equipment and wire recording equipment.

**Sylvania Electric Products, Inc.**

500 Fifth Ave., New York, N. Y.  
Phone: CHickering 4-4470

President.....W. E. Poor  
Executive Vice-President,

Sales.....D. G. Mitchell  
Director of Engineering....E. Finley Carter  
General Sales Manager, Radio Tube Sales

C. W. Shaw  
D. R. Adv. S. P.....Heny C. L. Johnson  
Director Public Relations....Paul S. Ellison

PRODUCTS: Receiving tubes, cathode ray tubes, transmitting tubes, electronic devices.

**Teletone Radio Co.**

609 W. 51st St., New York 19, N. Y.  
Phone: Circle 6-7590

General Partner.....S. W. Gross  
General Sales Manager.....John S. Mills  
Chief Engineer.....B. Singer

PRODUCTS: Table model radios, table model radio-phono combinations.

**Telicon Corp.**

851 Madison Ave., New York 21, N. Y.  
Phone: Butterfield 8-1900

President .....S. Sagall  
 Vice-President.....Colin C. Ives  
 PRODUCTS: AM & FM broadcast receivers, television receivers, intra-video systems, television receiving antennas, quartz crystals.

**Templeton Radio Mfg. Corp.**

Templeton Bldg., New London, Conn.  
 Phone: New London 5346

President.....Oscar Dane  
 Vice-President—Manufacturing.....Eli Dane  
 Vice-Pres., Charge of  
 Engineering.....Dr. Dale Pollack  
 Purchasing Agent.....M. A. Gardner  
 Director Distribution.....S. A. Kelsey  
 PRODUCTS: Radios and electronic test equipment, receivers, television receivers, record players, combinations.

**United States Television Mfg. Corp.**

106 7th Ave., New York 11, N. Y.  
 Phone: Chelsea 2-1154

President .....Hamilton Hoge  
 Vice-President .....John Hoge  
 V. P.-Secretary.....Francis H. Hoge, Jr.  
 Chief Engineer.....Harold V. Nielsen  
 PRODUCTS: AM & FM radios, television receivers, television test equipment and parts, television transmitting equipment.

**Universal Microphone Co.**

424 Warren Lane, Inglewood, Calif.

President.....James L. Fouch  
 Vice-Pres.-Sales Director.....Cecil L. Sly  
 Secretary.....Durwood D. Allen  
 Sales Manager.....Dee Breen  
 Advertising Manager.....Ralph L. Power  
 Purchasing Agent.....Karl Mautz  
 Chief Engineer.....Les Willyard  
 Research Engineer.....Dunford Kelly  
 BRANCH OFFICES: (Canada) 560 King St. W., Toronto 2, Ont.; (Export) 310 Clay St., San Francisco 11, Calif.; 259 W. 14th St., New York, N. Y.; 94 Portland St., Boston, Mass.; 210 E. Ohio St., Chicago, Ill.; 2321 2nd Ave., Seattle, Wash.

PRODUCTS: Microphones, stands, accessories and recording components.

**Western Electric Co., Inc.**

(Radio Division)

120 Broadway, New York 5, N. Y.  
 Phone COrtland 7-7700

Vice-Pres.-Mgr.....F. R. Lack  
 Manager—Distributor Sales.....S. P. Taylor  
 PRODUCTS: AM and FM radio broadcasting transmitters, antenna phasing, coupling and monitoring equipment; speech input equipment and components; aviation, marine, police radio transmitters and receivers; mobile radio sound distribution systems and components; hearing aids and audiometers; microphones, loudspeakers and allied items; sound measuring equipment; vacuum tubes; thermistors; fastax camera; telephone ap-

paratus and cable; carrier telephone equipment and train dispatching apparatus. Field Engineering Services.

**Westinghouse Electric Corp.**

Industrial Electronics Division  
 2519 Wilkens Ave., Baltimore 3, Maryland  
 Phone: Edmondson 2300

Home Radio Division  
 Front Street and Susquehanna Ave.,  
 Sunbury, Pa.

Phone: Sunbury 2520

Lamp Division

MacArthur Ave., Bloomfield, N. J.

Phone: Bloomfield 2-2200

President.....George H. Bucher  
 Vice-President .....Walter Evans  
 Asst. to Vice-President.....Walter E. Benoit  
 Mgr., Industrial Electronics

Div.....C. J. Burnside  
 Sales Mgr., Ind. Elect. Div.....C. W. Miller  
 Engr. Mgr., Ind. Elect. Div.....R. N. Harmon  
 Purchasing Agent, Ind. Elect.

Div.....R. D. McGranahan  
 Manager, Home Radio Division.H. B. Donley  
 Asst. Mgr., Home Radio Div..H. W. Schaefer  
 Purchasing Agent, Home

Radio Div.....C. W. Lutz  
 Vice-President, Lamp Div.....R. C. Stuart  
 Sales Mgr., Electronic Tubes.....A. Frankel  
 Engr. Mgr., Electronic Tubes..D. D. Knowles  
 Purchasing Agent, Lamp Div...A. Clohosey

BRANCH OFFICES: In all principal cities.

PRODUCTS: Commercial broadcast transmitters, radio receivers, all types of radio transmitters and receiver equipment for military and industrial purposes, and radio tubes.

**Zenith Radio Corp.**

6001 Dickens Ave., Chicago, Ill.

Phone: Berkshire 7500

President-General Mgr..E. F. McDonald, Jr.  
 Exec. V. P.-Treasurer.....Hugh Robertson  
 V. P.-Director of Sales.....J. J. Nance  
 V. P.—Household Radio

Div Henry A. Bonfig  
 V. P.—Engineering.....Harvey Tullo  
 V. P.—Production..William E. Fullerton  
 Asst. V. P.-Asst. Secretary-

Asst. Treasurer.....Sam Kaplan  
 Controller-Secretary-

Asst. Treasurer.....R. D. Burnct  
 Asst. V. P.....J. E. Brown  
 Asst. V. P.....Karl E. Hassel  
 Service Manager.....Frank E. Smolek

BRANCH OFFICES: All principal cities.

PRODUCTS: Receivers: Electric-compact, table, portable, console; Battery—automobile, portable AC-DC, table, console; Combinations: radio-phonographs, radio-phonograph-recorders; FM table, console; FM and AM table, console; Television: table console, video only; Hearing Aids; Miscellaneous: Amateur, aviation, marine, police, record players, receiving and transmitting apparatus. Tradename "Zenith."



# FREQUENCY MODULATION



*Frequency Modulation  
During 1945*

•

*FM Networks  
For Educational Use*

•

*Applications Granted*

# FM Position Solidified In '45

By *ROBERT BARTLEY, Director, FM Dept. NAB*

**T**HE past year seems destined to become known as the one in which the foundations were solidified for the future of American broadcasting, FM. The merger of the Frequency Modulation Broadcasters, Inc., with the National Association of Broadcasters set the pattern for self-administration in the traditional American system, and the assignment of the 88-108 mc. band gave FM its long-awaited permanent position in the radio spectrum.

At a meeting held in Washington last October, representatives appointed by the FMBI and NAB boards worked out final details of the merger under which FMBI activities were transferred to the newly created FM Department of the NAB, with NAB memberships provided for FMBI members. The joint committee of the two organizations became the executive committee of the NAB's FM Department, with Walter Damm, FMBI president, as chairman.

Robert Bartley, the first secretary of FMBI and for the past two years director of government relations for NAB, was named director of the new department, which will have headquarters in the old FMBI offices at 1730 I Street, N.W., in Washington.

As one of its primary objectives, the NAB's FM Department is called upon "to seek to secure the assignment of sufficient additional channels for FM so that broadcasting may develop in the public interest to its fullest potentialities . . ." In one of its first official acts, the Department helped bring about the new system of consecutive numbering for FM channels.

Announcement of the switch to the higher frequencies brought about renewed protests by Edwin H. Armstrong, inventor of FM, and the Zenith Corp., both of whom objected to the 88-108 band on grounds that it would not provide satisfactory rural service. Following several stormy sessions with the FCC, Zenith's

proposal that both the 88-108 and the 44-50 bands be used was dropped by the commission.

During the year, FM licenses were sought by many newcomers to radio. Outstanding among these was the International Ladies Garment Workers Union, which has applied for licenses in New York, Philadelphia, Boston, Los Angeles, Chattanooga (conditional permit granted) and St. Louis. The union, which has retained Morris Novik, former director of WNYC, as radio consultant plans to operate the stations on a non-profit, community basis, with heavy public service programming. Conditional grants have been awarded also to the United Auto Workers, CIO, in Detroit, and to the Amalgamated Clothing Workers, CIO, Rochester, N. Y.

While some labor organizations sought to hasten the advent of FM, James C. Petrillo's American Federation of Musicians threw a wrench into the works by demanding added musicians where AM musical shows were duplicated on FM outlets. The edict, in effect, forced network-owned FM stations off the air. Settlement of the dispute is hoped to result from the NAB-AFM meetings slated for April.

With the first twenty FM channels—between 88 and 92 mc.—reserved for non-commercial educational operations by the FCC, the educational aspects of FM took on added importance. Traditionally the leader in educational radio, the Mid-West has again taken the lead with state-wide educational FM webs planned for Wisconsin and Ohio.

As of Mar. 8, 1946, the FCC had granted conditional licenses to 352 FM stations, with about 400 additional applications still pending, and Commission officials forecast several thousand FM outlets throughout the country "in a few years time."



# FM Networks For Educational Use

By *GEORGE JENNINGS, Assoc. Dir., Radio Council, Chicago Public Schools*

THE year 1946 will see a great increase in the number of Frequency Modulation stations, owned and operated by school systems, universities, schools and colleges, and in some instances by "radio councils" reporting directly to state universities or state superintendents of education.

Under the leadership of the United States Office of Education and through such organizations as the Chicago School Broadcast Conference and the Association for Education by Radio interest in FM for educational use has been greatly stimulated. And this interest, now that equipment is again available, is being translated into specific action by local and state groups.

The University of Wisconsin in the summer of 1945 announced the organization of a state-wide Radio Council to implement the setting up of a state-wide FM network, and late in 1945 the Council, through Harold McCarty, Director of station WHA, announced that funds had been granted by the state legislature and applications had been presented to the FCC for the installation of two FM transmitters, the first "leg" in a six station relay system which will cover the state.

In Michigan, under the chairmanship of Joseph E. Maddy of the University of Michigan, a state-wide plan of FM coverage has been worked out, and the coming year will probably see the start of that service to the people of the state. Louisiana, Kentucky, Illinois, Ohio, Iowa and some twenty other states have evinced enough interest in FM state-wide coverage for educational purposes to have surveys made of possible transmitter locations.

All this activity is a healthful sign, providing in the plans the problem of programming such stations and networks is thoroughly considered.

According to some of the plans for state-wide network operation, various schools or universities within the state are to assume responsibility for certain

programs to be fed to the network; in other words, the local stations will do the bulk of their local programming, taking from the net and feeding to the net only those programs of state-wide interest. This plan might cast a heavier burden on the larger institutions, such as state universities, and it might also be a source of friction within the network; i.e. the smaller schools might possibly present the question, "Is the state-wide FM network being hogged by the University or by the state department of education?"

In so far as hook-ups between states is concerned, there is no reason whatever that such might not be done. This is particularly true in the Middle-west, where there already have been, from time to time, hook-ups between the state owned stations, such as WILL at Urbana; WSUI, at Iowa City; and WHA at Madison. It is quite conceivable that when and if Ohio, Michigan, Indiana, Illinois, Wisconsin and Iowa have state-wide FM networks various stations within the net may take responsibility for specific series of programs in definite subjects: for example, WBOE in Cleveland might very well assume the responsibility of doing an elementary art program for the six state area; WBEZ in Chicago might assume the responsibility of doing a series in American history; WHA at Madison might very well do a science program.

Network operation is going to involve several problems the local school stations do not at present have to cope with. The problem of integrating schedules, clearing time, different hours of operation, wire or relay costs, all enter the picture.

Ideally, a network programming division should be set up to operate within the educational field exactly as the network operates within the commercial field. This presents the problem of financing, headquarters, and the employment of staff. Somewhere in the picture there would have to be a "Czar" (as the sports-writer puts it) of educational broadcasting in the network area.

# FM Broadcast Applications Granted

## AS OF FEBRUARY 4, 1946

City	Grantee	Kind of Station
<b>ALABAMA</b>		
Anniston	Harry M. Ayers	Metropolitan, possibly rural
Birmingham	The Birmingham News, Co.	Metropolitan, possibly rural
Birmingham	Johnston Broadcasting Co.	Metropolitan
Mobile	Pape Broadcasting Co.	Metropolitan
Mobile	Mobile Daily Newspapers, Inc.	Metropolitan
Montgomery	G. W. Covington, Jr.	Metropolitan
Montgomery	Montgomery Broadcasting Co., Inc.	Metropolitan, possibly rural
<b>ARKANSAS</b>		
Fort Smith	Donald W. Reynolds	Metropolitan, possibly rural
<b>CALIFORNIA</b>		
Alameda	Abraham and Sara Kofman, d/b as Times-Star Publishing Co.	Metropolitan
Berkeley	Central Salif, Broadcasters, Inc.	Metropolitan
Fresno	J. E. Rodman	Metropolitan, possibly rural
Fresno	KARM, the George Harm Station	Metropolitan
Marysville	Sacramento Valley Broadcasters	Metropolitan
Oakland	Tribune Building Co.	Metropolitan
Oakland	Warner Brothers	Metropolitan
Ontario	The Daily Reports, a Partnership	Community
Palo Alto	Peninsula Newspapers, Inc.	Community
Richmond	Contra Costa Broadcasting Co.	Community
Riverside	The Broadcasting Corp. of America	Metropolitan, possibly rural
Sacramento	McClatchy Broadcasting Co.	Metropolitan
Sacramento	Lincoln Dollar	Metropolitan
San Bernardino	The Sun Co. of San Bernardino	Metropolitan
	Lee Brothers Broadcasting Co.	Metropolitan
San Diego	Airfan Radio Corp., Ltd.	Metropolitan
San Francisco	The Associated Broadcasters, Inc.	Metropolitan
San Jose	Valley Broadcasting Co.	Metropolitan, possibly rural
San Luis Obispo	Christina M. Jacobson, tr/as The Valley Electric Co.	Metropolitan
San Mateo	Amphlett Printing Co.	Community
Santa Maria	Santa Maria Daily Times	Community
Stockton	E. F. Peffer	Metropolitan, possibly rural
<b>CONNECTICUT</b>		
Danbury	The Berkshire Broadcasting Corp.	Community
Meriden	Silver City Crystal Co.	Metropolitan
New Haven	Elm City Broadcasting Corp.	Metropolitan
New London	Thames Broadcasting Corp.	Metropolitan
Waterbury	American Republican, Inc.	Metropolitan

. . . **FM APPLICATIONS GRANTED** . . .

City	Grantee	Kind of Station
<b>FLORIDA</b>		
Ft. Lauderdale	Gore Publishing Co.	Metropolitan
Jacksonville	Florida Broadcasting Co.	Metropolitan
Miami	Miami Broadcasting Co.	Metropolitan
Miami Beach	A. Frank Katzentine	Metropolitan
Miami Beach	Isle of Dreams Broadcasting Corp.	Metropolitan
Orlando	Orlando Daily Newspapers, Inc.	Metropolitan, possibly rural
St. Petersburg	Pinellas Broadcasting Co.	Metropolitan
Tampa	The Tribune Co.	Metropolitan

**GEORGIA**

Atlanta	The Constitution Publishing Co.	Metropolitan
Augusta	The Augusta Chronicle Broadcasting Co.	Metropolitan
Augusta	Augusta Broadcasting Co.	Metropolitan
Columbus	Georgia-Alabama Broadcasting Corp.	Metropolitan
Columbus	Columbus Broadcasting Co.	Metropolitan
Macon	Middle Ga. Broadcasting Co.	Metropolitan
Macon	Southeastern Broadcasting Co.	Metropolitan
Moultrie	Frank R. Pidcock, Sr.	Metropolitan
Rome	Rome Broadcasting Corp.	Metropolitan
Savannah	Savannah Broadcasting Co.	Metropolitan
Valdosta	E. D. Rivers	Metropolitan, possibly rural

**IDAHO**

Boise	Boise Broadcast Station	Metropolitan
Pocatello	Radio Service Corp.	Metropolitan

**ILLINOIS**

Aurora	The Copley Press, Inc. (Aurora Beacon-News Division)	Metropolitan
Bloomington	Radio Station WJBC	Metropolitan
Brookfield	George M. Ives	Community
Carbondale	Southern Ill. Broadcasting Corp.	
Champaign	The Champaign News Gazette, Inc.	Community
Evanston	Sentinel Radio Corp.	Community
Evanston	North Shore Broadcasting Co., Inc.	Metropolitan
	Freeport Journal-Standard Pub. Co.	Metropolitan
Harrisburg	Harrisburg Broadcasting Co.	Metropolitan, possibly rural
Herrin	Orville W. Lyerla	Metropolitan, possibly rural
Kankakee	Kankakee Daily Journal	Community
Mt. Vernon	Midwest Broadcast Co.	Metropolitan
Quincy	Lee Broadcasting, Inc.	Metropolitan
Quincy	Quincy Newspapers, Inc.	Metropolitan
Rockford	Rockford Broadcasters, Inc.	Metropolitan
Rock Island	Rock Island Broadcasting Co.	Metropolitan
Springfield	WTAX, Inc.	Metropolitan
Waukegan	Keystone Printing Service, Inc.	Metropolitan

**INDIANA**

Columbus	Syndicate Theaters, Inc.	Metropolitan
Connersville	News-Examiner Co.	Metropolitan
Elkhart	Truth Publishing Co., Inc.	Metropolitan
Kokomo	Kokomo Broadcasting Corp.	Metropolitan
Lafayette	WFAM, Inc.	Metropolitan
Shelbyville	Shelbyville Radio, Inc.	Metropolitan

<i>City</i>	<i>Grantee</i>	<i>Kind of Station</i>
<b>IOWA</b>		
Burlington	Burlington Broadcasting Co.	Metropolitan, possibly rural
Cedar Rapids	The Gazette Co.	Metropolitan
Des Moines	Central Broadcasting Co.	Metropolitan
Des Moines	Cowles Broadcasting Co.	Metropolitan, possibly rural
Dubuque	Telegraph Herald	Metropolitan, possibly rural
Dubuque	Dubuque Broadcasting Co.	Metropolitan, possibly rural
Waterloo	Josh Higgins Broadcasting Co.	Metropolitan, possibly rural

#### KANSAS

Lawrence	The World Company	Metropolitan
Topeka	Topeka Broadcasting Association, Inc.	Metropolitan
Wichita	Farmers & Bankers Broadcasting Corp.	Metropolitan
Wichita	The Rario Station KFH Co.	Metropolitan

#### KENTUCKY

Lexington	American Broadcasting Corp. of Kentucky	Metropolitan
Louisville	Courier Journal & Louisville Times Co.	Metropolitan
Louisville	WAVE, Inc.	Metropolitan
Louisville	Northside Broadcasting Corp.	Metropolitan
Owensboro	Owensboro Broadcasting Co., Inc.	Metropolitan
Paducah	Paducah Broadcasting Co., Inc.	Metropolitan
Paducah	Paducah Newspapers, Inc.	Metropolitan

#### LOUISIANA

Alexandria	Alexandria Broadcasting Co., Inc.	Metropolitan
Alexandria	Central La. Broadcasting Corp.	Community
New Orleans	The Times Picayune Pub. Co.	Metropolitan
New Orleans	Loyola University	Metropolitan
New Orleans	Supreme Broadcasting System, Inc.	Metropolitan, possibly rural

#### MAINE

Bangor	Portland Broadcasting System, Inc.	Metropolitan
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#### MARYLAND

Frederick	The Monocacy Broadcasting Co.	Metropolitan
Hagerstown	Hagerstown Broadcasting Co.	Metropolitan
Salisbury	The Peninsula Broadcasting Co.	Metropolitan

#### MASSACHUSETTS

Brockton	Cur-Nan Co.	Community
Fall River	Fall River Broadcasting Co., Inc.	Metropolitan
Fitchburg	Mitchell G. Meyers, Reuben E. Aronheim & Milton H. Meyers	Metropolitan
Greenfield	Recorder Publishing Corp.	Community
Greenfield	John W. Haigis	Community
Haverhill	The Haverhill Gazette Co.	Metropolitan
Haverhill	The Hampden-Hampshire Corp.	Metropolitan
Lawrence	Hildreth & Rogers Co.	Metropolitan
New Bedford	Bristol Broadcasting Co., Inc.	Metropolitan
North Adams	James A. Hardman	Metropolitan
Pittsfield	Monroe B. England	Metropolitan
Pittsfield	Eagle Publishing Co.	Community
Salem	North Shore Broadcasting Co.	Community
Springfield	WMAS, Inc.	Metropolitan

**FM APPLICATIONS GRANTED**

<i>City</i>	<i>Grantee</i>	<i>Kind of Station</i>
<b>MICHIGAN</b>		
Ann Arbor	Washtenaw Broadcasting Co.	Metropolitan
Benton Harbor	The Palladium Pub. Co.	Metropolitan
Dearborn	Herman Radner	Community
Detroit	WJR, The Goodwill Station, Inc.	Metropolitan
Detroit	UAW-CIO Broadcasting Corp. of Mich.	Metropolitan
Detroit	King-Trendle Broadcasting Corp.	Metropolitan
Escanaba	John B. Norton	Metropolitan
Flint	Flint Broadcasting Co.	Metropolitan
Lansing	WJIM, Inc.	Metropolitan
Muskegon	Ashbacker Radio Corp.	Metropolitan, possibly rural
Pontiac	Pontiac Broadcasting Co.	Metropolitan
Port Huron	Times Herald Co.	Metropolitan
Saginaw	Saginaw Broadcasting Co.	Metropolitan
Wyandotte	Wyandotte News Co.	Community
<b>MINNESOTA</b>		
Mankato	Southern Minn. Supply Co.	Metropolitan
Minneapolis	Minn. Broadcasting Corp.	Metropolitan
Minneapolis	Independent Merchants Broadcast- ing Co.	Metropolitan
Rochester	Southern Minn. Broadcasting Co.	Metropolitan
St. Paul	WMIN Broadcasting Co.	Metropolitan
St. Paul	KSTP, Inc.	Metropolitan, possibly rural
<b>MISSISSIPPI</b>		
Clarksdale	Birney Imes, Sr.	Metropolitan
Jackson	Lamar Life Insurance Co.	Metropolitan, possibly rural
<b>MISSOURI</b>		
Joplin	Joplin Broadcasting Co.	Metropolitan
Kansas City	WHB Broadcasting Co.	Metropolitan
Kansas City	The Kansas City Star Co.	Metropolitan
St. Louis	Thomas Patrick, Inc.	Metropolitan
St. Louis	Mo. Broadcasting Corp.	Metropolitan
St. Louis	The Pulitzer Pub. Co.	Metropolitan
St. Louis	Star-Times Pub. Co.	Metropolitan
St. Louis	St. Louis University	Metropolitan
<b>NEBRASKA</b>		
Lincoln	Cornbelt Broadcasting Corp.	Metropolitan
Omaha	Inland Broadcasting Co.	Metropolitan
Omaha	World Publishing Co.	Metropolitan, possibly rural
<b>NEVADA</b>		
Las Vegas	Nevada Broadcasting Co.	Community
Reno	Reno Newspapers, Inc.	Metropolitan
<b>NEW HAMPSHIRE</b>		
Claremont	Claremont Eagle, Inc.	Metropolitan
Manchester	Harry M. Bitner	Metropolitan
Portsmouth	WHEB, Inc.	Metropolitan
<b>NEW JERSEY</b>		
Asbury Park	Asbury Park Press, Inc.	Community
Atlantic City	Neptune Broadcasting Corp.	Metropolitan
Atlantic City	Press-Union Publishing Co.	Metropolitan
Bridgeton	Easton States Broadcasting Corp.	Metropolitan
New Brunswick	Home News Publishing Co.	Community
Paterson	The Passaic Daily News	Community
Trenton	Mercer Broadcasting Co.	Metropolitan

City	Grantee	Kind of Station
<b>NEW YORK</b>		
Buffalo	Roy L. Albertson	Metropolitan
Buffalo	WBEN, Inc.	Metropolitan, possibly rural
Buffalo	WEBR, Inc.	Metropolitan
Corning	W. A. Underhill and E. S. Underhill, Jr., d/b as The Evening Leader	Metropolitan
Dunkirk	Dunkirk Printing Company	Community
Hornell	The W. H. Greenhow Co.	Metropolitan, possibly rural
Ithaca	Cornell University	Rural
Jamestown	James Broadcasting Co., Inc.	Metropolitan
Ogdensburg	St. Lawrence Broadcasting Corp.	Rural
Oswego	Palladium-Times, Inc.	Metropolitan
Rochester	Amalgamated Broadcasting System, Inc.	Metropolitan
Syracuse	Syracuse Broadcasting Corp.	Metropolitan
Syracuse	WAGE, Inc.	Metropolitan
Syracuse	Central New York Broadcasting Radio Corp.	Metropolitan
Syracuse	Radio Projects, Inc.	Metropolitan
Syracuse	Onondaga Radio Broadcasting Corp.	Metropolitan
Troy	Troy Record Co.	Metropolitan
Utica	WIBX, Inc.	Metropolitan
Watertown	The Brockway Co.	Metropolitan
White Plains	Westchester Broadcasting Corp.	Community

#### NORTH CAROLINA

Burlington	Alamance Broadcasting Co., Inc.	Metropolitan
Charlotte	Southeastern Broadcasting Co.	Metropolitan
Durham	Durham Radio Corp.	Metropolitan
Fayetteville	Cape Fear Broadcasting Co.	Metropolitan
Gastonia	F. C. Todd	Metropolitan, possibly rural
Greensboro	Greensboro News Co.	Metropolitan
Hickory	Catawba Valley Broadcasting Co., Inc.	Metropolitan, possibly rural
High Point	High Point Enterprise, Inc.	Metropolitan
High Point	Radio Station WMFR, Inc.	Metropolitan
Raleigh	WPTF Radio Co.	Metropolitan, possibly rural
Roanoke Rapids	Telecast, Inc.	Metropolitan
Roanoke Rapids	WCBT, Inc.	Metropolitan
Rocky Mount	Josh L. Horne	Metropolitan
Rocky Mount	William Avera Wynne	Metropolitan
Salisbury	Piedmont Broadcasting Corp.	Metropolitan
Washington	Tar Heel Broadcasting System, Inc.	Metropolitan
Wilmington	Richard Austin Dunlea	Metropolitan
Wilmington	Wilmington Star-News Co.	Metropolitan
Winston-Salem	WAIR Broadcasting Co.	Metropolitan

#### OHIO

Cincinnati	The Cincinnati Times-Star Co.	Metropolitan, possibly rural
Cincinnati	The Crosley Corp.	Metropolitan
Cincinnati	L. B. Wilson, Inc.	Metropolitan
Cincinnati	Buckeye Broadcasting Co.	Metropolitan
Cincinnati	Scripps-Howard Radio, Inc.	Metropolitan
Columbus	Lloyd A. Pixley, et al, d/b as The Pixleys	Metropolitan
Dover	The Tuscora Broadcasting Co.	Community
Marion	The Marion Broadcasting Co.	Metropolitan, possibly rural
Toledo	The Fort Industry Co.	Metropolitan
Wooster	The Wooster Republican Printing Co.	Metropolitan

#### OKLAHOMA

Ardmore	John F. Easley	Metropolitan
Lawton	Okla. Quality Broadcasting Co.	Metropolitan

**FM APPLICATIONS GRANTED**

City	Grantee	Kind of Station
Muskogee	Muskogee Broadcasting Co.	Metropolitan
Oklahoma City	WKY Radiophone Co.	Metropolitan, possibly rural
Oklahoma City	KOMA, Inc.	Metropolitan, possibly rural
Oklahoma City	Plaza Court Broadcasting Co.	Metropolitan, possibly rural
Oklahoma City	O. L. Taylor	Metropolitan
Shawnee	KBFF Broadcasting Co.	Metropolitan
Tulsa	Fred Jones Broadcasting Co.	Metropolitan

**OREGON**

Medford	Mrs. W. J. Virgin	Metropolitan
Medford	Medford Printing Co.	Community
Portland	KXL Broadcasters	Metropolitan, possibly rural
Portland	Broadcasters Ore., Ltd.	Metropolitan
Portland	KALE, Inc.	Metropolitan
Portland	Pacific Radio Adv. Service	Metropolitan
Portland	Oregonian Pub. Co.	Metropolitan
Portland	KOIN, Inc.	Metropolitan

**PENNSYLVANIA**

Allentown	Lehigh Valley Broadcasting Co.	Metropolitan
Altoona	The Gable Broadcasting Co.	Metropolitan
Bethlehem	The Bethlehems' Globe Pub. Co.	Metropolitan
Bradford	Bradford Publications, Inc.	Metropolitan
Clearfield	Airplane & Marine Instruments, Inc.	Metropolitan
Du Bois	Tri-County Broadcasting Co., Inc.	Metropolitan
Erie	Presque Isle Broadcasting Co.	Metropolitan
Forks Township, Nr. Easton	Easton Publishing Co.	Community
Harrisburg	The Patriot Co.	Metropolitan
Harrisburg	WHP, Inc.	Metropolitan
Johnstown	WJAC, Inc.	Metropolitan
Lancaster	Peoples Broadcasting Co.	Metropolitan
Lancaster	WGAL, Inc.	Metropolitan
Meadville	H. C. Winslow	Metropolitan
Reading	Hawley Broadcasting Co.	Metropolitan
Scranton	Scranton Broadcasters, Inc.	Metropolitan
Sunbury	Sunbury Broadcasting Corp.	Metropolitan
Uniontown	Fayette Broadcasting Corp.	Metropolitan
Uniontown	Uniontown Newspapers, Inc.	Metropolitan, possibly rural
Wilkes-Barre	Louis G. Baltimore	Metropolitan
Williamsport	WRAK, Inc.	Metropolitan
York	Susquehanna Broadcasting Co.	Metropolitan
York	White Rose Broadcasting Co.	Metropolitan

**SOUTH CAROLINA**

Anderson	Wilton E. Hall	Metropolitan, possibly rural
Charleston	Atlantic Coast Broadcasting Co.	Metropolitan
Columbia	Surety Life Ins. Co.	Metropolitan
Greenville	The Greenville News Piedmont Co.	Metropolitan
Greenville	Textile Broadcasting Co.	Metropolitan
Greenwood	Greco, Inc.	Metropolitan
Rock Hill	Spartanburg Advertising Co.	Community
Spartanburg	York County Broadcasting Co.	Metropolitan, possibly rural

**TENNESSEE**

Bristol	Radiophone Broadcasting Station	Metropolitan, possibly rural
	WOPI, Inc.	
Chattanooga	Unity Broadcasting Corp. of Tenn.	Metropolitan
Chattanooga	WDOD Broadcasting Corp.	Metropolitan
Clarksville	Leaf Chronicle Co.	Metropolitan
Clarksville	William Kleeman	Metropolitan
Jackson	The Sun Pub. Co.	Metropolitan

• • • **FM APPLICATIONS GRANTED** • • •

City	Grantee	Kind of Station
Johnson City	WJHL, Inc.	Metropolitan
Knoxville	Knoxville Pub. Co.	Metropolitan
Knoxville	S. E. Adcock	Metropolitan
Memphis	Hoyt B. Wooten	Metropolitan, possibly rural
Memphis	Herbert Herff	Metropolitan
Nashville	WSIX Broadcasting Station	Metropolitan

**TEXAS**

College Station	Agricultural and Mechanical College of Texas	Metropolitan
Beaumont	KRIC, Inc.	Metropolitan
Brownsville	Brownsville Herald Pub. Co.	Community
Galveston	The KLUF Broadcasting Co., Inc.	Metropolitan
Harlingen	Harbenito Broadcasting Co., Inc.	Metropolitan
Houston	Houston Printing Corp.	Metropolitan
Houston	KTRH Broadcasting Co.	Metropolitan
San Antonio	The Walmac Co.	Metropolitan
Temple	Bell Broadcasting Co., Inc.	Community
Texarkana	KCMC, Inc.	Metropolitan
Wichita Falls	Times Publishing Co. of Wichita Falls	Metropolitan

**UTAH**

Salt Lake City	Intermountain Broadcasting Corp.	Metropolitan
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**VIRGINIA**

Lynchburg	Lynchburg Broadcasting Corp.	Metropolitan
Lynchburg	Old Dominion Broadcasting Corp.	Metropolitan
Norfolk	WTAR Radio Corp.	Metropolitan
Portsmouth	Portsmouth Radio Corp.	Metropolitan
Richmond	Havens & Martin, Inc.	Metropolitan
Winchester	Richard Field Lewis, Jr.	Metropolitan, possibly rural

**WASHINGTON**

Seattle	Queen City Broadcasting Co., Inc.	Metropolitan, possibly rural
Seattle	Evergreen Broadcasting Corp.	Metropolitan
Seattle	Radio Sales Corp.	Metropolitan
Seattle	Fisher's Blend Station, Inc.	Metropolitan, possibly rural

**WEST VIRGINIA**

Beckley	Beckley Newspaper Corp.	Metropolitan
Beckley	Joe L. Smith, Jr.	Metropolitan, possibly rural
Bluefield	Daily Telegraph Printing Co.	Metropolitan, possibly rural
Huntington	Huntington Broadcasting Corp.	Metropolitan
Morgantown	W. Va. Radio Corp.	Community

**WISCONSIN**

Town of Gr. Greenfield	Wm. C. Forrest	Metropolitan, possibly rural
Green Bay	Green Bay Newspaper Co.	Metropolitan
LaCrosse	WKBH, Inc.	Metropolitan, possibly rural
Madison	Badger Broadcasting Co.	Metropolitan, possibly rural
Milwaukee	Milwaukee Broadcasting Co.	Metropolitan
Oshkosh	Myles H. Johns, d/b as Oshkosh Broadcasting Co.	Metropolitan
Racine	Racine Broadcasting Corp.	Metropolitan
Sheboygan	Press Pub. Co.	Metropolitan
Wausau	Record Herald Co.	Metropolitan

**WYOMING**

Cheyenne	Frontier Broadcasting Co.	Metropolitan
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International Standard Electric Corporation



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