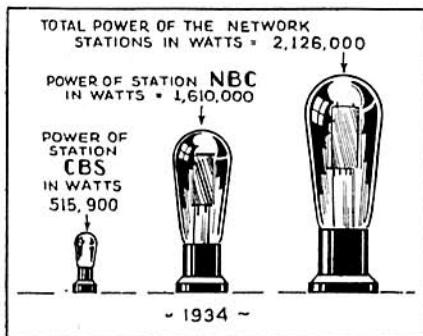


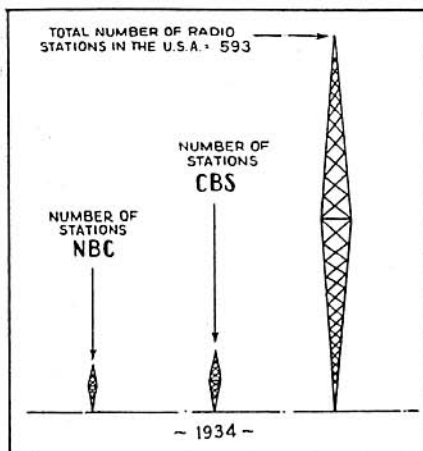
A MODERN PICTURE OF BROADCASTING

Here is the "low-down" on just how the business of sending programs to the eighteen million radio listening families is progressing in the U.S. today. Read these interesting and little known facts and figures.

LESTER F. MILES



The total power of radio stations in 1934.



The number of broadcasters in the U.S.—1934.

A GREAT DEAL has been written about American Broadcasting since its humble beginning in 1920. However, some of the statistics now available show amazing facts and growth in the industry, not the least of which is concerned with the rapidly increasing listening audience.

The audience to which the broadcasters cater is definitely increasing from year to year. We do not seem to have nearly reached the saturation point. An estimate, by the United States Department of Commerce (as of July 1, 1934) shows 18,500,000 radio listening families in the United States. This means an audience of 55,500,000 persons, using the usual figure of three listeners per family. The United States Census, of April 1, 1930, showed 12,048,762 radio-owning homes. An increase of over 8,000,000 radio-owning families in four years.

Growth of the Networks

This growth in the radio audience is a real factor in the past and present development of the broadcasting industry. This growth has encouraged advertisers in general to present an ever-increasing number of fine programs for your enjoyment. In turn,

the revenue thus obtained by the broadcasters is directly responsible for the development, improvement, and quality of entertainment being produced today. This progress can best be shown by figures from the annual reports of the Federal Communications Commission, 1934, and the Department of Commerce, Radio Division Bulletin, Commercial and Government Stations, 1923, as follows:

Total number of Radio Stations in the U.S.A.

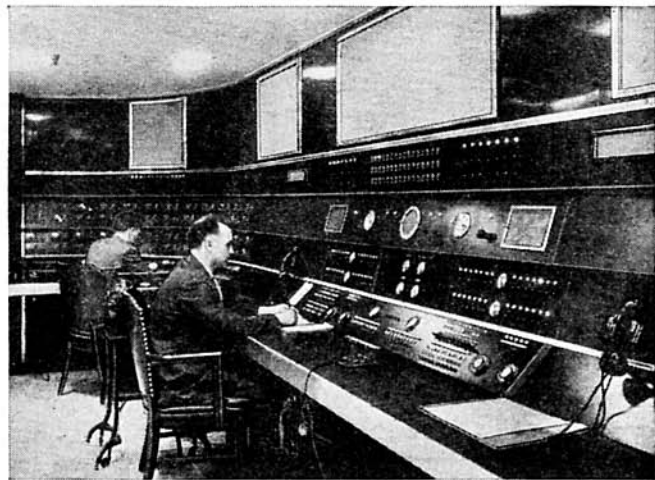
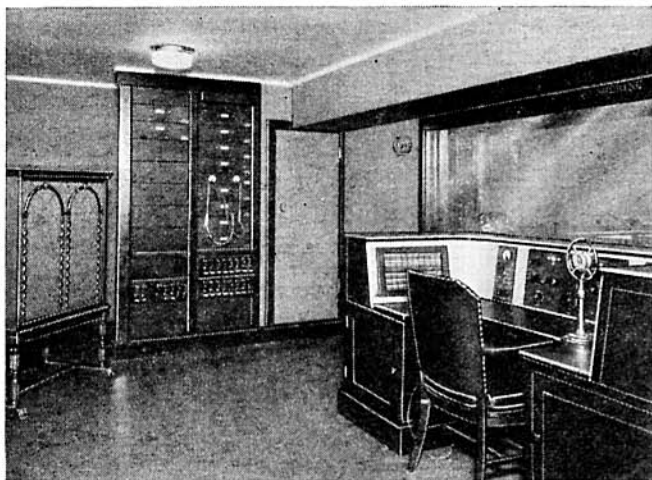
1922	382
1934, as of July 1.....	593

Of this total number of radio stations in the U.S., only 180 are associated with either the National Broadcasting Company or Columbia Broadcasting System networks. The following table will show clearly the expansion of the network system of broadcasting over the period 1928 to 1934.

Year	Number of Stations NBC	CBS	Total Number of Stations
1928	56	36	92
1929	70	54	124
1930	73	74	147
1931	85	81	166
1932	87	87	174
1933	87	83	170
1934 (as of Nov. 1)	88	92	180

The power of these stations, of course, varies greatly. The aggregate
(Continued on page 501)

Two typical views of network equipment in a national chain; the studio monitoring and output control boards.



A MODERN PICTURE OF BROADCASTING

(Continued from page 459)

power in watts is the astounding figure. Once again, for comparative purposes, let us glance at the table below, the figures representing the aggregate power in watts of the network stations.

Year	NBC	CBS	Total Watts
1931	807,750	273,200	1,080,950
1932	891,200	476,950	1,368,150
1933	1,114,800	498,800	1,613,600
1934	1,610,100	515,900	2,126,000

(as of Nov. 1)

The total number of stations shown below, represents the number of outstanding licenses or construction permits issued by the Federal Radio Commission as of January 1, 1934. Seven other stations including three in Hawaii, two in Porto Rico, and two in Alaska are also licensed by the Federal Radio Commission.

There are 101 stations in the U.S.A. licensed to use greater power before local sunset than after. The table given below shows the amount of wattage, in aggregate, of the National Broadcasting Company's networks, the Columbia Broadcasting System's network, and a good comparison of the total wattage represented by the balance of the radio broadcasting stations in the U.S., not affiliated with either of these network organizations. The maximum power in the table therefore is that used during the day, the minimum power that used during the evening hours.

	Watts	Per cent of Total
Power of NBC Stations—Maximum	1,139,250	61.2
Minimum	1,106,800	61.0
Power of CBS Stations—Maximum	491,550	26.4
Minimum	478,800	26.4
Power of other U.S. Stations—Maximum	232,165	12.4
Minimum	227,815	12.6

Source: Federal Radio Commission Report of January 1, 1934. NBC and CBS figures do not include their Canadian or Hawaiian affiliate stations in this table.

Although the NBC and CBS networks are the two important broadcasting networks in the U.S.A., other networks are in existence; some of them affiliate with either the NBC or CBS networks on a part-time basis. The CBS and NBC networks, as to number of stations, have already been outlined. Following is a list of other networks and the number of stations affiliated with these networks.

American Broadcasting System—18 Stations—No other network affiliations. Inaugurated October 14, 1934. (Atlantic States.)
Don Lee Broadcasting System—12 Stations—Affiliated CBS network. (Pacific Coast States.)
League of Wisconsin Radio Stations, Inc.—7 Stations—Affiliated CBS network.
Mason-Dixon Radio Group—5 Stations—No other network affiliations. (Southern States.)
Michigan Radio Network—8 Stations—No other network affiliations.
Mutual Broadcasting System—4 Stations—No other network affiliations.
New England Network—5 Stations—Affiliated NBC network.
Northern California Broadcasting System—2 Stations—No other network affiliations.
Southern California Network—4 Stations—No other network affiliations.
Southwest Network—11 Stations—CBS network affiliations.
Yankee Network—11 Stations—CBS network affiliations. (New England States.)

Two U. S. broadcasting systems have gone out of existence in the past few years, one of them recently. They are:
Amalgamated Broadcasting System—6 Stations.
Iowa Broadcasting Company—3 Stations.

The stations associated with these two networks are in operation either independently or have affiliated themselves with other networks.

Network organizations pay huge annual tolls to the various telephone companies for wire charges. From the only present available figures one can readily understand just how high this aggregate figure must be when all the various networks are taken into consideration. The annual wire tolls for the year 1931 were: National Broadcasting Company—\$2,799,916.71. For the Columbia Broadcasting System—\$1,964,655.68. A combined total of \$4,764,572.39. With the expansion of the network system of broadcasting, the tolls may reach even higher peaks in future years. It is practically impossible to forecast the rate at which this expansion will take place.

This progress is further emphasized by the total investment of capital required by the broadcasters. This investment reached the

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28-30 West Broadway, New York City



MODEL 304

TUBE TESTER

\$19.95

Ready to Operate.

\$15.65
KIT

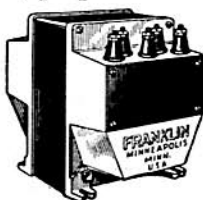
The only tube tester showing leakages above one-million ohms. Neon-light indicator. "Good-Bad" meter. Tests all today's tubes and provides for 50% increase. One-button operation. Etched metal panel. Leatherette case. Counter and portable models.

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GOOD NEWS

ABOUT THE NEW 1935 OFFICIAL RADIO SERVICE MANUAL

The 1935 OFFICIAL RADIO SERVICE MANUAL is now ready for delivery. Turn to the announcement on page 506 of this issue, and read full particulars about this excellent book.

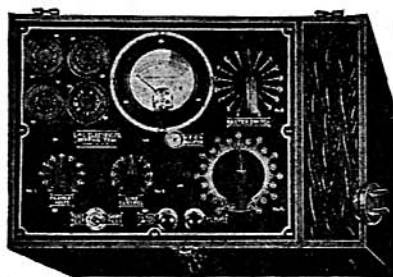
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The greatest value possible for the money. Beautiful quartered oak case, ver-chrome lettered bakelite panel, 3 1/4" D'Arsonval type meter 2% accuracy. Tests all present-day tubes with ample provisions for the future types. Neon leakage and short test of all tube elements. Direct reading. Provisions for resistance and condenser test.

WRITE FOR CIRCULAR ON OUR NEW COMBINATION UNIT. Tube tester and volt-ohm-meter. A complete electrical-radio service outfit in one unit. \$34.90.

A.C. D.C. METER 0-1 MIL-AMP. \$4.90.
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amount of \$25,000,000* in 1931. In 1933 that amount had been increased to \$30,000,000*, a jump of \$5,000,000 during the peak of the depression.

The broadcasting industry has never been marking time. During 1931 and 1932-33, the National Broadcasting Company had planned and constructed the most modern broadcasting studio plant in the world, in Radio City, and the recent increase of power at station WLW from 50,000 watts to 500,000 watts is the result of many long months of experimenting at a tremendous expense.

The radio advertiser has been the one great factor in all this expansion, as his use of the radio has been the source of revenue by which the broadcaster could continue operations. They have spent, according to *National Advertising Record*, \$33,842,485 in the first ten months of 1934 on National Networks in the U.S. alone. Yet the listener is not overburdened with advertising material as an average. In fact, the advertising material has become less in volume than ever, though the commercial programs have been on the increase. No better illustration of this point can be found than in H. S. Hetlinger's "A Decade of Radio Advertising," where he states:

Year	Daytime	Night time
1931	2 min. 35 sec.	2 min. 39 sec.
1932	2 min. 28 sec.	2 min. 39 sec.

*McGraw Hill Co., "Electronics."

These figures represent the actual time of commercial material on a sponsored program of 30 minutes in length, and are compiled from an average of 75 programs annually chosen at random from CBS and NBC network files.

For the sake of better illustration of what the advertiser pays to broadcast a one-hour program over the several networks with headquarters in the East, a tabulation of the gross rate between the hours of 6 p.m. to 11 p.m. has been prepared. This tabulation is as of October 1, 1934.

National Broadcasting Company

Coast to Coast Red Network (64 outlets without WLW)	\$14,120.00
Key Station—WEAF—only	900.00
Coast to Coast Blue Network (61 outlets without WLW)	13,520.00
Key Station—WJZ—only	900.00

These figures do not include charges for talent or program material.

Columbia Broadcasting System

Coast to Coast CBS Network (36 Cities)	\$15,775.00
Key Station—WABC—only	950.00

These figures do not include any charges for talent or program material.

American Broadcasting System, Inc.

(Inaugurated October 13, 1934)	
Basic Network	\$2,180.00
Optional Service	280.00
Total	2,460.00

The program builders have not neglected to keep pace with other phases of the broadcasting industry. Their efforts have been largely guided by the audience response. This audience response, mostly in the matter of mail, varies from year to year, but 1934 has produced a noticeable increase in volume. In 1932 the networks received 4,771,000 communications, and in 1933 this had dropped to 3,175,000. However, for the first ten months in 1934, 4,235,106 communications have been received as compared to 2,586,597 for the January-October period of 1933.

Of all the programs broadcast by the major networks, an average of 85 to 90 per cent annually, are from the studios of the broadcasting companies, and the remainder represents the portion of programs originating at points outside of studios.

Personal contact with the listener is now the aim of the majority of the broadcasters. Much of this has been accomplished by direct surveys through representatives of the broadcasting companies, either by direct contact or via the telephone. Studio audiences are closely tested for their reactions to every type of program. The ever-increasing figures of radio-owning families surely shows how well the program builders are meeting the listeners demands, as erratic and varied these demands and requirements may be.

There has been an increase in the dramatic type of programs as well as the sponsored musical programs of a classical nature during the past year. There is also a present trend toward longer unit programs, best illustrated by the fact that on the national networks of NBC there are now 15 weekly programs of one hour duration.

Many Auto-Radios
Installed Last Summer
Now Need Servicing!

Auto-radios installed during the past six months usually need some minor adjustment—new tubes, new suppressors or other parts. Perhaps the job will even be more difficult—then you'll find how needy the Auto-Radio Service Manual is to repair the job quickly.

\$2.50
LIST



To everyone who now purchases the OFFICIAL AUTO-RADIO SERVICE MANUAL this big 48-page Supplement is issued FREE. Practically all of the latest sets, together with servicing information will be found in these new pages. The new Supplement does not increase the cost of the book to you, but gives you an Auto-Radio Service Manual that is right up-to-the-minute with service notes.

Good Money in Servicing Auto-Radios

If you are overlooking servicing auto radios, you're missing a great deal of business. The auto-radio business had its greatest boom last summer when thousands of sets were sold. By now many of these same sets require servicing and with hundreds of them right in your own community, you can build up a good auto-radio servicing business. In a short time you can easily add 25% profit or more to your regular servicing business.

List of sets covered in the Manual

Aerme Radio Mfg. Co.	P. R. Mallory & Co.
Allied Radio Corp.	Melhorn Radio Mfg. Co.
Atwater Kent Mfg. Co.	Montgomery Ward & Co.
Audiola Radio Co.	National Co., Inc.
Autocrat Radio Company	Nobilit-Sparks Ind., Inc.
Automatic Radio Mfg. Co.	Philco Radio & Tel. Corp.
Carter Genemotor Corp.	Pierce-Alro, Inc.
Century Radio Prods. Co.	Premier Electric Co.
Chevrolet Motor Company	Radio Chassis, Inc.
Consolidated Industries, Ltd.	RCA-Victor Co., Inc.
Crosley Radio Corp.	Sentinel Radio Corp.
Delco Appliance Corp.	Sparks-Withington Corp.
Detrola Radio Corp.	Stewart Radio & Tel. Corp.
Emerson Electric Mfg. Co.	Stewart-Warner Corp.
Fada Radio & Elec. Corp.	Stromberg-Carlson Tel. Mfg. Co.
Federated Purchaser, Inc.	Transformer Corp. of Am.
Ford-Majestic	United Amer. Bosch Corp.
Franklin Radio Corp.	United Motors Service
Galvin Mfg. Corp.	U. S. Radio & Tel. Corp.
General Electric Co.	Utah Radio Prods. Co.
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RC-235

With the annual variation of audience response comes an equal variation of what that audience wishes to hear. These desires and requests change the percentage of time allotted to the different types of programs, and although sometimes these changes are very slight from one year to another, they do denote the careful attention to these requests by the program directors. Following is a list of program types and the percentage of time allotted to each on a national network. Covering a period of three years, the reader may easily note the variation, in the majority of cases entirely due to the audience reaction.

Program	Sept. 1932	Sept. 1933	Sept. 1934
Music	66.3%	72.0%	68.6%
Literature	9.8	10.6	11.8
Lectures	6.9	5.7	6.5
Outstanding Events	3.1	1.3	3.2
Current News	1.0	.7	1.4
Women's	1.7	.8	.7
Children's	2.8	2.9	2.1
Physical Training	2.3	2.2	1.7
Religion	1.8	1.6	1.5
Reports	.6	.1	.1
Novelities	3.7	2.1	2.4
	100.0%	100.0%	100.0%

In order that the broadcasters may be thoroughly acquainted with the reactions of the general public, extensive campaigns are being inaugurated so that as much data may be accumulated as possible. Early in this year, 1934, as an illustration of this fact, the National Broadcasting Company investigated the existing use of radio receivers in daytime as compared with evening hours. As the plans were formulated, it was evident that such a survey would uncover many other facts about radio-families which would aid in the future formation of programs more in keeping with the desires of the listeners. In order that you may understand how thoroughly a survey of this nature is conducted, and the time and labor necessary in obtaining the desired information, there will be 45,216 figures in the final statistical material, out of a necessary 10,000,000 tally marks made by a staff of sixty-three people working a total of 1,189,000 man-hours. A total of 386 interviewers obtained 727,031 half hour unit-interviews in 209 cities throughout the United States. Of these, 94,087 were by telephone, and 632,944 were obtained from weekly schedules, kept under supervision, of 3,043 housewives for 208 half-hour periods each. A terrific amount of work and tabulation—in order that the industry may further develop and bring to you, through your radio, what you like.

Employment in the broadcasting industry during 1933 reached a total of *99,000 employees at the peak of the seasonal employment period. The industry paid these employees a total of *\$114,000,000 during that year. Although there are no direct figures available, the trend during this year, 1934, is very definitely upward, and all indications seem to point to higher employment during the first ten months of this year as compared to the same period of 1933.

The general trend in regard to power of broadcasting stations seems to be towards higher power, as indicated by a number of regional stations increasing their power from 1,000 watts to 5,000 watts daytime. The general feeling is that the same increases will eventually be granted for night time purposes. Since the inception of the Federal Communications Commission, which has replaced the Federal Radio Commission, in part, a feeling of general optimism has pervaded the industry. Every cooperation is being given the new commission by the broadcasters, in order that a complete understanding of the problems confronting the broadcasters may guide any legislation contemplated by the commission through the regular channels.

No one can readily predict what the next few years will bring forth in the broadcasting industry, but if the past few years are any indication, the developments, improvements, and probable program innovations, will truly be startling enough to those of us who are all too prone to take this industry as "something for granted."

*McGraw Hill Co.: "Electronics."

RADIO-CRAFT INDEX

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