

# Radio Pictorial



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Above: S. L. Rothafel, Director of the Capitol Theatre in New York City, is His Own Announcer. Right: Transmitting Apparatus of the New Station in the Aeolian Building, New York City. Programs Are to be Simultaneously Transmitted on 405 and 455 Meters.



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Left: The Big Four of the Second National Conference on Radio, Recently Held at Washington, D. C. From Left to Right Are: W. D. Terrell, Chief of Radio Inspection of the Department of Commerce, Dr. J. H. Dillinger, Chief of the Radio Laboratory, Bureau of Standards, D. B. Carson, Commissioner of Navigation, and L. E. Whittemore, Bureau of Standards. Right: Brig. William Palmer, of the Salvation Army, Giving Instructions on the Care and Operation of Radio Sets to a Class of Salvation Army Lassies, Who Are to be Assigned as Teachers in Radio at the Various Salvation Army Posts.

## Wave-Lengths for Class A Stations Being Assigned

SIX Class A stations, the first of the newly classified broadcasters, were licensed during the past week by the Radio Section of the Department of Commerce. Texas, Oklahoma, Illinois, Pennsylvania, Louisiana and Indiana each received one station with a wave-length exclusive for its respective district.

From the schedule of wave-lengths for Class A stations, printed below, it will be seen that at least 20 distinct wave-lengths in each of the nine radio districts are available for distribution by the local inspectors. Three or four wave-lengths in each district will be reserved for the best of the local stations of this class, these waves not being assigned to stations in the immediately adjoining districts. This gives the better of the A broadcasters a partially exclusive transmitting wave. For example, the wave-length 222 meters may be assigned to stations only in the 4th, 5th and 8th districts; similarly, the wave of 233 meters will be authorized for use only in the 2nd, 5th and 7th districts, while waves 224, 226, 229, etc., in column two, will be allocated in every district. This plan, it is believed, will tend to

prevent considerable local interference, and create virtually an "A-1" class of stations within the general A class.

District radio supervisors, as they are now called, are assigning Class A waves now, but the transfer of B stations from 400 meters will not be made until noon on May 15.

### DISTRIBUTION OF BROADCASTERS BY DISTRICTS

In the distribution of 582 broadcasters by districts on April 1, the 9th, the largest including the states of Indiana, Kentucky, Wisconsin, Illinois, Minn., Iowa, Missouri, N. Dak., S. Dak., Neb., Kansas, Colo., and the upper part of Michigan, is seen to be in the lead with 190 stations, followed by the 8th which includes lower part of Mich., Ohio, W. Va., and the largest parts of New York and Pennsylvania.

The distribution of broadcasting stations in the Nine Radio Districts as of April 1, 1923, is as follows:

Districts	1	2	3	4	5	6	7	8	9	
Class A	27	19	37	31	65	63	56	71	183	Total 552
Class B	1	5	4	2	3	4	1	3	7	Total 30
Total	28	24	41	33	68	67	57	74	190	Total 582

Most of the stations designated here as A are now operating on the wave-length of 360 meters, but will be placed in Class C on May 15, if they desire to continue on 360 meters.

### CLASS A BROADCASTING WAVE-LENGTHS

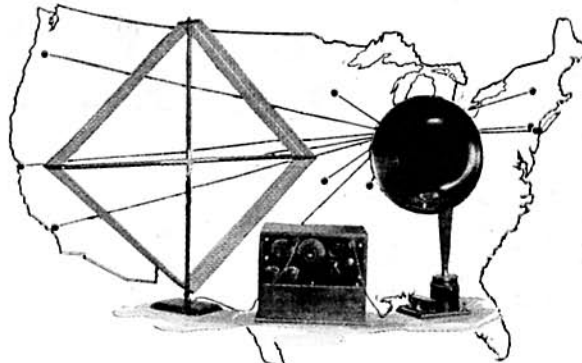
Frequency	All Districts Wave-Lengths	Specific Districts
1350 kc/s	meters—222	(4-5-8)
1340	224	
1330	226	
1320	227	(1-6-9)
1310	229	
1300	231	
1290	233	(2-5-7)
1280	234	
1270	236	
1260	238	(1-3-6)
1250	240	
1240	242	
1230	244	(2-4-9)
1220	246	
1210	248	
1190	252	
1180	254	
1170	256	(1-3-6)
1160	258	
1150	261	
1140	263	(2-5-7)
1130	266	
1120	268	

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# Range, Volume, Portability With a Single Tube!



Any receiving set is vastly improved by Erla transformers, covering a wave-band of 200 to 800 meters. Types AB1, 2, 3, \$4. Reflex, \$5



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Everybody can afford Duo-Reflex! Because of simplest construction, it costs considerably less to build than other circuits of comparable range and volume.

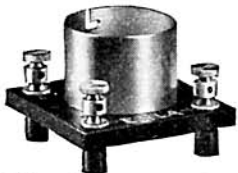
Your dealer will gladly present you with a copy of our Bulletin No. 13, giving diagrams and precautionary notes covering its assembly. Or write us direct.



Erla bezels, in 1" and 1 1/2" sizes, are finished in polished nickel or dull black enamel. Telescoping rim fits any 1/8" to 1/4" panel. List, 20c



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of the studio and the musicians in the dining room. Concerts will be given regularly and an extensive program has been mapped out for the summer season.

The Edgewater Beach Hotel figured in the early history of wireless before broadcasting on the present scale was dreamed of, as the site of one of the Governmental stations operating regularly with Arlington station at Washington. It was here where much of the pioneer work was done that afterward led to greater things in the field of middle western wireless.

Radiophone Station WDAP, Chicago Board of Trade, located at the Drake Hotel, has acquired more space and all the machinery and apparatus used with the broadcasting service are now being installed in one large room. Every piece of apparatus will bear a card indicating exactly what its function is. It will be entirely encased in glass so that no noises will go out with the microphone. There will be a runway entirely around the set so that visitors can have access to the operating room and will be able to see for themselves what a modern broadcasting station looks like.

There will be a very novel and extraordinary antenna tower. It will be a single tower running 135' in the air and resembling a gigantic mushroom. Great things are expected from the new antenna arrangements, and the problem of radio engineers during the summer in the way of obtaining radius because of weather conditions may be overcome. Entertainment is secondary at the Board of Trade station because of the agricultural and live stock and economic service disseminated from the station by the Chicago Board of Trade.

## Wave-Lengths for Class A Stations Being Assigned

(Continued from page 36)

Frequency	All Districts Wave-Lengths	Specific Districts
1110	270	(4-7-8)
1100	273	
1090	275	
1080	278	(1-6-9)
1070	280	
1060	283	
1050	286	(3-8-9)

### SIX NEW CLASS A BROADCASTERS LICENSED

Call	Station	Wave- Lengths Meters	Power Watts
KFFZ	Al. G. Barnes Amusement Co., Dalas, Texas.....	226	20
KFGD	Chickasha Radio & Elect. Co., Chickasha, Okla. ....	248	20
WABA	Lake Forest College, Lake Forest, Ill. ....	266	100
WABB	Lawrence, Dr. John B., Harrisburg, Pa. ....	266	10
KFFY	Pincus & Murphy, Inc. Alexandria, La. ....	275	100
WRAF	Radio Club, Inc., Laporte, Ind. ....	224	10

The above stations were licensed during the week ended April 20, 1923, by the Department of Commerce, and started transmitting on their respective wave-lengths at once.

## New Radio Patents

(Continued from page 49)

action in the reception of Hertzian waves. In the arrangement shown, a mercury rectifier is used, the self-inductance of the antenna being employed as an auto transformer. This is combined with the use of the heterodyne, consisting in the induction of an E.M.F.V. and an auxiliary E.M.F.V. in the main circuit and, if a sufficiently large auxiliary E.M.F.V. is used so that the rectifying

## PHANTOM - CIRCUIT

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