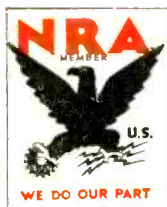


THE APRIL 1934

# RADIO IN INDEX

THE ALL-WAVE RADIO MAGAZINE



25<sup>c</sup>

30 cents  
in Canada  
Including  
Tax

200 Dependable S. W. Stations  
Bad Practices in Verifying  
Addresses of All Stations  
Neutralizing and Aligning  
How Signals are Detected

No. 78

# APRIL DX CALENDAR

Time in EST

## SUNDAY MORNINGS

Mar. 25

4:00-5:00—VE9EK, Montmagny, 1195 (.01)

Apr. 1

1:00-2:00—WTOC, Savannah, 1260 (.5)

WWAE, Hammond, 1200 (.1)

3:00-4:00—KIT, Yakima, 1310 (.1)

Apr. 1-29

3:00-5:00—CMCU, Havana, 1100 (.5)

Apr. 1-15

5:00-6:00—XFB, Jalapa, 1290 (1)

Apr. 8-15-22-29

1:00-3:30—WIBM, Jackson, 1370 (1)

Apr. 15

3:00-4:00—WBWQ, Memphis, 1370 (.1)

Apr. 22

4:00-5:00—WSPA, Spartanburg, 1420 (.1)

Apr. 29

2:30-4:30—CKBI, Prince Albert, 1210 (.1)

Apr. 1-8-15-22-29

12:00-1:00—CMBW, Havana, 1140 (.6)

12:00-3:00—CMCD, Havana, 915 (.5)

2:00-3:00—KPFM, Prescott, 1500 (.1)

3:00-4:00—KGER, Long Beach, 1360 (.1)

3:00-5:00—CFJC, Kamloops, 1310 (.1)

## MONDAY MORNINGS

Apr. 2

2:30-4:00—CHWK, Chilliwack, 780 (.1)

3:45-4:00—KUIJ, Walla Walla, 1370 (.1)

Apr. 16

12:30-1:00—WGNV, Chester, 1210 (.1)

Apr. 2-9-16-23-30

12:30-1:00—KSOO, Sioux Falls, 1110 (1)

## TUESDAY MORNINGS

Apr. 10

1:00-2:00—COC, Havana, 6010

(10c for verie)

Apr. 24

2:00-5:00—XED, Guadalajara, 1155 (.5)

Apr. 3-10-17-24

4:00-4:30—WBNS, Columbus, 1430 (.5)

## WEDNESDAY MORNINGS

Apr. 4

4:30-5:00—WCAL, Northfield, 1250 (1)

## THURSDAY MORNINGS

Mar. 29-May 3

5:00-6:00—WRAW, Reading, 1310 (1)

## FRIDAY MORNINGS

Apr. 6-13-20-27

12:00-2:00—CFCN, Calgary, 1030 (10)

1:00-2:00—KOLL, Council Bluffs, 1260 (1)

## SATURDAY MORNINGS

Apr. 7-14-21-28

11:00-12:00—CMK, Havana, 730 (2)

12:00-3:00—WGES, Chicago, 1360 (.5)

4:00-5:00—XEAO, Mexicali, 56 (.25)

## SATURDAY EVENINGS

4:00-5:30—EAR-58, Canary Isls., 41.5 m

7:00-8:30—EAR-58, Canary Isls., 41.5 m

10:00-11:00—YV1BQ, Caracas, 960-6112

YVQ, Maracay, 6672

# THE MONTH'S CHANGES

## FREQUENCIES

580 CHRC Quebec, Que., from 930  
600 KFQD Anchorage, Alaska, from 1230  
610 NFX Mexico City, D. F., from 810  
767 CMCQ Havana, Cuba, from 775  
780 CKY Winnipeg, Man., from 910  
865 XEMO Tijuana, B. C., from 980  
890 XEW Mexico City, D. F., from 910  
930 CKPR Fort William, Ont., from 780  
940 VOAS St. John's, Nfld., from 810  
1007 CMHI Santa Clara, Cuba, from 1037  
1048 CMBG Havana, Cuba, from 1052  
1048 CMCB Havana, Cuba, from 1052  
1050 VOGY St. John's, Nfld., from 950  
1100 XEA Guadalajara, Jal., from 1000  
1105 XEFG Mexico City, D. F., from 1085  
1130 TGV Guatemala City, Gua., from 1350  
1147 CMBJ Havana, Cuba, from 1140  
1200 XETH Puebla, Pue., from 860  
1215 CMHK Cruces, Cuba, from 1225  
1300 VOAC St. John's, Nfld., from 800  
1310 XEFW Tampico, Tams., from 1280  
1316 CMCY Havana, Cuba, from 1325  
1357 XEFCN Havana, Cuba, from 1375  
1357 CMCR Havana, Cuba, from 1375  
1405 CMCM Havana, Cuba, from 1410

## POWER

546.8 XEY Merida, Yuc., 105 to 10  
560 XEAO Mexicali, B. C., 100 to 250  
585 XEFP Piedras Negras, Coah., 75000 to 50000  
620 KTAR Phoenix, Ariz., 500 to 1000  
730 CMK Havana, Cuba, 3150 to 2000  
757 XEOK Tijuana, B. C., 5000 to 2500.  
780 XEP Mexico City, D. F., 1000 to 500  
820 XEBC Agua Caliente, B. C., 7500 to 2500  
865 XEMO Tijuana, B. C., 800 to 1500  
880 WGBI Saranton, Pa., 250 to 500

890 XEW Mexico City, D. F., 5000 to 50000  
1000 XEL Saultito, Coah., 40 to 10  
1015 XEJ Jaurez, Chih., 500 to 250  
1070 WCAZ Carthage, Ill., 50 to 100  
1100 XEA Guadalajara, Jal., 250 to 125  
1105 XEFG Mexico City, D. F., 500 to 250  
1310 XEI Morelia, Mich., 250 to 125

## NEW

630 XEMZ Tijuana, B. C.,  
740 Modesto, Calif.  
1103 CMHA Sagua la Grande, Cuba  
1185 CMBX Havana, Cuba  
1190 Waterbury, Conn.  
1310 WLNH Laconia, N. H.  
1310 XECW Mexico City, D. F.  
1370 Sheridan, Wyo.  
1390 CMPN Havana, Cuba  
1420 Erie, Pa.

## OWNERS

546.8 XEY Merida, Yuc., to Bartolome Garcia Correa  
600 WICC Bridgeport, Conn., to Southern Coast  
Broadcasting Corp.  
820 XEBC Agua Caliente, B. C., to Alberto  
Aldrete  
890 XEAF Nogales, Son., to Francisco G. Elias  
1430 WBNS Columbus, Ohio, to WBNS, Inc.

## CALLS

580 WCHS Charleston, W. Va., from WOBU  
865 XEMO Tijuana, B. C., from XEAP  
1310 WSGN Birmingham, Ala., from WKBC

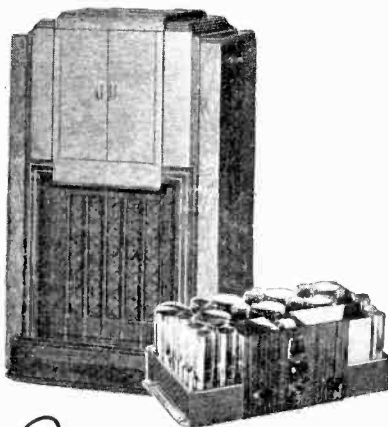
## LOCATION

1370 WRAM Durham, N. C., from Wilmington, N. C.

## DELETE

1000 XEFS Queretaro, Qro.

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For years the performance of SCOTT receivers has *merely begun* at the highest point of efficiency reached by most radio receivers.

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**SCOTT ALL-WAVE  
FIFTEEN**

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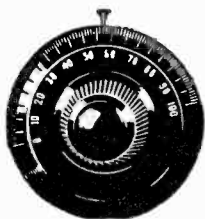
Send me particulars regarding the SCOTT ALL-WAVE FIFTEEN, and PROOF of its vast superiority.

Name .....

Address .....

Town ..... State .....

APRIL 1, 1934

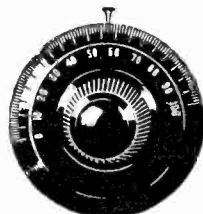


# RADIO INDEX

Reg. U. S. Patent Office

FRED CLAYTON BUTLER

Editor and Publisher



B. FRANCIS DASHIELL  
Technical Editor

PAGE TAYLOR  
Short Wave Editor

TENTH YEAR

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Guest star in recent Auto Show Program

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# The BEGINNERS' STORY of RADIO

PART SEVEN

How Radio Waves Are Transmitted and Detected

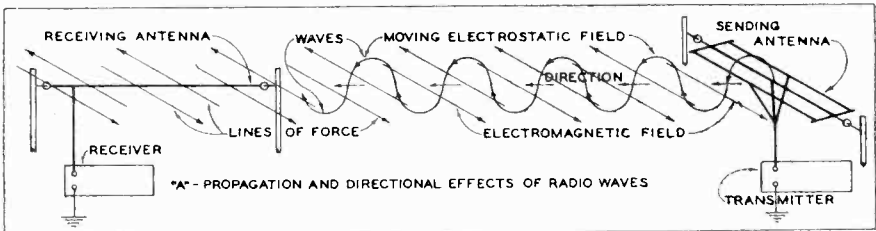
• • • By B. FRANCIS DASHIELL

PERHAPS at this time it will be well to see what happens to the radio wave that is sent out from a broadcasting station. It will be remembered that when a wave is emitted from the sending antenna it is in the form of vibrating energy and motion. This was described in Parts One and Two. And we have learned that a similar wave is picked up by the receiving antenna. It can be tuned and amplified in the radio-frequency circuit of a receiver, as shown in Part Five. But, the reader will ask, how are broadcast waves propagated through the air and finally detected by the radio receiver?

The theory of radio wave motion is

## The Carrier Wave

What happens between the sending and receiving antennas when a radio wave is being transmitted? In the illustration "A", at the right, we see a broadcasting station and antenna. At the left is a receiving antenna and set. The sending antenna is connected to the oscillating circuit of the transmitter; it becomes highly charged with a radio-frequency voltage (high-frequency alternating current). The terrific speed of the vibrations together with the powerful charging current creates an *electrostatic field* about the antenna. This field vibrates with each alternation of the antenna charging current. In



the most complicated feature met with in our study of radio, and if the reader is to understand how signals are transmitted and detected it will be necessary to devote at least a few moments to the subject. Fortunately, however, radio wave forms may be easily illustrated by wavy lines that depict the electrical oscillations. In Part Two several forms of alternating-current wave motions were given; more will be shown in this chapter.

"A" the waves of the field are shown as they are pushed out into space. Each wave is forced one wave length farther away when a new a.c. cycle oscillates through the antenna. Therefore the vibrations in the electrostatic field sweeping out through space appear simultaneously with the cycles of radio-frequency antenna current. This emission, passing out in all directions, is the carrier wave which transmits speech and music

from the broadcasting studio.

### The Magnetic Field

The waves of the electric field move outward like ripples that appear when a stone is thrown into a pond of still water. Accompanying this forward movement is an associated *electromagnetic field*. And were it not for this speeding wave of magnetic energy, radio reception would be impossible. Curiously enough, the magnetic field moves in a direction always at *right angles* to the movement of the electrostatic field. At each reversal (alternation) of antenna current—and the broadcast electric field—the direction of the magnetic field also reverses. In other words, the magnetic field swings back and forth, from right to left, and from left to right. This movement is indicated in "A" by the arrows.

If the magnetic lines of force of a moving magnetic field cut across a wire they will generate an electric current. This was explained in Part Three. And a similar effect occurs in the receiving antenna. When the antenna, shown in "A," is crossed by a rapidly swinging electromagnetic field, a wave of current is induced in it every time the field changes direction. For instance, if a broadcasting station transmits on a frequency of 1,000 kilocycles, its wave will have 1,000,000 complete vibrations or cycles per second. The accompanying magnetic field will also make 1,000,000 *complete* reversals in direction. As these lines of force swing back and forth over the antenna like some gigantic pendulum they induce an alternating current having a frequency of 1,000,000 cycles (1,000 kilocycles)—the same as the original current in the broadcasting system. Any receiver tuned to resonance at 1,000 kilocycles will respond to this wave. And millions of sets can be attached to antennas covering the earth only a few inches apart without diminishing the original strength of the broadcast electric and magnetic fields; all will receive an equal amount of energy from the passing lines of force!

### Directional Effect

Now, if the wire points directly toward the transmitter, as shown in "A," the vibrating magnetic field will cut across the *entire length* of the antenna. A current of maximum strength will be induced. But if the antenna is placed at right angles to its previous position it will then present only a minimum surface to the crossing magnetic field. The wire will be struck by only a few lines of force, and very little current will be induced. This simple phenomenon gives radio its remarkable directional effects and makes possible the *radio compass*.

The induced currents are very weak. It becomes necessary to utilize the principles of radio-frequency amplification (explained in Part Five) to "step up" the original energy to greater strength. The resulting signals, which are greatly amplified radio carrier-waves, vibrate at terrific speeds. Neither the human ear nor mechanical devices can respond by vibrating at similar speeds. The *inaudible* signal, when delivered from the output of the tuned r.f. amplifying circuit (shown at "E" in Part Five), must be altered in form and slowed down to an *audible* rate before it can be used to produce sound. This, then, is the function of the *detector*.

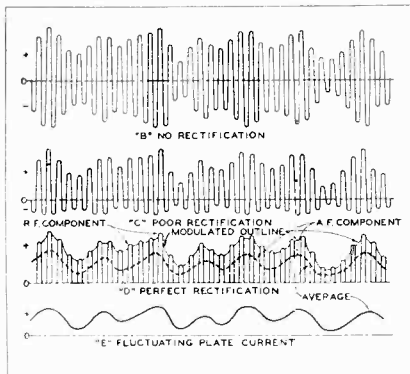
### The Detector Tube

The first part of this series explained that a radio receiver is quite similar to a radio transmitter. Its tubes perform exactly the same duties as the much larger ones in the broadcasting station. But they operate in a reverse arrangement. However, an additional tube is used by the receiver—the detector tube.

The detector *rectifies* or *demodulates* the modulated radio-frequency alternating current wave received in the antenna by separating the audio frequencies (created by the microphone) from the radio frequency carrier wave (created by the transmitter). A "scrambled" or modulated carrier wave is shown at "E," Part

Two. As a result the current flowing from the detector tube toward the loud speaker will be similar to the microphone current ("D" in Part Two).

When we studied the electron tube in the preceding chapter we did not learn how the tube operates to *detect* radio waves or signals. The name "detector" really is a misnomer, for the tube actually is a rectifier. It takes an alternating current and changes it to a pulsating direct current. But these pulses occur at the same intervals as the alternations in the alternating current. They are too fast to produce audible sound vibrations in the loud speaker. The *average* of these pulses provides a slowly fluctuating current that surges the same as the current flowing from the microphone. This current can be amplified further by the *audio-amplifying* circuit. Any degree of energy can be developed for the operation of loud speakers at great volume.



### Rectifying the Carrier

"B" shows a typical modulated radio-frequency carrier wave; it is also similar to the wave form shown at "E," Part Two. This inaudible wave is made up of two halves; the lower—negative; and the upper—positive. Each of the two halves—positive and negative—has been modulated equally by the audible microphone current to give it the fluctuating outline that follows the variations

in the microphone current. Each half is continuously balanced or neutralized by the opposite alternation. So the tendency of the slow fluctuations of one half of the carrier-wave *outline* to vibrate the loud speaker cone will be offset by an equal pull in the opposite direction. Therefore, we must eliminate one half of the wave—the lower half, or negative alternation.

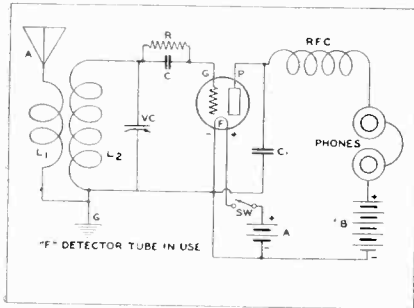
By eliminating one half of the wave more current flows on the retained half than on the reduced half. The better a tube eliminates one half of the wave the more efficiently it rectifies. "B" shows an unaltered carrier wave; "C" indicates the effect of poor rectification; and "D" pictures a wave form that has been perfectly rectified. Elementary diode tube rectification was discussed at some length in Part Six.

### The A. F. and R. F. Components

Ordinarily the grid of a tube becomes alternately positive and negative (see Part Six) under the influence of the r.f. alternating potential impressed upon it. The grid of the detector, however, is held at a constant negative charge; hence it cannot become positive when the positive alternations appear; it simply becomes a little less negative. Therefore, a corresponding *rise* in the positive plate current occurs. This rise fluctuates in voltage and flows from the plate as an average of the rectified alternations, as shown in "D." It is an audio current, similar to the fluctuating direct current coming from the microphone in the broadcast studio.

But the plate current from the detector is made up of both the rectified r.f. alternations and the average of these pulsations, as shown in "D." The r.f. vibrations now are useless; they will be troublesome and must be discarded. These pulsations are called the *radio-frequency component*. Only the average plate current, also shown at "D," and, more clearly, at "E," is desired to operate the loud speaker. This is called the *audio-*

frequency component. How are these two components separated so that the audio-frequency current can perform useful work?



### A Simple Circuit

At "F" we see a typical detector-tube circuit. All the symbols used have been explained in previous chapters. The antenna current passes through the primary coil L1 and induces stronger currents in the secondary L2 which is tuned to resonance by the condenser VC. A selected signal can be impressed on the grid G. But G is given a negative charge. The grid condenser C and grid leak R are connected close to G. The condenser C permits high-frequency alternations to pass to the grid, and holds back any direct current. The leak R permits any excess of electrons on G to leak back slowly into the circuit. Each time G lowers its negative potential when a positive alternation is impressed upon it a certain number of electrons slip across from the filament to the plate and cause a rise in the plate current. The detection method shown here is the *grid leak* and *condenser* scheme. It is sensitive and gives best results on distant weak signals. But it is not so stable when the resistance of the leak R has a high value. The *grid-bias* method is in almost universal use today. The grid negative bias is obtained from a cathode resistor, "C" battery, or a "bleeder" circuit. It is very stable in operation.

### Choking Out the R. F.

The radio-frequency pulsations in

the plate current cannot pass through the radio-frequency choke RFC because of its high reactance (see Part Five) to high speed alternating currents. But the condenser C1 offers a low reactance path to high frequency currents, and becomes the by-passing path by which the r.f. component is turned back into a neutral circuit. The average flow or fluctuating a.f. component easily passes through RFC because of the negligible reactance to low frequencies, but is blocked by the condenser C1 because of its high reactance to low frequencies. Therefore, only a slow, pulsating, fluctuating plate current, shown at "E," passes through RFC and into the remainder of the circuit. The phones, shown in diagram "F," may be substituted by the primary coil of an audio-frequency transformer, so that the a.f. component may be further amplified before passing into the loud speaker.

(Next month we shall follow the audio-frequency current as it passes from the plate of the detector tube, through the audio-amplification circuit and tubes, and into the loud speaker.)

### Queries

1. What is the carrier wave?
2. What is the relation between electrostatic and magnetic fields?
3. How should antenna be placed to receive maximum signals?
4. What part does the detector tube play?
5. Draw sketches illustrating (a) the high frequency wave before it is modulated by the current from the microphone; (b) after modulation; (c) after rectification by the detector tube; (d) the wave that enters the phones or speaker.
6. Why does the detector tube reject the negative alternations?
7. What is the audio-frequency component?
8. What is the function of the grid-condenser? Of the grid-leak?
9. What is the grid-bias? How is it obtained?
10. By what method may the a. f. and r. f. components be separated?

Back issues containing the "Beginners' Story" can be supplied for 25c each or five for \$1.00.



# The SECRETS of DX Success

● ● ● By New Zealand's Woman Champion\*

**E**ARLY in 1930, my husband decided to buy a radio set and, as at that time I was not greatly interested, I left the selection of a receiver to him. A standard t. r. f. Atwater Kent, Model 60, was decided on, employing three 24's, two 27's, two 45's, and one 80—a total of eight valves.

I will never forget the thrill of hearing my first American during one Sunday evening, shortly after we got the set. I was counting the number of stations that could be heard and happened on the station just as the announcer said "WOAI, San Antonio, Texas, on a test program." This was about 9:15 p. m. and we listened until the station signed off at 10 p. m. At this time the receiver was working on a temporary aerial approximately 40 feet long and 10 feet from the ground.

After logging my first American I became very keen to see how many stations I could log, and my husband decided that if I was going "station-hunting" a better aerial would be necessary. So two 32-foot masts were erected and an L-type aerial 100 feet long, running in an east and west direction, was slung between them. The earthing system is an old car radiator, buried five feet under the ground within eight feet of the receiver. Water is periodically poured down a pipe attached to the radiator to keep the surrounding earth damp.

With this equipment signal strength improved considerably and many stations were logged where previously they could not even be heard. At this time I had no thought of writing for verifications and was quite satisfied just to log the stations heard. In twelve months, from July, 1930, I logged 92 American and Australian stations, several of which to my sorrow I have never heard again.

## Gets the DX Fever

About this time the New Zealand DX Club was formed and through reading the DX notes in the Radio Record, I decided I would become one of the DX fraternity, get down to serious listening and write to all overseas stations heard.

Practically all my DXing is done on Wednesday afternoons—our local half-holiday—and during the weekends, as I am at business all the week and am usually too tired in the evening to do much dial twirling, apart from the fact that most of the Americans close down early in the evening.

I do not consider our locality, which is about 2 miles from town and about 150 feet above sea level, a



*A Cleveland girl who is making good in the big city. Connie Gates, formerly of WHK, now appears before a nationwide Columbia audience each Tuesday and Thursday at 12:15 p. m. EST. She plays her own piano accompaniment.*

particularly good one for DX reception, as power interference is very troublesome. I consider the summer and autumn months the best for American reception as many DX programs are then heard. During these months, also, several stations have been heard on their early morning programs, namely, KOAC, KFAB, KMMJ, KMO, CKMO, and several others which I have not heard at any other time. I also find the autumn months favorable for the reception of Eastern American stations and quite a few are heard between 3:45 p. m. and 4:30 p. m. during the months of April and May.

Just recently my husband erected a second aerial of the L-type, consisting of a single wire 155 feet long at an average height of 40 feet, which, with the lead-in, makes a total length of 200 feet. The aerial now runs north and south. At this time headphones were fitted as the small members of the family objected strongly to "static noises." Up to this time all DXing had been done on the speaker but now, with the new aerial and phones, I hope to increase my verifications considerably.

I think DXing is a wonderful hobby but to obtain success I consider one needs, firstly, a good receiver; secondly, patience, and last but not least, a very tolerant family.

\* (Editor's note: The winner of the "Lady DXers' Cup" of the New Zealand Radio Club, Mrs. C. H. Judd, Tauranga, N. Z., writes the above interesting story of her experience for the New Zealand Radio Times. Mrs. Judd submitted 160 stations.)

### THE WORLD LOG

The May issue of this magazine will contain all the broadcasting stations of the world which have heretofore appeared in our quarterly, The DX Log of the World. The usual order will be resumed in the June issue.

## Cleaning up the Outlaws

THE Government has begun to clean up the unlicensed stations in the state of Texas. In Abilene, one Curry Jackson has been convicted on two counts—operating a radio station without a license from the FRC, and operating a station with an unlicensed operator—and sentenced to ten days.

In Waco, Fred Bitterman and Albert Cox were convicted of similar charges. They were found guilty by a jury of the charge that they had been operating a station at Temple with the call TEM-TEX without a license.

These convictions upset the defense of unlicensed stations in Texas that their low power kept their signals within the state and hence were not subject to interstate control. The investigators have now proceeded to Austin to investigate reports that three unlicensed stations are being operated there. From Austin they will go to Houston and Fort Worth.

Judge E. O. Sykes, Chairman of the FRC, made the following statement: "Under the Radio Act paramount consideration must be given to listeners. It is manifestly impossible to provide first-class reception from authorized stations, however modern their equipment or rigid the rules, if the signals of licensed stations are to be disturbed or distorted by signals from illegal stations.

"At the present state of the art it is not possible to erect a station for broadcasting purposes, operating at night, who signals will not either extend beyond the borders of any state or be capable of causing interference with the reception of stations located outside that state, despite the use of low power. If the signals are not clear enough in an adjoining state to be heard by the general public, they will undoubtedly cause interference and play havoc with signals of authorized stations operating on the same or adjoining frequency."

# VISITING *with the* CELEBRITIES

• • • and "BETTY"

**M**ILTON J. Cross, who tells the story of the opera during the broadcasts from the Metropolitan Opera House every Saturday afternoon over a combined NBC-WEAF-WJZ network, is probably the oldest radio announcer in the world in point of service, although a relatively young man in years. He just happened along when radio was uttering its first infant squawls. An adventurous friend of his had built a receiving set and induced Milt to listen to the noises he was getting through the earphones. The latter decided he wanted to give radio a try.

The day after the assault on his eardrums, Milton hot-footed across the Jersey meadows to Newark and the station whose growing pains he had heard on the crystal set. In those early days of radio, the WJZ studio was housed in a partitioned-off portion of a restroom in the Westinghouse Electric and Manufacturing Company's plant in the outskirts of the Jersey metropolis. In this cubbyhole were the program, continuity and announcing departments, all three managed and staffed by two men. It was their job not only to announce programs, suggest and arrange musical numbers, write continuity and, incidentally, to fill in with a little vocalizing or piano playing whenever someone failed to show up on scheduled time as often happened.

The harassed "staff" welcomed Milton with open arms and some amazement, for in those days it was an unusual event for a person who really could do something to volunteer his or her services for radio. Really good artists turned up their noses at the noisy infant, just as they had years before when the movies were struggling for a start.

## Takes the Air

Milton J. Cross went on the air for

the first time on September 15, 1921, not as an announcer, but as a tenor soloist, and for the next few months was heard a number of times in song programs. At that time music was, and it still is, his hobby. He had taken a course at the Damrosch School of Musical Art, graduating with a diploma which stated that he was a duly accredited musical supervisor for public schools. He never made use of his diploma, but went into church singing. He sang with the Paulist Choristers and toured the country with that organization. He also was a soloist at the First Presbyterian church in Manhattan, and was a member of the quartet at the Progressive Synagogue in Brooklyn.

With such a musical background, it was little wonder that the hard working "staff" at WJZ was glad to welcome Milton with open arms.

During those few months, the pop-



Milton J. Cross

ularity of radio grew by leaps and bounds, and while Milton claims there was no connection between the two events, the fact remains that within six months after he started singing on the air, business at the station had increased to the point where two announcers were required to handle the growing number of programs—and that's where Milt's radio history really begins.

#### Becomes an Announcer

He was taken on as the second announcer on March 13, 1922. His musical accomplishments undoubtedly helped, for he often was called on to fill in with entertainment. But radio was acquiring sophistication along with size, and after WJZ joined the National Broadcasting Company more and more new departments were added which took much of the burden off the announcer.

As radio progressed, it became a profession instead of a toy, and artists began to treat it seriously. Soon there was nothing for Milt to do but announce, and he began to concentrate on that. His idea was to make announcing as much of an



*James Melton*

art as singing, and without doubt he succeeded.

Milton is proud of the gold medal which was awarded him in 1929 for diction by the American Academy of Arts and Letters. "All my life I have been what is termed a slow thinker," he told the Academy members in accepting the award, "and this, I am sure, has been reflected in my radio voice."

Milton is a real New York product, born there and educated at DeWitt Clinton High School before attending the Damrosch School of Musical Art. He is six feet, two inches tall, and weighs 208 pounds. He smokes cigars, is quiet, hates exercise, and takes his fan mail very seriously.

#### Sang His Way Up

A circuitous path brought James Melton from his first appearance as a soloist in a church of Citra, Florida, to the microphones.

Jimmy first lifted his voice as an infant in Moultrie, Georgia, in 1904. The family moved to Citra where the father continued in the lumber business and young Jimmy started to school. The Meltons settled in Ocala, Florida, and Jimmy was enrolled at the University of Florida. Then his gradual trek northward began. He attended the University of Georgia and earned spending money by playing the saxophone in a college dance band. His next stop was at Vanderbilt College, Nashville, Tenn., where he played football and studied voice under Gaetano De Luca, opera singer.

With the passing of school days, the young tenor-saxophone-player decided New York would be his next training ground. It wasn't quite as easy as breaking into colleges. Secretaries didn't seem a bit interested in Jimmy's pleas for an audition with Roxy, the impresario. So Jimmy just went ahead and sang in the hall outside of Roxy's office. Within a week, he had been added to the Roxy gang.

#### Likes to Cook

Jimmy is six feet, three inches tall, weighs 196 pounds, and is married to

the former Marjorie McClure, a writer. He has an unusual warmth and range of voice, and possesses an almost boyish enthusiasm for hobbies in many fields. His favorites are cruising on his fifty foot yacht, "Melody," and his talent for cooking. He likes nothing better than acting as host and chef for a group of congenial friends, afloat on the "Melody," or in his attractive apartment overlooking East River and Long Island Sound. Another hobby is hats, of which he has 35, but not the Ed Wynn kind. He also collects glassware and pewter and has a large number of pieces of these, many of them of great value.

In addition to Jimmy's broadcasting activities, he is also in demand for concert appearances, one tour with George Gershwin having taken him 8,000 miles to 28 cities in as many days.

Jimmy's pet peeve is draughts. The young tenor will never visit a restaurant or a supper club the second time if there is the faintest suspicion of draught hitting him at any time on his first visit. Laryngitis induced by a draught once caused him to cancel a \$3,000 engagement, and since then he has had more affection for a rattle snake than for a draught.

\* \* \*

Many of the outstanding radio programs are using guest stars, and where radio artists used to be booked for 13, 26, or 52 weeks a year ago, many of them now rotate from one program to another. The call for Hollywood and stage celebrities has never been louder or more insistent.

When Mae West was approached to do a series of programs, she said she didn't care to risk being a bad radio star because it might damage her film following. They finally talked her into agreeing to take a huge fee, but it can be noticed that Miss West has never bowed in as a steady radio performer. And she may be the wisest of the lot.

Take the average film star as an example. He or she may be drawing



*May we present the charming young singers whose voices blend for Ted Fiorito's Old Gold program? From the left as usual: Blonde Marjorie Briggs, brunette Dottie Hill and auburn-haired Betty Noyes. They broadcast Wednesdays from 10:00 to 10:30 p. m. EST, from the studios of KHJ in Los Angeles over a coast-to-coast Columbia network.*

a salary of \$4000 or \$5000 a week for 40 weeks. Few of them get \$5000 as radio guest stars and most of them are paid about \$1000 or \$2500 for a one-time appearance on a radio program.

Before facing the microphone they may have big followings. After making a guest appearance, they may be considered failures. The reason? Bad material, bad presentation, bad judgment. Not a few of the guest artists have been pronounced "rotten" by listeners. A reputation that a star has labored years to build up in motion pictures may go out the window in one half-hour radio program.

Some of them, like Helen Hayes and Walter Huston, have added to their prestige by their radio appearances. Most of them have not. Not

a few movie comedians have been pretty sorry radio entertainers. They all take their futures in their hands when they face the radio audience.

The demand for them, however, keeps up. More programs today than ever before feature guest stars. The average sponsor looks to the one-time appearance idea as something he wants. In many instances, he passes up well-established radio stars with known followings for the guest star with a "name."

\* \* \*

If the Revelers quartette can spare an extra six weeks from their schedule this summer they will accept an offer from a London supper club impresario to stop over for an engagement on their way to Russia, which they will tour.

\* \* \*

George Gershwin, famous composer, is famous for something else than his modern music. He's famous for his "stripes." He always wears striped suits and shirts, and he'll never really be comfortable in evening clothes until striped coats are considered the thing.

\* \* \*

The costumes which Jane Froman designed for her appearance in the "Ziegfeld Follies" have brought so much favorable comment from the ladies in the chic Follies' audiences that a smart Fifth Avenue modiste has persuaded Jane to act as critic-at-large for her new creations.

\* \* \*

Jessica Dragonette is a very discreet young lady as well as a soloist par excellence. An interviewer asked the star who was the handsomest man in radio. "As I haven't met them all, I can't answer that," was the way Jessica diplomatically sidestepped the query.

\* \* \*

Frank Luther believes that all work and no play makes Jack and plenty of it. Between broadcasting, recording and movie shorts, he succeeds in keeping the big, bad wolf barking up another tree. And for recreation he

gets out a weekly radio column.

\* \* \*

Albert Spalding added another duty to his extensive radio and concert schedule recently when he began teaching violin at the Juilliard School of Music. Incidentally, Albert served with the A. E. F. in Italy under Major Fiorello LaGuardia, the present Mayor of New York.

\* \* \*

The old air thriller, "The Shadow," is being condensed into a vaudeville skit, but the original "Shadow," Frank Readick, will not play the lead because the "March of Time" keeps him in New York Friday nights.

\* \* \*

Frederic William Wile admires Arthur Pryor, director of the March of Time program, more than anyone else in radio . . . Colonel Stoopnagle names Harry Langdon as his favorite film comedian . . . George Hall's wife is an interior decorator, which accounts for many antiques in the apartment . . . Mark Warnow is an amateur hypnotist and magician, one room of his home being devoted to an array of magical contraptions that would delight the heart of Thurston.

\* \* \*

Fred Waring, who recently leased a home in Bronxville, N. Y., spends his spare time arranging (of all things) furniture . . . Betty Barthell lives with two other girls in a Greenwich Village apartment . . . Since their inception four years ago, Gertrude Berg, who plays Molly in the sketches, has written over seventy characters into The Goldbergs . . . Jack Fulton was trombonist with Paul Whiteman for four years before the bandmaster discovered he could sing . . . Helen Pickens, of the Pickens Sisters, recently married Salvatore M. Curioni, engineer and war ace of the Italian Flying Corps.

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Don't try to attach your phones to the speaker as the smaller coils of the phones will quickly burn out.

# The Pursuit of TELEVISION

It's Still a Will-o'-the-Wisp

**A**LTHOUGH a few stations are sending out television impulses, the science stills seems to be very much in the laboratory stage. In its sixth annual report, the Federal Radio Commission has this to say regarding the present state of the art:

"While no startling inventions have come to light in television during the past year, the progress that has been made has been marked by a steady improvement in the detail of pictures transmitted. This improvement has been made possible through increased attention to technical details in the optical pick-up system, in the photoelectric cell and amplifying systems, and in the actual modulation of the radio waves emitted. This development has in a general way paralleled the progress that was made in the early stages of sound broadcasting.

## The Television Band

"Much attention has been given to the part of the spectrum in which television emissions will best fit. Although there are at the present time four 100-kilocycle bands between 2,000 and 3,000 kilocycles assigned to television, it has been evident for a considerable time that this space is not sufficient to meet the requirements of this new and growing art to furnish entertainment to the public. The experimenters have turned to the unexplored regions above 30,000 kilocycles. The work at these frequencies has shown signs of real promise as a future locus for this service, and the Federal Radio Commission has assigned wide frequency bands in this region for experimental work in television. Proposals have been received by the Commission from the industry to increase the space in this band in order to protect the future of television.

## The Present Status

"Although considerable progress

has been made in scanning methods, using both the mechanical type of scanning and the electrical or so-called cathode-ray type of scanning, it appears that many new developments must still be made before television can be accepted as a satisfactory entertainment service. While attempts have been made to broadcast scenes covering large areas, the majority of television stations have limited their transmissions to faces of one or two performers at most. This type of program, while of interest because of its novelty and usefulness for experimental work, has a very small amount of sustained 'look-in' interest. Such programs fall far short of what the public has been led to expect in the way of entertainment considering especially the fact that the technical improvements made during the last few years in sight-and-sound motion picture technique have created in the mind of the public a desire for very high technical standards of performance."

## A SHORT WAVE LOG

The April-May-June issue of the DX Log of the World will be entirely devoted to the short waves. This issue will constitute what we believe will be the finest Short Wave Log ever published. On sale at all newsstands April 15 at ten cents.

# LETTERS to The Editor

## ● ● ● Apropos of RADIO

**T**HE many letters that have come to us relative to the article last month, "What's the Matter with Radio," indicate that we touched a spot where thousands of listeners have been feeling pain. Nearly all of these letters begin with the statement that the writers believe in the so-called American system of broadcasting as opposed to a license on receiving sets but, without exception, the writers feel that many of the sponsors are greedy in their demand for space on the program and that they thereby defeat their own ends.

Some sponsors recently have been almost demanding that their listeners go at once and purchase their products "if they want the program continued." Methods such as these can

only cause resentment against the advertiser instead of the good-will for which he is paying. As some of the writers point out, many sponsors have learned to sugar-coat the advertising dose so that it is not at all unpalatable but a large number are still presenting their "plugs" raw and undiluted.

No doubt many stations have been hard-pressed to make ends meet the last few years and have grabbed at any and every sort of advertising to eke out their income. Golden eggs are all right when they aren't secured by killing the goose. All that a station has to sell to an advertiser is its audience. The most important obligation of a station to itself, therefore, is to hold its audience. It takes more nerve than most people possess to get up and walk out on a show that displeases them—but it is very, very easy to turn the dial.

The following letter is typical of many.

### Objects to Chiseling

"I'm glad you got all 'het up' about radio in that article about 'What's the Matter with Radio,'" agrees Marian Canniff, 2112 S. Cedar St., Lansing, Mich. "Personally I can just about always find something to my liking on the air. I am a strong booster for the American system of broadcasting but I could find plenty of room for improvement in the methods of presenting the necessary advertising. Right this minute I am listening to the Cities Service program. They advertise, but I have never yet felt the least resentment toward their 'plugs.' The Chevrolet program, too, who could resent that advertising? There are others—in fact it seems to me that most of the big concerns are doing much better on their plugs. But what makes me just about burn up is the habit so many stations have



*The famous A & P Gypsy tenor, Frank Parker, has rejoined that popular program and may be heard every Monday on the National Red at 9:00 p. m. EST. Parker, who had been the featured tenor of the program for several years, withdrew last December to join the Revelers Quartet. Now he is holding both jobs.*



of cutting both ends of a program to insert that local 'blurb'. And WJR is still one of the worst offenders I know of. I steer clear of that station for Blue Chain programs if I can possibly get what I want on another station. I want to be sure I am going to hear the whole program."

### One Tube Sets

Relative to mention in these pages regarding disputed reception of overseas stations on a one-tube set, the Secretary of the New Zealand Short Wave Radio Club, O. B. McDonagh, writes: "Reception on one-valve in New Zealand is far from an uncommon occurrence. Personally I have myself received Schenectady on the occasion of the broadcast of Kingsford Smith. This was a Schnell circuit on a breadboard. In the old days, many of us received London, favorable nights of course. One of my members who is Chief Engineer on an overseas boat, always uses one valve. As a matter of fact, the receiver I am using is a humble little two-valve battery job and many of my members are in the same position." Mr. McDonagh adds that the NZSWC was the first national listeners Club to be founded in N. Z. "where we appear to be favorably situated as regards reception." He would like to introduce some American listeners to penpals in New Zealand but unfortunately does not give his address and we are unable to locate it.

"I am going to offer a suggestion to your other readers," advises Robert L. Griffin, 5053½ Montezume Ave., Los Angeles, Calif., "whereby they may get a little more enjoyment out of RADEX, if possible. In the Index by Call Letters, I block the small square out in red and likewise the Index by Frequencies. This enables anyone to see immediately what stations they have listened to and also adds incentive to see if you can fill a channel. The blackout out of the call letters does not interfere with their legibility and, if done neatly, gives a business like look to others and impresses them with the importance of



*Here we have those entertaining explorers of the 25th century. Wilma, Buck and Dr. Huer from the "Buck Rogers" program which you may hear daily except Saturday and Sunday, over the Columbia from 6:00 to 6:15 p. m. EST. Adele Ronson plays the part of the adventurous "Wilma Deering." Curtis Arnall is "Buck" and Edgar Stehli is the super-scientist, "Dr. Huer." They are examining a rocket-gun for the annihilation of their enemies on the various planets.*

DXing. I wish I had been a reader of RADEX longer, but you may rest assured that you have a lifetime reader now. Your publication of Police Broadcasting Stations was very interesting, as I am employed on the Los Angeles Department assigned to the Robbery Squad. I use a Zenith all-wave Model 288-A."

### Learning Code

A lot of our readers would like to learn code so that they may read the messages they hear on the air. Others of course would like to know code so that they might take the examination as an amateur. Many of them write us that they fear that they could not learn the code. They will be interested to know that nine-year-old Jean Hudson captured the World's

Championship in the 20-word-per-minute class at the Chicago Convention of the hams this year. She turned in *perfect* copy in a five-minute test. Jean now operates her own station with the call W3BAK. Jean studied code through the Candler System and after two months study copied code at the rate of 30 words per minute for five minutes.

"I enjoy reading the accounts of other listeners," begins Weston E. Taylor, 317 Clifton St., Brush, Colo. "I note that some of them ask other fans to write them and they promise to answer. Well, I've written three of them and not a reply and I enclosed postage too. I wish you'd publish a note asking them not to promise answers if they don't mean it." We have had so many complaints on this score that we have about decided to discontinue this service. It is too bad as we know many cases where interesting friendships have been built up through correspondence thus invited. But like so many other good things the selfish few spoil the pleasures of many.

Some of the troubles of the western fans are set forth by Homer F. Gosney, 431 S. Elena Ave., Redondo Beach, Calif. "XEAE is completely annihilating our reception from KDKA. XEBC is raising hob with WCCO and on many receivers is blanketing WHAS. It may be hard for the Easterners to believe, but JODK-2 is interfering with reception from KGBU and, morning after morning, KFAB is badly distorted by interference from JOHK. XGOA is giving WAAW plenty of distortion after 4:00 a. m. PST. JOBK creates a heavy heterodyne to the discomfort of KGU." Aside from this and the interference of local stations, everything is all right, except for the code from the ships at sea.

#### A Bad Spot

"In Highland Falls, N. Y., in the Hudson Valley, there exists an unusual disturbance to radio reception in the form of frequent and extreme fading on all frequencies, with con-

sequent distortion to voice and music reproduction," reports W. G. Odenwalder, Care American Tel. & Tel. Co., 32 Sixth Ave., New York, N. Y. "The writer has visited several homes in this town and found the same trouble in all instances, proving that the fault is not in the receivers. I would especially appreciate hearing from fans living in the territory in question or from any one who can suggest a possible cause of this trouble and a remedy." This is an interesting phenomenon and we hope some of our readers in the vicinity of Highland Falls will write Mr. Odenwalder regarding their experience, whether good or bad.

Our readers in Great Britain will be interested to know that we have arranged to carry a stock of RADEX, the DX Log of the World and the Time Converter, with Arthur C. Baker, 10, Lansdowne Road, Sale, Cheshire, England. Mr. Baker will receive a supply of each issue and should have them on hand well in advance of the first of each month. Readers in continental Europe will also be able to secure copies from Mr. Baker more quickly than from the U. S.

A new radio book with the intriguing title, "28 Tested Methods of Making Extra Money," has been published by the National Radio Institute, Washington, D. C. They have collected a number of simple tasks connected with radio by which handy men may add to their income. Among them are Erecting Aerials, Installing

### LEARN RADIO CODE QUICKLY AND EASILY AT HOME *and become a Skilled Amateur or Radio Operator . . .*

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### With the Clubs

Robert H. Weaver, President of the National Radio Club (603 W. Market St., York, Pa.) writes us that his club has taken over the membership of the Atlantic Radio Club and the Central DX Club. He calls our attention to the fact that a number of the clubs are working in cooperation in the matter of DX programs and in this way are doing a great deal to prevent the clashing of DX schedules. Some of the clubs are joining together to stage certain DX programs and frolics. This is a step in the right direction and will certainly help to eliminate the duplication in the matter of requests upon stations for specials. In this connection Robert J. Gilchrist, Summit, N. J., tells us that The Interstate Radio Association of Summit, N. J., the Greater Chicago DX Club, the Anglo-American Radio Society and the North American Radio Club of Hackensack, were all combined with the Globe Circlers Radio Club into the Globe Circlers Radio DX Club with headquarters at 40 Linden St., Hackensack, N. J., with a combined membership of 112. A four-page mimeographed bulletin is mailed to members twice monthly with tip-cards on alternate weeks.

The "Flatbush DX Club" is the latest organization to try its wings. Fred Maybarduk, 180 Woodruff Ave., Brooklyn, N. Y., is Chairman. They plan to publish a ten-page magazine each month with a yearly subscription price of 60 cents. There will be no initiation or membership fees. The activities will cover all the waves.



*Introducing Carson Robison and his Buckaroos, interpreters of hill-billy tunes, cowboy ballads and native folk-music. They are heard over the WJZ-maze of the NBC each Sunday afternoon at two o'clock EST. Top row, left to right: John Mitchell and Bill Mitchell. Bottom row, left to right: Carson Robison and Frank Luther.*

As we understand a letter from C. E. Sevier, 1515 Hanover St., Baltimore, Md., Station WCBM gave as first prize on a recent DX program for the Newark News Radio Club, a year's subscription to RADEX which was bought for the purpose by 17 DXers in Baltimore. He suggests that other stations which desire to receive reports on their DX programs, do likewise.

Radexers in Holland, Michigan, have formed the Lake Shore Radio DX Club with twelve members.

### When KDKA Wandered

"I notice letters from old-timers. Well, I'm a real old-timer too," muses R. W. Schofield, Wilma Plunge, Missoula, Mont. "I can remember KDKA when we had to follow him all over the dial on one broadcast and before there was any F. R. C., even before a station had to have a license. My

first set was a crystal detector with about four tubes of amplification put together by myself from somebody's diagram. The next was a Crosley Super-Trirdyne put out in 1924 and I recall the furore created in our neighborhood when I pulled in CMAB in Santiago, Cuba, and I had all the neighbors in to hear it."

We hope this item will come to the attention of someone who is really in need of A and B eliminators and hasn't the money to buy them. J. Edward Diehm, Jr., 424 Walnut St., Pottstown, Pa., writes that he has A and B eliminators which he has been using on his Zenith, Model 27, that he will give to someone who can make use of them. They are in good condition but of no further use to him as he has a new Model 95 Philco. All he asks is that the recipient pay the express charges. We are not quite clear from Mr. Diehm's letter whether he also offers his Zenith set. There must be hundreds of families in or near Pottstown who would appreciate the opportunity of accepting Mr. Diehm's generous offer. He adds the postscript that he would like to hear from other owners of the Model 95 Philco.

Last month we mentioned the fact that F. Wiseman, 13 Kyle St., Scotswood, Newcastle-on-Tyne, England, makes records of his reception and forwards them to the stations heard as proof. Mr. Wiseman now writes us that he has sent records to about 70 U. S. stations but that some of them have failed to verify. Naturally enough he finds this hard to understand. He has recorded stations as distant as KNX. He recorded the addresses of President Roosevelt on Dec. 28 and again on Jan. 30 and sent the records to him. He has received an acknowledgment from the Secretary of State.

"I wish to congratulate Mr. Dashiell on his very fine articles entitled 'The Beginner's Story of Radio,'" writes Rudolph Kure, Cincinnati, Ohio. "It surely is a wonderful work. Its power and cleverness lies in its simplicity. Never before have I seen matters per-

taining to radio fundamentals told in such plain and easily digestible language."

Wilfred D. MacDonald, Meadowville, Pictou Co., Nova Scotia, is anxious to hear from some reader in or near Eagle Pass or Del Rio, Texas. He is greatly interested in XEPN and XER.

"Your DX Log of the World sure helped me the first time I used it," admits Bill Otte, 1024 Barrett Ave., Richmond, Calif. "I picked up six Japs and one Chinese the first night."

## The Reception Symbols

WE have received many requests to reprint the codes used in reporting volume and quality of reception. These appeared in the September, 1933, issue of this magazine.

The R (audibility) code is used to describe the volume of a broadcast, from the weakest phone signal to full loudspeaker volume. The QSA (readability) code describes the clearness or understandability of a signal. Understandability need not necessarily be dependent upon audibility; as an example, a station can be heard 50 feet away from a speaker without being at all intelligible (QSA1, R9) or, it may be possible to clearly understand every word of a transmission which is just fairly audible in the phones (QSA5, R4).

These descriptions can be carried further by employing a code to describe atmospheric (static) and fading, by the letters N, X, R or S. The letter N means nix—that is, no fading, or no static. Example: Pontoise, QSA4, R7/S/N. In the first bracket after the R symbol, fading is indicated, and in the last bracket, atmospherics. Hence the above would be read: Pontoise was heard quite clearly (QSA4), with good volume (R7), slight fading (/S) and no static (/N).

YV1BC, QSA1, R7/R/XX means that YV1BC was bothered by rapid fading and bad static, both of which combined to make the program unintelligible, QSA1, in spite of very good volume, R7.

The QSA and R codes are universally understood and may be used when writing to foreign as well as domestic stations to describe their transmission.

R1—The faintest signal that can be heard on headphones.

R2—A weak headphone signal.

R3—Audible but only partially readable.

R4—A fair signal.

R5—A good headphone or a weak speaker signal.

R6—Fair speaker volume.

R7—Strong volume.

R8—Very strong volume.

R9—Extremely strong, maximum volume.

QSA1—Unintelligible.

QSA2—Signals which can be understood only now and then.

QSA3—Poor signals, understood with difficulty.

QSA4—Good signals, quite easily understood.

QSA5—Perfectly understandable.

S—Slight fading.

SS—Deep fading.

SSS—Complete fadeout.

R—Rapid fading.

N—No fading.

X—Slight static.

XX—Rather bad static.

XXX—Very heavy static.

N—No static.



Dean Fossler at the console. He plays the opening and closing music on the programs of both "Amos 'n' Andy" and the "Goldbergs." Believe it or not, an organist who plays only two tunes—Toselli's "Serenade" and "The Perfect Song." Playing four times a day for Amos 'n' Andy and twice for the Goldbergs, he has never witnessed either broadcast.

## The Universal DX Club

THE Universal Radio DX Club is the only DX Club in the West, writes Charles C. Norton, President, (2559 Polk St., San Francisco). Our club members are called Universalites and they reside in sixteen states of the U. S., Canada, Alaska, England, Chile, Ireland, Japan and New Zealand. We issue a DX tip sheet every ten days and a membership list twice each season for those who wish to correspond.

Our Club has already had 35 DX programs this season and many more are to be given during March and April. Our dues are only 85 cents a year with a 35-cent membership fee. Our tip sheet is complete in every way; we list all DX programs and also letters from the members.

KPCB, Seattle, Wash., is the official radio station of the Club and broadcasts special DX programs the first Monday morning of every month from midnight to one o'clock, PST. The programs are presented by William D. Reuter and Vernon E. Sawyer of KPCB who are both directors of the Club.

Other directors and committeemen

are Russell K. Heller, Emaus, Pa., Ollie Ross, Vallejo, Calif., Ralph H. Schiller, former president of the Transcontinental Radio DX Club, Maynard Fischer, formerly of the Buffalo Evening News DX Club, Alexander Maley, Warren E. Winkley, Howard Rung, John J. Barlow, John Kuhn, Donald Gross, Glen W. Anderson, C. R. Herman and Albert L. Larrick. Leslie W. Orton of England is second vice-president.

This club should not be confused with the Universal DX Club of Hackensack, N. J.

Great thought for the month: "To be successful in life, you must keep on climbing. When you reach the top of the ladder, you will probably remember that you left the aerial wire on the ground."

# Monthly Meeting of the DX CLUB

• • • Talking Over the Logs

THOSE letters which pertain to the verification problem this month, appear in another column under the title "Bad Practices in Verification." We recommend this article to the careful consideration of all those who are interested in the verification of reports of reception. These writers are earnest, convinced that the careless, thoughtless and impertinent actions of the few may spoil the sport of the many.

"CX4, 643 kcs., is being received very generally in the early evenings," advises Robert Rosenberger, 17 Jansen Place, Kansas City, Mo. "and it would be well to take note of this—it is 'Servicio Oficial de Difusion Electra' Montevideo, Uruguay. This season has concluded a year's DXing on my Majestic with 840 stations on the old log. Latest catches (since the new year and it is January 8) LS7, CX6, CX4, TIGR, and Helsinki, Finland. I landed a 1-KW USSR at 1:00 p. m. CST December 24. Pre-New-Year receptions include Monte Ceneri, Switzerland, on special test, 1165 kcs., Belgrade, Jugoslavia (testing); HIX, Breslau. Latest veris include JOAK, JOGK, Poste Parisian, Frankfurt, Riga, Latvia, JOIK, a card from JOHK, WKAQ, all entered in the I. D. A. DX contest. I enjoy reports of foreign reception and see no reason for most of them to be open to criticism. Here are some good stations for DXers to try for in Santiago, Chile: CE45, 935 kcs., 4000 watts, up to 11:00 p. m. EST; CE102, 1025 kcs., 250 watts, up to 1 a. m. EST."

## Did He Have Japan?

"I have a 1933 8-tube Zenith table model on which I have logged over 200 stations in the past three months," writes H. F. Bradley, Box 934, McCamey, Texas. "My best are CJRM, CMCW, WBBC and KVI. I can bring KFI in clearly at noon. On Sunday

morning, Feb. 4, I picked up three stations (with the same program), one on 750, one on 770 and one on 810. From 4 to 4:30 a. m. CST, there was a speech in a foreign language which I know was not Spanish or German. At 4:30 an orchestra started playing slow singsong music in which treble instruments predominated, stringed instruments and probably flutes. A lady sang in this foreign language, followed by a man singing. They failed to announce in English and I lost them shortly after 5 a. m. According to Mr. Calow's article in November RAdEX, I hope that I had JOBK-1, JOHK, and JOCK-1. I would appreciate it if some fellow reader who positively identified this same program could enlighten me as so far, after repeated efforts, I have failed to log any foreign stations."

"I have to date a log of 459 stations received since October 1, 1933, with no duplications," boasts R. W. Schofield, Wilma Plunge, Missoula, Mont. "I have only four more stations to hear before I will have logged every Japanese. I have had KZRM in Manila; ZBW, Hongkong; XGOA, Nanking, which station can be between 655 and 660, and I hope in due time to receive a veri; 14 Aussies, 4 New Zealanders (2YA both before and after December 1, 1933); KGU every night; CMQ, Havana; and lots of Canadian and Mexican stations. I wonder how many years some of these fellows have taken to accumulate their logs. I start a new log each October and think that it is only fair to count as a log stations received during the following twelve months. I am sure that if I were to count every station which I have heard, no matter what the change in call, wave length, location, etc., I would be able to tabulate a log of over a thousand stations, but what of it? In my opinion it's distance that counts, not numbers."

### Now Has 30 Countries

"I have added to my b.c. log in the last twelve months 177 stations, bringing the total to 594 stations heard and a grand total on all waves of 1375," reports K. P. Williamson, 1610 Sherbrooke St. West, Montreal, Que., Can. "My log includes 30 countries, 48 states and 8 provinces in Canada. I consider my best catches on the b. c. band to be CMAB (30 watts); YV1BC, HJN, LR5, and numerous 100-watt stations in the middle and southwest. My location doesn't seem to be good enough for me to contact any of the trans-Pacific stations, but I live in hope that the poor radio conditions which we have been experiencing here and which seem to be more or less prevalent all over the continent, will improve to a point where long distance DX will be possible. I am strongly against changing any of the features in RADEX, although I note that you are urged to do so by

many readers, as I find it 100 per cent okay."

"I have seen but few letters from Oklahoma and thought I would let you know that there are a few DXers here," comments Frank Pieratt, 216 East Grand, Ponca City, Okla. "I am using an Atwater Kent 708 and have had fair luck with it. The set is very sensitive and powerful but is lacking in selectivity and has considerable background noise. I am using a Lynch antenna and a 12-foot pipe for a ground. I have 423 stations on the b. c. band, including 13 Cubans, 12 Japs, one Chinese, WKAQ, KGU and YV1BC. The Japs come in very well almost any morning from 5:00 to 5:45 CST, but I cannot catch the Australians. I think my best are 10-BQ, KJTY on 6.650 and NZRLC, the dirigible Macon. I heard the latter in a three-way conversation with the Battleships Lexington and California. They were on approximately 44 meters."

### Gets JO's in Daylight

"I own a Midwest 16-tube B-16. My antenna is a Lynch transposed with a filtered aerial which I made myself; it is about 170 feet long of No. 14 insulated copper wire, and around it is wound about 900 feet of No. 20 enameled copper wire. For DX work this will improve reception about 75 per cent over a single antenna." This inventory comes from Werner Alf Howald, 632 S. Fetterly Ave., Los Angeles, Calif. "For some reason Australian stations do not come in here on the b. c. b. but the Japs are very good sometimes even when the sun is up. This morning I picked up a Russian on 570 but could not get the call; which one is that? (Ed.—The DX Log of the World shows the 10 kw. station at Magnitogorsk on 571.) I have one or more stations on every channel from 530 to 1500."

Another who needs Wyoming to complete his roster of the states is Walter Dice, 714 Chess St., Bridgeville, Pa. Perhaps more listeners need Wyoming than any other state. Too



A new comedy team on the Columbia net consists of Cecil Lean and Cleo Mayfield. They're members of the "Ward's Family Theatre" which is broadcast each Sunday evening at 6:45 EST. Lean writes the sketches in which he plays straight to the less-than-profound intelligence of the character played by Miss Mayfield.

bad KDFN won't put on a few DX programs and make a lot of people happy. That station should realize its responsibility as the sole representative of a great state. We will have to see if we can't induce them to contribute one program to the DX army. Mr. Dice also needs Newfoundland to have every province in Canada. As a matter of fact Newfoundland is not a province of Canada but is a direct province of the English crown. Through the DX tips of KDKA, Mr. Dice learns that CX-26 will be on the air on the morning of March 10th but the hours are unknown and LR-5 will broadcast another DX program some time in March.

"Last year I sent you some letters giving you my luck in DXing," writes Robert C. Gaede, 3010 E. Overlook Road, Cleveland Heights, Ohio. "Then I was just a young and inexperienced person who called himself a DXer. I had about 60 stations." "Now," adds Robert who has reached the mature age of 13, "I have 187 stations. I get up in the early hours and get a great deal of pleasure out of it. I use a 4-tube Philco Jr. I have 12 of Chicago's 14 stations. Have not received any coast station but KFI. I have stations from 36 states. Those which I have in Mexico are XEPN, XER, XEN and XEW. I have now 11 stations in Canada, but none from Cuba or South America. I would like to join some DX club; hope I get over the 200 mark soon."

"This is my first letter to this column," greets Harold H. Mendler, 2971 West 29th St., Brooklyn, N. Y., "the reason for which is the anniversary of my first year of DXing with my two old faithfuls; first, RADEX, and second, my 8-tube Fada 25Z. I now have 180 verifications and over 300 logged. It is still my ambition to hear a European or Australian station I read so much about. Among my best catches are XEFV (verified) and a 50 watter at the time heard, and the other is LR5 heard with fair volume and no static. I'd like to communicate regularly with some DXer, pref-

erably one who owns a Fada or lives in Brooklyn or Manhattan."

### JO's All Over Dial

"DX has been quite good here lately," states another reader in Regina, Sask., J. Drake, 1920 Athol Street. "I have been able to add quite a few new stations to my constantly growing log. The veris have also been coming in and now total 383 with over 50 reports out to stations on this continent and elsewhere. I have had very good luck with the Japanese stations this season, now having verified three and reports out to 22 others. For a couple of mornings, they came in all over the dial and I was able to send away quite good reports to them. For two mornings I was just able to hear 2BL, 2GB, 3UE, 3HA and 4BC but could not get any identifying numbers. I'm going to get them yet, though."

"I have one of the best all-wave receivers on the market," lauds W. J. Ray, 5811 College Ave., Oakland, Calif. "It is a Patterson 7-tube superheterodyne. I have had the set one year and to date have logged 475 stations all over the world: 163 broadcast in U. S., Canada, Mexico, Alaska, Japan, China, Hawaii, Manchuria, New Zealand and Philippines; 181 shortwave in U. S., Canada, Mexico, Japan, England, France, Spain, Madeira, Argentine, Venezuela, Brazil, Colombia, Ecuador, Costa Rica, Morocco, Italy, Holland, Germany, Portugal, Australia, Java, and amateurs in Alaska, Hawaii, Mexico, New Zealand, and another shortwave stations in Siberia."

"RADEX has made possible my logging of 230 stations since the middle of November," admits James W. Hughes, 4722 Griscom St., Philadelphia, Pa. "That's not many compared to some of your readers' records, but I consider it very good. I am a student so don't have much time for radio. Have not started on the frequency check or late hours yet, and so have at least a hundred more stations that I can easily receive. My set is a Pilot Dragon, 6-tube, all-wave





*Two Jacks and a Jeanie. Left to right, Jack Whiting, musical comedy baritone; Jeanie Lang, personality singer; Jack Denny, orchestra leader. Their combined talents entertain you on the Marvelous Melodies program over the Columbian net every Friday evening at 9:30 EST. Sponsor: the Richard Hudnut Company.*

set. Some of my best catches are KOY, KGA, XEX, XFG, WOMT, and my best CHGS, 50 watts. Tell your readers to try CHGS from 6:30 to 7:00 a. m. EST. My latest is CMCI, Havana, 49.5 meters. I received them at 5:00 p. m. EST."

"Here's a call for help," cries Paul L. King, 1523 Madison St., Madison, Wis. "I picked up a station Feb. 17 at 3:05 CST on approximately 870 kcs. The program consisted of selections played on the pipe organ and it was not a recording. Two announcements were heard but the modulation was so poor on voice that the words were all but indistinguishable. I made out the word 'California' in both announcements and the call letters of which there were four seemed to end in O." This was undoubtedly the new XEMO at Tijuana, Lower California. They operate on 870. New stations are springing up in Lower California thriving on advertising from business firms across the border in the U. S.

## Western Disadvantages

From Aug. Balbi, 1427 Myra Ave., Los Angeles, Calif., comes this report: "No doubt you are aware that we are at some disadvantage out here in pulling in Eastern or even Midwest and Southern stations during the early evening hours. The band is crowded with Coast stations with only a few channels left for distant reception. Then we have the 24-hour pests like KGFJ on 1200. My set is a late 1933 all-wave Patterson 10-tube and it's plenty hot on both b. c. and s. w. My present log stands at about 230 stations. Last October I logged 13 Japs, 12 Aussies, and one each in China, Hawaii and Alaska. I have between 16 and 20 locals to contend with."

"I was up on New Year's eve until about 5:30 a. m. EST," writes 12-year old Russell Geiger, Poland, Ohio, "and pulled in about a dozen new stations, bringing my total to 251 in the U. S., Canada, Mexico and Cuba. I had hoped to make my total reach 300 before summer, but doubt it now, as the frequency checks were not conducted on New Year's morning and I cannot sit up whenever I desire. I have been up only three mornings this season, but added 42 new ones in that time. Have had no luck with the T-P's as yet, but am going to keep plugging. I had the luck to get WEXL and it is the first station I have received of less than 100 watts. Have 41 states, including D. of C."

"Although conditions have not been too favorable lately, I have been able to pick up quite a few over-sea stations on my Pilot-Dragon 8 with wonderful results," reports A. C. Lyell, 88a High Level Road, Cape Town, South Africa. "I picked up WCAU, Philadelphia, quite clearly on Jan. 5, also WHAM, Rochester, WSB, Atlanta, and WCCO, Minneapolis. On the 14th I picked up the program of a children's service from WMBI, Chicago. An unexpected catch on Jan. 4 was PLV, 31.86 meters, Java, conversing with KWX, Dixon, Calif., 39.42 m. The reception was exception-

ally clear and I heard every word. W2XAF, Schenectady and W8XAL, Cincinnati, have lately been coming through beautifully."

"My log now stands at 439 stations, with 240 verified," claims Robert W. Botzum, 633 Moss St., Reading, Pa. "I have 365 in U. S., 42 in Canada, 15 in Mexico, 12 in Cuba, one each in Venezuela, Hawaii, Haiti, Porto Rico, and one police station. 35 stations are 2000 miles or more away. For the past few weeks on certain nights, I have heard a foreign station interfering with WBZ on 990. Sometimes there's a man talking Spanish, and other times I can hear an orchestra or band playing. I can't bring this station in clear enough to hear its call. Could it be station LR4 in Buenos Aires?"

#### Great Luck with TP's

"I have an A.K. 89 10-tube super-heterodyne, which I have had pepped up with 58 tubes and the ground described in one of the fall issues of RADEX," remarks Reuben Greene, North Bennington, Vt. "During October I had great luck with the T. P.'s. I heard five of them, but have not had any luck with the T. A.'s. Do many get them? In my room I also have an A.K. 155 Midget, with which I got WKAQ during their test in September. Got a big kick out of that, as I have no antenna for that set. Should be glad to communicate with other DXers, especially those with an A.K. 89 and those who have logged foreigners."

"I have logged 184 stations which include stations in five provinces," writes George Funnell, 370 King St., London, Ont. "The best Canadian catch was CJOR, Vancouver. Only eleven states of the U. S. not heard from. I also have received stations in Mexico, Cuba, and HJN, Bogota. On Sunday, January 28, received program from HJ1ABB, Baranquilla, Colombia, on about 46 meters. I would like to hear from DXers in the south, and also in Canada, east and west. I have a Marconi Model 36-37, all-wave, 13-tube receiver. My

aerial runs north and south with lead-in at south end. It is 7-strand copper wire, 50 feet above the ground, and 130 feet long."

"I would like to correspond with any DXer, especially one in New Zealand or Australia," requests George R. Schneider, 3148 Yorkshire Road, Cleveland Heights, Ohio. "Using an RCA 60 with nine tubes (1928 model) in a little over a year, I have managed to log 402 stations with 91 verified. My best catches are KFVD and KGGM, 250 watts; KFPM, 15 watts; KFWI and KTM, 500 watts; 10-BQ, 5 watts; KGNO, KFXD, KGEK, KONO and KMPC, 100 watts; CMJP, 75 watts, CMCW, 150 watts. I have received at least one station in 46 of the states plus Porto Rico, Cuba, Canada and Mexico."

"My list of stations may not seem so impressive since it does not contain any outside North America, but I hope to add some foreign stations in the near future," modestly asserts Charles Miller, 309 View Place, Covington, Ky. "I have 116 stations, including 35 states, 6 Canadians and 4 Mexicans. I have worked 11 West Coast stations, my best being KFRC, KFSD, KGW, KHJ, KHQ and KOIN. My Mexicans include XER, XEPN, XEW and XEFO; Canadians, CKAC, CKLW, CKOC, CKY, CRCO and CRCT. My set is a Majestic Model 70, 6-tube which I have had for about eight years. Haven't much of an aerial, just from one chimney to another on top of the house, or about 15 feet."

#### Static Below Zero

"I have received a verification from XENT, Nuevo Laredo, Mex.," reports Frank Wheeler, 406 Eagle Point, Lakeside, Erie, Pa. "When I received them they were using 18,000 watts power. Sunday morning, Feb. 11, I did some DXing to see how the sub-zero weather affected reception. It was nine below zero here. I was surprised to find that there was a lot of static but I received XES, 250 watts, CMJH, 50 watts. I have

*(Continued on page 49)*

# Neutralization *and* Alignment of RECEIVERS

## 2. Realigning the Receiver

● ● ● *By* B. FRANCIS DASHIELL

**T**HE information given in this month's installment deals with the alignment of radio receivers. It applies equally to tuned-radio-frequency sets (the neutralization of which was discussed last month) and superheterodyne circuits. However, the latter vary considerably in design and tube arrangement, and will demand more definite and individual realignment instruction.

When two or more r.f. transformer coils are tuned simultaneously, by a series of variable condensers attached to a single shaft, the condensers must be set in line so that all will have equal capacities at any setting of the dial. This adjustment is called alignment or equalization of condenser capacities.

The reader has frequently observed that the variable condenser tuning unit of practically all receivers is a combination of two, three, four or five individual condenser "rotors" fitted to a single shaft. This is called a "gang" condenser. But, inequalities of capacity, due to construction, slightly deformed plates, or variations in the spacing between plates, is the reason why condensers on one shaft do not always have identical capacities.

### The Trimmer Condensers

Therefore a tiny amount of adjustable capacity is added to each condenser of the gang for balancing purposes. Small "trimmer" or "balancing" condensers are shunted across each of the larger tuning units. The capacity of a trimmer usually is from 1/8 to 1/10 that of its associated larger condenser. Adjusting these small condensers to balance the capacity of the units of

the entire gang will permit the various circuits of the set to be tuned synchronously when the dial is rotated.

In some newer sets, however, trimmer condensers have been discarded. An end plate of the rotor of each tuning condenser is split into a number of fan-like segments. Each segment covers a certain frequency, such as 550, 600, 700, 850, 1100, etc., kilocycles. The capacity of the condenser can be varied by slightly bending one or more sections of the



Those duets you've been hearing on the "Myrt and Marge" program are the voices of "Marge"—Donna Damerel by name—and her husband, Gene Kretzinger. They were married only a few months ago. Gene plays the part of "Gene Glenn" and also as half of the harmony team of "Gene and Charlie," also heard via the CBS.

split end-plate. The method of realignment is the same as for trimmer or balancing condensers except that the shape or flatness of the end plate is changed.

Tuning condensers, as well as trimmers, frequently become unbalanced through damage while cleaning or from constant change because of wear. Even the slightest detuning of the circuits will throw one or more of the tuned circuits out of resonance, and the set is neither sensitive nor selective. In some cases one condenser in the gang is not provided with an additional balancing unit, and all the other condensers, then, must be balanced so as to match the fixed capacity of this one condenser.

#### Using a Milliammeter

When a receiver is to be realigned some method must be provided for determining when the set gives forth its maximum power. To listen by ear to the speaker is a very simple method, but not always accurate.

The loud speaker indicates only the audio-frequency component of the original signal. A d.c. milliammeter will operate on the rectified radio frequency component of the detector. It will give a more definitely visual indication of the output power. It is the more satisfactory method, both for realignment and neutralization. The meter may be inserted in series with the plate of the detector tube, preferably with an adapter. The movement of the meter hand indicates the amount of rectified r.f. component in the plate current. And the degree of meter deflection will be at its maximum when the circuits are properly tuned. This will be accompanied by the loudest possible signal from the speaker. In some sets, particularly those with grid-leak detectors, the meter hand will show the least deflection with the loudest signal.

When realigning a receiver, all parts, such as shields, etc., must be in place, for the set should operate under perfect conditions. These are best when distant stations come in

clearly and easily, at times when static and interference are absent.

#### Method of Adjustment

The adjustments are made as follows: Tune the receiver to some distant station that is operating on approximately 600 kcs. As this is the lower tuning limit of the dial it represents maximum capacity of the condenser. All rotor plates will be in mesh with the stator plates. (See page 6, January, 1934, issue of R-DEX for a complete description of condensers, parts and capacity.)

First, turn the adjusting screw or nut on each tiny trimmer. Use a slim, wooden or bakelite tool which insulates against additional capacity. Eliminate body capacity effects by keeping the hand away from the chassis. Slowly adjust the capacity of the first trimmer by turning the screw one way or the other. At one critical point it will be readily observed that a strong flow of plate current occurs, and that the loudest signal comes from the speaker. It is advisable to turn the volume down from time to time while making the adjustments. The ear can detect an increase in weak signals more easily than with loud ones.

Now set the dial to a station of 1,000 kilocycles, and make a readjustment of all trimmers. Perhaps at this point it will be found that little or no readjustment is necessary. Again change the tuning to another station on about 1,400 kilocycles, and readjust all trimmers. If no readjustment is required at either 1,000 or 1,400 (these are approximate settings) no further attention need be given to the rebalancing of the circuits.

If adjustment of the trimmers shows a continuous increase in signal output when the maximum tuning limits are reached, beyond which the condenser can no longer be adjusted, it will be necessary to detune the dial to a slightly lower reading so the signal volume will be reduced (about one-fourth). Reset all trim-

*(Continued on page 48)*

# BAD PRACTICES *in* Verification May Destroy DX

**A** WARNING to DXers cannot be sounded too frequently," thinks W. H. Applegate, Vice Chairman of the Courtesy Programs Committee of the NNRC, 547 North Pine Ave., Chicago, Ill. "They must absolutely play fair or DXing will be a thing of the past in a very short while so far as verifications are concerned. I have had considerable contact with the radio stations of the country and particularly with those in Canada. There are no better friends of the DXers anywhere than the stations in Canada who cooperate most obligingly in supplying special programs. However, my attention has been called to many instances where the fans are inexcusably inaccurate, unthinkingly unfair or just downright dishonest in submitting reception reports to stations.

"Gross inaccuracy in a reception report is unpardonable. No fan should write for a verification unless he positively identifies the station to whom he is reporting. Don't write to some station just because you heard something on their frequency at a time when you have a tip that they are supposed to be on the air. If you can't make sure of the identity of the station, forget about it; don't make a guess. Think what the people at the radio station must think of you if you are wrong. It makes you look dishonest to say the least.

## Pay Your Way

"There are many instances of unfairness on the part of the fans. Many DXers seem to think that the radio stations should bear the expense of their hobby. They won't enclose anything with their reports to cover return postage. Some even report to the stations on a penny postal card and expect to get a let-

ter of verification in return. Many reporting from the U. S. to stations in Canada send U. S. postage stamps for return mailing.

"Radio stations have hundreds of reports to answer and if they have to stand that postage bill, it will run into money. Then they have in addition, the letter-heads and verification cards and the stenographic expense. The least the fan can do is enclose enough to cover return postage. Don't send U. S. stamps to Canada. You couldn't use a Canadian stamp in the U. S. If you can't obtain some Canadian stamps from a friend in Canada, then send a coin. Occasionally you may hear some station say that return postage need not be enclosed but that is a rare



*George Hall, whose band you hear several times a week over the Columbia web. His orchestra is an attraction at the Hotel Taft, New York City, where he has been a fixture for two and one-half years.*

exception and should only be taken advantage of when you know it to be a fact. Radio stations should, and many are, refusing to answer any reception report unless return postage is enclosed.

### Digging Grave for DX

"Then there are the fans who are downright dishonest. Unfortunately there aren't just a few of them either. They're plentiful and the subject shouldn't be passed over with just a few words about them being in the minority and that they will soon dig their own grave. They'll dig the grave for all DXing if they aren't stopped. One type is very crude. They report nothing to a station except to say 'I heard your station at such a time and enjoyed the program.' Then they expect a verification. They figure the stations may be careless in answering their mail and that a verification will be forthcoming. Occasionally that does happen.

"Then there is the species that just make up a report which they hope will not be checked closely and that a veri will be sent them. Sometimes they also get by. The third type is the clever one. He really convinces the station that he heard them. He obtains the data on a portion of a distant station's program and sends them a report which, to the station, appears bona fide. These professionals make use of many methods of obtaining their data on a station's program. Some evidently use the air-mail to trade data with unscrupulous fans in other parts of the country.

"These wrongful practices should cease. Let's play fair with the radio stations to whom we are indebted for the continuance of our fascinating hobby."

### Care Brings Replies

To this timely warning, Clement Van Velsor, 1035 Sanford Ave., Irvington, N. J., adds: "With a very few exceptions, I get a verification practically every time. Here's why: I

don't send just a line or two enclosing nothing at all and then ask for a verification. I send details with exact time and practically everything heard. I indicate the time used whether EST or some other and the day and date underlined. Usually 20 minutes is enough but to distant and hard-to-get stations I send a half-hour or more. I give exact time to the quarter-minute and just what occurred as nearly exact as possible. I enclose ten cents always unless R-DEX states that five cents or return postage is sufficient. I give as much detail as possible on reception conditions for the technical department and seldom run over a single page written on one side only.

"If a foreign station is heard and I don't know the language, I use even more care to give the exact time and describe everything I heard in detail. I don't send our currency to distant countries because it's absolutely no good to them. I always use a typewriter. I never lose sight of the fact that a veri is only a matter of cour-



*The latest member of Radio's stardom is Dell Campo, handsome young South American tenor. He is heard on his own programs several times each week over the Columbia, featuring romantic songs. Campo is a native of Chile.*

tesy to the listener and is not at all obligatory. With more consideration, more courtesy and more thoughtfulness on the part of the listener, the station will do its share."

Carroll H. Weyrich, 6 N. Gorman Ave., Baltimore, Md., joins this compendium with: "Of course there are instances in which many DXers submit correct reports, enclose postage and never receive a verification. Why? In my opinion, simply because that class which submits fake reports or does not enclose return postage, is arousing bitterness toward all DXers. Some DXers do not realize the amount of expense a station undergoes and seem to think a station exists solely for verifying reception. A station is not compelled by law to verify reports; they do it only as a matter of courtesy."

#### Write in Friendly Tone

Mrs. Alice Wilbur, 80 Green St., Newark, N. J., has very little trouble in securing verifications. In the first place, she believes, the report must be correct if proper attention is to be paid to it. In the second place she believes that the report should have personality, that is a friendly tone. She allows stations from five to six weeks before writing a second time and then she sends a complete report of the program a second time. She now has 245 verifications, the result of a year's work, with 28 still out. The only stations that have failed her are the Mexicans. She had no difficulty at all with WTFI and WBTM which were complained of by Mr. McPoyle of West Philadelphia. From these stations she received nice letters in four days' time.

To the above, Roger D. Causse, Box 6688, Lester, Pa., adds: "Verifications depend upon the kind of letter written to the station and, in most cases, the listeners are to blame if their letters are not answered. I have always used a letter along the same lines as the one printed on page 14 of the January RADEX. I use stationery with my name and address printed at the top

and I always typewrite the letters so there will be no difficulty about reading the letter. It is to be expected that at times your letters are overlooked or mislaid in the rush of mail but usually a nicely worded reminder after 60 days brings results. I allow 60 days to elapse for American stations and 90 days for foreign. My Australian veris took four months as did most of my South American but Europeans usually answer within 90 days. I have had more failures to answer with the Mexican and Colombian stations than any other."

"The only complaint I have to offer is against those fellows who become angered at stations who do not reply at once to reports," points out R. K. McFall, 711 4th Ave., SE. Minot, N. Dak. "The majority of stations willingly verify *helpful* reports. I suggest that those lads who do the kicking try sending a little valuable dope to the stations. How clear is the carrier? Is the musical response as good as the voice response? What are the receiving conditions? How does their volume compare with equally-distant stations of the same power? Are their programs interesting? Do they come in consistently? Try these on your typewriter and watch the results. It is my impression that such data is useful to the engineers and program directors of radio stations. They appreciate it."

Don't think of building over your old battery set into an all-electric. You might just as well try to rebuild a Ford into a Lincoln.



The new home of station XEZ located in Merida, State of Yucatan, Mexico.

# REVIEWING *the*

## Short Wave FIELD

• • • *By* PAGE TAYLOR

**B**ECAUSE so many new readers are joining our ranks each month, we deem it advisable at this time to devote a part of this article to a discussion of a few of the expressions and technical terms which are often heard when listening to shortwave stations. While such expressions as "Condition B" or "Try your A1 emission, old man," are intelligible to an experienced listener, they may cause considerable concern to a person hearing them for the first time.

First of all, what is a "short" wave? Generally speaking, any wavelength shorter than 200 meters is considered a short wave, but most persons who are used to listening to foreign stations between 20 and 50 meters feel that the 121 meter wavelength used by some of the police stations is a rather "long" wave. We like the term used by the Federal Radio Commission, "medium short wave band," to designate the wavelengths between 70 and 200 meters. Waves from 14 meters to 70 meters can be called short waves, while those shorter than 14 meters are ultra-short waves or ultra-high frequencies.

In addition to the arc and spark transmitters there are three types of emissions: These are, A1, continuous wave (CW); A2, interrupted continuous wave (ICW), and A3, Phone. CW and ICW stations are code stations, but there are many stations which use all three types of emission. RADEX lists only A3 type stations.

### The Phone Stations

One of the first things to cause a new listener annoyance is scrambled speech. There is no need to describe here how it sounds as everyone will

recognize it on hearing it. This is speech inversion or inverted modulation, used by many telephone stations so that conversations carried on by their subscribers cannot be understood by the general radio public. The expression "Condition A" is used by operators to designate inverted modulation, while a station transmitting intelligible speech is said to be using "Condition B."

The list of Shortwave Stations by Frequencies has undergone some modification, introducing several new features exclusive to RADEX. For the first time in any list, readers are



*Doubtless you have heard the voice of Gloria Holden many, many times. For the past four years she has appeared on Columbia network dramatic programs. Her present schedule brings her before the CBS mike in roles of persons current in the week's news through the "March of Time", each Friday night at 8:30 EST.*



shown which stations use inverted modulation, and which do not, and the attitude of each station towards verifications is clearly shown. A complete list of s.w. addresses will be given next month.

The terms "commercial" and "telephone" station have been discontinued in favor of the more accurate "point-to-point" station. A point-to-point station is one which is licensed to communicate with only certain locations, which are specifically mentioned in the station's license, as, for example, the Lawrenceville stations which talk with Rugby, England. The Rocky Point and Bolinas stations are really point-to-point stations but we refer to them as being Experimental because their licenses are more flexible, permitting the points of communication named to be changed often; Little America is the most recent addition to their licenses.

#### The Police Stations

The Federal Radio Commission has adopted a new allocation plan for state and municipal police frequencies, effective May 1, 1934, which provides for additional police channels which were made available at the Mexico City Conference. It was nearly five years ago that police radio systems were inaugurated in Detroit and Chicago, and for two years these stations were heard on only three frequencies. Last year the number of assigned frequencies was increased from 9 to 11, and under the new plan twenty channels will be immediately available. It was decided that the maximum power of these stations be limited to 5 kw days and 1 kw nights. Details of the new frequency assignments will appear in an early issue of this magazine.

Some other recent decisions of the Radio Commission follow:

The point-to-point stations at Dixon, Calif., KWO, KWU, etc., are now licensed to work with ships on the Pacific.

The World Wide Broadcasting Corp. of Boston, Mass., is permitted to use the transmitter now known as

WIXAL on three new frequencies, viz. 2398, 3493 and 6425 kcs. with 5 kw power.

Station KFZ has been granted special temporary authority to use freqs. 9520, 11830 and 15270 kcs. until about April 15.

The National Broadcasting Co. was granted license KNRA, the schooner "Seth Parker," 1 kw, freqs. 6660, 6670, 8820, 8840, 13200, 13230, 17600 and 17620 kcs.

#### Miami on S.W.

The following letter from Mr. J. S. Bare of W4XB was received too late to include the schedule in our indices. "Shortwave station W4XB is owned and operated by the Isle of Dreams Broadcasting Corp., owners also of radio station WIOD (Wonderful Isle of Dreams), southernmost associate of the National Broadcasting Co. W4XB is operated on an assigned frequency of 6040 kilocycles.

"W4XB relays the regularly scheduled programs of WIOD as follows: 4 pm to 1 am, EST, daily, 2500 watts.

"Both stations' transmitters and towers are located on Collins Island, a small island in Biscayne Bay, away from the cities of Miami and Miami Beach, while our officers and studios are in the city of Miami."

#### Who Heard This?

"This morning before going to the office I heard a station for almost a half hour which I could not identify. Perhaps someone can help me on this," suggests Guy R. Bigbee, Hq. Co., 66th Inf. (Light Tanks), Fort Benning, Ga. "Time was about 6:20-6:50 am, EST. Frequency, approximately 7900 kcs. Several languages were used, the first sounding like French. I couldn't tell what the last one was as it was rather peculiar in tone. At about 6:30 they sounded a bell or gong, as it was too loud for chimes; they rang four times, and a few seconds later rang again, either once or twice (one sounded like it might have been an echo). Reception was good until the time mentioned, when I got a barrage of static." This

magazine never likes to guess at what a station *might* be, but in this one instance we will hazard the guess that Mr. Bigbee's station is HSJ at Bangkok, Siam, as the identification signal described, and announcements in French, English, Chinese, Siamese and Russian are characteristic of this station.

### WQO Calling RKF

"I had RKF on about 44 meters. This is in Moscow, Russia," contributes W. T. R. Morris, Jr., 3219 Garland Ave., Richmond, Va. "RKF was talking with WQO. Pretty poor reception due to static and code interference. WQO was right next to him on the dial and was coming in like a ton of bricks. RKF was about QSA3, R5, but at times was pretty loud. I heard WQO calling him at 4:35 pm EST and then I luckily tuned right to RKF about a degree on the dial from Rocky Point WQO. They said little to each other. WQO had NBC music on most of the time and called RKF just now and then. By the way, I heard VE9GW say today that if anyone wanted a veri from them to please enclose an International Reply Coupon to cover cost of stationery and postage."

### IRM Relaying 2RO

From S. R. Steele, 3606 Homewood Ave., Toledo, Ohio, comes an inquiry regarding a station he heard announcing in a foreign language and broadcasting opera on 30.7 meters between 3:45 and 5:30 p. m., EST. The answer to Mr. Steele's question is included in the letter which follows, from R. W. Evans, 832 Richie Ave., Lima, Ohio. "In a postal card at an earlier date I mentioned hearing 12RO on 9820 kcs, but have since heard them on their regular 25.4 wave, and have identified the 9820 kcs, 30.7 meter station as IRM, Rome. They relay 2RO often in the afternoons and sometimes talk with some other station in Italian. This month I have heard YV2AM near 40 meters on Sundays, and have heard PHI near 25 meters several times. GSE

and GSG certainly come in fine in the mornings. COC, the new Cuban, was heard testing near 8 p.m. on 6000 kcs. The S. S. Columbus, DOBX, is heard often phoning WOO. A new ship talking to WOO uses the call VQJP. These ships are heard in the 70 meter band. The programs from G6RX are coming in very well now. They relay Daventry until about 8 p.m., every night except Saturday and Sunday. CGA on 4900 kcs. works this end of the circuit. I have also received a verification from 'Maroc-France' or Rabat, Morocco, giving a two page description of the station and its schedule. A post card view of the station and its antenna is also included. 10 kw power is used."

### S.W. on the West Coast

"Shortwave reception on the whole has been rather good this winter," concludes Aug. Balbi, 1427 Mipa Ave., Los Angeles, Calif. "I have logged GSE nearly every day for 3 months, also Pontoise is a good bet. I am very disappointed with VK2ME, either poor or absent entirely. The very best reception in clearness and volume lately is PLV on 31.86 meters in Bandoeng, Java, broadcasting musical selections between 6:45 and 7 a.m., PST, most every day. RV15, USSR, comes on 10 p.m. but becomes good after 11:30 p.m. to 6 a.m. A safe bet during the winter. PSK also good, as also are some other S. Americans like YV3BC, 1BC, HJ1ABB, Prado, HC2RL, if not interfered by code stations, which happens often. VE9GW and W9XF also impossible to separate at times; seems strange that with so many channels the shortwave stations should crowd one another. I would like to hear from other Patterson owners in regard to reception, especially of Germany and Italy."

### Difficulty on 20-29 Band

Howard R. Garrett, 171 Hillsdale Ave., Toronto, Ont., writes, "This is the first report I have made on s. w. work but it certainly will not be the last. I have had a 2-tube DeForrest



Here at last have a picture of "Sharlie," Cliff Hall, who, the "Baron Munchausen" cast, makes a good living by listening to "whoppers." He is without doubt one of the best "straight men" in the gag industry. On the National Red every Wednesday evening at eight, EST.

Crosley converter for three weeks now and have logged 367 stations. This brings my grand total up to 946 stations on all bands. For some reason I have logged no stations between 20-29 meters but am still trying. I am very much interested in listening to the amateurs and the ships, and would like to correspond with someone using a converter who is interested in these stations. HJ1ABB is R7 between 9 and 9:45 p.m. here. G6RX is R8 from 9-11 p.m. daily. WOU tests in the evenings from 7-9 p.m. Will someone identify the following calls for me: JP8, 6425 kcs.; ERLD on 74.9 meters (KRLD?); and WAGP, which was talking to the trawler WIEP on about 115.75 meters?"

#### A New Nicaraguan

"I heard a new station in Nicaragua on about 44.5 meters, understood the call to be YN3RC," postcards John Shanks, Russellville, Tenn. "YN3RC was heard from 8:40 until 10 p.m., CST. Also heard TIGP in

San Jose, Costa Rica, near 44.5 meters, from 9:05 to 10:49 p. m., CST, when he signed off."

The call sign of the new Nicaraguan is given in the Bulletin of the CSWRC as YN-CRG, while Mr. Geo. W. Burns, 2466 Wahl Terrace, Cincinnati, Ohio, mentions YNCRD. Mr. Burns adds, "An HR1UG, Tegucigalpa, Honduras, reported close to HJ4ABB. This is listed as owned by Kenneth H. See, but announces as Experimental station of the Honduran government, 5 miles from the city. (HRB? We hope so. Ed.) Some time ago I reported a WMEV in Florida on about 6600 plus; it is at Opa Locka, Florida, and owned by Aeronautical Radio, Inc."

Readers who were twisting s.w. dials back in 1930-31 will recall that Kenneth H. See was the manager of HRB, and that this station was also 5 miles from Tegucigalpa. We would gladly delete a few Colombians if we could hear HRB's Marimba Band again.

#### A Young Short-Waver

When he is not busy with his school work, 15-yr. old Chas. Finnegan, 3317 Malta St., Philadelphia, Pa., enjoys foreign reception on his little receiver using two type -30 tubes. "I have received DJA, DJC, LSN, GCW testing, LSX with Byrd, and GCU," he writes. "Before I bought RADEX I never worked lower than the police bands; now I never go higher than 53 meters. I have only been a DX fan for a short time as the set is only 3 months old. I suggest that tuners try for KFZ through LSX some Saturday night; it is interesting to hear the LSX operator hooking up New York with Little America."

G. K. Harrison, Box 424, Hobbs, N. Mex., sends a summary of stations received on his Midwest G-9 receiver, using an aerial 150 feet long pointed in a westerly direction. The transposed lead-in is 25 feet long and the ground is his own "desert special." Mr. Harrison says that during a recent storm period reception was completely cut off except for PLV, 9415

kcs., Bandoeng, Java, which came through consistently near 8:30 a.m., CST. The new frequency of W3XL is given as 17310 kcs. and the schedule as noon to 6 p.m. CST on Fridays.

### Some Brief Reports

"I own one of the new 1934 Midwest 16's and you can't beat it," boasts Weston E. Taylor, 317 Clifton St., Brush, Colo. "As yet I have no outside aerial, but on the makeshift I am using have received with R9 signal strength, PLV in Bandoeng, as well as many other foreign stations in Europe, Hawaii and South America. When I get a good aerial I expect to get some real results. I'll be glad to hear from other fans and owners of the Midwest, and will reply to all correspondents."

"My receiver is a model 288 Zenith, 8-tube superhet, and I have written for verifications from a number of overseas s.w. stations," says P. H. Perry, 905 Glengyle Place, Chicago, Ill. "I haven't tried yet for very many small stations or T-P's. Perhaps some reader could aid me on this one: On a Saturday I had a station broadcasting music on 8.4 megs. at 10:04 a.m., CST. He signed off with a C-, and played "On the Way to Bombay." I would like to hear from owners of this set; I have some difficulty in getting S. A. and Central American stations."

An enthusiastic user of this same receiver, who also lives in Chicago, is R. Robinson Duff, M. D., 1118 West 35th St. "I paid no attention to radio following the arrival of the chain broadcasting system as it was useless and discouraging," writes Dr. Duff. "This year I was fortunate enough to obtain a Model 288 Zenith Allwave set which has brought me more pleasure and re-awakened the old enthusiasm of going out and getting them, which I had when we used to sit up until 3 a.m. to get the Pacific Coast."

### No Luck With D's and G's

"I managed to add a couple of new stations, RNE and PHI," advises James Owen, 1019 W. Webster,

Springfield, Mo. "The Russian station didn't come in very well but PHI had a good QSA4, R7 signal one Sunday morning. I haven't had much luck with the British stations nor the Germans lately excepting GSE and DJB. I find that PSK and EAQ are still my best stations. PSK can be found practically any night between 6 and 6:30 p.m. CST, coming in very well."

Several interesting items are included in this letter from Cyrus Will, 665 Greenleaf Ave., Glencoe, Ill.: "HJ1ABB gave their new schedule as noon to 1 p.m. and 7:30 to 10 p.m., EST. HJA3, new phone station in Barranquilla, Colombia, is heard irregularly in the evenings near 10 p.m. They call Bogota just above W3XL, on 46.75 meters. CMB2, Havana, 52 meters, broadcasts international events. They have no schedule but work only when an international broadcast is required. A station CFU in Rossland, B. C., was heard testing on 52 meters."

### Germany Wants Reports

Guy R. Bigbee asks us to quote a part of a verification he received from the German s. w. senders. "Perhaps you would be good enough to help us make our broadcasts more widely known by calling the attention of your radio friends to them," the paragraph reads. "Please say that we are always happy to receive comments and expressions from overseas listeners; such reports help us to check technical station efficiency, and besides, it is nice to be in direct friendly touch with your country." The German Kurzwellessenders are operated by the Reichs-Rundfunk-Gesellschaft of Berlin.

"I believe I had PK1WK on the 5th of February, but could not get enough for a verification," rightfully complains Wm. McDaniel, The Charleston Gazette, Charleston, W. Va. "I have heard a station just below EAQ, on 9700 kcs. signing off at 5:35 p.m. in some foreign language which I could not catch." Possibly IRM.

### Verie from COC

G. L. Rich, 3322 Ellwood Ave., Richmond, Va., has a card from COC which reads: "Short Wave Radio Station COC, P. O. Box 98, Havana, Cuba. Station COC broadcasts daily from 4 to 6 p.m., EST." Mr. Rich hears this station on 5900 kcs.

"I suppose some of the boys have reported GCW sending music and testing in the afternoons on 30.6 meters, coming through better than GSB usually does," remarks C. R. Anderson, 1026 1st St., Mason City, Ia. "CTIAA has been heard testing on about 19.55 m., sending music and apparently asking for reports. COC is heard on various wavelengths between 49.8 and 51 meters, but seems to have settled down on a scant 50 meters."

From Sr. C. Lopez Videla, Manager of CP5, La Paz, Bolivia, we learn that this station is conducting tests on 9.120 megacycles. Sr. Lopez would appreciate reports from listeners comparing reception of CP5 on its two frequencies, 6.080 and 9.120.

### Porto Rican Special

DX'ers who wish to add HI1A to their logs have an opportunity of doing so every Sunday morning at 1 a.m., EST, when they broadcast special DX programs, according to information received from Ramon M. Marti, Box 3783, Santurce, Porto Rico.

"Using a Pilot Super-Wasp 4-tube converter ahead of a Bosch 6-tube superhet, I have had some fairly good luck on the s.w.," says Geo. W. Banks, 105 S. Main St., North Brookfield, Mass. "My list covers 28 countries in five continents. I use a 56 tube in place of the 27 in the converter, and also a wave-trap to prevent broadcast signals of 550 kcs. from heterodyning the s.w. signals. This idea was taken from the January RADEX, as was the idea of using the 56 tube. My antenna is about 150 feet long and 45 feet high, running NE to SW, and with a 50-foot lead-in. I would like to hear from owners of the Midwest 16."

Carlton Duncan, Camas, Wash., reports reception of WHEW talking to WEM at Rocky Point, and information is requested concerning this station. WHEW is on the Byrd Expedition ship "Bear of Oakland," but we have understood it was licensed for code emission only.

"Why don't you list W4XB on 48.67 meters in your lists?" suggests R. M. Ballard, Visalia, Calif. "I asked for a verification from HJ1ABB on their RADEX special program; it came in here with R8, QSA5 volume." A write-up on 4XB is found earlier in this article.

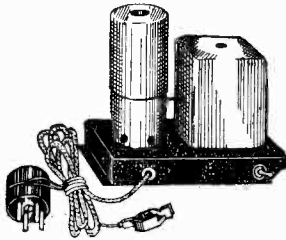
If any of our readers picked up Nairobi, Kenya, on their special DX for RADEX on March 12th, please be sure to advise us. This station not only put on this program especially for our readers but they generously went to the expense of cabling their arrangements. We would like to give them a report of any reception.

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## The Beat Note OSCILLATOR

WHEN tuning a radio receiver many weak stations fail to make their presence known. This may be due to fading at the time the dial passes that particular wave length, or hurried tuning may be the fault. Short-wave reception is subject to such discouragements, and the owner of a good short or all-wave set frequently believes his receiver to be a failure.

A new device—the Beat Note Oscillator—will tell the listener when a station is being passed, for it tunes in signals by the "zero-beat" method. No weak stations are lost, for they are located and announced by a whistle. The Oscillator eliminates searching, and prevents the skipping of stations. It works well on all wave lengths, and is absolutely stable of operation. Its operation consists merely of snapping the switch on or off.



*The Beat Note Oscillator*

The Oscillator, consisting of a compact tuning unit and shielded screen-grid tube, is easily installed without touching the wiring of the receiver. It can be used only with superheterodyne receivers. It obtains its power through an adapter placed beneath a power tube. The connections are permanent and, once adjusted, the Oscillator need not be tuned again.

#### **Tuning the Whistle**

The operation is very simple. A station is tuned in on the short-wave or broadcast receiver the first time only. Then the Beat Note Oscillator is turned on, and its knob adjusted until a whistle is heard. The knob is rotated slowly until the whistle disappears and another becomes audible. Between these whistles is a sharp spot of silence—the point of zero beat. Set the knob permanently at this point. Now tune the receiver to some other station and a whistle appears. Set the dial to the zero beat point of the whistle and turn off the Oscillator. The station will be heard on its peak signal strength without further tuning. When the Oscillator is turned on whistles all over the dial indicate the presence of stations. Set the dial on any whistle, turn off the Oscillator, and there is a station.

The whistles are produced by interference between carrier waves and the temporarily created Oscillator waves. It is the most sensitive method known for locating the presence of a radio carrier signal. Transmissions so weak as to be otherwise practically inaudible and unintelligible, always create a heterodyne whistle when mixed with a signal having a different frequency.

In the days of the old, regenerative sets, which, while nuisances, are unsurpassed for sensitivity, all stations made themselves known by loud whistles, squeals and howls. The trouble then was to get rid of the whistle after a station had been located by its whistle. The Beat Note Oscillator whistle is mild in tone, and is created only when a station is being located. It will not cause interference and objectionable noises, and is used for only a moment at a time to locate an otherwise hard to find station.

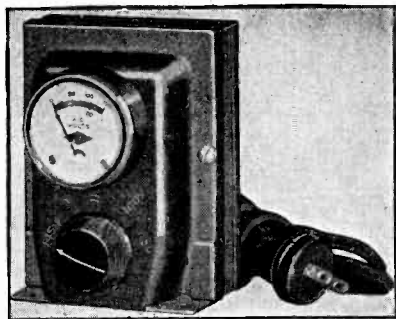
The Oscillator was developed and is manufactured by Sol. Perlman, 647 East 96th Street, Brooklyn, N. Y.

## **Adjustable VOLTAGE**

**N**O longer need a radio set be operated below normal performance because of poor voltage, say the manufacturers of a new device that has just appeared on the market. The Variable-Voltage Adjustor, designed and manufactured by the Acme Electric Mfg. Co., of Cleveland, Ohio, is a unique regulating device that permits the adjustment of the primary line-voltage from either below or above normal to the proper operating point.

Similar in construction to an ordinary step-down transformer, a series of taps has been provided. A knob enables the operator to set his own voltage and a dial registers the effect.

Whenever a radio or other electrical device is connected to a supply line at a considerable distance from the distributing transformer, the drop in voltage resulting usually effects a considerable change in the performance of the unit. An over-voltage condition often causes damage to radio tubes, condensers, etc., and is apt to damage the electrical insulation, melt connections, burn brushes, etc. In localities supplied with power from a generating plant that is not controlled by a voltage regulator, a great fluctuation creates a damaging condition for radios particularly.



Acme Variable Voltage Adjustor

This device is made in two sizes with voltage ranges from 85 to 145 and 160 to 240 respectively.

## NOTES *and* TIPS

**I**F you are out of reach of XEAW and CRCT on the 960 channel, here is a good chance to add YV1BC, Caracas, Venezuela, to your log. They write us that they will broadcast a special program on April 14, from 9:30 to 10:30 p. m., Caracas Time, in celebration of Pan-American Day. The program will include numbers by a Venezuelan Choral organization of 80 voices and selections by the Venezuela Symphonic Orchestra. It will be broadcast on 960 kc. and also on 6,112 megs. or 49.8 meters and will be retransmitted by station YVQ, from Maracay, on their frequency of 6,672 megs. or 44.96 meters.

"We have just completed the installation of a new Northern Electric 100-watt transmitter," writes Radio Station CKBI, Prince Albert, Sask. "This is the very latest equipment with crystal control and employs grid modulation of the power stage. The installation includes frequency monitoring equipment as well as such accessories as modulation percentage indicators and the new dynamic microphones. We will soon be moving the transmitter from the downtown section to a location outside the city so that then we will be able to reach a little farther out as there

will not be the absorption of the radiated power. As to test programs, we will put on only one each month until further notice; this will be Sunday morning at 2:30 to 4:30 EST, the last Saturday night of each month." Congratulations to CKBI on their new equipment. They have many friends this side the imaginary line.

Station XES writes us that they were forced to call off all DX programs due to damage to plant last fall by cyclone. Their transmitter has been rebuilt with more power than ever. Until March 31, they are running a DX program from 2 to 3 a. m. EST on Saturdays. They verify for ten cents in U. S. stamps (no coins) or write a letter for 25 cents. As March 31 will close their DX programs they would like all requests by that date.

Radio Station CJRM, Moose Jaw, Sask., sends Dr. M. Dean Miller, 429 E. Market St., Akron, Ohio, their schedule which is as follows: Sunday 11 a. m. to 4:15 p. m. and 6 p. m. to 9:30; Saturday, 8 a. m. to 3 p. m. and 5:15 to 10:30; week days, 8 a. m. to 2:30 p. m. and 4:45 to 10:30. All time is Mountain Standard.

Several readers have reported picking up KDA about 1060. Henry Arbic, Acton, Ont., points out that one of the frequencies of this station is 350 kcs. Thus it would have a third harmonic at 1050 and that is where Mr. Arbic has been hearing it.

XEW, Mexico City, writes us that on April first that station will install a new 50,000-watt RCA-Victor transmitter and will then broadcast on a frequency of 980 kcs. The same station will operate a 5,000-watt transmitter on a frequency of either 910 or 840 kcs.

Says a postscript from WCOC, Meridian, Miss.: "Sometimes we get behind on verifications on account of very large amount of mail received, but as soon as possible, all are answered."

From New Zealand, Karl Halpern, 495 East 3rd St., Brooklyn, N. Y., re-

## HOW to TUNE

ceives a letter which reads in part as follows: "Radio here has been revolutionized in late months. The 'B' stations are being bought by the Government to be used as relay stations in remote towns. The National station 3YL on 1200 kc. with 500 watts, replaces the old 3ZC, Christchurch. They are using the old transmitter and site of 3YA."

To this information, George E. Bott, 507 Southampton St. E., Hastings, N. Z., adds, "1ZR has now taken over the call and frequency of 1YX and 3ZC and 2ZW have been closed. 2YC and 3YL are on daily from 6 to 10 p. m."

The Associated Press reports that the powerful XER, owned and operated by remote control from the U. S. by Dr. John R. Brinkley, has been forcibly closed by Mexican government troops. The station is charged with sending out medical talks and advertising medical articles without authorization. The station has been given 30 days in which to dismantle its equipment. If this order is not carried out, government engineers will proceed to remove the machinery, according to report.

Short wave station COC, operating on 49.9 m. or 6010 kcs. will broadcast a DX program for the NNRC on April 10th, from 1:00 to 2:00 a. m. EST. The address of the station is P. O. Box 98, Havana, Cuba. A new verification card is to be printed for the occasion. Ten cents is the cost of verifying. All announcements will be in English and Spanish. Alec. Kinghorn, Cuban representative of the NNRC, will make the announcements. This info comes from Alfred W. Oppel, Executive Secretary of the NNRC.

Remember that old phones will often become demagnetized and be so faint as to be useless. Test them on a flash-light battery and see if you get a good, sharp click.

The 56 tube has the same base as the old 27 and will make considerable improvement especially in the detector stage.

WITH the modern receivers all calibrated in kilocycles, we sometimes forget those who still use the old dials marked merely from 0 to 100. "We are readers of RADEX and find any program or station we want but I have friends who have an Atwater Kent radio that is numbered from 5 to 100 instead of in kilocycles like my Philco. My friends lose so many good programs because they cannot find the stations on their radio." This letter from Mrs. Maude Rolfe, 1741 Burnett Ave., Waco, Texas, reminds us that we have not mentioned in these columns for a long time, how users of sets with such dials as this Atwater Kent, may tell where to tune for stations they have never heard.

Turn to page 63 of this issue of RADEX. The stations are grouped by frequencies as measured in kilocycles. Opposite each frequency are three blank spaces. Tune in any station on this page you can hear. Let us say you tune in WJZ in New York on 760 kcs. and that it comes in on your dial at say 65. Enter this 65 in one of the squares opposite 760. Now tune in another station. Let us say you hear WGY Schenectady at 62. Enter this in the square opposite 790. It is obvious now that if you want to tune in WBBM, Chicago, on 770 that it will come in between 65 and 62 on your dial.

### Identifying Stations

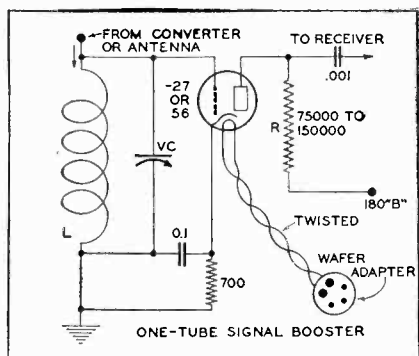
After you have tuned in those stations you readily hear for a few days and have entered your dial readings opposite their respective frequencies, you can then tell approximately where to set your dials for those stations you have never heard. The more stations you enter in this way, the easier it is to tune for the stations you have not yet logged. This same method will enable you to identify the stations you have never before received. Let us say that you hear a station on 61. By referring

*(Continued on page 48)*



# What Makes MY SET Do That?

● ● ● Answered by the Technical Editor



**I** HAVE been using a Stewart-Warner short-wave converter with a tuned-radio-frequency receiver. I decided that I could boost the volume of the converter output in order to get more powerful signals into the broadcast receiver. So I built a single stage of resistance coupled amplification, as shown in my sketch. The sensitivity was increased, and the volume was doubled.

This is a very good scheme. But we believe that the stage of radio-frequency amplification can be made more sensitive, and the selectivity of the broadcast receiver improved, by providing a tuned input circuit. This method is shown in the diagram. For those of our readers who wish to build this unit, for use with short-wave converters, or as a one-stage r.f. signal booster or amplifier, and pre-stage receiver selector, for any kind of radio set, it is described as follows:

The coil L is a tuned inductance of about 70 turns of No. 26 wire wound on a tube two inches in diameter. It is tuned by a shunted variable condenser (VC) having a capacity of .00035 microfarads (350 micro-microfarads). A 56 type tube is used because of its low current con-

sumption. The heater is operated from the converter or receiver, with suitable wafer adapter connection beneath some tube. The 180 volts plate potential is taken from some convenient terminal. The plate resistor (R) may vary from 50,000 to 150,000 ohms, and some experimentation will be necessary to select the proper value. The cathode bias resistor and condenser have nominal values, as shown.

## Noisy Hum Control

*The hum control in my Philco 87 makes a noise when adjusted. The set also makes a crackling noise when operating. This noise even persists without ground or aerial. What can be wrong?*

The hum control is a 6-ohm potentiometer connected across the two leads from the 1.5 volt winding of the power transformer which feeds the filaments of the four -26 tubes. The center-tap, or adjusting arm, of the control is connected to the neutral point (terminal 2) of the voltage divider resistance. Any defect in the connection or in the movable arm of the control will cause crackling sounds.

The other noises in your set are characteristic of loose connections or bad tube elements. Broken down filter condensers or bad resistors may cause the trouble.

## Tubes in Philco 111

*How can I tell the locations of the different tubes and their functions in my Philco 111?*

The tubes in this set are: From left to right across the rear of the chassis, looking down: -80 rectifier; -24 first radio-frequency; -27 oscillator; -24 first detector; -24 first intermediate-frequency; -24 second intermediate-frequency; -27 detector-

rectifier (second detector). Then, at right: Rear -27 is detector-amplifier; -27 toward the front is the first audio tube; and the two -45s are push-pull second audio amplifiers.

### Lyric Sounds "Tinny"

*There is a "tinny" sound in my Lyric S-8 receiver. The tubes are good, but the tone seems too high in pitch. Why is this?*

Perhaps there is trouble in the tone control. If it does not work properly it will not pass the several frequencies through the audio transformer. This control is a unit of variable resistance and condenser shunted across the two terminals of the first audio transformer, and also connected between the plate of the -27 detector tube and the ground.

The control uses a 70,000 ohm resistor shunted with a control arm and a .05 mfd. bypass condenser. This condenser may be shorted. Then, between the lower end of the control unit and the ground, is a .5 mfd. fixed condenser which may be defective, and connected across this condenser is a 100,000 ohm resistor (color code—brown-black-yellow). There is a .02 mfd. condenser connected between one terminal of the primary of the transformer and the end of the control that attaches to the plate of the -27 tube. This may also be shorted and cause trouble.

Test and examine the cathode condensers and resistors in series with the cathodes of the -27 detector tube. Then, there is the possibility of trouble in the speaker. Try connecting a .1 mfd. fixed condenser across the terminals of the .02 mfd. condenser now in series with the lead to the plate end of the transformer primary, in an attempt to improve the low notes.

### Crystal Control of Frequency

*I have wondered whether a crystal control can be placed in my Philco 15X receiver so as to control the intermediate frequencies, and improve tuning and oscillator actions. What do you suggest?*

Certain crystals, when cut to some particular dimensions, become active under what is known as the "piezoelectric" effect. As such, the crystal has a specific frequency at which it will oscillate. The crystal, therefore, can be made to control the vibrations of a transmitting station and hold its broadcast to a fixed or standard frequency. Some progress is being made in the application of fixed frequency crystals to radio receivers. Crystals are cut from quartz, tourmaline, and even rochelle salts.

The use of a crystal in the oscillator circuit of a receiver is complicated. Only a few schemes have been worked out, and then only in specially designed circuits. We think it quite impracticable to install a crystal at this time in any existing receiver.

Crystals are being used in limited cases in connection with loud speakers so they will reproduce more faithfully the higher frequencies. Crystal speakers tend to improve the quality of a receiver that uses pentodes.

### Flewelling S-W Adapter

*I have a Flewelling short-wave adapter, and would like to know how to attach it to my Radiola 60 receiver.*

The plug of the adapter is placed in the second detector socket, which is the -27 tube second from the end next to the -71A power audio tube. Remove the -27 tube and insert the adapter plug. We assume that your adapter is number 73, with a plug having 5 prongs to fit a 5-contact (-27) socket.

This adapter, which is really a small short-wave receiver, sends its power into the -71A power tube for amplification and reception on your speaker. No changes in aerial and ground are necessary. The ground wire remains where it is, and the aerial wire is attached to the adapter.

### New Tubes in Majestic 70-B

*Can I use the new type tubes in my Majestic 70-B receiver?*

This receiver uses four -26 type tubes, for which there is no substitute, since they are all 1.5 volt tubes. The

-27 detector can be replaced with a 56.

### A-K Audio Transformers

*I would like to know what audio transformers are used in the Atwater Kent model 20 receiver, and how they should be connected to the tubes and circuit.*

The model 20 Atwater Kent receiver uses two audio transformers—one between the detector and first audio tube, and another between the first and second audio tubes.

The first transformer may have a 6 to 1 ratio; and the second a 3 to 1 ratio.

The plate terminal of the primary (P) of the 6:1 transformer is connected to the plate of the detector tube. Terminal B connects to the 22½ volt B battery—a yellow wire. The G of the transformer attaches to the grid of the first audio tube, and -F connects to the -A of the A battery.

P of the second transformer connects to the plate of the first audio tube; B goes to a 67½ volt B battery—a white wire. G of the secondary winding connects to the grid of the last or second audio output tube; and -F connects to -C, or the green-yellow wire of the C battery. The plate of the last tube connects to the 90 volts B battery, through a speaker or phones, by a brown wire.

### Poor Tone in Apex

*My Apex model 8A works well, but the tone is poor. There is a distortion which can best be described by likening it to that produced by a speaker not properly centered. But the speaker is good, and the same distortion is noted when another speaker is connected. When the tone control is down to bass this distortion is not noticed so much, but when it is turned toward treble the tone becomes very scratchy.*

Have the 550-ohm section of the voltage divider of the Apex receiver replaced with a new one, as this is quite likely the cause of trouble, providing the rest of the set and tubes check up properly. The resistance

element of this section of the divider, which is connected from the ground to the -47 tube filament center, may be destroyed and shunted with a new element having at least a 5-watt rating, and 550 ohms resistance.

### A Vibrating Speaker

*My small 1933 General Electric radio receiver seems to have a vibrating speaker cone. The cone is firmly fixed, but gives trouble. How can it be remedied?*

It seems likely that the diaphragm has developed a state of self-resonance due to the fatigue of the material composing the speaker. Sometimes this happens in new sets, particularly if the material is from a defective lot. Or there may be a broken spider, or an improperly suspended cone. A partially open voice coil, or reduced field current, will contribute to this vibration. Make a careful check of the voltages and windings of the speaker.

### Philco 96 Has a Whistle

*My Philco model 96 has developed a whistle on every station, from the low frequency end of the dial to the high frequency end. The whistle is weakest at the high frequency end of the dial, and loud on the low frequency end. While tuning for a station the whistle is on each side of the station, but it disappears entirely when the receiver is tuned to resonance with the station. Why is this?*

This annoyance is caused by an open plate or screen-bypass condenser, or an open screen bleeder resistor. The screen bleeder resistor is a 70,000 ohm resistor connected between the grounded chassis and a middle point between two other resistors in the line that feeds the screen grids of the three r.f. -24 tubes. It may need replacing. The bleeder is shunted with a 1 mfd. condenser which may be defective. Other condensers in the screen-grid and plate circuits should be tested and replaced.

### Set Starts Off Weak

*When my ten tube Victor model*

*R-54 set has been turned off for several hours, and is switched on, the volume is very weak. Only local stations will come in. It acts as though it were trying to cut through a fog. If the hand is placed on the antenna coil, or on the control grid connected with this coil, the signals will come in with normal strength. Sometimes turning the switch on and off a few times will accomplish the same result. When the set is working normal, placing the hand on the coil or control grid weakens the signal strength. The trouble only happens after the set has been off for some time, and is very noticeable every morning.*

It is possible that the grid return resistor in this set, leading to the automatic volume control plate, which has a resistance of 500,000 ohms, or to the ground through two more 500,000 ohm resistors in series, is defective.

Other possible causes are: Open or shorted antenna coil; or a break in the lower connection to this coil; the same condition in any one of the grid coils, or r.f. secondaries; or in the a.v.c. intermediate resistor of 500,000 ohms. Beyond these causes, other than broken wires leading to the grids of the tubes, or a defective tube or grid cap, there is little else in this receiver that could cause such a situation.

### Hum in Philco 112

*I have a Philco model 112. It has a terrible humming or buzzing noise. The local stations drown out the noise, but the less powerful stations are distorted by the hum and buzz. At night it is necessary to turn the volume control completely off. This noise is different at different frequencies. All tubes are new.*

The effect you observe during tuning seems to indicate radio-frequency trouble. It may be caused by the break down, opening or short-circuiting of any one of the many bypass condensers or resistors in the entire circuit which embraces the radio-frequency tubes and transformers.

We think that the trouble can be

localized by first testing the power supply outlets for proper noise or hum filtering, and then starting from the last audio tube grid stage with a telephone headset and advancing backward into the signal circuit until the noise no longer appears.

By this elimination method, the radio or audio stage in which the trouble occurs can be quickly ascertained, and then all the parts making up that particular stage or unit of the circuit may be tested by substitution or electrical and mechanical examination. Noises of this kind are difficult to locate, but we feel sure that if a systematic test throughout the circuit is made, you will arrive at the cause.

### Dial Center Is Dead

*I have a Majestic model 90 radio. It has developed some trouble which is annoying. At approximately the middle point on the dial, or about 850 kcs., all stations disappear. The last station to come in is at 860 kcs. Stations between 1500 and 860 kcs. are received, but between 860 and 540 kcs. they are not received. Even static is absent here.*

Possibly the condenser plates or the shaft, or some rotary member of the condenser tuning unit, shorts to the grounded side in that portion of the condenser that tunes below 850 kilocycles. The shaft may be worn in such a way that it moves back and forth and thus shifts the rotor plates at the lower frequencies. Since signals are all cut out, the plates must move in a very irregular manner.

We suggest that you check for a short between condenser plates when the tuning is below 850 kilocycles, and if this does not show the trouble investigate the other points above mentioned. Often, in cases of this kind, an entire new condenser gang unit will be needed to correct the trouble, for it may be next to impossible to readjust an old condenser to tune evenly and cause the dial to track perfectly. The Majestic 90 has five variable condensers in its single gang unit.

## Sparton Tubes

*Can I use either the 484 or 485 Sparton type tubes in my Sparton 69 receiver?*

You can use the 485 Sparton tube in place of the 484 now used in your receiver. The 485 consumes just about the same current as the 484, and less than the 484A type. Generally speaking, the 484 and 485 are interchangeable, for they both are used as detectors and amplifiers. You may use the 485s in place of the 484s in the five radio-frequency stages, and in the detector stage of the Sparton 69, if you wish. Either the 484 or 485 Spartons can be replaced with the 485 Sylvania tube.

## Our Short Wave Converter

*I have tried connecting a .00025 mfd. fixed condenser in the grid lead to the 58 detector tube used in your short-wave converter described in the June, 1933, issue of RADEX. It has improved reception quite a bit. Why was this? Should I permit the condenser to remain permanently?*

The detector used in our converter is a power or bias type requiring no grid lead or condenser. The latter type of detector is more sensitive, but will stand less load and is very unstable and critical in its operation. In a converter of this kind, such critical operation is frowned upon by experimenters and radio engineers. However, there is no objection to the use of a grid condenser and leak if the user of the converter is a careful tuner and manipulator. If the tube has just a trace of gas in it, this leak idea will work to perfection and greatly improve the sensitivity of the unit. But, if you use the grid condenser, we suggest that a 2 to 5 megohm grid leak resistor be connected between the grid of the 58 (tube side of the condenser mentioned) and its cathode.

Some of these days you are going to be lucky enough to pick up a foreign station. Keep a copy of the DX Log of the World handy so you can identify it when it comes.

## Short Wave SHORTS

“TONIGHT I had a bit of reception which I am sure can be used by s. w. fans as a test of the selectivity of their receivers,” points out Clement Van Velsor, 1033 Sanford Ave., Irvington, N. J. “I own a Scott Deluxe which has excellent selectivity. About 6 p. m. I had DJA, 31.38 meters, coming in fine, W1XAZ, 31.36 m., and GSC, 31.30 m., each easily separated from the other and with no cross-talk or interference of any kind. I am curious to know how many can get three such closely located stations all at the same time with no trouble, as I did and still have the fine tone my set has. Many sets have 10 kc. selectivity on the b.c. band but how many have that same degree on short waves? Since 31.38 equals 9560 kc. and 31.36 equals 9567 kc., therefore I have 7 kc. selectivity.”

“On s. w. the Midwest is a marvel,” thinks Werner Alf Howald, 632 S. Fetterly Ave., Los Angeles, Calif. “I get amateurs, police and airport stations from coast to coast. Following are some of the s. w. stations which come in regularly under any conditions: W8XK on 48.83, 25.25, 19.72, and sometimes on 13.93; W2XE on 49.02 and 25.36; W3XAU on 49.50 and 31.28; W1XAL, W2XAF, W9XAA, W1XAZ, W3XAL, W3XL. Foreigners are VE9GW, VE9JR, VK2ME, VK3ME, RV15, J1AA, PLV, EAQ, FYA, GSA-B-C-D-E, GAA on 14.72 testing with LSY. XETE, PSK, PRBA, LSX, LSM, LSY, and most all of the Central and South American s. w. broadcast stations. I logged both the U. S. Battleships California and Lexington. I would like to hear from anyone owning a 1934 Midwest and all letters will be answered in German, French, Italian, or English.”

“Saturday evening, Feb. 24, I tuned in a mysterious station that seemed to be testing,” advises Stuart Leland, 82 St. John Place, New Canaan, Conn. “The person speaking

was whistling a series of Vs in code and talking to another party that was reporting reception. The call was something like VENX and the station was located in Nova Scotia. He gave the wave length as 181.8 meters. Due to poor modulation, it was exceedingly difficult to understand the actual conversation. The time was 7:30 to 7:45 p. m. Est. Have you any information on this one?" Perhaps some of our Nova Scotian readers can identify this one.

"I am certainly pleased with my Midwest B-16," exclaims Herman C. Webb, P. O. Box 72, Baker, Ore. "Every morning for the last month I have tuned in GSB in England with even too much volume. I have also tuned in a number of other foreign stations besides most of the s.w. stations in the eastern states. On the b.c.b. I have logged 110 stations in the U. S., Canada and Mexico and getting more every day. I have tuned in police broadcasts as far away as the eastern time zone, and airplanes and amateurs all over the country."

"On the short waves, I have received LSN-X-Y in Argentine; PPU, Brazil; VK2ME - 3ME, Australia; CP5, Bolivia; CNR-ZSS, Africa; 9 in Canada, 11 in Colombia; 2 in Costa Rica, 3 in Ecuador; 1 in France, 8 in Germany, 14 in England, 3 in Hawaii, 2 in Guatemala, 3 in Italy, 1 in Japan, 1 in Madeira, 4 in Mexico, 1 in Nicaragua, 1 in Poland, 1 in Portugal, 1 in Spain, 5 in Venezuela, 2 in Switzerland, 2 in Santo Domingo." This fine report comes from Clyde I. Boyer, 5713 N. 7th St., Philadelphia, Pa.

"I have again turned in my set for a new one which I think will be the last," is the optimistic opinion of Richard Pulford, 41 Ives Street, Waterbury, Conn. "I now have a 711 model Atwater Kent and does it bring them in! It has a wonderful tone and certainly is all they recommend it to be. I have been listening to Rabat all afternoon. The other night I picked up COC, Havana on 6.001 and they wanted listeners to write to them. Address, P. O. Box 98, Ha-

vana, Cuba. Is this a new station?"

"Although my 4-tube Majestic is operated with no aerial whatsoever and with a ground only to a radiator, several times during the past week, I heard clearly and loudly G6RX at Rugby, England. G6RX is on the air between 10 and 11 p.m., EST." So reports R. S. Rothschild, 36 Morris Dorm., University of Pennsylvania, Philadelphia. "G6RX was between 3.200 and 3.500 meg. and not on a frequency of 4.972 as listed."

"Purchased a Model 16 Philco several months ago and have had excellent results," says R. W. Chabot, 1614 South E. St., Elwood, Ind. "Daventry, Zeesen and Caracas are among the regulars for steady entertainment. Received VK3ME twice but both times it was too noisy to enjoy. Am using a 7-foot length of copper tubing standing in one corner of the room for my s.w. antenna, however it is no good for b.c. reception."

From Thos. Anderson, 449 McIntyre Street, Regina, Sask.: "Daventry on the 25 and 31 m. and Pontoise on 25 are much the best of the Europeans; they come in seven days a week. HJ1ABB comes in regularly R8. VQ7LO and CT3AQ have been coming in fair but not regularly. I had RNE (RW50) for 35 minutes on Monday, Jan. 29. I picked him up when Pontoise left the air at 12:15 MST."

"I have a bit of information on KJTY which may help those who have not yet logged the ship," writes Clair E. Fultz, 17 Fifteenth Ave., Columbus, Ohio. "I often hear them testing with LSX which relays the messages to WEF which also uses the call W2XBJ. On the evening of Dec. 29, I was able to get the ship direct. They were on frequency number seven which I found to be on the 22 meter band but when they shifted to No. 11, I was unable to locate them."

"I would appreciate any information concerning KIIQ which I heard testing with recordings on about 123 meter," says Frank Pieratt, 216 East Grand, Ponca City, Okla. "I have

picked up GSA-B-D-E, G6RX-RI, DJA-C-D, I2RO, HVJ, Pontoise, PHI, OXY, Rabat, and 14 SAs. I have 84 commercials including KKP, KEQ, KAZ, YVQ, ZFA, FTM, PSF, VK2Me-3ME."

"I am very well pleased with my Sparton converter," reports Kenneth Buxton, 282 Elgin St., Sarnia, Ont. "Here is a list of my catches: VK2ME, PSK, HJB, Pontoise, DJC-D-L, TGX, I2RO, GSB-C-D-E-F, PHI, EAQ, HBP, RNE, YV3BC and KJTY. There were two others who heard KJTY with me and they marvelled at how clear he came through."

"We surely enjoy our 11-tube Philco all-wave," write Mr. and Mrs. Blaine Byers, 1106 N. Poplar, Wichita, Kans. "It surely brings them in. Here are a few we have received: DHC, EAQ, Buenos Aires, ZIJ, HB9D. We get KJTY regularly. On the broadcast band we get WJZ like a local."

"Boxed in by KFRC, four blocks west, KYA, five blocks south, KGGC, four blocks south-east, and KJBS, four blocks south, my reception is not so good," complains C. T. Rothweiler, 500 Leavenworth, San Francisco, Cal. "Have heard W8XK, VE9GW, W1XAZ, W2XAF, W8XAO, J1AA and VE9CL."

"On the s. w. I have verified PMY, F31CD, G5BY, G5SW, VK2ME, VK3ME, GBP, YV3BC, YV1BC, and recent catches are PK1MK, HIX, HC2RL, PRADO, GSE-D-A-B, DJD, YV2AM, PHI, CT3AQ, CP5, RNE, EAQ, RV15, J1AA, and Pontoise (25.2 m)" reports Don H. Townsend, 602 Churchill St., Fallon, Nev.

"There is one station that has me puzzled," announces Henry O'Brien, 37 Bishop St., East Haven, Conn. "It is on 29 meters. I got it Jan. 22 and it gave a call like a siren. Then every ten minutes the announcer would ring some chimes but everything he said was in Spanish."

"Have raised my list of stations from 352 to 392 in the last ten days," postcards Phil E. Lockwood, 315 No. 7th St., Yakima, Wash. "PSK in Rio de Janeiro, is regular

each afternoon from 4:00-4:30 p.m., PST., announcing and signing off in English. Boy, you must have the circulation! I have received so many letters in response to my letter published in January RADEX. Would especially like to hear from Midwest 16 owners."

## Tuning *the* AERIAL

I AM a minister, serving as a district superintendent, which takes me away from home much of the time. Consequently I have little time for experimentation. I have been interested in radio, however, since I built my first crystal set back in 1921 and I still have a trunk-full of junk which I have not the heart to dispose of. I have been a reader of RADEX for about two years and, while I have no time for applying all that I read, I assure you that I look forward eagerly to its monthly visits and, in imagination at least, participate in the joys and sorrows of the DXers and the radio-experimenters." This is the interesting preamble to a letter from J. Roswell Flower, 14 W. Lincoln Ave., Lititz, Pa.

"I have been experimenting with wave-traps. I took an old Freshman coil and hooked the secondary in parallel with an 11-plate condenser, mounting the condenser and coil in a tin can. This helped considerably. One day, while experimenting, I pulled the condenser and coil out of the can and, to my amazement, the signal strength doubled. The tin can was absorbing fifty per cent of the radio energy of my antenna. So I canned the can, mounted the condenser and coil on a piece of hard rubber and screwed it on the bottom of my radio cabinet. You can hardly imagine the difference in reception with this arrangement. In the daytime I can bring in stations that cannot possibly be heard without the trap. KFI can be heard any night after twelve in spite of interference from WSM. Without the trap I rarely reached any point farther west

than St. Louis. I figure that my present arrangement tunes the antenna system so that I get the maximum out of it."

Mr. Flower attaches the aerial and ground to the ends of the primary coil while the ends of the secondary are attached to the aerial and ground posts of his set. The condenser is bridged across the secondary coil.

## In Foreign Lands

WE receive many inquiries from readers in distant countries asking where they can find RADEX on sale. For their information, we are giving below the places at which the latest issues may be found. In Canada and the U. S., of course, this magazine is carried by all the larger newsstands and bookstores.

### Great Britain

Arthur C. Baker, 10 Lansdowne Road,  
Sales, Cheshire, England.

### New Zealand

R. Conner, P. O. Box 140,  
Palmerston North  
Te Aro Book Depot, Ltd., 64 Courtenay Place,  
Wellington, N. Z.

### Costa Rica

Carlos Federspiel & Co., Apartado 1088  
San Jose

### Alaska

F. J. Hunt, 207 Front St.,  
Ketchikan

### Canal Zone

Lewis Service, Drawer B,  
Ancon  
J. L. Beverhoudt, P. O. Box 5041,  
Cristobal

### Cuba

Diamond News Co., Centro Asutrinio  
Bldg., San Jose St. Side,  
Havana

### Hawaii

Wall-Nichols Co., 69-74 King St.  
Honolulu

### Philippines

Philippine Education Co., 101-103  
Escolto,  
Manila

### Puerto Rico

Carlos M. Colon, Apartado 236,  
Ponce  
Walkrop Photographic Co., 9 San  
Justo St.,  
San Juan

### British West Indies

Novelty Trading Co., 8 Musgrave Ave.  
Kingston, Jamaica

### China

China News, 447 Szechuen Road,  
Shanghai

### Dutch West Indies

Leo W. Baldwin, Care Pan America  
Oil Co., P. O. Box 192,  
Aruba

### Italy

Giulio Pacinelli Gioranli Urgenti,  
Roma, Ferrevia

### Mexico

American Book Store, S. A. Avenida  
Madero, 25,  
Mexico City  
L. F. Poston & Co., Sucursal B. de  
Correos,  
Monterrey, N. L.  
La Sanora S. A., Apt. 1439—Comerio,  
25 Tampico, Tamps.

### Venezuela

R. G. Letcher, Torre A. Madrices, 23,  
Caracas

### Newfoundland

Dominion Distributors Co., Mitchell  
Bldg., Water St.  
St. John's

### Haiti

E. P. Pawley,  
Port-au-Prince

## Skimming the DX Milk

"MANY are the nights the flesh is too weak to answer the call of the spirit to pursue that fascinating hobby of DXing," sighs Luther E. Grim, 505 S. Main St., Red Lion, Pa. "After spending eight hours wiping the dust of sanded shellac from the entire surface of more than 500 radio cabinets and anticipating another day and 500 more cabinets, there is no wonder the flesh doesn't answer the call. However, I have managed to push my log from 586 to 641 stations. I find that 30 of that number have been deleted. Among those added this season are XEFO, XEN, XEB, HIX, LR5, 2BL, 4QG, Radio Normandie, Fecamp, France."

"For Christmas I received a Crosley Dual 4 Model 169, and right then and there I became a confirmed DXer," confesses Kenneth W. Cranford, 16 W. Elmwood Place, Minneapolis, Minn. "To date (January 13) I have received 78 stations. Among my best are WODX, WRC, WSB, WQBC, XEAW, SER, WCOC, WABI, KWEA, KFI and KNX. I also have 95 amateurs, 18 police and 10 airport stations all over the country. I am 15 years old and would like to hear from other DXers with my type of radio."



Another reader who got the great thrill that comes with the first other-continent station is Richard J. Southward, 1417 Oakmont St., Toledo, Ohio. "On Monday, Feb. 5, I was up early trying to log some of the stations on the frequency check and at 5:45 a. m. EST on 570 kc. I picked up an R4 to R5 signal very clear on the loud speaker. At 6:01 a. m. very clear and distinct came the big announcement—2YA, Wellington, New Zealand. It was my first T-P on the b. c. band." Richard now has LR5, YV1BC and 2YA in the overseas section of his log.

"My b. c. log now stands at 156 with five Japs and LR5 as best catches," adds up C. E. Hansen, 502 West First, Julesburg, Colo. "The Japs come in good but fade quite frequently. Have not heard any Aussies to date but will keep trying. My s. w. log is at 20 with HC2RL, HJ1ABB and YV3BC as the best. EAQ has faded out here lately but maybe this is due to my changing my aerial from E and W to N and S. Have hooked up a Philco three-purpose antenna and it sure is keen. It eliminates a lot of noise. Am using a Midwest B-16-34 and like it fine."

"How many can get WSB, XER and CKAC when all are on at the same time and with no cross-talk?" wonders Clement Van Velsor, 1033 Sanford Ave., Irvington, N. J. "I can do that on my Scott Deluxe any night unless conditions are very bad. I can also get WBT's carrier in the afternoon with WLWL blazing away, WENR around five p. m. alongside WABC and WWL or KWKH on the other side of our local in the early evening is nothing unusual. This set can out-select any other receiver I have ever heard."

The peculiar quirks in aerials is illustrated by Warren E. Winkley, P. O. Box 12, Hughson, Calif., when he says: "The other day I put another twist of wire around the insulator to take up some slack in my aerial and this increased the reception of northern stations one hundred per cent." Warren has three aerials, 80, 200

and 320 feet in length respectively. Each of them will bring in certain stations better than the others. He needs only two Japs to complete the JOs. One morning in January he heard 27 of them in quick succession.

"I have a fine little 5-tube set of unknown make," prefaces Clifford Van Tassell, 154 Washington Ave., Pleasantville, N. Y. "I started DX in a systematic way early in December, 1933, and my log now stands at 296 stations. I have logged 106 100-watters and nine 50s and WIBG when it was 25 watts. Among my most distant catches of 100 watts are KFXJ, KFYO, WMBH and many others in the south and southwest. It seems I get the greatest distance from the southwest as I am able to tune in KFI any night when WEAFF is off the air."

From H. L. Higgins, Box A-55, Port-au-Prince, Haiti, comes this brief report: "I have an RCA-Victor, Model R-28-P, 5-tube set, with police and amateur short wave band. Just to see what I could do, Saturday evening, Feb. 3, between nine and one o'clock in the morning, I logged around 60 stations on the b. c. band, 14 police and three amateurs that I heard identify. I am no 'fan' in the accepted sense of the word but am interested in getting the most out of my set."

Albert James Cabral, 9 Conant St., Provincetown, Mass., closed his first year of DX on Feb. 15, with a log of 475 stations in the U. S., 32 in Canada, 14 in Mexico, 12 in Cuba, two in Great Britain, three in France, two in Germany, one each in Spain, Italy, Newfoundland, Miquelon Island, Czechoslovakia, Africa, New Zealand, Australia and the West Indies. He also has Columbia, Venezuela and three in Buenos Aires. He uses a Majestic 7-tube superhet, Model 331. That's a pretty hot pace for the first year.

"I have just bought a new RCA-Victor 8-tube all-wave and in the four days I have had it, I have logged LSY, KASA, XIG, CM2AM, HC2RL, KAZ, GSE, HJ1ABB, YVQ, EAQ,

Pontoise, and the 'Seth Parker' station KNRA. Pontoise, London and Zeesen come in in fine shape. EAQ, Madrid, is good for two hours so loud that it can be heard all over the house." This report comes from W. H. Lewis, 1328 Delaware St., Leavenworth, Kans. If these four days are any criterion, Mr. Lewis has some big times ahead of him.

"On Saturday morning, Feb. 17, I heard a station broadcasting on 700 kcs.," states Edmund M. Neel, P. O. Box 365, Duncan, V. I., B. C. "It was received between 12:30 and 1:30 a. m. PST. It could not have been W8XO because the Crosley station was coming in loud that night and this station was very faint, R2 strength. No Japs were audible at all that particular morning. I would be very glad to find out if the Newfoundland, Stockholm or Brazilian stations were broadcasting at that hour on the 17th."

"Last Christmas I bought a little portable radio," comments Carl L. Kennedy, 1034 N. Bever St., Wooster, Ohio. "It is called 'Imperial' and is made by the Belmont Company of Chicago. With an aerial about 25 feet long, sometimes merely thrown out of the window, and sometimes just put around my room as I now have it, I have had splendid reception. Since the first of the year I have logged 263 stations in 44 states, Canada, Mexico, Cuba, and Porto Rico."

"Since November, 1932, I have increased my verifications from 190 to 352," comments J. Drake, 1920 Athol St., Regina, Sask. "I now have verifications from Australia, New Zealand, Japan, Colombia and Venezuela. The other morning I had a real thrill when KFPM came in with good strength. I use a Philco 96, and as this is a t.r.f. set, the selectivity is not as good as it could be. This morning I picked up KWTO, 560, Springfield, Mo. W8XO sure comes in here when testing."

*(Continued on page 79)*

## HOW to TUNE

*(Continued from page 38)*

to the dial numbers you have entered as described above, you will see instantly that this must be 800 kcs. and you are hearing either WBAP or WFAA which use the same transmitter as indicated by the small "a" in the fourth column.

If RADEX is used in this way, those whose dials are marked from 0 to 100 will enjoy the same convenience as those whose dials are marked in kilocycles, in fact a greater convenience than many as too many dials marked in kilocycles are not accurate and therefore a real puzzle to read.

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## NEUTRALIZING

*(Continued from page 26)*

mers for another maximum signal response.

### Adjusting Segment Plates

If considerable adjustment is necessary on either the 1,000 or 1,400 kcs., setting, and the condenser does not prove sensitive and selective over the entire range, some further work must be done. Readjustment at one end of the dial may mean poor tuning at the other end. This is a common occurrence noticed by many owners of radio receivers. If each variable condenser in the gang unit is constructed with a slotted end-plate, as explained before, the capacity can be changed for one particular frequency band without disturbing the other bands. An adjustment such as this cannot be made by a trimmer condenser. Some receivers have thumb screws which bend the plates toward or away from the outer stator plate—that is, just some portion of the plate area is bent to change the capacity at that particular portion of the surface. In other types of condensers the split segments must be bent either by the finger or with some insulated tool. Even the old style solid plate variable con-

condensers can be adjusted by a careful manipulation of the outer rotor plate with the fingers.

Set the dial to about 1,200 kcs., and adjust the small trimmers for maximum response. Then reset the dial to 600 kcs., *but* now readjust for maximum response by bending the plate segments toward or away from the adjacent stator plate. At this setting the rotor plates will be almost in mesh with the stator plates. The segments of the end plates which come out first when turning the dial are the ones that should be manipulated and adjusted. Then set the dial to 1,000 kilocycles and bend those segments still in mesh. *Do not touch the segments that have already emerged from the stator plates.* A little more readjustment of the trimmers may now be necessary before correct alignment is attained. The plate bending method is used by circuits that have no trimmer condensers shunted across their tuning condensers—the latter now having the split segments in one end plate.

(The alignment of all-wave receivers and sets using a single tube as oscillator and first detector, as well as the alignment of intermediate-frequency stages and tracking adjustments for superheterodyne receivers, will be discussed next month.)

## DX CLUB Meeting

*(Continued from page 24)*

my verification from LR5, Radio Excelsior, Buenos Aires, Arg. They said that they possess the highest twin commercial towers in the world for the suspension of their aerial."

"I have a few new stations to report," comments Earl R. Roberts, 628 South 7th St., Cambridge, Ohio, "the best being Beromunster, Switzerland, and Fecamp, France. Heard Beromunster January 11, just after WSM signed off at 1:00 a. m. with the N.N.R.C. DX tips. Fecamp came in December 30, from 2:15 to 2:52 a. m. EST., with some interference from KGB. P.P. came in really good

January 9, 10 and 11, as they come on the air at 2:10 a. m. The new XEAC, Agua Caliente, B. C., Mexico on about 820 kcs., came in fine several mornings. My total log stands at 1017, all heard on the same old '26 battery set, not counting amateurs."

"At the present time I have just 1000 stamps in my Ekko album," writes Wm. A. Stead, 736 West 181st St., New York, N. Y., "representing verifications of my reports to radio stations on the broadcast channels. Of course, there are a great many stations that do not issue stamps, and when verification letters are received by me, I send them to the Ekko Company, whereon they furnish the stamps. My log stands at 1080 stations, and I have logged every state in the Union, every province of Canada, and also European, Cuban, Mexican, South American and Alaskan stations."

"I do most of my DXing on Sunday mornings," remarks Clarence Wakefield, Wiarton, Ont. "I did get up a few times for the F.R.C. tests. Haven't received any European or T-P.'s, except 2YA, Wellington, N. Z., who verified my report. Have also had CX-26 and LR5, but no veris from them as yet. My radio is a Sparton Model 931, 9-tube, 1929, still going strong. I have had the tubes replaced and the voice coil. Have two aerials, one east-west and one north-south and the latter is just as good as the former. I have 425 stations, but 30 have been deleted. My ground just now is a car radiator and a rod buried about three feet in the ground, very efficient."

"Poste Parisien is heard well nearly every morning except Sunday on its new frequency of 959 kc. at 2:15 EST," reports Fred Burleigh, 142 Converse Ave., Meriden, Conn. "Since my last letter I have jumped my log to 545 all on the b. c. b. Best catches are 4RK, HJN, HIX, VOAS, CHAB, CJRM, 10BQ, 10BP, CKIC, WKAQ, XEFB, XEFV, and Radio Normandie. All these on a 6-tube, Model 31, Majestic of 1930."

# WHAT'S ON THE AIR TONIGHT?

Fill in calls and dial numbers for those stations through which you best receive the three chains. You can then turn quickly to the one that has the feature you want.

COLUMBIA.....(C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue.(B)	
Call	Dial

TIME: E Eastern; C Central; M Mountain; P Pacific.

RADEX is the only publication listing stations in alphabetical order for your convenience.

While these programs are correct at the time of going to press changes are made from time to time.

## MONDAY

E-8:00 p.m., C-5:00, M-4:00, P-3:00

C — Buck Rogers in 25th Century  
CKLW WAAB WABC WADC WBT  
WCAO WCAU WDRC WEAN WHK  
WJSV WKBW WOKO

R — Waldorf Astoria Orchestra  
KDYL KFYR KOA KPO KPRC KSD  
KSTP KTBS KTHS KVOO WAPI  
WBEW WCAE WCSH WDAF WDAY  
WEAF WEBC WFAA WFLA WHO  
WIBA WIOD WIS WJAR WJAX  
WJDX WKY WMAQ WMC WQAI  
WOC WRC WRVA WSAI WSB WSM  
WSMB WSOC WTAG WWJ WWNC

B — U. S. Army Band  
KOIL KSO KWCR KWK KYW WBAL  
WBZ WBZA WCKY WENR WHAM  
WJZ WMAL WREN WSYR

E-8:15 p.m., C-5:15, M-4:15, P-3:15

C — Bobby Benson; Sunny Jim  
WAAB WABC WCAU WDRC WEAN  
WFLB WGR WHCC WHK WLWB  
WMAS WOKO WORC

E-8:30 p.m., C-5:30, M-4:30, P-3:30

R — Irene Beasley. Songs  
KGO KOA WAPI WBEN WCKY  
WEAF WFBR WGY WHO WJDX  
WMC WOC WSAI WSB WSM WSMB  
WSOC WTAG WWJ

C — Sam Robbins and Orchestra  
CKLW KLRA KLZ WAAB WADC  
WBIG WBRC WCAO WDAE WDBJ  
WDBO WDOD WDRC WDSU WFBL  
WFEA WGST WHCC WHP WICC  
WJAS WJSV WKBN WKBW WLAC  
WLWB WLWB WMAS WMBG WOKO  
WORC WQAM WRCC WSFA WSJS  
WSPD WTAR WTOC

E-8:45 p.m., C-5:45, M-4:45, P-3:45

B — Lowell Thomas  
CRCT KDKA WBAL WBZ WBZA  
WFLA WGAR WHAM WIOD WJAX  
WJR WJZ WLW WSYR

E-7:00 p.m., C-6:00, M-5:00, P-4:00

C — Myrt and Marge  
CKLW KRLD WABC WADC WBT  
WCAO WCAU WDAE WDBO WDRC  
WEAN WFBL WGR WHK WJAS  
WJSV WKHC WNAC WOKO WQAM  
WSPD WTOC WWVA

B — Amos 'n' Andy  
CRCT KDKA WBAL WBZ WBZA  
WCKY WFLA WGAR WHAM WIOD  
WJR WJZ WLW WMAL WPTF  
WRVA

E-7:15 p.m., C-6:15, M-5:15, P-4:15

C — Just Plain Bill  
CFRB CKLW WABC WCAO WCAU  
WGR WHK WJSV WKRC WNAC

R — Billy Bacher; Ray Knight  
WEAF WGY WJAR WRC WTAG  
WTAM WWJ

B — Baby Rose Marie, Songs  
KDKA WBAL WBZ WBZA WHAM  
WJZ WMAL WSYR

E-7:30 p.m., C-6:30, M-5:30, P-4:30

C — Music in the Air  
WABC WCAO WCAU WDRC WEAN  
WFBL WFEA WGR WHCC WICC  
WJAS WJSV WLWB WNAC WOKO  
WORC

R — Mollie Show  
KSD WBEN WCAE WCSH WDAF  
WEAF WFBR WGY WHO WJAR  
WMAQ WOC WOW WRC WTAG  
WTAM

B — George Gershwin; Katzman's Orch.  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WENR WHAM  
WJR WJZ WMAL WREN WSYR  
WLW

E-7:45 p.m., C-6:45, M-5:45, P-4:45

C — Beako Carter; Phloce  
CKLW KMBC KMOX WABC WBBM  
WBT WCAO WCAU WCCO WGR  
WHAS WHK WJAS WJSV WNAC

R — The Goldbergs  
WBEN WCAE WCSH WDAF WEAF  
WEEI WENR WFBR WGY WJAR  
WLIT WOW WRC WSAI WTAG  
WTAM WWJ

E-8:00 p.m., C-7:00, M-6:00, P-5:00

C — Happy Bakers  
CKLW WABC WADC WCAH WDRC  
WFBR WGN WGR WHCC WHK  
WICC WJSV WMAS WMBG WMT  
WNAC WORC WSPD WWVA

B — Sealed Power Side Show  
KDKA KFYR KOIL KPRC KSO  
KSTP KTBS KTHS KVOO KWCR  
KWK WBAL WBZ WBZA WDAY  
WEBC WFAA WGAR WHAM WIBA  
WJDX WJR WJZ WKY WLS WMAL  
WMC WQAI WSB WSM WSMB  
WSYR WTMJ

R — Soconyland Sketches  
WBEN WCAE WCSH WEAF WEEI  
WGY WJAR WSAI WTAG WTAM  
WTIC

E-8:15 p.m., C-7:15, M-6:15, P-5:15

C — Edwin C. Hill  
CKLW KMBC KMOX WABC WADC  
WCAO WCAU WCCO WDRC WEAN  
WFLB WFBR WGN WGR WHK  
WJAS WJSV WKRC WNAC WOKO  
WSPD

E-8:30 p.m., C-7:30, M-6:30, P-5:30

C — Bing Crosby; Mills Brothers  
CKLW KDB KERN KFBK KFPY  
KFRC KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KSL KVI KWG  
WABC WADC WCAO WCAU WDRC  
WEAN WFBL WFBR WGN WGR  
WHAS WHK WJAS WJSV WHCC  
WNAC WOKO WOW WSPD

R — Voice of Firestone  
CFBC CRCT KFYR KPRC KSD  
KTBS KTHS KVOO WBEN WCSH  
WDAF WDAY WEAF WEBC WEEI  
WFAA WFBR WFLA WGY WHO  
WIOD WIS WJAR WJAX WJDX  
WKY WLIT WLW WMAQ WMC  
WQAI WOC WOW WRC WRVA WSB  
WSM WSMB WSOC WTAG WTAM  
WTIC WTMM WWJ WWNC

B — Djer Kiss Recital  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WCKY WGAR  
WJZ WLS WMAL WREN WSYR

E-8:45 p.m., C-7:45, M-6:45, P-5:45

B — Red Davis—Dramatic Sketch  
KDKA WBAL WBZ WBZA WHAM  
WJR WJZ WLS WSYR

E-9:00 p.m., C-8:00, M-7:00, P-6:00

C — Philadelphia Symphony Orchestra  
CKLW KDB KERN KFBK KFB  
KFPY KFRC KGB KHJ KLRA KLZ  
KMBC KMJ KMOX KOE KOIN  
KOL KOMA KSL KTRH KTSA  
KVI KWG WABC WADC WBBM  
WBRC WBT WCAH WCAO WCAU  
WCCO WDAE WDBJ WDBO WDRC  
WDSU WEAN WFBL WFBR WGR  
WGST WHAS WHCC WHK WICC  
WISN WJAS WJSV WKRC WLAC  
WLWB WMAS WMT WNAC WOKO  
WOW WPG WQAM WRCC WRR  
WSPD WTAR WTOC

R — A. & P. Gyoalles  
KSD WBEN WCAE WCSH WDAF  
WEAF WEEI WGY WHO WJAR  
WLIT WMAQ WOC WOW WRC  
WSAI WTAG WTAM WTIC WWJ

B — Sinclair Minstrels  
KDKA KFYR KOA KOIL KPRC  
KSO KSTP KTBS KTHS KVOO  
KWCR KWK WBAL WBZ WBZA  
WDAY WEBC WFAA WFLA WGAR

MONDAY—(Continued)

WHAM WIBA WIOD WIS WJAX  
WJDX WJR WJZ WKY WLS WLW  
WMC WOAI WPTF WREN WRVA  
WSB WSM WSMB WTRM WWNC

E-9:15 p.m., C-9:15, M-7:15, P-6:15

C — Fray and Braggiotti  
CKLW KFH KLRA KLZ KMBC  
KMOX KOIN KOMA KSCJ KTRH  
KTSa KVR WABC WACO WBNS  
WBRC WCAO WCCO WDAE WDBJ  
WDBO WDOD WDRC WDSU WFBM  
WFEE WGST WHAS WHEC WHK  
WHP WIBW WICC WISN WJAS  
WKWB WKRC WLAC WLWB WLZ  
WMAS WMBD WMBG WMT WNAC  
WNAX WODX WOKO WORC WQAM  
WREC WSBT WSJS WSPD WTAZ  
WTOC

E-8:30 p.m., C-8:30, M-7:30 P-6:30

C — The Big Show  
CFRB CKLW KDB KERN KFBK  
KFYP KFRC KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KRDL  
KSL KVI KWG WABC WADC  
WBMM WBT WCAH WCAO WCAU  
WCCO WDRC WDSU WEAN WFBL  
WFBM WHAS WHK WICC WJAS  
WJSV WKWB WKRC WLAC WNAC  
WOKO WOVO WREC WSPD WTAZ

R — Del Monte Ship of Joy

KDYL KOA KPRC KSD KSTP  
KTBS KVOO WBN WCAE WCHS  
WEAF WEBC WEEL WFAA WFBZ  
WFLA WGY WHO WIOD WIS  
WJAR WJAX WKBF WKY WLIT  
WMAQ WOAI WOC WOV WRC  
WRVA WSAI WTAG WTAM WTMJ  
WWJ WWNC

R — Jack Frost's Melody Moments

KDKA WBAL WENR WGAR WHAM  
WJR WJZ WLW

E-10:00 p.m., C-9:00, M-8:00, P-7:00

C — Wayne King and Orchestra  
CKLW KALE KDB KERN KFRC  
KGB KHJ KLZ KMBC KMOX  
KOIN KOL KSL KWG WAAB WABC  
WADC WBBM WCAO WCAU WCCO  
WDRC WEAN WFBL WFBM WGR  
WHAS WHK WJAS WJSV WERC  
WOKO WOVO WSPD

R — Contented Program

CFCP CRCT KDYL KFI KFYZ  
KGO KGW KHQ KOA KOMO KPRC  
KSTP WCHS WFAE WEBC WEEL  
WFBZ WJAR WLIT WMC WOAI  
WRC WSP WSM WTAG

E-10:30 p.m., C-9:30, M-8:30, P-7:30

B — Henri Deering, Concert Pianist  
KFYR KOIL KPRC KSO KSTP  
KTBS KVOO KWG WBAL WBZ  
WBZA WCKY WECB WFAA WHAM  
WIBA WJDX WJZ WKY WMAL  
WOAI WREN WSB WSM WSMB  
WSYR

R — National Radio Forum

CRCT KSD WAPI WBN WCAE  
WCHS WDAF WEAF WEEL WFBZ  
WGY WHO WJAR WJDX WLIT  
WLW WMAQ WMC WOC WOV  
WRC WSB WSMB WTAG WTAM  
WTC WJZ

C — Mark Warnow; Connie Gates

CKLW KLRA KMOX KOMA KSCJ  
KTRH KTSa KVR WAAB WABC  
WACO WDAE WBG WBNS WBRC  
WCAO WDAE WDBJ WDOD WDOD  
WDRC WDSU WEAN WFEA WGR  
WGST WHEC WHP WIP WISN

WJAS WJSV WKBN WKRC WLAC  
WLWB WLZ WMAS WMBD WMBG  
WMT WNAX WODX WORC WOV  
WPG WQAM WREC WBS WSJS  
WSPD WTOC

E-10:45 p.m., C-9:45, M-8:45, P-7:45

C — Myrt and Marge

KDB KERN KFBK KFYP KFRC  
KGB KHJ KLRA KLZ KMBC KMJ  
KMOX KOIN KOL KOMA KSL  
KVI KWG WBBM WBRC WCCO  
WDSU WFBM WGST WHAS WLAC  
WODX WREC

E-11:00 p.m., C-10:00, M-9:00, P-8:00

B — Amos 'n' Andy

KDYL KFI KGW KHQ KOA  
KOIL KOMO KPRC KSTP KTHS  
KWK WBAP WDAF WENR WKY  
WMAQ WMC WOAI WREN WSB  
WSM WSMB WTMJ

C — Freddie Rich and Orchestra

CKAC CKLW KFAB KFH KLRA  
KLZ KMBC KSCJ KTRH KTSa  
KVR WAAB WABC WACO WADC  
WBRC WBT WCAH WCAO WCCO  
WDAE WDBJ WDOD WDRC WDRS  
WDSU WEAN WFBM WFEA WGST  
WHEC WIBW WICC WIP WISN  
WJAS WJSV WKBN WKWB WLAC  
WLWB WLZ WMAS WMBD WMBG  
WMT WOKO WORC WQAM WREC  
WST WSJS WSPD WTAZ

E-11:15 p.m., C-10:15, M-9:15, P-8:15

C — News Service

CFRB CKAC CKLW KFAB KFH  
KLRA KLZ KOMA KSCJ KTRH  
KTSa KVR WAAB WABC WACO  
WADC WBBM WBNS WBRC WCAO  
WDAE WDBJ WDOD WDRC WDSU  
WFBL WGST WHEC WHP WIBW  
WIP WISN WJSV WKBN WKWB  
WKRC WLAC WLWB WLZ WMAS  
WMBD WMBG WMT WNAX WODX  
WOKO WORC WPG WREC WSJS  
WSPD WTAZ WTOC

E-11:30 p.m., C-10:30, M-9:30, P-8:30

R — Voice of Firestone

KDYL KFI KFSD KGHK KGIR KGO  
KGU KGW KHQ KOA KOMO KTAR

E-12:00 p.m., C-11:00, M-10:00, P-9:00

B — Sealed Power Side Show

KDYL KFI KGHK KGIR KGO KGW  
KHQ KOA KOMO KTAR

C — Leon Belasco and Orchestra

CKAC CKLW KLRA KLZ KMBC  
KMOX KOMA KSL KTRH KTSa  
WABC WBRC WCAU WDOD WEAN  
WFBL WFBM WGST WHAS WHP  
WIBW WICC WJAS WJSV WKWB  
WKRC WLAC WLWB WMAS WNAC  
WOKO WQAM WREC WSJS WSPD  
WTOC

TUESDAY

E-8:00 p.m., C-5:00, M-4:00, P-3:00

C — Buck Rogers. See Monday

R — Waldorf Astoria. See Monday

E-8:15 p.m., C-5:15, M-4:15, P-3:15

C — Bobby Benson. See Monday

E-8:30 p.m., C-5:30, M-4:30, P-3:30

R — Mid-Week Hymn Sing

KDYL KFYR KGIR KPO KPRC  
KTBS KTHS KVOO WDAY WEAF  
WFAA WFI WGY WHO WIBA WIS  
WJAX WJDX WMAQ WOAI WOC  
WRC WSAI WTAG WWNC

C — Mary Eastman; Evan Evans

CKLW KLRA WAAB WABC WADC  
WBT WCAO WCAU WDAE WDBJ  
WDBO WDRS WDSU WFEA WGST  
WHEC WICC WJAS WJSV WKBN  
WLWB WLZ WMAS WMBG WOKO  
WORC WQAM WREC WSJS WSPD  
WTAZ

E-8:45 p.m., C-5:45, M-4:45, P-3:45

C — Little Italy

WABC WABC WCAO WCAU WDRC  
WEAN WHEC WHP WKWB WOKO

R — Cheerio Musical Mosaics

KDYL KOA KPO KSD WCKY  
WEAF WEEL WFBZ WFLA WGY  
WHO WIOD WIS WJAR WJAX  
WJDX WMAQ WOC WOV WWSA  
WSAI WSM WSOB WTAG WWJ  
WWNC

B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00

C — Myrt and Marge, See Monday

B — Amos 'n' Andy, See Monday

E-7:15 p.m., C-6:15, M-5:15, P-4:15

C — Just Plain Bill, See Monday

R — Billy Bachelor, See Monday

B — You and Your Government

KDKA KECA KEX KFSI KFYZ  
KGA KGHK KGIR KHJ KOA KOIL  
KPRC KTAR KTBS KTHS KYOO  
KWCR KWG KYA WAPI WBZ WBZA  
WCKY WFLA WHAM WIBA WIS  
WJDX WJZ WMAL WOAI WPTF  
WREN WSMB WWNC

E-7:30 p.m., C-6:30, M-5:30, P-4:30

C — Silver Dust Serenaders

WABC WCAU WDRC WFBL WGR  
WHEC WJAS WMAS WOKO WORC  
WWVA

R — Green Brothers; Arlene Jackson

KSD WCHS WEAF WJAR WMAQ

E-7:45 p.m., C-6:45, M-5:45, P-4:45

C — Boats Carter, See Monday

R — Goldberg, See Monday

B — Grace and Eddie Albert

KDKA KFYR KOIL KPRC KSTP  
KTBS KWCR KWG WBAP WBZ  
WBZA WENR WFLA WGAR WHAM  
WIBA WIS WJZ WKY WMAL WRVA  
WISN WWNC

E — 8:00 p.m., C-7:00, M-6:00, P-5:00

C — Little Jack Little

CKLW KFH KLRA KMBC KMOX  
KOMATAT KTUL WABC WADC  
WBBM WCAH WCCO WDRC WFBM  
WGR WHEC WHK WICC WISN  
WJSV WMAS WMBG WMT WNAC  
WREC WVR WSPD WWVA

R — Leo Reisman's Orchestra

KDYL KFI KGO KGW KHQ KOA  
KOMO KSD WBN WCAE WCHS  
WEAF WEEL WFBZ WFI WGY WHO  
WJAR WKBF WLS WMAQ WOC  
WOW WRC WSAI WSB WSM WSMB  
WTAG WTAM WTMJ WWJ

B — Encrime Clues

KDKA KWK WBAL WBZ WBZA  
WGAR WHAM WJR WJZ WLW  
WMAL WMAQ WREN

E-8:30 p.m., C-7:30, M-6:30, P-5:30

C — Voice of Exoticism

CKLW KMBC KMOX WABC WBBM  
WBT WCAO WCAU WDRC WEAN  
WGR WHAS WHK WJAS WJSV  
WKRC WNAC

**TUESDAY—(Continued)**

**R — Wayne King and Orchestra**  
 KPRC KSD KSTP WBEN WCAE  
 WCFH WDAF WFAE WEEI WFAA  
 WFLI WGY WHO WJAR WKBF  
 WKY WMAQ WMC WOAI WOC  
 WOW WRV WSAI WSB WSM WSBM  
 WTAG WTAM WTMJ WWJ

**B — Harlick's Adventures in Health**  
 CRCT KDKA KOIL KSO KWK  
 WBAL WBZ WBZA WGAR WHAM  
 WJR WJZ WLS WLW WREN

**E-8:46 p.m., C-7:46, M-6:46, P-5:46**  
**B — Bavarian Peasant Band**  
 KDKA KOIL KSO KWCR KWK  
 WBAL WBZ WBZA WGAR WHAM  
 WJR WJZ WLS WLW WMAI WREN  
 WSYR

**C — Raymond Paige and Orchestra**  
 KDB KFH KLRA KLZ KMOX KOIN  
 KOMA KSCJ KSL KTRH KTSB  
 KFOR WABC WACO WADC WBNS  
 WCAO WCAU WCCO WDAE WDBJ  
 WDBO WDOD WDRC WDSU WEAN  
 WFBL WFBM WFEA WGR WGST  
 WHAS WHEC WHP WIBW WICC  
 WISN WJAS WJSV WKBN WLAC  
 WLWB WLWZ WMAZ WMBG WMT  
 WNAX WODX WOKO WORC WPG  
 WQAM WREC WSBT WSUS WSPD  
 WTAR WTOC

**E-8:00 p.m., C-8:00, M-7:00, P-8:00**

**R — Ben Bernie and Orchestra**  
 KFJR KOA KPRC KSD KSTP  
 WBAP WBEN WCAE WCHS WDAY  
 WFAE WEEI WFBR WFI WGY  
 WHO WJAR WKY WLW WMAQ  
 WMC WOAI WOC WOW WRC  
 WRVA WSB WSM WSBM WTAG  
 WTAM WTMJ WWJ

**B — Household Musical Memories**  
 KDKA KSO KWK WBAL WBZ WBZA  
 WHAM WJR WJZ WKBF WLS  
 WREN WSYR

**C — Phila. Symphony, See Monday**

**E-9:15 p.m., C-8:15, M-7:15, P-6:15**

**C — Ruth Etting; Johnny Green**  
 CKLW KDB KERN KFBK KFH  
 KFPY KPRC KGB KHJ KLRA KLZ  
 KMBC KMJ KMOX KOIN KOL  
 KOMA KSCJ KSL KTRH KTSB KVI  
 KWG WABC WADC WBBM WBRC  
 WBT WCAH WCAO WCAU WCCO  
 WDAE WDRC WDSU WEAN WFBL  
 WFBM WGST WHAS WHEC WHK  
 WIBW WICC WISN WJAS WJSV  
 WKBW WKRC WLAC WMBD WMT  
 WNAC WOKO WOWO WQAM WREC  
 WRR WSPD WTAR WTOC

**E-9:30 p.m. C-8:30, M-7:30, P-8:30**

**R — Taxaco Fire Chief Program**  
 KDYL KFI KFSD KFJR KGH  
 KGIR KGO KGW KHQ KOA KOMO  
 KPRC KSD KSTP KTRH KTSB  
 KVOO WBAP WBEN WCAE WCHS  
 WDAF WDAY WFAE WEEC WEEI  
 WFBR WFI WFLA WGY WHO WIBA  
 WIOD WIS WJAR WJAX WJDX  
 WKY WLW WMAQ WMC WOAI  
 WOC WOW WPTF WRC WRVA  
 WSB WSM WSBM WTAG WTAM  
 WTMJ WWJ WWCN

**B — Eddie Duchin and Orchestra**  
 KDKA KOIL KSO KWCR KWK  
 WBAL WBZ WBZA WCKY WENR  
 WGAR WHAM WJR WJZ WMAI  
 WREN WSYR

**C — Minneapolis Symphony Orchestra**  
 CKLW KDB KERN KFBK KFPY

KPRC KGB KHJ KLZ KMBC KMJ  
 KMOX KOIN KOL KOMA KRLL  
 KSL KVI KWG WABC WADC WBBM  
 WBRC WBT WCAO WCAU WCCO  
 WDRC WDSU WEAN WFBL WFBM  
 WHAS WHK WJAS WJSV WKBW  
 WKRC WMBG WMT WNAC WNAX  
 WOKO WOWO WSPD

**E-10:00 p.m., C-9:00, M-8:00, P-7:00**

**C — Camel; Glen Gray's Orchestra**  
 CKLW KDB KERN KFBK KFH  
 KFPY KPRC KGB KHJ KLRA KLZ  
 KMBC KMJ KMOX KOIN KOL  
 KOMA KRLL KSCJ KSL KTRH  
 KTSB KVI KWG WAAB WABC  
 WACO WADC WBBM WBIG WBRC  
 WBT WCAH WCAO WCAU WCCO  
 WDAE WDBJ WDBO WDOD WDRC  
 WDSU WFBL WFBM WFEA WGST  
 WHAS WHEC WHK WHP WIBW  
 WICC WJAS WJSV WKBW WKBN  
 WKBW WJRC WLAC WLWZ WMAZ  
 WMBD WMBG WMT WNAX WODX  
 WOKO WORC WOWO WPG WQAM  
 WREC WSJS WSPD WTAR WTOC

**R — Cruise of Seth Parker**

KDYL KFI KFSD KFJR KGH  
 KGIR KGO KGW KHQ KOA KOMO  
 KPRC KSD KSTP KTRH KTSB  
 WAPI WBAP WBEN WCHS WDAF  
 WDAY WFAE WEEC WEEI WFBR  
 WFI WFLA WGY WHO WIBA WIOD  
 WIS WJAR WJAX WJDX WKY  
 WLW WMAQ WMC WOAI WOC  
 WOW WRC WRVA WSB WSM  
 WSBM WTAG WTAM WWJ WWCN

**B — Ray Perkins; Harold Stokes**

KDKA KOIL KSO KWCR WBAL  
 WBZ WBZA WCKY WENR WGAR  
 WHAM WJR WJZ WMAI WREN  
 WSYR

**E-10:30 p.m., C-9:30, M-8:30, P-7:30**

**C — Harlem Serenade**  
 CKLW KFH KLRA KOMA KRLL  
 KSCJ KTRH KTSB KFOR WAAB  
 WABC WACO WADC WBIG WBRC  
 WBNS WCAO WDAE WDBJ WDOD  
 WDOD WDRC WDSU WEAN WFEA  
 WGR WGST WHEC WIP WISN  
 WJAS WJSV WKBN WKRC WLWB  
 WLWB WMAZ WMBD WMBG WMT  
 WNAX WODX WORC WOWO WPG  
 WQAM WREC WSJS WSPD WTOC

**R — Madame Sylvia—Beauty Talk**

KDYL KFI KGO KGW KHQ KOA  
 KOMO KSD KSTP WBEN WFAE  
 WFAE WEEI WGY WHO WIBA  
 WMAQ WOC WRC WTAG WWJ

**E-10:46 p.m., C-9:46, M-8:46, P-7:46**

**C — Myrt and Marge, See Monday**

**E-11:00 p.m., C-10:00, M-9:00, P-8:00**

**B — Amos 'n' Andy, See Monday**

**C — Charles Carlile, Tenor**

CFBR CKAC CKLW KFAB KFH  
 KLRA KLZ KMBC KMOX KSCJ  
 KTRH KTSB KFOR WAAB WABC  
 WACO WADC WBT WC-H WCO  
 WCCO WDAE WDBJ WDBO WDRC  
 WDSU WEAN WFBL WFBM WGST  
 WHAS WHEC WHK WIBW WIP  
 WISN WJAS WJSV WKBN WKBW  
 WLAC WLWB WLWZ WMAZ WMBD  
 WMBG WMT WOKO WORC WPG  
 WQAM WREC WSBT WSUS WSPD  
 WTAR WWVA

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**

**C — News Service! See Monday**

**E-11:30 p.m., C-10:30, M-9:30, P-8:30**

**C — Ozzie Nelson and Orchestra**  
 CFBR CKLW KFH KLRA KLZ  
 KMBC KOMA KSL KTRH KTSB  
 WABC WADC WBRC WCAO WDBJ  
 WDRC WDSU WEAN WFBL WFBM  
 WGST WHK WHP WIBW WISN  
 WJSV WKBW WLAC WLWB WMBD  
 WMBG WMT WNAC WOKO WORC  
 WQAM WREC WSBT WSUS WTAR  
 WTOC WWVA

**B — Richard Himber and Orchestra**

CFCH KDYL KFJR KOIL KPO KSO  
 KSTP KWCR KWK WAPI WBAL  
 WBZ WBZA WCKY WDAY WEEC  
 WENR WFLA WHAM WIBA WIOD  
 WIS WJDX WJZ WMAI WMC  
 WREN WRVA WSB WSM WSBM  
 WSYR WWCN

**E-11:46 p.m., C-10:46, M-9:46, P-8:46**

**C — Voice of Experience**  
 KDB KERN KFBK KFPY KPRC  
 KGB KHJ KLZ KMJ KOIN KOL  
 KSL KVI KWG

**WEDNESDAY**

**E-8:00 p.m., C-5:00, M-4:00, P-3:00**

**C — Buck Rogers, See Monday**

**R — Waldorf Astoria, See Monday**

**B — Westminster Choir**

KOIL KSO KWCR KWK WBAL  
 WCKY WGAR WHAM WJZ WMAI  
 WREN WSYR

**E-8:15 p.m., C-5:15, M-4:15, P-3:15**

**C — Bobby Benson, See Monday**

**E-8:30 p.m., C-5:30, M-4:30, P-3:30**

**R — International News Service**  
 KDKA KGA KGHJ KGIR KJR KOA  
 KPO KPRC KSD KTRH WAPI WBEN  
 WDAF WDAY WFAE WFBR WGY  
 WIBA WIS WJAX WJDX WOAI  
 WRC WWCN

**B — Irene Bessey, Contralto**

KGO KOA KPRC KSO KTRB KVOO  
 KWCR WBAL WBAP WCKY WENR  
 WGAR WJZ WOA I WREN

**C — Enoch Light and Orchestra**

CKLW KLRA WAAB WADC WBIG  
 WBRC WCAO WDAE WDBJ WDOD  
 WDOD WDRC WDSU WFEA WGST  
 WHEC WHP WICC WJAS WJSV  
 WKBN WLWB WLWZ WMAZ WMBG  
 WOKO WORC WQAM WREC WSPA  
 WSJS WSPD WTAR WTOC

**E-8:45 p.m., C-5:45, M-4:45, P-3:45**

**B — Lowell Thomas, See Monday**

**E-9:00 p.m., C-6:00, M-5:00, P-4:00**

**C — Myrt and Marge, See Monday**

**B — Amos 'n' Andy, See Monday**

**E-9:15 p.m., C-6:15, M-5:15, P-4:15**

**C — Just Plain Bill, See Monday**

**R — Billy Bachelor, See Monday**

**B — John Herrick, Baritone**

KDKA KOIL KSO KWCR KWK  
 WBAL WBZ WBZA WCKY WENR  
 WHAM WJZ WMAI WSYR

**E-9:30 p.m., C-6:30, M-5:30, P-4:30**

**C — Music in Air, See Monday**

**R — Mollie Show, See Monday**

**E-9:45 p.m., C-6:45, M-5:45, P-4:45**

**C — Boake Carter, See Monday**

**R — Goldbergs, See Monday**

## WEDNESDAY—(Cont'd)

**B** — Irene Rich in Hollywood  
KDKA WBAL WBZ WBZA WCKY  
WENR WJZ WMAL WMC WBS WSM  
WSMB WSYR

**E-8:00 p.m., C-7:00, M-6:00, P-5:00**  
**R** — Jack Peeri, Baron Munchausen  
CFCF KDYL KFI KFYZ KGO KGW  
KHQ KOA KOMO KSD KTAR KTBS  
KVOO WAVE WBEN WCAE WCKY  
WESH WDAF WDAY WFAE WFCB  
WEEL WFRB WGY WHO WIBA  
WJAR WJXZ WLIT WMAQ WMC  
WOAI WOW WPTF WRC WSAI  
WSMB WTAG WTAM WTIC WTMJ  
WWJ WWNC

**C** — Happy Bakers. See Monday  
**B** — Eno Crime. See Tuesday

**E-8:15 p.m., C-7:15, M-8:15, P-6:15**  
**C** — Edwin C. Hill. See Monday

**E-8:30 p.m., C-7:30, M-6:30, P-5:30**  
**C** — Albert Spalding; Conrad Thibault  
CFRB CKAC CKLW KDB KERN  
KFBC KPZY KFRC KGB KHJ  
KLRA KILZ KMBC KMJ KMOX  
KOIN KOL KOMA KSL KTAT  
KTRH KTSa KVI KWG WABC  
WBRC WCAO WCAU WCCO WDDO  
WDRS WDSU WEAN WFBL WFBM  
WGN WGR WGST WHAS WHK  
WJAS WJSV WKRC WLAC WMT  
WNAK WOKO WORC WOWO WREC  
WRR

**B** — Dangerous Paradise, Orama  
CFCF KDKA KOIL KSO KWCR  
KWK WBAL WBZ WBZA WGAR  
WHAM WJR WJZ WLS WMAL  
WREN WSYR

**R** — Wayne King and Orchestra  
KSD WBEN WCAE WESH WFAE  
WFRB WGY WJAR WKBF WLIT  
WMAQ WOW WRC WSAI WTAG  
WTAM WWJ

**E-8:45 p.m., C-7:45, M-8:45, P-6:45**  
**B** — Red Davis. See Monday

**E-9:00 p.m., C-8:00, M-7:00, P-8:00**  
**R** — Ipana Troubadours  
KDYL KFI KGO KGW KHQ KOA  
KOMO KPRC KSD KSTP KTBS  
KTBS KYOO WAPI WBAF WBEN  
WCAE WSH WDAF WFAE WGA  
WFR WGY WHO WIOD WIS  
WJAR WJAX WKY WLIT WMAQ  
WMC WOC WOV WWR  
WRVA WSAI WSB WSM WSMB  
WTAG WTAM WTMJ WWJ

**C** — Philadelphia Symphony. See Mon.

**B** — Ray Knight and Cuckoos  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WCKY WGAR  
WHAM WJR WJZ WKBF WLS  
WMAL WREN WSYR

**E-9:15 a.m., C-8:15, M-7:15, P-6:15**

**C** — Alexander Woolcott  
CKLW KFL KLRA KILZ KMBC  
KMOX KOMA KSCJ KSL KTRH  
KTSa KVOR WABC WACO WADC  
WBRC WBT WCAH WCAO WCCO  
WDAE WDBJ WDBO WDRS WDSU  
WEAN WFBL WFEA WGST WHAS  
WHSC WISN WJAS WJAX WKBW  
WLAC WLWB WMAZ WMBD  
WMBG WMT WOKO WORC WQAM  
WRC WSBT WSJS WSPD WTAR

**E-9:30 p.m., C-8:30, M-7:30, P-6:30**  
**C** — Guy Lombardo—Burns and Allen  
CKLW KDB KERN KFBC KPZY  
KFRC KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KOMA KRLD  
KSL KTRH KTSa KVI KWG WABC  
WADC WBT WCAO WCAU WCCO  
WDRS WEAN WFBL WFBM WGN  
WHK WJAS WJSV WKBW WKRC  
WNAK WOKO WORC WOWO WSPD

**R** — Fred Allen's Revue  
KPRC KSD KSTP KTBS WSPD  
WBEN WCAE WESH WDAF WFAE  
WFCB WEEL WFRB WGY WIOD  
WIS WJAR WJAX WKY WLIT WLW  
WMAQ WMC WOV WOW WRC  
WRVA WSB WSMB WTAG WTAM  
WTMJ WWJ

**B** — John Charles Thomas  
KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR KWK  
WBAL WBZ WBZA WCKY WENR  
WGAR WHAM WJR WJZ WKBF  
WMAL WREN WSYR

**E-10:00 p.m., C-9:00, M-8:00, P-7:00**  
**C** — Old Gold—Ted Fiorito and Orch.  
CKLW KDB KERN KFBC KFOR  
KFZY KFRC KGB KHJ KLRA KILZ  
KMBC KMJ KMOX KOH KOIN  
KOL KOMA KRLD KSCJ KSL  
KTRH KTSa KVI KVOR KWG  
WABC WACO WADC WBIG WBRC  
WBT WCAH WCAO WCAU WCCO  
WDAE WDBJ WDBO WDDO WDRS  
WDSU WEAN WFBL WFBM WFEA  
WGN WGST WHAS WHEC WHK  
WHP WKBW WICC WISN WJAS  
WJSV WKBH WKBW WKRC WLAC  
WLWB WLWB WMAZ WMBD WMBG  
WMT WNAK WNAK WOKO WORC  
WOWO WPG WQAM WREC WSPD  
WTAR WTOC

**R** — Corn Cob Pipe Club  
KDYL KFI KFYZ KGHL KGIR  
KGO KGW KHQ KOA KOMO KSD  
KSTP WBEN WCAE WESH WDAF  
WDAY WFAE WFCB WEEL WENR  
WFRB WGY WHO WIBA WJAR  
WLIT WLW WOC WOW WRC  
WRVA WTAG WTAM WTIC WTMJ  
WWJ

**B** — Vincent Lopez and Orchestra  
KDKA KOIL KPRC KSO KTBS  
KWCR KWK WAPI WAVE WBAL  
WBZ WBZA WCKY WGA WFLA  
WGAR WHAM WIOD WIS WJAX  
WJXZ WJZ WKBF WLY WMAL  
WMAQ WMC WOI WPTF WREN  
WSB WSM WSMB WSOC WSYR  
WWNC

**E-10:30 p.m., C-9:30, M-8:30, P-7:30**

**C** — Conoco Tourist Adventures  
KDKA KDYL KFYR KOA KOIL  
KPRC KSO KWCR KWK WBAL  
WCKY WDAY WFCB WENR WFAA  
WGAR WHAM WIBA WJR WJZ  
WKY WMAL WREN WRVA WSYR  
WTMJ

**C** — Andre Kostelanetz Presents  
CKLW KLRA KMBC KOMA KSCJ  
KTRH KTSa KVOR WAAB WABC  
WACO WADC WBIG WBNS WBRC  
WCAO WDAE WDBJ WDBO WDDO  
WDRS WDSU WEAN WFEA WGR  
WGST WHSC WHP WIP WISN  
WJAS WJSV WKRC WLAC WLWB  
WLWB WMAZ WMBD WMBG WMT  
WNAK WODS WORC WOWO WPG  
WQAM WREC WSBT WSJS WSPD  
WTOC

**E-10:45 p.m., C-9:45, M-8:45, P-7:45**  
**C** — Myrl and Marge. See Monday

**E-11:00 p.m., C-10:00, M-9:00, P-8:00**

**B** — Amos 'n' Andy. See Monday  
**C** — Five Spirits of Rhythm  
CFRB CKAC CKLW KFAB KFH  
KLRA KILZ KMBC KMOX KSCJ  
KTRH KTSa KVOR WAAB WABC  
WACO WADC WBRC WBT WCAO  
WCCO WDAE WDBJ WDBO WDRS  
WDSU WEAN WFBL WGST WHAS  
WHEC WIP WISN WJAS WJSV  
WKBW WLAC WLWB WLWB WMAZ  
WMBD WMBG WMT WOKO WORC  
WPG WQAM WREC WSBT WSJS  
WSPD WTAR

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**

**B** — Ray Knight and Cuckoos  
CFCF KDYL KFI KFSO KGHL KGO  
KGW KHQ KOA KOMO KPRC WAPI  
WBAF WFLA WKY WMC WOI  
WRVA WSB WSMB WSOC  
**C** — News Service. See Monday

**E-11:30 p.m., C-10:30, M-9:30, P-8:30**

**C** — Little Jack Little  
KLRA WABC WBRC WBT WCAO  
WDAE WDBJ WDBO WDRS WDSU  
WEAN WGST WICC WIP WJSV  
WLAC WLWB WMAZ WMBG WNAK  
WORC WPG WQAM WREC WSJS  
WTAR

**E-12:30 a.m., C-11:30, M-10:30, P-9:30**

**R** — Fred Allen's Revue  
KDYL KFI KGO KGW KHQ KOA  
KOMO

## THURSDAY

**E** — 6:00 p.m., C-5:00, M-4:00, P-3:00

**C** — Buck Rogers. See Monday  
**R** — Waldorf Astoria. See Monday

**B** — Richard Himber and Orchestra  
KOIL KSO KWCR WBAL WBZ WBZA  
WCKY WENR WHAM WJR WJZ  
WMAL WREN WSYR

**E-8:15 p.m., C-5:15, M-4:15, P-3:15**

**C** — Bobby Benson. See Monday

**E-8:30 p.m., C-5:30, M-4:30, P-3:30**

**R** — John B. Kennedy  
KDYL KFYR KOA KPO KPRC KSD  
KTBS KTHS KVOO WAPI WDAY  
WFAE WFRB WPI WGY WHO WIBA  
WIS WJAX WJXZ WMAQ WMC  
WOR WRC WSAI WSB WSMB WTAG  
WWJ WWNC

**C** — Tito Guizar, Tenor

CKAC CKLW KLRA WAAB WABC  
WADC WBRC WBT WCAO WCAU  
WDAE WDBO WDDO WDSU WFEA  
WGR WGST WHEC WHC WJAS  
WJSV WKBW WLAC WLWB WLWB  
WMAZ WMBG WOKO WORC WQAM  
WREC WSJS WSPD WTAR

**E-6:45 p.m., C-5:45, M-4:45, P-3:45**

**R** — Grandmother's Trunk  
KDYL KOA KPO KSD WFAE WFRB  
WPI WGY WHO WIS WJAX WMAQ  
WOC WRC WSAI WTAG WWJ  
WWNC

**B** — Lowell Thomas. See Monday

**C** — Little Italy. See Tuesday

**E-7:00 p.m., C-6:00, M-5:00, P-4:00**

**C** — Myrl and Marge. See Monday  
**B** — Amos 'n' Andy. See Monday

**THURSDAY—(Cont'd)**

**E-7:15 p.m., C-6:15, M-5:15, P-4:15**  
**C — Just Plain Bill, See Monday**  
**R — Billy Bachelor, See Monday**

**E-7:30 p.m., C-6:30, M-5:30, P-4:30**  
**B — Romantic Melodies; Don Ameche**  
KDKA KDYL KFI KGO KGW KHQ  
KOA KOH KOMO KSO KWCR KWK  
WBZ WBAZ WCKY WENR WJZ  
WMAL WREN WSR

**R — Mollie Shown, See Monday**  
**C — Silver Dust, See Tuesday**

**E-7:45 p.m., C-6:45, M-5:45, P-4:45**  
**C — Boake Carter, See Monday**  
**R — Goldbergs, See Monday**

**E-8:00 p.m., C-7:00, M-6:00, P-5:00**  
**R — Rudy Vallee and Orchestra**  
CFCC CRCT KDYL KFI KFYP KGO  
KGW KHQ KOA KOMO KPRC KSD  
KSTP KTAR KTHS WAPI WBAP

WBEN WCAE WCSH WDAF WDAY  
WEAF WEBC WEEL WFBR WFI  
WFLA WGY WHO WIOD WJAR  
WJAX WJDX WKY WLW WMAQ  
WMC WQAI WOC WOW WPTF WRC  
WRVA WSB WSM WSMB WTAG  
WTAM WTMJ WWJ

**C — Freddie Rich Entertainers**  
CFBR CKLW KFLR KLRA KMXX  
KOLN KSCJ KSI KTRH KVOR  
WABC WACO WADC WBIG WBNS  
WBRC WCAO WCCO WDAE WDBJ  
WDBO WDDO WDRC WDSU WEAN  
WFAN WFEA WGR WHCQ WIBW  
WICC WIP WISN WJAZ WJZY  
WKBN WKRC WLAC WLWB WLZB  
WMAS WMBG WMT WNAO WOKO  
WORC WPG WQAM WREC WSBT  
WSFA WSJS WSPD WTAR WTOG

**E-8:30 p.m., C-7:30, M-6:30, P-5:30**  
**C — Voice of America**  
CKLW KMBC KMOX WABC WADC  
WBMM WCAO WCAU WDRC WEAN  
WFBL WGR WHAS WHK WJAZ  
WJSV WKRC WNAO WOKO WOW  
WSPD  
**B — Horlick's, See Tuesday**

**E-9:00 p.m., C-8:00, M-7:00, P-6:00**  
**R — Maxwell House Showboat**  
KDYL KFI KFSD KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP KTAR  
KTBS WAPI WBAP WBNB WCAE  
WCKY WGSN WDAF WEAJ WEEI  
WFBR WFI WFLA WGY WHO WIOD  
WIS WJAR WJAX WJDX WJZY  
WMAQ WMC WQAI WWSB WSM WSMB  
WTAG WTAM WTMJ WWJ WWCN  
**B — Death Valley Days, Drama**  
KDKA KOH KSO KWCR KWK  
WBAL WBAZ WBAZ WGR WHAM  
WJR WJZ WLS WLW WMAL WREN  
WSYR

**C — Philadelphia Symphony, See Mon.**

**E-9:15 p.m., C-8:15, M-7:15, P-6:15**  
**C — Emery Deutsch and Orchestra**  
CKLW KLRA KMXX KOMA KSCJ  
KTRH KTSN KVOR WAAB WABC  
WACO WADC WBBM WBNS WBRC  
WCAO WDAE WDBJ WDBO WDDO  
WDRC WDSU WEAN WFEA WGR  
WGST WHEC WHF WISN WJAZ  
WJSV WKBN WKRC WLAC WLWB  
WLZB WMAS WMBD WMBG WMT  
WNAO WODX WORC WPG WQAM  
WREC WSJS WSPD WTOG

**E-9:30 p.m., C-8:30, M-7:30, P-6:30**  
**C — Ford; Fred Waring's Orchestra**  
CKLW KDB KFBC KFH KPFC  
KGB KHJ KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ  
KSL KTUL KVI KVOR WABC WACO  
WADC WBBM WBIG WBRC WBT  
WCAH WCAO WCAU WCCO WDAE  
WDBJ WDBO WDDO WDRS WDSU  
WEAN WFBL WFBM WFEA WGLC  
WGST WHAS WHEC WHK WHP  
WIBW WICC WJAZ WJZY WKBN  
WKBN WKRC WLAC WLWB WLZB  
WMAS WMBD WMBG WMBR WMT  
WNAO WNAO WODX WORC WORC  
WOW WPG WQAM WRLC WSJS  
WSPD WTAR WTOG  
**B — Eddie Duchin, See Monday**

**E-10:00 p.m., C-9:00, M-8:00, P-7:00**  
**R — Paul Whiteman and Orchestra**  
KDYL KFI KFYP KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP KTBS  
KTHS KVOO WBAP WBNB WCAE  
WCSH WDAF WDAY WEA WEBC  
WEEI WFBR WFLA WGY WHO  
WIBA WIOD WIS WJAR WJAX  
WJDX WKY WLW WMAQ WMC  
WQAI WOC WOW WRC WRVA WSB  
WSM WSMB WTAG WTAM WTMJ  
WTVJ WWNC

**B — Hands Across the Border**  
CFAC CFBO CFCC CFCL CFCC  
CFCC CFCC CFJC CFNB CFPL  
CFQC CHAB CHGS CHNS CHRC  
CHWC CHOC CICA CIGB CJCJ  
CJGX CIOC CJRM CJRW CKCH  
CKCK CKNC CKOC CKOV CKPC  
CKPR CKTA CKX CKY CRCC CRCS  
CRCT CRCY CRCF KDKA KOIL KSO  
KWCR WLAC WBZ WBAZ WCKY  
WGR WHAM WJR WJZ WMAQ  
WREN WSR  
**C — Camel Program, See Tuesday**

**E-10:30 p.m., C-9:30, M-8:30, P-7:30**  
**C — Evan Evans, Baritone**  
CKLW KLRA KMXX KOMA KSCJ  
KTRH KTSN KVOR WAAB WABC  
WACO WADC WBBM WBNS WBRC  
WCAO WDAE WDBJ WDBO WDDO  
WDRC WDSU WEAN WFEA WGR  
WGST WHEC WHF WISN WJAZ  
WJSV WKBN WKRC WLAC WLWB  
WLZB WMAS WMBD WMBG WMT  
WNAO WODX WORC WPG WQAM  
WREC WSJS WSPD WTOG  
**B — Archer Gibson, Organist**  
KDKA KSO KWCR KYW WBAL WBZ  
WBAZ WCKY WGR WHAM WJZ  
WMAL WREN

**E-10:45 p.m., C-9:45, M-8:45, P-7:45**  
**C — Myrt and Marge, See Monday**

**E-11:00 p.m., C-10:00, M-9:00, P-8:00**  
**B — Amos 'n' Andy, See Monday**  
**R — Viola Philo, Soprano**  
WCAE WGSN WEAJ WFI WFLA  
WGY WIOD WIS WOW WRVA  
WTAM WWNC

**C — Vera Van, Contralto**  
CFBR CKAC CKLW KDB KFAB  
KFH KLRA KLZ KMBC KOMA  
KTRH KTSN KVOR WAAB WABC  
WACO WADC WBBM WBNS WCAO  
WCCO WDAE WDBJ WDBO WDDO  
WDRC WDSU WEAN WFBL WFBM  
WFEA WGST WHAS WHEC WHK  
WHP WIBW WICC WIP WISN WJAZ  
WJSV WKBN WKBW WLAC WLWB  
WLZB WMAS WMBD WMT WNAO  
WODX WOKO WORC WQAM WREC  
WSBT WSJS WSPD WTAR WTOG  
WWVA

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**  
**C — News Service, See Monday**

**FRIDAY**

**E-6:00 p.m., C-5:00, M-4:00, P-3:00**  
**C — H. V. Kaltenborn**  
CFRB CKLW KLRA WAAB WABC  
WADC WBIG WBT WCAO WCAU  
WDAE WDBJ WDBO WDDO WDRC  
WFEA WGST WHEC WHK WICC  
WJSV WLAC WLWB WLZB WMBG  
WOKO WORC WQAM WREC WSAJ  
WSJS WSPD WTOG  
**R — Waldorf Astoria, See Monday**

**E-6:15 p.m., C-5:15, M-4:15, P-3:15**  
**C — Bobby Benson, See Monday**

**E-6:30 p.m., C-5:30, M-4:30, P-3:30**  
**R — Irene Beasley, See Monday**  
**C — Edith Murray, Songs**  
CKAC CKLW KLRA WAAB WABC  
WADC WBRC WBT WCAO WCAU  
WDBJ WDBO WDDO WDRC WDSU  
WFEA WGST WHEC WICC WJAZ  
WKBN WLAC WLWB WLZB WMAS  
WMBG WOKO WORC WQAM WREC  
WSJS WSPD WTAR

**E-6:45 p.m., C-5:45, M-4:45, P-3:45**  
**C — Zoel Parenteau's Orchestra**  
CKLW WAAB WABC WBT WCAU  
WDRC WEAN WFBL WFEA WHEC  
WJSV WKBW WLZB WOKO  
**B — Lowell Thomas, See Monday**

**E-7:00 p.m., C-6:00, M-5:00, P-4:00**  
**C — Myrt and Marge, See Monday**  
**B — Amos 'n' Andy, See Monday**  
**R — Morton Bowe, Tenor**  
KSD WBNB WCAE WCSH WDAF  
WEAF WEEL WFBR WGY WHO  
WJAR WLIT WMAQ WOC WOW  
WRC WTAG WTAM WTIC WWJ

**E-7:15 p.m., C-6:15, M-5:15, P-4:15**  
**C — Just Plain Bill, See Monday**  
**R — Billy Bachelor, See Monday**

**E-7:30 p.m., C-6:30, M-5:30, P-4:30**  
**C — Music in Air, See Monday.**  
**B — George Gershwin, See Monday**

**E-7:45 p.m., C-6:45, M-5:45, P-4:45**  
**B — Gus Van; Arlene Jackson**  
KDKA WHAL WBZ WBAZ WCKY  
WENR WJZ WMAL WMC WSB WSM  
WSMB WSYR

**C — Boake Carter, See Monday**  
**R — Goldbergs, See Monday**

**E-8:00 p.m., C-7:00, M-6:00, P-5:00**  
**C — Happy Bakers, See Monday**  
**R — Cities Service Concert**  
CRCT KDYL KOA KPRC KSD KTBS  
KTHS KYW WBNB WCAE WGSN  
WDAF WEAF WEBC WEEL WFAA  
WFBR WGY WHO WJAR WKEY WLIT  
WQAI WOC WOW WRC WRVA WSAI  
WTAG WTAM WTC WTMJ WWJ  
**B — Nestle's with Ethel Shutta**  
KDKA KWK WBAZ WBZ WBAZ  
WCKY WGR WJR WJZ WLS WMAL  
WSYR

**E-8:15 p.m., C-7:15, M-6:15, P-5:15**  
**C — Edwin C. Hill, See Monday**

**E-8:30 p.m., C-7:30, M-6:30, P-5:30**  
**C — March of Time**  
CKLW KDB KERN KFBC KFYP  
KPRC KGB KHJ KLZ KMBC KMJ



**FRIDAY—(Continued)**

KMOX KOIN KOL KSL KTRH KVI  
 EWG WABC WCAO WCAU WCCO  
 WDRG WDSU WEAN WFBL WFBM  
 WGN WGR WGST WHAS WHK WJAS  
 WJSV WKRC WNAK WNOA WSPD  
**B — Dangerous Paradise, See Wed.**

**E-8:45 p. m., C-7:45, M-8:45, P-5:45**  
**C — Rod Davis, See Monday**

**E-9:00 p. m., C-8:00, M-7:00, P-8:00**  
**B — Phil Harris and Orchestra**  
 CFCF KDKA KDYL KFI KGH  
 KGIR KGO KGW KHQ KOA KOIL  
 KOMO KSO KWCR KWK WAPI  
 WBAL WBZ WDBA WCKY WFAA  
 WGAR WJZ WKY WLS WMAA  
 WOI WREN WBS WSM WSBM  
 WSYR

**C — Philadelphia Symphony, See Mon.**  
**R — Frank Munn; Abe Lyman**  
 KSD WBN WCH WEAF WEEI  
 WFBW WGY WJAR WLIT WMAQ  
 WOW WRC WSAI WTAG WTAM  
 WWJ

**E-9:15 p. m., C-8:15, M-7:15, P-6:15**  
**C — Ruth Etting, See Tuesday**

**E-9:30 p. m., C-8:30, M-7:30, P-6:30**  
**C — Jack Denny; Jack Whiting**  
 CFRB CKLW KDB KERN  
 KFBK KFH KFY KFCR KGB KHJ  
 KLRA KLZ KMBC KMJ KMOX  
 KOIN KOL KOMA KRLL KSCJ KSL  
 KTRH KTSB KVI KWG WABC  
 WADC WBBM WBRG WBT WCAO  
 WADG WCOO WDOD WDRG WDSU  
 WEAN WFBL WFBM WGST WHAS  
 WHK WIBW WICG WJAS WJSV  
 WKBW WKRC WLAC WMBG WMT  
 WNAK WOKO WOWO WREC WSPD  
 WTAR WTOG

**B — Armour Program; Phil Baker**  
 KDKA KDYL KFI KGO KGW KHQ  
 KOA KOIL KOMO KPRC KSO KSTP  
 KTAR KWK WAPI WBAL WBZ  
 WBAZ WEBC WENR WFAA WGAR  
 WHAM WIOD WJAX WJR WJZ  
 WKY WMC WOI WREN WRVA  
 WSB WSM WSBM WTMJ WWNC  
**R — One Night Stand; Pick and Pat**  
 KSD WBN WCAE WCH WDAF  
 WFAF WFBW WGY WJAR WLIT  
 WMAQ WOC WOW WRC WSAI  
 WTAG WTAM WTIC WWJ

**E-10:00 p. m., C-9:00, M-8:00, P-7:00**  
**C — Swift Revue—Olson and Johnson**  
 CKLW KDB KERN KFBK KFY  
 KFCR KGB KHJ KLZ KMBC KMJ  
 KMOX KOIN KOL KOMA KRLL  
 KSCJ KSL KTRH KVI KWG WABC  
 WADC WBBM WBRG WBT WCAO  
 WCAU WCCO WDRG WEAN WFBL  
 WGST WHAS WHK WJAS WJSV  
 WKBW WKRC WNAK WOKO WOWO  
**R — First Nighter—Drama**  
 CRCT KDYL KFI KGO KGW KHQ  
 KOA KOMO KPRC KSD KSTP  
 WAPI WBN WCAE WCH WDAF  
 WFAF WFBW WGY WJAR WLIT  
 WMAQ WOC WOW WRC WSAI  
 WSM WSBM WTAG WTAM WTIC  
 WTMJ WWJ

**E-10:30 p. m., C-9:30, M-8:30, P-7:30**  
**B — Mario Cozzi, Baritone**  
 KDKA KFYR KOIL KSO WAPI  
 WBAL WBZ WBAZ WCKY WDAY

WEBC WFLA WHAM WIBA WIOD  
 WIS WJAX WJR WJZ WREN WSB  
 WSM WSYR WWNC

**C — Mary Eastman, Soprano**  
 KLRA KOMA KRLL KSCJ KTRH  
 KTSB KFOR WAAB WABC WACO  
 WADC WBNB WBRG WCAO WDAE  
 WDBJ WDBO WDOD WDRG WDSU  
 WEAN WFEA WGR WGST WHCC  
 WHP WIP WISN WJAS WJSV WKRC  
 WLAC WLWB WLWZ WMAS WMBD  
 WMBG WMT WNAK WODX WORC  
 WOWO WQAM WREC WJSJ WSPD  
 WTOG

**E-10:45 p. m., C-9:45, M-8:45, P-7:45**  
**C — Myrt and Marge, See Monday**

**E-11:00 p. m., C-10:00, M-9:00, P-8:00**  
**B — Amos 'n' Andy, See Monday**  
**C — Charles Carlie, Tenor**  
 CKAC CKLW KDB KFH KLRA KLZ  
 KOMA KSL KTRH KTSB KFOR  
 WAAB WABC WACO WADC WBIG  
 WBNB WBRG WCAO WDAE WDBJ  
 WDBO WDOD WDRG WDSU WEAN  
 WFEA WGST WHCC WIBW WICC  
 WIP WJAS WJSV WKBW WLAC  
 WLWB WLWZ WMAS WMBG WODX  
 WOKO WORC WPG WQAM WREC  
 WJSJ WSPD WTAR WTOG

**E-11:15 p. m., C-10:15, M-9:15, P-8:15**  
**C — News Service, See Monday**

**SATURDAY**

**E-1:45 p. m., C-12:45, M-11:45, P-10:45**  
**R-B Metropolitan Opera**

CFCF CR'T KDKA KDYL KFI KPSD  
 KFYR KGHIL KGIR KGO KGU KGW  
 KHQ KOA KOIL KOMO KPRC KSD  
 KSO KSTP KTAR KTBS KTHS  
 KYOO KWCR KWK KYW WAPI  
 WAYE WBAL WBAW WBNB WBZ  
 WBAZ WCAE WCKY WCHS WDAF  
 WDAY WFAF WIBC WEEI WFAA  
 WFBW WFI WFLA WGAR WGY  
 WHAM WHO WIBA WIOD WIS  
 WJAR WJAX WJDX WJR WJZ  
 WKBF WKY WLIT WLW WMAA  
 WMAQ WMC WOI WOC WOW  
 WPTF WRC WREN WRVA WSB  
 WSBM WSOC WSWJ WTAG WTAM  
 WSM WTIC WTMJ WWJ WWNC

**E-8:00 p. m., C-5:00, M-4:00, P-3:00**  
**C — Meet the Artist**

CFRB CKLW KFH KLRA KMBC  
 KOMA KSL KTRH KTSB KFOR  
 WAAB WABC WACO WADC WBBM  
 WBIG WBRG WCAO WCCO WDBJ  
 WDSU WFBL WFEA WGR WGST  
 WHAS WHCC WHK WHP WIBW  
 WICC WIP WISN WJAS WJSV WLAC  
 WLWB WLWZ WMBG WMT WOKO  
 WQAM WREC WSBT WSFA WSJS  
 WTAQ WTAR WTOG WWVA

**R — Waldorf Astoria, See Monday**  
**B — Al Pearce and His Gang**  
 KDYL KFI KFYR KGO KGW KHQ  
 KOA KOIL KOMO KPRC KSO  
 KSTP KTBS KTHS KYOO KWCR  
 KYW WBAL WBZ WBAZ WCKY  
 WDAY WEBC WFLA WHAM WIBA  
 WIOD WIS WJAX WJDX WJR WJZ  
 WKY WMAA WMC WOI WREN  
 WSB WSM WSYR WWNC

**E-6:15 p. m., C-5:15, M-4:15, P-3:15**  
**C — Tommy McLaughlin**

CKLW WAAB WBT WCAO WCAU  
 WCCO WDRG WDSU WGR WGST  
 WHAS WHK WJSV WKRC

**E-6:30 p. m., C-5:30, M-4:30, P-3:30**

**C — Frederic William Wile**  
 CKLW KLRA WAAB WABC WBIG  
 WBRG WCAO WCAU WDAE WDBJ  
 WDBO WDOD WDRG WDSU WFBL  
 WFEA WGLC WGST WHCC WHP  
 WJSV WKBW WLAC WLWB WLWZ  
 WMAS WMBG WOKO WORC WQAM  
 WREC WJSJ WSPD WTAR WTOG

**R — Richard Himber and Orchestra**  
 KDYL KFI KFYR KGO KGW KHQ  
 KOA KOMO KPRC KSD KSTP KTBS  
 KTHS KYOO WCAE WDAF WDAY  
 WFAF WEBC WFLA WFOI WIBA  
 WIOD WIS WJAR WJAX WJDX  
 WKY WMAA WMC WOI WOC  
 WRC WSB WSM WTAG WTAM  
 WWJ WWNC

**E-6:45 p. m., C-5:45, M-4:45, P-3:45**  
**B — Flying with Capt. Al Williams**  
 WBAL WBZ WBAZ WCKY WGAR  
 WHAM WJR WJZ WSYR

**E-7:00 p. m., C-6:00, M-5:00, P-4:00**  
**B — John Herrick, Baritone**  
 KDKA KOIL KSO KWCR KWK  
 WBAL WCKY WGAR WJZ WKBF  
 WMAA WMAQ

**C — Elder Michaux Congregation**  
 CFRB CKLW KFH KLRA KLZ  
 KSCJ KSL KTRH KTSB KFOR  
 WABC WACO WADC WBIG WBRG  
 WCAO WCAU WDAE WDBJ WDBO  
 WDOD WDRG WDSU WFBL WFEA  
 WGLC WGR WGST WHCC WHP  
 WIBW WICC WJAS WJSV WLWB  
 WLWZ WMAS WMBG WMT WOKO  
 WORC WQAM WREC WJSJ WSPD  
 WTAR WTOG WWVA

**E-7:15 p. m., C-6:15, M-5:15, P-4:15**  
**R — Religion in the News**  
 KFI KFYR KGO KGW KHQ KOA  
 KOMO KSD KTBS WAPI WBN  
 WCAE WDAF WFAF WEEI WFAA  
 WFBW WFI WFLA WGY WHO WIBA  
 WIOD WIS WJAR WJAX WLWB  
 WMC WOI WOC WRC WSM WSBM  
 WTAG WTAM

**E-7:30 p. m., C-6:30, M-5:30, P-4:30**  
**C — Silver Duet, See Tuesday**

**B — F. O. B. Detroit**  
 KDKA KGLL KWCR KWK KYW  
 WBAL WBZ WBAZ WCKY WGAR  
 WHAM WJAR WJR WJZ WMAA  
 WREN WSYR

**E-7:45 p. m., C-6:45, M-5:45, P-4:45**  
**C — Isham Jones and Orchestra**

CFRB CKLW KFH KLRA KOMA  
 KRLL KSCJ KTRH KTSB KFOR  
 WABC WACO WADC WBRG WBT  
 WCAH WCAO WCAU WCCO WDAE  
 WDBJ WDBO WDOD WDRG WDSU  
 WEAN WFBL WFEA WGR WGST  
 WIBW WICC WJAS WJSV WLAC  
 WLWB WLWZ WMAS WNAK WOKO  
 WORC WQAM WREC WJSJ WSPD  
 WTAR WWVA

**E-8:00 p. m., C-7:00, M-6:00, P-5:00**  
**C — 45 Minutes in Hollywood**

CKLW KLZ KMBC KMOX KSL  
 KTAT KTRH KTSB WABC WACO  
 WBBM WCAH WCAO WCAU WCCO  
 WDRG WEAN WFBL WGR WHCC  
 WHK WJAS WJSV WKRC WNAK  
 WOKO WRR WSPD

**R — George Olson and Orchestra**  
 KDYL KFI KFYR KGO KGW KHQ  
 KOA KOMO KPRC KSD KSTP KTBS  
 KYOO KYW WBN WCHS WDAF

**SATURDAY—(Cont'd)**

WEAF WEBC WEEI WFBR WFLA  
WGY WIBA WIOD WIS WJAR WJAX  
WJDX WOAI WOW WRC WSB WSM  
WSMB WTAG WTAM WWJ WWNC

**B — Artin America**

KDKA KDYL KFI KFYZ KGO KGW  
KHQ KOA KOMO KPRC KSO KSTP  
KTBS KVOO KWK WBZ WBZA  
WBBZ WFLA WIBA WIOD WIS  
WJAX WJDX WJZ WMAL WMAQ  
WOAI WREN WSB WSM WSMB

**E-8:15 p.m., C-7:15, M-6:15, P-5:15**

**R — Boston Symphony Orchestra**  
KSD KYW WBN WSH WDAF  
WEAF WEEI WBR WGY WJAR  
WOW WRC WTAG WTAM WWJ

**E-8:30 p.m., C-7:30, M-6:30, P-5:30**

**B — Saus Les Ponts de Paris**  
KDYL KFI KFYZ KGO KGW KHQ  
KOA KOMO KPRC SO KSTP KTBS  
KWK WAPI WBAL WDAY WEBC  
WFLA WGAR WHAM WIBA WIOD  
WIS WJAX WJDX WJR WJZ WKY  
WMAL WMC WREN WRVA WSB  
WSM WSMB WSYR WWNC

**E-8:45 p.m., C-7:45, M-6:45, P-5:45**

**C — Trade and Mark**  
CKLW KDB KERN KFBK KPZY  
KFRG KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KSL KVI KWJ  
WAAB WABC WADC WBBM WCAO  
WCAU WCCO WDRG WEAN WHAS  
WHK WJAS WJSV WKBW WKRC

**E-9:00 p.m., C-8:00, M-7:00, P-6:00**

**C — Philadelphia Symphony, See Mon.**  
**R — Donald Novis; Frances Langford**  
KDYL KFI KFYZ KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP  
KTBS KTBS WAPI WBAP WBN  
WCAE WSH WDAF WDAY WEAF  
WBBZ WBLI WFBR WFI WFLA  
WGY WIBA WIOD WIS WJAR  
WJAX WJDX WKY WLV WMAQ  
WMC WOAI WOW WPTF WRC  
WRVA WSB WSMB WTAG WTAM  
WTMJ WWJ WWNC

**E-9:15 p.m., C-8:15, M-7:15, P-6:15**

**C — Alex Woolcott, See Wednesday**

**E-9:30 p.m., C-8:30, M-7:30, P-6:30**

**B — Eddie Duchin, See Tuesday**  
**C — George Jessel; Vera Van**  
CKLW KDB KERN KFBK KFH  
KFPY KFRG KGB KHJ KLZ KMBC  
KMOX KMJ KMOX KOIN KOL  
KOMA KRLD KSCJ KSL KTRH  
KTSa KVI KWJ WABC WADC  
WBBM WBSN WBRG WBT WCAO  
WCAU WCCO WDAE WDRG WDSU  
WEAN WFBL WFBM WGL WGST  
WHAS WHFC WHK WJW WICC  
WJAS WJSD WKBW WKRC WLAC  
WMAS WMBD WMBR WMT WNAC  
WOKO WQAM WREC WSPD WTAR  
WTOC

**R — Beatrice Fairfax; Dramas**

KDYL KFI KGO KGW KHQ KOA  
KOMO KSD WBN WCAE WSH  
WDAF WEAF WEEI WFBR WFI  
WGY WJAR WLW WMAQ WOW  
WRC WTAG WTAM WWJ

**E-10:00 p.m., C-9:00, M-8:00, P-7:00**

**R — B. A. Rolfe and Orchestra**  
CRCT KDYL KFI KGO KGW KOA  
KOMO KSD KSTP WBAP WBN

WCAE WSH WDAF WEAF WEEI  
WFBK WFI WGY WHO WJAR WJAX  
WLW WMAQ WOAI WOC WOW  
WRC WRVA WSB WSMB WTAG  
WTAM WTMJ WWJ

**C — Byrd Expedition**

CKLW KDB KERN KFBK KFH  
KFPY KFRG KGB KHJ KLRA  
KMBC KMJ KMOX KOIN KOL  
KOMA KRLD KTRH KTSa KVI  
KWJ WAAB WABC WACO WADC  
WBBM WBRG WBT WCAO WCAU  
WCCO WDAE WEAN WGST WHAS  
WHFC WHK WHP WIBW WJSV  
WKBW WKRC WLAC WLBB WMBD  
WMT WOKO WORC WQAM WRC

**E-10:30 p.m., C-9:30, M-8:30, P-7:30**

**B — National Barn Dance**  
KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR KWK  
WBAL WBZ WBZA WGAR WHAM  
WJR WJZ WLS WLW WMAL WREN  
WSYR

**C — H. V. Kaltenborn**

CFRB CKLW KLZ KMBC KOMA  
KRLD KSCJ KSL KTRH KTSa  
KVRB WAAB WABC WADC WBIG  
WBRG WBT WCAH WCAO WDBJ  
WDRG WDSU WEAN WFBM WFEA  
WGST WHFC WHP WIBW WIP  
WISN WJAS WJSV WKBW WLBB  
WMBD WMAS WMBD WMBG WMT  
WBDX WORC WPG WQAM WREC  
WSBT WSJS WSPD WTAQ WTOC  
WWYA

**E-10:45 p.m., C-9:45, M-8:45, P-7:45**

**C — Guy Lombardo and Orchestra**  
CFRB CKLW KLRA KLZ KMBC  
KMOX KOMA KTRH KTSa KVRB  
WAAB WABC WADC WBIG WBRG  
WCAO WCAU WCCO WDBJ WDSU  
WEAN WFBL WFBM WGST WHAS  
WHP WIBW WICC WISN WJAS  
WJSV WKBW WLAC WLBB WLBB  
WMBD WMBG WMT WOKO WPG  
WQAM WREC WSBT WSJS WTAR  
WTOC

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**

**C — News Service, See Monday**

**E-11:30 p.m., C-10:30, M-9:30, P-8:30**

**C — Tad Fiorito and Orchestra**  
CFRB CKLW KLRA KLZ KMBC  
KOMA KSL KTRH KTSa KVRB  
WABC WADC WBRG WCAO WDBJ  
WDSU WEAN WFBL WFBM WGST  
WHFC WHP WIBW WIP WISN  
WJSV WKBW WLAC WLBB WLBB  
WMBD WMBG WMT WNAC WOKO  
WPG WQAM WREC WSBT WSJS  
WTOC

**R — One Man's Family**

CFPC KDYL KFYZ KOA KPO KPRC  
KSD KSTP KTBS KTHS KVOO  
WBN WCAE WDAF WDAY WEAF  
WFBR WFI WFLA WGY WHO WIBA  
WIOD WIS WJAR WJAX WJDX WKY  
WMAQ WMC WOAI WOC WOW  
WRC WRVA WSAI WSB WSMB  
WTAG WTAM WWJ WWNC

**B — Paul Whitman and Orchestra**

KOIL KSO KWCR KWK KYW WBAL  
WBZ WBZA WCKY WGAR WHAM  
WJZ WLW WMAL WREN WSYR

**E-12:00 p.m., C-11:00, M-10:00, P-9:00**

**C — Little Jack Little**  
CKLW KFH KLZ KMBC KMOX  
KOMA KRLD KSCJ KTRH LTA  
WABC WCAU WEAN WFBL WHAS  
WIP WIBW WICC WISN WJSV

WKBW WLBW WMAS WMBD  
WNAC WOKO WSBT WSPD

**R — Hollywood on the Air**

CFPC KDYL KFYZ KOA KPO KPRC  
KSD KSTP KTBS KTHS KVOO  
WBN WCAE WDAF WDAY WEAF  
WFBR WFI WFLA WGY WHO WIBA  
WIOD WIS WJAR WJAX WJDX WKY  
WMAQ WMC WOAI WOC WOW WRC  
WRVA WSAI WSB WSMB WTAG  
WTAM WWJ WWNC

**B — Jack Denny and Orchestra**

KOIL KSO KWCR KWK KYW WBAL  
WBZ WBZA WCKY WGAR WHAM  
WJR WJZ WLW WMAL WREN  
WSYR

**E-12:30 a.m., C-11:30, M-10:30, P-9:30**

**B — Vincent Lopez and Orchestra**  
KOIL KSO KWCR KWK KYW WBAL  
WBZ WBZA WCKY WGAR WHAM  
WJR WJZ WLW WMAL WREN  
WSYR

**SUNDAY**

**E-11:15 a.m., C-10:15, M-9:15, P-8:15**

**R — Major Bowes Capital Family**  
KDYL KFYZ KOA KPRC KSTP  
KTBS KVOO WAPI WCAE WDAF  
WDAF WEAF WEBC WPAW WFBR  
WFLA WGY WHO WIOD WJAR  
WJAX WKY WMAQ WMC WOAI  
WOC WRC WRVA WSAI WSMB  
WTAG WTAM WWNC

**E-11:30 a.m., C-10:30, M-9:30, P-8:30**

**C — Salt Lake Tabernacle Choir**  
CKLW KLRA KLZ KMBC KOMA  
KRLD KTRH KTSa KVRB WABC  
WACO WADC WBIG WBRG WCAO  
WCCO WDBJ WDRG WDSU WEAN  
WFBL WFEA WGN WGR WGST  
WHAS WHFC WHP WIBW WICC  
WISN WJAS WJSV WLAC WLBB  
WMBD WMT WMAQ WOKO WORC  
WPG WQAM WSBT WSFA WSJS  
WTAQ WTAR WWYA

**E-12:15 p.m., C-11:15, M-10:15, P-9:15**

**R — Gordon String Quartet**  
WOSH WEAF WEEI WFBR WFI  
WJAR WRC WTAG  
**B — Baby Rose Marie**  
KDKA WHAL WBZ WBZA WHAM  
WJR WJZ WLW WMAL WSYR

**E-12:30 p.m., C-11:30, M-10:30, P-9:30**

**B — Radio City Concert**  
CFPC CRCT KDKA KDYL KFI  
KFYZ KGO KGW KHQ KOA KOIL  
KOMO KPRC KSO KVOO WAPI  
WBAL WBZ WBZA WCKY WDAY  
WEBC WGAR WHAM WIS WJDX  
WJR WJZ WKY WMAL WOAI WREN  
WSMB WSYR WWNC

**R — Chicago Round Table**

WBN WSH WDAF WEAF WEEI  
WFBR WFI WGY WHO WJAR  
WOC WOW WRC WSAI WTAG  
WTAM WWJ

**C — Tito Guizar, Tenor**

CKLW WABC WCAU WDRG WEAN  
WFEA WFR WHK WICC WKRC  
WLBB WMAS WNAK WORC WSPD

**E-12:45 p.m., C-11:45, M-10:45, P-9:45**

**C — Madison Ensemble**

CFRB CKAC CKLW KLRA KLZ  
KMBC KOMA KSCJ KSL KTRH  
KTSa KVRB WABC WACO WADC  
WBRG WBT WCAH WCAO WCAU  
WDAE WDBJ WDDO WDSU WFBL

## SUNDAY—(Continued)

WGR WGST WHAS WHEC WIBW  
WISN WJAS WJSV WKBW WLAC  
WMBD WMT WNAC WOKO WORC  
WPG WQAM WREC WSJS WSPD  
WTAR WVVVA

**E-1:00 p.m., C-12:00, M-11:00, P-10:00**

**C — Church of the Air**  
CFRB CKLW KLRA KLZ KOMA  
KTRH KTSa KFOR WAAB WABC  
WAGO WADC WCCO WDBJ WDRS  
WDSU WFBL WGR WGST WHAS  
WHEC WHP WIBW WJAS WJSV  
WLAC WLWB WMT WOKO WPG  
WQAM WREC WSBT WSJS WTAQ  
WTAR WTOG WVVVA

**E-1:30 p.m., C-12:30, M-11:30, P-10:30**

**B — National Youth Conference**  
KDKA KFI KFSD KFYR KGH  
KGR KGO KGW KHQ KOA KOIL  
KOMO KPRC KSO KTAR KTBS  
KVOO KWCR KWK WAPI WBAL  
WBZ WBZA WDAY WEBC WFAA  
WGAR WIBA WIOD WIS WJAX  
WJDX WJR WJZ WMAL WOAI  
WREN WRVA WSB WSM WSMB  
WSYR WWNC

**C — Lazy Dan, Minstrel Man**  
CKLW KMBC KMOX KRLD WABC  
WBHM WCAH WCAO WCAU WCCO  
WHAS WHK WJAS WJSV WKBW  
WKRC WMBG

**R — Miss Babo's Surprise Party**  
KSD WBEN WCAE WCSH WDAF  
WEAF WEEL WFBR WFI WGY WHO  
WJAR WMAQ WOC WOV WRC  
WSAI WTAG WTAM WWJ

**E-2:00 p.m., C-1:00, M-12:00, P-11:00**

**C — Broadway Melodies; Helen Mor-**

**gan**  
CFRB CKLW KDB KFPY KPRC  
KGB KHJ KLZ KMBC KMOX KOIN  
KOL KRLD KSL KYI WABC WBBM  
WCAO WCAU WCCO WDSU WHK  
WJAS WJSV WKBW WKRC WLAC  
WNAC

**R — Gene Arnold and Commodores**  
KDYL KFI KGO KGW KHQ KOA  
KOMO KPRC KVOO WBEN WCAE  
WCSH WEAF WEBC WEEL WFAA  
WFBR WGY WIBA WJAR WKY  
WLW WMAQ WOAI WOV WPTF  
WRC WRVA WTAG WTAM WWJ  
WWNC

**B — Bar X Days and Nights**

CRCT KDKA KOIL KSO KWCR  
KWK KYW WBAL WBZ WBZA  
WCKY WGAR WJR WJZ WMAL  
WREN WSYR

**E-2:30 p.m., C-1:30, M-12:30, P-11:30**

**C — Abe Lyman's Orchestra**  
CFRB CKLW KMBC KMOX WABC  
WBBM WCAO WCAU WCCO WDRS  
WEAN WFBL WFBM WHEC WHK  
WJSV WKBW WKRC WNAC WOKO

**R — Cook Travelogues**  
WAVE WBEN WCAE WEAF WGY  
WJDX WMC WSAI WSB WSM  
WSMB WTAM WWJ

**B — Rings of Melody**

CFRC CRCT KDKA KDYL KFI  
KFYR KGO KGW KHQ KOA KOIL  
KOMO KPRC KSO KSTP KTBS KTBS  
KVOO KWCR KWK KYW WBAL WBZ  
WBZA WDAY WEBC WFAA WFLA  
WGAR WHAM WIBA WIOD WIS  
WJAX WJZ WLW WMAL WOAI  
WPTF WREN WRVA WSYR WTMJ  
WWNC

**E-2:45 p.m., C-1:45, M-12:45, P-11:45**

**R — Gems of Melody; Muriel Wilson**  
WBEN WCAE WCSH WDAF WEAF  
WEEL WFBR WGY WHO WJAR  
WMAQ WOC WOV WRC WSAI  
WTAG WTAM WWJ

**E-3:00 p.m., C-4:00, M-1:00, P-12:00**

**C — New York Philharmonic Orch.**  
CFAC CFBO CFCF CFCB CFCN  
CFCO CFCY CFCJ CFCB CFCP  
CFQC CHAB CHGS CHNS CHRC  
CHWC CHWK CJCA CJCB CJCJ  
CJGX CJOC CJRM CJRW CKCH  
CKKC CKNC CKOC CKOV CKPC  
CKPR CKUA CKX CKY CRCA  
CRCO CRCS CRCT CRCV CFRB  
CKLW KPH KLRA KLZ KMBC  
KMOX KOMA KSL KTRH KTSa  
KFOR WABC WADC WBIG WBRC  
WCAO WCAU WCCO WDBJ WDRS  
WDSU WEAN WFBM WFEA WGN  
WGR WGST WHAS WHEC WHK  
WHP WIBW WICC WIP WISN WJAS  
WJSV WLAC WLWB WMBD WMBG  
WMT WNAC WOKO WORC WQAM  
WREC WSBT WSJS WTAQ WTAR  
WTOG WVVVA

**R — Wayne King and Orchestra**

KDYL KFI KGO KGW KHQ KOA  
KDYL KFI KSD KSTP KVOO  
WBEN WCAE WCSH WDAF WEAF  
WEEL WFAA WGY WHO WJAR  
WKBW WKY WLIT WLS WLW  
WOAI WOC WOV WRC WTAG  
WTAM WTMJ WWJ

**B — Spartan Triolians**

CFCF CRCT KDKA KOIL KSO  
KWCR KWK KYW WBAL WBZ  
WBZA WCKY WGAR WHAM WJR  
WJZ WMAL WREN WSYR

**E-3:30 p.m., C-2:30, M-1:30, P-12:30**

**B — Yeast Foamers; Jan Garber**  
KDKA KDYL KFI KFSD KFYR  
KGHK KGR KGO KGW KHQ KOA  
KOIL KOMO KPRC KSO KTAR  
KTBS KTBS KVOO KWCR KWK  
KYW WAPI WBAL WBZ WBZA  
WDAY WEBC WFAA WFLA WGAR  
WHAM WIBA WIOD WIS WJAX  
WJDX WJZ WKBW WKY WLW  
WMAL WMC WPTF WREN WRVA  
WSB WSM WSMB WSYR WTMJ  
WWNC

**R — Swift Garden Program**

KSD WBEN WCAE WCSH WDAF  
WEAF WEEL WFBR WGY WJAR  
WLIT WMAQ WOV WRC WSAI  
WTAG WTAM WWJ

**E-4:00 p.m., C-3:00, M-2:00, P-1:00**

**R — John B. Kennedy**  
CFCF CRCT KYW WBEN WCAE  
WDAF WEAF WFBR WGY WJAR  
WOV WRC WSAI WTAG WTAM  
WWJ

**B — Albert Payson Terhune, Dog Drama**

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR KWK  
WBAL WBZ WBZA WHAM WJZ WLS  
WREN WSYR

**Rev. Charles E. Coughlin**

KMOX KSTP KYW WCAO WCAU  
WDRS WEAN WFBL WFEA WGAR  
WGR WHB WHO WICC WJAS WJR  
WLWB WLW WMAS WNAC WOC  
WOL WOR WORC WCKY WOKO

**E-4:15 p.m., C-3:15, M-2:15, P-1:15**

**R — Wildroot; Vee and Johnny**  
KDYL KFI KFYR KGO KGW KHQ  
KOA KOMO KPRC KTBS KVOO

WBEN WCAE WCSH WDAF WDAY  
WEAF WEBC WEEL WFAA WFBR  
WGY WIBA WJAR WKY WLIT WLS  
WOAI WOV WRC WSAI WTAG  
WTAM WTMJ WWJ

**B — Dion Kennedy, Organist**

KDKA KDYL KFI KFYR KGHK  
KGR KGO KGW KHQ KOA KOIL  
KOMO KPRC KSO KTBS KTBS  
KVOO KWCR KWK WAPI WBAL  
WBAP WBZ WBZA WDAY WEBC  
WFLA WHAM WIBA WIOD WIS  
WJAX WJDX WJZ WKBW WKY WLS  
WMAL WMC WOAI WPTF WREN  
WRVA WSB WSM WSMB WSYR  
WWNC

**E-4:30 p.m., C-3:30, M-2:30, P-1:30**

**R — Hoover Sentinels**

CFCF CRCT KDYL KFI KGO KGW  
KHQ KOA KOMO KPRC KVOO  
WBAP WBEN WCAE WCSH WDAF  
WEAF WEBC WEEL WFBR WFI  
WGY WIBA WJAR WKY WMAQ  
WOAI WOV WRC WTAG WTAM  
WWJ

**B — Princess Pat Pageant**

KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WENR WHAM  
WJZ WMAL WREN WSYR

**E-6:00 p.m., C-4:00, M-3:00, P-2:00**

**C — Roses and Drums, Drama**

CKLW KFAB KLRA KLZ KMBC  
KMOX KOMA KRLD KTRH KTSa  
WAAB WABC WADC WBBM WBRC  
WCCO WDSU WGST WHAS WHK  
WJAS WJSV WKRC WREC

**R — Big Ben Dream Drama**

WBEN WCAE WCSH WDAF WEAF  
WEEL WFBR WGY WJAR WMAQ  
WOV WRC WSAI WTAG WTAM  
WWJ

**B — National Vespers**

KDYL KECA KFSD KFYR KGHK  
KGR KGO KGW KHQ KOA KOIL  
KPRC KSO KSTP KTAR KTBS  
KVOO KWCR KWK WAPI WBAL  
WBZ WBZA WCFE WCKY WDAY  
WEBC WFLA WGAR WHAM WIBA  
WIOD WIS WJAX WJDX WJR WJZ  
WKY WMAL WMC WOAI WPTF  
WREN WRVA WSB WSM WSMB  
WWNC

**E-5:15 p.m., C-4:15, M-3:15, P-2:15**

**R — Waves of Romance; Ted Black**

WBEN WCAE WCSH WEAF WEEL  
WGY WJAR WKBW WMAQ WRC  
WSAI WTAG WTAM WWJ

**E-6:30 p.m., C-4:30, M-3:30, P-2:30**

**C — Frank Grumit; Julia Sanderson**  
CKLW KFAB KFH KMBC KMOX  
KOMA WAAB WABC WADC WCAH  
WCAO WCAU WDRS WDSU WEA  
WFBL WFBM WGR WHEC WHK  
WICC WJSV WMAS WOKO WORC  
WSPD WTAR WVVVA

**R — Talkie Picture Time—Sketch**

WCAE WCSH WDAF WEAF WEEL  
WFBR WFI WGY WJAR WMAQ  
WMC WOV WRC WSAI WSM WTAG

**B — Grand Hotel—Drama**

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KSTP KWCR  
KWK WBAL WBZ WBZA WCKY  
WEBC WENR WGAR WHAM WJR  
WJZ WKBW WMAL WREN WSYR  
WTMJ

SUNDAY—(Continued)

E-8:00 p. m., C-5:00, M-4:00, P-3:00

R - Catholic Hour
KDYL KECA KFYR KGHL KGIR
KGGW KOA KOMO KPO KPRC
KSTP KTAR KTBS KVOO WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WEAF WEBC WEEL WFRB
WFLA WGY WHO WIBA
WIOD WJW WJAR WJAX WJDX
WKY WLIT WMC WQAI WOC WOV
WRC WRVA WSAI WSB WSM
WSMB WTAG WTAM WWJ WUNC

B - Cadillac Concert
KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WENR WGAR
WHAM WJR WJZ WLW WMAL
WREN WSYR

C - Songs Mother Used to Sing
CKLW KMBC KMOX WABC WBBM
WCAO WCAU WCCO WFBR WHK
WJAS WJSV WKBW WKRC

E-8:30 p. m., C-5:30, M-4:30, P-3:30

C - Smiling Ed McConnell
CKLW KDB KERN KFAB KFBK
KFH KFPY KPRC KGB KHJ KLZ
KMBC KMOX KOIN KOI KRLD
KSL KVI KWG WAAB WABC WBBM
WBT WABC WCAU WCCO WDSU
WEAN WFBL WHAS WHEC WHP
WJAS WJSV WKBW WKRC WLAC
WMT WOKO WQAM WSPD WTAR
WVVA

R - Our American Schools
CFPC CRCT KDYL KECA KFSD
KFYR KGGW KOMO KPO KPRC KSD
KSTP KTAR KTBS KVOO WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WEAF WEBC WEEL WFRB
WFLA WGY WHO WIBA WIOD
WJAR WJAX WJDX WKY WLIT
WMAQ WMC WQAI WOC WRC
WRVA WSAI WSB WSM WSMB
WTAG WTAM WWJ WUNC

E-6:45 p. m., C-5:45, M-4:45, P-3:45

C - Ward's Family Theatre
CKLW KMOX WABC WBBM WBRB
WCAH WCAO WDRB WEAN WFBL
WFEA WICC WJAS WKBW WLBZ
WMAS WMBR WNAC WOKO WORC
WSFA WWVA

E-7:00 p. m., C-6:00, M-5:00, P-4:00

R - True Story Court
WBEN WCAE WCSH WEAF WFRB
WGY WJAR WMAQ WOV WRC
WSAI WTAG WTAM WWJ

B - Realisik; Ted Weems' Orchestra
KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KWCR KWK
WBAL WBZ WBZA WFLA WGAR
WHAM WIS WJR WJZ WLS WLW
WMAL WPTF WREN WRVA WSYR

C - Marx Brothers; Freddie Martin
WABC WBT WCAO WCAU WDRB
WEAN WFBL WFEA WHEC WHK
WICC WJAS WJSV WKBW WLBZ
WNAC WOKO WORC WPG WTAR
WVVA

E-7:30 p. m., C-6:30, M-5:30, P-4:30

B - Ozzie Nelson; Joe Penner
KDKA KDYL KFI KFYR KGO KGW
KHQ KOA KOIL KOMO KPRC KSO
KSTP KTAR KVOO KWCR KWK
WBAL WBZ WBZA WDAY WEBC
WFAA WFLA WGAR WHAM WIBA
WIOD WJAX WJDX WJR WJZ WKY
WLS WLW WMAL WMC WQAI
WPTF WREN WRVA WSB WSM
WSMB WTAM WWJ WUNC

C - Ward's Family Theatre
CKLW KMOX WABC WBBM WBRB
WCAH WCAO WDRB WEAN WFBL
WFEA WICC WJAS WKBW WLBZ
WMAS WMBR WNAC WOKO WORC
WSFA WWVA

E-7:45 p. m., C-6:45, M-5:45, P-4:45

C - Rin Tin Tin Thriller
CKLW KMOX WABC WCAU WFBL
WFBM WGN WGR WHAS WHK
WJAS WJSV WKRC WNAC

R - Fitch Program; Wendell Hall
CFCE KSD WBEN WCAE WCSH
WDAF WEAF WFRB WGY WHO
WJAR WLIT WMAQ WOC WOV
WRC WSAI WTAG WTAM WWJ

E-8:00 p. m., C-7:00, M-6:00, P-5:00

R - Chase and Sanborn Hour
CFPC CRCT KDYL KFI KFYR KGO
KGW KHQ KOA KOMO KPRC KSD
KSTP KTAR KTBS KVOO WBEN
WCAE WCSH WDAF WDAY WEAF
WEBC WFAA WFRB WFLA WGY
WHO WIOD WIS WJAR WJAX
WJDX WKY WLIT WLW WMAQ
WMC WQAI WOC WOV WPTF WRC
WRVA WSB WSM WSMB WTAG
WTAM WTIC WTAM WWJ WUNC

C - Evening in Paris
CKLW KLZ KMBC KMOX KOMA
KSL WABC WADC WBBM WCAO
WCAU WCCO WDSU WEAN WFBL
WFBM WGR WGST WHAS WHK
WJAS WJSV WKRC WOKO WSPD

E-8:30 p. m., C-7:30, M-6:30, P-5:30

C - Ford; Fred Waring's Orchestra
CFRB CRAC CKLW KFAB KFH
KLRA KLZ KMBC KMOX KOH
KOMA KRLD KSL KTHH KTSB
KVOR WAAB WABC WACO WADC
WBBM WBIG WBIC WBT WCAH
WCAO WCAU WCCO WDAE WDBJ
WDBO WDOD WDRB WDSU WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WHP WIBW WICC
WISN WJAS WJSV WKBW WKBW
WKRC WLAC WLW WLZ WMAS
WMBD WMGB WMT WOKO WORC
WOWO WPG WQAM WREC WSFA
WSPD WTAQ WTAR WTOC WVVA

E-9:00 p. m., C-8:00, M-7:00, P-6:00

C - Erno Rapee; Nino Martini
CKLW KDB KERN KFBK KFPY
KPRC KGB KHJ KLRA KLZ KMBC
KMJ KMOX KOIN KOI KOMA
KRLD KSCJ KSL KTRH KVI KWG
WABC WADC WBBM WCAO WCAU
WCCO WDRB WDSU WEAN WFBL
WFBM WGR WGST WHAS WHK
WISN WJAS WJSV WKRC WMT
WNAC WNAX WOKO WORC WOWO
WREC WSPD WTAR

R - Manhattan Merry-Go-Round
KDYL KFI KGO KGW KHQ KOA
KOMO KSD WDAF WEAF WFRB
WPI WGY WHO WJAR WMAQ WOC
WOW WRC WSAI WTAM WTIC
WWJ

B - Gulf Headliners
KAKA KPRC KTBS WBAL WBZ
WBZA WFAA WFLA WGAR WHAM
WICD WISV WJAX WJDX WJR WJZ
WLW WMAL WMC WQAI WRVA
WLB WSM WSMB WSYR WUNC

E-9:30 p. m., C-8:30, M-7:30, P-6:30

R - Album of Familiar Music
CFCE CRCT KDYL KFI KGO KGW
KHQ KOA KOMO KPRC KSD KSTP
WAPI WBEN WCAE WCKY WCSH
WDAF WEAF WEEL WFAA WFRB

WFI WFLA WGY WHO WIOD WJAR
WJAX WJDX WKY WMAQ WMC
WOAI WOC WOV WPTF WRC
WRVA WSAI WSB WSM WSMB
WTAG WTAM WTAM WWJ

E-9:45 p. m., C-8:45, M-7:45, P-6:45

B - Nat Shilkret and Orchestra
KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WENR WGAR
WHAM WJR WJZ WMAL WREN
WSYR

E-10:00 p. m., C-9:00, M-8:00, P-7:00

R - Chevrolet Program
KDYL KFI KPSD KFYR KGHF
KGRG KGO KGW KHQ KOA KOMO
KPRC KSTP KTAR KTBS WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WEAF WEBC WEEL WFRB
WFI WFLA WGY WIBA WIOD WIS
WJAR WJDX WKY WMAQ WMC
WQAI WOV WRC WRVA WSB WSM
WSMB WTAG WTAM WTIC WTAM
WWJ WUNC

C - Pat's Childhood Dramas
CKLW KDB KERN KFBK KFPY
KPRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOI KSL KVI KWG
WAAB WABC WCAO WCAU WCCO
WDRB WFBL WGR WHAS WHK
WJAS WJSV WKRC WOKO

E-10:30 p. m., C-9:30, M-8:30, P-7:30

R - Hall of Fame
KDYL KFI KGO KGW KHQ KOA
KOMO KPRC KTBS KTHS WAPI
WBAP WBEN WCAE WCSH WDAF
WEAF WEEL WFRB WFI WGY
WJAR WJDX WKY WLW WMAQ
WMC WQAI WOV WRC WSM
WTAG WTAM WTIC WWJ

C - Ernest Hutcheson, Pianist
CFRB CRAC CKLW KFH KLZ
KMBC KOIN KOMA KRLD KSCJ
KTRH KTSB KVOR WAAB WABC
WACO WADC WBBM WBSB WBRB
WCAO WCCO WDAE WDBJ WDBO
WDOD WDRB WDSU WEAN WFBL
WFEA WGR WGST WHEC WHP
WIBW WICC WIP WISN WJAS
WJSV WKBW WKRC WLAC WLW
WLBZ WMAS WMBD WMT WNAX
WODX WOV WRC WOWO WPTF
WQAM WREC WSJS WSPD WTAR
WTOC

E-11:00 p. m., C-10:00, M-9:00, P-8:00

C - H. V. Kaltenborn
CFRB CRAC CKLW KFAB KFH
KLRA KLZ KSCJ KTRH KTSB KVOR
WABC WACO WADC WBRB WBT
WCAH WCAO WCAU WDAE WDBJ
WDBO WDOD WDRB WDSU WEAN
WFBL WFBM WFEA WGR WGST
WHAS WHEC WIBW WICC WIP
WISN WJAS WJSV WKBW WLAC
WLW WLBZ WMAS WMBD WMT
WNAC WOKO WQAM WREC WSBT
WSJS WSPD WTAR

E-11:15 p. m., C-10:15, M-9:15, P-8:15

C - Little Jack Little
CFRB CRAC CKLW KDB KFAB
KFH KLRA KLZ KOMA KSCJ KTRH
KTSB KVOR WABC WACO WADC
WBBM WBSB WBRB WCAO WCAU
WDAE WDBJ WDBO WDOD WDRB
WDSU WFBL WFBM WGR WGST
WHAS WHEC WHK WHP WIBW
WICC WISN WJAS WJSV WKBW
WKRC WLAC WLW WLBZ WMAS
WMBD WMT WNAC WNAX WOKO
WPG WQAM WREC WSBT WSJS
WSPD WTAR WTOC

# CLASSIFIED INDEX TO CHAIN PROGRAMS

*Time in Eastern Standard*

## CONCERTS

Boston Symphony, 8:15 p.m., Saturday, R.  
Cadillac Concert, 6:00 p.m., Sunday, F.  
Hoover Sentinels, 4:30 p.m., Sunday, E.  
Metropolitan Opera, 1:45 p.m., Saturday, R-B.  
Minneapolis Symphony, 9:30 p.m., Tuesday, C.  
N. Y. Philharmonic, 3:00 p.m., Sunday, C.  
Philadelphia Symphony, 9:00 p.m., dai y, except Sunday, C.  
Radio City, 12:30 p.m., Sunday, B.  
Albert Spalding, 8:30 p.m., Wednesday, C.  
Waldorf-Astoria Orchestra, 6:00 p.m., daily, except Sun., R.

## DANCE BANDS

Leon Belasco, 12:00 mid., Monday, C.  
Ben Bernie, 9:00 p.m., Tuesday, R.  
Don Bestor, 8:00 p.m., Friday, B.  
Ace Brigole, 11:45 p.m., Sunday, C.  
Jack Denny, 9:30 p.m., Friday, C; 12:30 mid., Saturday, B.  
Eddie Duchin, 9:30 p.m., Tues., Thurs and Sat., B.  
Ted Fiorito, 10:00 p.m., Wednesday, C.  
Jan Garber, 3:30 p.m., Sunday, B.  
Glen Gray, 10:00 p.m., Tuesday and Thursday, C.  
Green Brothers, 7:30 p.m., Tuesday, R.  
Johnny Green, 9:15 p.m., Tuesday and Friday, C.  
Phil Harris, 9:00 p.m., Friday, B.  
Lennie Hayton, 9:00 p.m., Wednesday, R.  
Richard Himber, 6:30 p.m., Saturday, R; 11:30 p.m., Tuesday, B; 6:00 p.m., Thursday, B.  
Wayne King, 3:00 p.m., Sunday; 8:45 p.m., Tuesday and Wednesday, R; 10:00 p.m., Monday, C.  
Enoch Light, 6:30 p.m., Wednesday, C.  
Little Jack Little, 11:15 p.m., Sunday; 8:00 p.m., Tuesday; 11:30 p.m., Wednesday; 12:00 mid., Saturday, C.  
Guy Lombardo, 9:30 p.m., Wed.; 10:45 p.m., Sat., C.  
Vincent Lopez, 10:00 p.m., Wed.; 12:30 a.m., Sat., B.  
Abe Lyman, 9:00 p.m., Friday, R; 2:30 p.m., Sunday, C.  
Freddy Martin, 7:00 p.m., Sunday, C.  
Ozzie Nelson, 7:30 p.m., Sunday, B; 11:30 p.m., Tuesday, C.  
George Olsen, 8:00 p.m., Saturday, F.  
Raymond Paige, 8:45 p.m., Tuesday, C.  
Zed Parenteau, 6:45 p.m., Friday, C.  
Leo Reisman, 8:00 p.m., Tuesday, R.  
Freddie Rich, 11:00 p.m., Monday; 8:00 p.m., Thursday, C.  
Sam Robbins, 6:30 p.m., Monday, C.  
B. A. Rolfe, 10:00 p.m., Saturday, F.  
Nat Shilkret, 9:45 p.m., Sunday, B.  
Harold Stokes, 10:00 p.m., Tuesday, B.  
Rudy Vallee, 8:00 p.m., Thursday, E.  
Fred Waring, 8:30 p.m., Sun.; 9:30 p.m., Thurs., C.  
Mark Warnow, 10:30 p.m., Monday, C.  
Ted Weems, 7:00 p.m., Sunday, B.  
Paul Whiteman, 10:00 p.m., Thurs., R; 11:20 p.m., Sat., B.

## DIALOG

Fred Allen, 9:30 p.m. and 12:30 a.m., Wednesday, R.  
Amos 'n' Andy, 7:00 and 11:00 p.m., daily, except Saturday and Sunday, B.  
Phil Baker, 9:30 p.m., Friday, B.  
Burns and Allen, 9:30 p.m., Wednesday, C.  
Cuckoo Club, 9:00 and 11:15 p.m., Wednesday, B.  
George Jessel, 9:30 p.m., Saturday, C.  
Marx Brothers, 7:00 p.m., Sunday, C.  
Olsen and Johnson, 10:00 p.m., Friday, C.  
Jack Pearl, 8:00 p.m., Wednesday, R.  
Joe Penner, 7:30 p.m., Sunday, B.  
Ray Perkins, 10:00 p.m., Tuesday, B.  
Pick and Pat, 9:30 p.m., Friday, F.  
Stoopnagle and Budd, 10:00 p.m., Tues. and Thurs., C.  
Ed Wynn, 9:30 p.m., Tuesday, R.

## DRAMA

Bar X Days, 2:00 p.m., Sunday, F.  
Bobby Benson, 6:15 p.m., daily except Sat. and Sun., C.  
Big Ben, 5:00 p.m., Sunday, R.  
Billy Batchelor, 7:15 p.m., daily, except Sat. and Sun., R.  
Conoco Adventures, 10:30 p.m., Wednesday, B.  
Dangerous Paradise, 8:30 p.m., Wednesday and Friday, B.  
Red Davis, 8:45 p.m., Monday, Wednesday, Friday, B.  
Death Valley Days, 9:00 p.m., Thursday, B.  
Ego Crime, 8:00 p.m., Tuesday and Wednesday, B.  
Beatrice Fairfax, 9:30 p.m., Saturday, R.  
First Nighter, 10:00 p.m., Friday, R.

Goldbergs, 7:45 p.m., daily, except Saturday and Sunday, R.  
Grand Hotel, 5:30 p.m., Sunday, B.  
Just Plain Bill, 7:15 p.m., daily, except Sat. and Sun., C.  
Little Italy, 6:45 p.m., Tuesday and Thursday, C.  
March of Time, 8:30 p.m., Friday, C.  
Myrt and Marge, 7:00 and 10:45 p.m., daily, except Saturday and Sunday, C.  
One Man's Family, 11:30 p.m., Saturday, R.  
Patri's Childhood Drama, 10:00 p.m., Sunday, C.  
Princess Pat, 4:30 p.m., Sunday, B.  
Irene Rich, 7:45 p.m., Wednesday, B.  
Rin-Tin-Tin, 7:45 p.m., Sunday, C.  
Buck Rogers, 6:00 p.m., Monday to Thursday, inc., C.  
Roses and Drums, 5:00 p.m., Sunday, C.  
Soconyland Sketches, 8:00 p.m., Monday, R.  
Talkie Picture Time, 5:30 p.m., Sunday, R.  
Albert P. Terhune, 4:00 p.m., Sunday, B.  
True Story Court, 7:00 p.m., Sunday, R.  
Ward's Family Theatre, 6:45 and 7:30 p.m., Sunday, C.

## PIANO AND ORGAN

Henri Deering, 10:30 p.m., Monday, B.  
Fray and Braggiotti, 9:15 p.m., Monday, C.  
George Gershwin, 7:30 p.m., Monday and Friday, B.  
Archer Gibson, 10:30 p.m., Thursday, B.  
Ernest Hutcheson, 10:30 p.m., Sunday, C.  
Dion Kennedy, 4:15 p.m., Sunday, B.  
Ohman and Arden, 9:30 p.m., Sun., R; 2:30 p.m., Sun., B.

## POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m., Monday, R.  
Album Familiar Music, 9:30 p.m., Sunday, R.  
Gene Arnold, 2:00 p.m., Sunday, R.  
Miss Babo's Surprise, 1:30 p.m., Sunday, R.  
Major Peasant Band, 8:45 p.m., Tuesday, B.  
Major Bowes, 11:15 a.m., Sunday, R.  
Broadway Melodies, 2:00 p.m., Sunday, C.  
Byrd Expedition, 10:00 p.m., Saturday, C.  
Chase and Sanborn, 8:00 p.m., Sunday, R.  
Cheerio Musical, 6:45 p.m., Tuesday, R.  
Chevrolet Program, 10:00 p.m., Sunday, R.  
Cities Service, 8:00 p.m., Friday, R.  
Colgate House Party, 9:00 p.m., Saturday, R.  
Contented Program, 10:00 p.m., Monday, R.  
Coru Cob Pipe Club, 10:00 p.m., Wednesday, R.  
Cruise of Seth Parker, 10:00 p.m., Tuesday, R.  
Del Monte Ship, 9:30 p.m., Monday, R.  
Djer Kiss Recital, 8:30 p.m., Monday, B.  
Evening in Paris, 8:00 p.m., Sunday, C.  
F. O. B. Detroit, 7:30 p.m., Saturday, B.  
Fleischman Hour, 8:00 p.m., Thursday, R.  
Forty-Five Minutes in Hollywood, 8:00 p.m., Saturday C.  
Gems of Melody, 2:45 p.m., Sunday, R.  
Gulf Headliners, 9:00 p.m., Sunday, B.  
Hall of Fame, 10:30 p.m., Sunday, R.  
Hands Across Border, 10:00 p.m., Thursday, B.  
Harlem Serenade, 10:30 p.m., Tuesday, C.  
Household Musical, 9:00 p.m., Tuesday, B.  
Ipana Troubadours, 9:00 p.m., Wednesday, R.  
Jack Frost's Melody, 9:30 p.m., Monday, B.  
Andre Kostelanetz Presents, 10:30 p.m., Wednesday, C.  
Manhattan Merry-Go-Round, 9:00 p.m., Sunday, R.  
Maxwell House Showboat, 9:00 p.m., Thursday, R.  
Molle Show, 7:30 p.m., Monday, Wednesday, Thursday, R.  
Music on the Air, 7:30 p.m., Mon., Wed. and Fri., C.  
National Barn Dance, 10:30 p.m., Saturday, B.  
Nestle's Chocolateries, 8:00 p.m., Friday, B.  
Old Gold, 10:00 p.m., Wednesday, C.  
Palmer House, 10:00 p.m., Tuesday, B.  
Al Pearce and Gang, 6:00 p.m., Saturday, B.  
Real Silk Show, 7:00 p.m., Sunday, B.  
Romantic Melodies, 7:30 p.m., Thursday, B.  
Sealed Power Side Show, 8:00 and 12:00 p.m., Monday, B.  
Sinclair Minstrels, 9:00 p.m., Monday, B.  
Spartan Troians, 3:00 p.m., Sunday, B.  
Swift Garden, 3:30 p.m., Sunday, R.  
Swift Revue, 10:00 p.m., Friday, C.  
Texaco, 9:30 p.m., Tuesday, R.  
Voice of Firestone, 8:30 p.m., Monday, R.  
Waves of Melody, 5:15 p.m., Sunday, R.  
Yeast Foamers, 3:30 p.m., Sunday, B.

## RELIGIOUS

Catholic Hour, 6:00 p.m., Sunday, R.  
 Church of the Air, 1:00 p.m., Sunday, C.  
 Elder Michaux, 7:00 p.m., Saturday, C.  
 Midweek Hymn Sing, 6:30 p.m., Tuesday, R.  
 National Vespers, 5:00 p.m., Sunday, B.  
 National Youth Conference, 1:30 p.m., Sunday, B.  
 Salt Lake Choir, 11:30 a.m., Sunday, C.

## SINGERS

Grace and Eddie Albert, 7:45 p.m., Tuesday, B.  
 Frances Alda, 6:00 p.m., Tuesday, R.  
 Baby Rose Marie, 12:15 p.m., Sun.; 7:15 p.m., Mon., B.  
 Irene Beasley, 6:30 p.m., Monday and Friday, R; 6:30 p.m., Wednesday, B.  
 Connie Boswell, 10:00 p.m., Tuesday and Thursday, C.  
 Morton Bowe, 7:00 p.m., Friday, R.  
 Charles Carlile, 11:00 p.m., Tuesday and Friday, C.  
 Richard Crooks, 8:30 and 11:30 p.m., every other Mon., R.  
 Bing Crosby, 8:30 p.m., Monday, C.  
 Jessica Dragonette, 8:00 p.m., Friday, R.  
 Mary Eastman, 6:30 p.m., Tuesday, 8:30 p.m., Thursday, 10:30 p.m., Friday, C.  
 Ruth Etting, 9:15 p.m., Tuesday and Friday, C.  
 Evan Evans, 6:30 p.m., Tuesday; 10:30 p.m., Wednesday and Thursday, C.  
 Five Spirits of Rhythm, 10:30 p.m., Tuesday; 11:00 p.m., Wednesday, C.  
 Jane Froman, 9:00 p.m., Sunday, C.  
 Connie Gates, 10:30 p.m., Monday, C.  
 Alex Gray, 8:30 p.m., Thursday, C.  
 Tito Guizar, 12:30 p.m., Sunday; 6:45 p.m., Wednesday; 6:30 p.m., Thursday, C.  
 Wendell Hall, 7:45 p.m., Sunday, R.  
 Annette Hanshaw, 9:00 p.m., Thursday, R.  
 Happy Bakers, 8:00 p.m., Mon., Wed. and Fri., C.  
 John Herrick, 7:15 p.m., Wednesday; 7:00 p.m., Saturday, B.  
 Harriet Hilliard, 7:30 p.m., Sunday, B.  
 Arlene Jackson, 7:30 p.m., Tuesday, R; 2:30 p.m., Sunday; 7:45 p.m., Friday, B.  
 Al Jolson, 10:00 p.m., Thursday, R.  
 Jeanny Lang, 9:30 p.m., Friday, C.  
 Frances Langford, 3:00 p.m., Sun., B; 9:00 p.m., Sat., R.  
 Lazy Dan, 1:30 p.m., Sunday, C.  
 Madison Ensemble, 12:45 p.m., Sunday, C.  
 Nino Martini, 9:00 p.m., Sunday, C.  
 Tommy McLaughlin, 6:15 p.m., Saturday, C.  
 James Melton, 6:45 p.m., Sunday, C.  
 Mills Brothers, 8:30 p.m., Monday, C.  
 Helen Morgan, 2:00 p.m., Sunday, C.  
 Frank Munn, 9:30 p.m., Sunday; 9:00 p.m., Friday, R.

Edith Murray, 6:30 p.m., Friday, C.  
 Gertrude Niesen, 9:30 p.m., Monday, C.  
 Donald Novis, 9:00 p.m., Saturday, R.  
 Frank Parker, 9:00 p.m., Monday, R.  
 Viola Philo, 11:00 p.m., Thursday, R.  
 Virginia Rea, 9:30 p.m., Sunday, R.  
 Lanny Ross, 9:00 p.m., Thursday, R.  
 Vivien Ruth, 8:00 p.m., Monday, Wednesday and Friday, C.  
 Sanderson-Crumit, 5:30 p.m., Sunday, C.  
 Ethel Shutta, 8:00 p.m., Friday, B.  
 Silver Dust Screenaders, 7:30 p.m., Tues., Thurs. and Sat., C.  
 Mary Small, 1:30 p.m., Sunday, R.  
 Smiling Ed McConnell, 6:30 p.m., Sunday, C.  
 Songs Mother Used to Sing, 6:00 p.m., Sunday, C.  
 Tamara, 9:00 p.m., Sunday, R.  
 Conrad Thibault, 8:30 p.m., Wed., C; 9:00 p.m., Thurs., R.  
 John Charles Thomas, 9:30 p.m., Wednesday, B.  
 Lawrence Tibbett, 8:30 and 11:30 p.m., every other Mon., R.  
 Trade and Mark, 8:45 p.m., Saturday, C.  
 Gus Van, 7:45 p.m., Friday, B.  
 Vera Van, 11:00 p.m., Thursday, C.  
 Vee and Johnny, 4:15 p.m., Sunday, R.  
 Jack Whiting, 9:30 p.m., Friday, C.  
 Muriel Wilson, 2:45 p.m., Sunday; 9:00 p.m., Friday, R.

## TALKS

Boake Carter, 7:45 p.m., daily, except Sat. and Sun., C.  
 Chicago Round Table, 12:30 p.m., Sunday, R.  
 Cook Travelogue, 2:30 p.m., Sunday, R.  
 Father Coughlin, 4:00 p.m., Sunday  
 Flying Capt. Williams, 6:45 p.m., Saturday, B.  
 Edwin C. Hill, 8:15 p.m., Mon., Wed. and Fri., C.  
 Horlick's Health, 8:30 p.m., Tuesday and Thursday, B.  
 International News, 6:30 p.m., Wednesday, H.  
 H. V. Kaltenborn, 11:00 p.m., Sunday; 6:00 p.m., Friday; 10:30 p.m., Saturday, C.  
 John B. Kennedy, 4:00 p.m., Sun., 6:30 p.m., Thurs., R.  
 Meet the Artist, 6:00 p.m., Saturday, C.  
 National Radio Forum, 10:30 p.m., Monday, R.  
 News Service, 11:15 p.m., daily, except Sunday, C.  
 Our American Schools, 6:30 p.m., Sunday, R.  
 Religion in News, 7:15 p.m., Saturday, R.  
 Robert L. Ripley, 10:00 p.m., Saturday, R.  
 Madame Sylvia, 10:30 p.m., Tuesday, R.  
 Lowell Thomas, 6:45 p.m., daily, except Sat. and Sun., B.  
 Voice of Experience, 8:30 and 11:45 p.m., Tuesday, C.  
 Frederic William Wile, 6:30 p.m., Saturday, C.  
 Walter Winchell, 9:30 and 11:15 p.m., Sunday, B.  
 Alexander Woolcott, 9:15 p.m., Wed. and Sat., C.  
 Your Government, 7:15 p.m., Tuesday, B.

## KEY TO SYMBOLS

Frequency is given in kilocycles; wavelength in meters. Night power is shown in watts in third column. Daytime power is shown in parenthesis in fourth column in kilowatts, thus (.25) indicating 250 watts. Some stations outside the United States use a "split frequency." Their exact frequency is shown in fourth column. Time Zones: A—Atlantic, E—Eastern, C—Central, M—Mountain, P—Pacific, L—Local. A. M. time is shown in light face type.

As Shown in the Index by Frequencies and Dial Numbers

### Second Column Symbols

- a Verifies reception for return postage.
- b Verifies only occasionally.
- c Does not verify.
- d Verification 10c; letter 25c.
- e Sends Ekko stamp for 10c.
- f Sends Ekko stamp for 5c.
- g Sends Ekko stamp for postage.
- h Sends own station stamp for 10c.
- i Sends own station stamp for 5c.
- j Sends own station stamp for postage.
- k Has no stamps.
- No information available.

### Fourth Column Symbols

- B National "Blue" network.
- C Columbia network.
- D Daytime only.
- Dn Daytime with occasional evening hours
- F Trans-Canada network.
- F Canadian Radio Bldg. Commission.
- G All Canadian networks.

- H Yankee network.
- J Orange network.
- K Michigan network.
- L Canadian Pacific Ry. network.
- M Central Canada network.
- N National "Red" and "Blue" networks.
- P Has construction permit only.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
- T Don Lee System.
- U Dixie network.
- V Maritime Broadcasting network.
- W All-Florida network.
- W Curtis-Indiana network.
- X Has permit to increase power.
- Y Has permit to change location.
- Z Has permit to change frequency.

a-b-c. Small letters show stations using same transmitter  
 1-2-3. Figures denote stations sharing time.  
 ..... No information.

INDEX BY FREQUENCIES AND DIAL NUMBERS

540 kilocycles 555.2 meters

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CJRM	z	1000	F	Moose Jaw, Sask.	M
KEY	z	10	546.8	Merida, Yuc.	

KCY.  
600

550 kilocycles 545.1 meters

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KFDY	ae	500	1 (1)	Brookings, S. D.	C.
KFUO	ae	500	2 (1)	St. Louis, Mo.	C. 801 DeMun St.
KFYR	ah	1000	1N (2.5)	Bismarck, N. D.	C. 320 Broadway
KOAC	ak	1000	.....	Corvallis, Ore.	P.
KSD	ak	500	2R	St. Louis, Mo.	C. 12th and Olive Sts.
TISO	ak	250	.....	San Jose, C. R.	C. Apdo. 1354
WDEV	ae	500	D	Waterbury, Vt.	E. Stowe St.
WGR	ae	1000	C	Buffalo, N. Y.	E. Rand Bldg.
WKRC	ak	1000	C	Cincinnati, Ohio.	E. Hotel Alms

DIAL

560 kilocycles 535.4 meters

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KFDM	ak	500	(1)	Beaumont, Texas.	C. P. O. Box 825
KLZ	ak	1000	C	Denver, Colo.	M. Shirley-Savoy Hotel
KTAB	ak	1000	.....	San Francisco, Calif.	115 O'Farrell St.
KWTO	ak	500	D	Springfield, Mo.	C
WFI	ae	500	1R (1)	Philadelphia, Pa.	801 Market St.
WIND	ak	1000	C	Gary, Ind.	C. 504 Broadway
WLIT	ak	500	1R (1)	Philadelphia, Pa.	E. Market at 8th St.
WNOX	ak	1000	C (2)	Knoxville, Tenn.	C. Andrew Johnson Hotel
WQAM	ae	1000	CW	Miami, Fla.	E. 327 N. E. First Ave.
XEAO	ak	250	(.15)	Mexicali, B. C.	P. Av. Obregon 1058

570 kilocycles 526.0 meters

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FQN	z	250	572	St. Pierre, Miquelon,	Isl.
KGKO	ak	250	(.5)	Wichita Falls, Texas.	C. Box 998
KMTR	ak	500	.....	Hollywood, Calif.	P. 915 N. Formosa Ave.
KVI	ak	500	.....	Tacoma, Wash.	P. Tacoma Hotel
WKBN	ae	500	1C	Youngstown, Ohio.	E. 17 N. Champion St.
WNCA	ak	500	C	New York, N. Y.	E. 1697 Broadway
WNAX	ak	1000	C (2.5)	Yankton, S. D.	C. 2nd and Capitol Sts.
WOSU	ae	750	1 (1)	Columbus, Ohio.	E.
WSYR	ak	250	B	Syracuse, N. Y.	E. 315 Syracuse Bldg.
WWNC	ae	1000	N	Asheville, N. C.	E. Flatiron Bldg.

580 kilocycles 516.9 meters

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CHRC	ak	100	F	Quebec, Que.	E. Victoria Hotel
CKCL	aj	100	M	Toronto, Ont.	E. 444 University Ave.
CKUA	ak	500	.....	Edmonton, Alta.	M. University Campus
CMDD	z	150	588	Havana, Cuba.	E.
KMJ	ak	500	CT	Fresno, Calif.	P. VanNess and Calaveras Sts.
KSAC	ak	500	2 (1)	Manhattan, Kans.	C
WCHS	ak	750	(1)	Charleston, W. Va.	E. Ruffner Hotel
WDBO	ae	250	CW	Orlando, Fla.	E. Fort Gatlin Hotel
WBW	ae	1000	C2	Topeka, Kans.	C. 1100 National Res. Bldg.
WTAG	ae	750	R (1)	Worcester, Mass.	E. 20 Franklin St.
XEPN	ak	50000	585	Piedras Negras, Coah.	Box 3

590 kilocycles 508.2 meters

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CMW	ae	1400	595	Havana, Cuba.	E. Paseo de Marti 103
HIX	ak	1500	598	Santo Domingo, D. R.	E.
KHQ	ak	1000	N (2.5)	Spokane, Wash.	P. Standard Stock Exchange Bldg.
WEEL	ak	1000	R	Boston, Mass.	E. 182 Tremont St.
WKZO	ae	1000	DK	Kalamazoo, Mich.	E. Burdick Hotel
WOW	ae	1000	R	Omaha, Neb.	C. 14th and Farnam Sts.

600 kilocycles 499.7 meters

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CFCF	ae	500	F	Montreal, Que.	E. Mount Royal Hotel
CFCO	ak	50	FL	Chatham, Ont.	E. P. O. Box 275
CJOR	ak	500	.....	Vancouver, B. C.	P. 846 Howe St.
KFOD	ck	250	.....	Anchorage, Alaska.	L. 411 4th Ave.
KFSD	ah	1000	N	San Diego, Calif.	P. P. O. Box 228
WCAC	ae	500	2	Stoors, Conn.	E.
WCAO	ae	500	C	Baltimore, Md.	E. 811 W. Lanvale St.
WICC	ae	500	2 CH	Bridgeport, Conn.	E. Stratfield Hotel
WMT	af	500	C (1)	Waterloo, Iowa.	C. Lafayette and 3rd St.
WREC	ak	500	C (1)	Memphis, Tenn.	C. Hotel Peabody Bldg.

INDEX BY FREQUENCIES AND DIAL NUMBERS

610 kilocycles 491.5 meters

KFRC	ae	1000	CT	San Francisco, Calif.	1000 Van Ness Ave.
KZRM	ak	1000	618.5	Manila, P. I.	L
TIXA	z	7.5	618.5	Manila, P. I.	L
WDAP	ak	1000	614	San Jose, C. R.	
WIP	ae	500	R	Kansas City, Mo.	1729 Grand Ave.
WJAY	ak	500	C (1)	Philadelphia, Pa.	8th and Market Sts.
XFX	ak	500	D	Cleveland, Ohio.	E. Starr Piano Bldg.
			.....	Mexico City, D. F.	C. Ave. Argentina y L. G. Obregon

620 kilocycles 483.6 meters

KGW	ae	1000	NJ	Portland, Ore.	P. 325 Alder St.
KTAR	ae	1000	NJ	Phoenix, Ariz.	M. 116 N. Central Ave.
WFLA	ae	1000	Na (2.5)	Clearwater, Fla.	E. Chamber of Commerce Bldg.
WLBZ	ak	500	C	Bangor, Maine.	E. 100 Main St.
WSTN	ae	1000	Na (2.5)	St. Petersburg, Fla.	
WTMJ	ae	1000	N (2.5)	Milwaukee, Wis.	333 W. State St.

630 kilocycles 475.9 meters

CFCY	ae	500	FVE	Charlottetown, P. E. I.	143 Great George St.
CJGX	ck	500	F	Yorkton, Sask.	C
KFRU	ak	500	I	Columbia, Mo.	C. 9th and Elm Sts.
KGFX	z	200	D	Pierre, S. D.	C. 510 Summit Ave.
WGBF	ae	500	I	Evansville, Ind.	C. 618 1/2 Main St.
WMAL	ak	250	B (.5)	Washington, D. C.	712 11th St. N. W.
WOS	ak	500	1D	Jefferson City, Mo.	Capitol Bldg.
XEMZ	z	30	.....	Tijuana, B. C. P.	Ave. B, 506
XEX	z	50	.....	Monterrey, N. L.	Aldama 932 Sur.
XEZ	ak	500	.....	Merida, Yuc.	C. Calle 58 Nr. 497
XFG	z	2000	638.3	Mexico City, F.	C

640 kilocycles 468.5 meters

CMQ	z	500	645	Havana, Cuba.	E. 25 Nr. 445, Vedado
KFI	ak	50000	1N	Los Angeles, Calif.	1000 So. Hope St.
WAIU	ae	500	1	Columbus, Ohio.	E. Deshler-Wallick Hotel
WOI	ae	5000	D	Ames, Iowa.	C

650 kilocycles 461.3 meters

KPCB	ae	100	.....	Seattle, Wash.	P. 3rd and Pine Sts.
WSM	aej	50000	N	Nashville, Tenn.	C. National Life Bldg.

660 kilocycles 454.3 meters

RUS	z	500	664	San Salvador, E. S.	
WAAW	af	500	D	Omaha, Neb.	C. 733 Grain Exchange Bldg.
WEAF	ak	50000	R	New York, N. Y.	E. 30 Rockefeller Bldg.

670 kilocycles 447.5 meters

WMAQ	ck	5000	N	Chicago, Ill.	C. Merchandise Mart
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680 kilocycles 440.9 meters

CMAF	ak	1000	.....	Havana, Cuba.	E. P. O. Box 66
HJN	ak	500	681	Bogota, Colombia.	
KFEQ	ae	2500	D	St. Joseph, Mo.	C. Robidoux Hotel
KPO	ak	50000	N	San Francisco, Calif.	111 Sutter St.
VAS	z	2000	685	Glace Bay, N. S.	A.
WPTF	ae	1000	DnN	Raleigh, N. C.	E. 324 Fayetteville St.

690 kilocycles 434.5 meters

CFRB	ak	10000	C	Toronto, Ont.	E. 37 Bloor St. W.
CJCJ	ak	100	.....	Calgary, Alta.	M. 9th Ave. and 2nd St. W.
NAA	ak	1000	.....	Arlington, Va.	E. Navy Dept.
XET	ck	500	.....	Monterrey, N. L.	C. Bolivar Nr. 492

700 kilocycles 428.3 meters

VOWR	ak	500	S	St. John's, Nfld.	L. P. O. Box 157
WLW	ak	50000	NX	Cincinnati, Ohio.	E. 1329 Arlington St.



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710 kilocycles 422.3 meters

KMPC	ae	500	Dn	Beverly Hills, Calif.	9631 Wiltshire Blvd.
TIFB	z	30	714	San Jose, C. R.	C.
WOR	ak	5000	.....	Newark, N. J.	E. 147 Market St.
XEN	ak	1000	711	Mexico City, D. F.	C. Motolinia 22 Edif. "LaPerla"

720 kilocycles 416.4 meters

WGN	ck	50000	.....	Chicago, Ill.	C. Tribune Tower
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730 kilocycles 410.7 meters

CFPL	z	100	F	London, Ont.	E.
CJCA	ah	1000	F	Edmonton, Alta.	M. 10122 100 A. St.
CKAC	ak	5000	C	Montreal, Que.	E. 980 St. Catherine St. W.
CMK	ae	2000	.....	Havana, Cuba.	E. Hotel Plaza
XEF- XER	ak	150000	735	Villa Acuna, Coh.	C. Apdo. 30

740 kilocycles 405.2 meters

KMMJ	ae	1000	D	Clay Center, Neb.	C.
WHEB	ak	250	D	Portsmouth, N. H.	E. 39 Congress St.
WSB	ah	50000	N	Atlanta, Ga.	C. 7 N. Forsyth St.
.....	z	250	DP	Modesto, Calif.	P.

750 kilocycles 399.8 meters

KGU	aj	2500	N	Honolulu, T. H.	L. Advertiser Square
WJR	ak	10000	B	Detroit, Mich.	E. Fisher Bldg.
XEOK	ak	2500	757	Tijuana, B. C.	P. Calle 5a 312

760 kilocycles 394.5 meters

CMBS	ak	200	765	Havana, Cuba.	E. Calzada y H.
CMCQ	z	1000	767	Havana, Cuba.	E. Vista Alegre Nr. 80, Vibora
KXA	ae	250	(.5)	Seattle, Wash.	P. 218 Bigelow Bldg.
WBAL	ae	10000	BSy	Baltimore, Md.	
WEW	ae	1000	D	St. Louis, Mo.	C. 221 N. Grand Blvd.
WJZ	ck	50000	BSy	New York, N. Y.	E. 30 Rockefeller Plaza
XEYZ	z	10000	.....	Mexico City, D. F.	C. Ave. Jaurez 48 Altos

770 kilocycles 389.4 meters

KFAB	ae	5000	CSy	Lincoln, Neb.	C. 13th and M Sts.
WBBM	ae	25000	CSy	Chicago, Ill.	C. Wrigley Bldg.

780 kilocycles 384.4 meters

CHWK	ak	100	F	Chilliwack, B. C.	P. Wellington Ave.
CJCS	ae	500	(1) P	Sudbury, Ont.	E. Nickel Range Hotel
CKY	ak	5000	F	Winnipeg, Man.	C. Sherbrooke St.
KELW	ae	500	2	Burbank, Calif.	P. 3702 Magnolia Blvd.
KTM	ae	500	2 (1)	Los Angeles, Calif.	P. 214 So. Vermont St.
WEAN	ae	500	CH	Providence, R. I.	E. Crown Hotel
WMC	ak	500	N (1)	Memphis, Tenn.	C. Hotel Gayoso
WTAR	ae	500	C	Norfolk, Va.	E. Wainwright Bldg.
XEP	z	500	.....	Mexico City, D. F.	C. Rembrandt 11

790 kilocycles 379.5 meters

CMJK	ak	500	.....	Camaguey, Cuba.	E. Finlay Nr. 3 Altos
KGO	ak	7500	N	San Francisco, Calif.	P. 111 Sutter St.
WGY	ak	50000	R	Schenectady, N. Y.	E. 1 River Road

800 kilocycles 374.8 meters

TIGP	z	75	.....	San Jose, C. R.	
WBAP	ak	50000	Na	Fort Worth, Tex.	3. 400 W. 7th St.
WFAA	ak	50000	Na	Dallas, Tex.	C. Baker Hotel
XFC	z	350	805	Aguascalientes, Ags.	Government Bldg.

810 kilocycles 370.2 meters

WCCO	ae	50000	C	Minneapolis, Minn.	Nicollet Hotel
WNYC	ak	500	N	New York, N. Y.	E. Centre and Duane Sts.
XBC	ak	2500	815	Agua Caliente, B. C.	Hotel Agua Caliente

820 kilocycles 365.6 meters

CMGC	z	30	.....	Matanzas, Cuba.	E. Independencia Nr. 56
WHAS	aj	50000	C	Louisville, Ky.	C. 3rd and Liberty Sts.

KCYS.  
820  
DIAL

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830 kilocycles 361.2 meters

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CMC	ae	500	835	Havana, Cuba.	E.	Aguila y Dragones
CMGA	z	100	834	Colon, Cuba.	E.	Marti Nr. 19
KOA	ak	12500	N	Denver, Colo.	M.	1370 Krameria St.
LR5	s	20000	.....	Buenos Aires, Arg.	L.	
TIEA	z	7.5	833	San Jose, C. R.	L.	
WEEU	ak	1000	D	Reading, Pa.	E.	533 Penn St.
WHDH	ae	1000	Dn	Boston, Mass.	E.	62 Boylston St.
WRUF	ae	5000	Dn	Gainesville, Fla.	E.	
XETW	dk	500	.....	Mexico City, D. F.	C.	Gante 4, 3 er Piso

840 kilocycles 356.9 meters

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CJOC	ak	100	F	Lethbridge, Alta.	M.	Marquis Hotel
CKLW	ae	5000	C	Windsor, Ont.	E.	Guaranty Trust Bldg.

850 kilocycles 352.7 meters

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KIEV	ak	100	D	Glendale, Calif.	P.	Glendale Hotel
LWKH	ae	10000	I	Shreveport, La.	C.	Spring and Fannin Sts.
WWL	ae	10000	1Dn	New Orleans, La.	C.	Roosevelt Hotel

860 kilocycles 348.6 meters

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TIVL	z	30	869	San Jose, C. R.	C.	
WABC	ae	50000	C	New York, N. Y.	E.	485 Madison Ave.
WHB	ae	500	D	Kansas City, Mo.	C.	Scarritt Bldg.
XEMO	ak	1500	865	Tijuana, B. C.	P.	Ave. B 506

870 kilocycles 344.6 meters

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CMCF	ak	250	873	Havana, Cuba.	E.	P. O. Box 647
CMX	ae	1000	875	Havana, Cuba.	E.	Ave. de la Republica 99
WENR	ak	50000	Na	Chicago, Ill.	C.	222 N. Bank Drive
WLS	ae	50000	Na	Chicago, Ill.	C.	1230 W. Washington Blvd.

880 kilocycles 340.7 meters

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CJCB	ak	50	F	Sydney, N. S. A.	A.	318 Charlotte St.
CRCO	ak	1000	F	Ottawa, Ont.	E.	Chateau Laurier Hotel
KFKA	ak	500	2 (1)	Greeley, Colo.	M.	P. O. Box 735
KLX	ae	1000	.....	Oakland, Calif.	P.	Tribune Tower
KPOF	ae	500	2	Denver, Colo.	M.	1845 Champa St.
WCOC	ae	500	(1)	Meridian, Miss.	C.	Box 603
WGBI	ae	500	1	Scranton, Pa.	E.	Select Bldg.
WQAN	ae	250	1	Scranton, Pa.	E.	149 Penn Ave.
WSUI	ae	500	.....	Iowa City, Iowa.	C.	
YV2BC	z	100	882	Caracas, Venz.	L.	

890 kilocycles 336.9 meters

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KARK	ak	250	.....	Little Rock, Ark.	C.	212 National Stanad Bldg.
KKNF	ak	500	2 (1)	Shenandoah, Iowa.	C.	407 Sycamore St.
KSEI	ck	250	(.5)	Pocatello, Idaho.	M.	141 S. 6th Ave.
KUSD	ae	500	2	Vermillion, S. D.	C.	
WGST	ae	250	C (1)	Atlanta, Ga.	C.	Ansley Hotel
WILL	ak	250	2 (.1)	Urbana, Ill.	C.	
WJAR	ae	500	R	Providence, R. I.	E.	Weybossett St.
WMMN	ae	250	(.5)	Fairmount, W. Va.	E.	325 Main St.
XETU	z	100	.....	Pachuca, Hdo.		
XEW	ak	50000	.....	Mexico City, D. F.	C.	Ayuntamiento 54

900 kilocycles 333.1 meters

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KGBU	ak	500	.....	Ketchikan, Alaska.	L.	Mile 5, Wards Cove Rd.
KHJ	ae	1000	CT	Los Angeles, Calif.	P.	1076 W. 7th St.
WBEW	ae	1000	R	Buffalo, N. Y.	E.	Hotel Statler
WJAX	ae	1000	N	Jacksonville, Fla.	E.	Waterworks Park
WKY	ak	1000	N	Oklahoma City, Okla.		Plaza Court Bldg.
WLBL	ae	2500	D	Stevens Point, Wis.	C.	Fox Theatre Bldg.

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910 kilocycles 329.6 meters

CMCD	ah	500	915	Havana, Cuba.	E.	Hotel Palace
CMDE	z	150	915	Havana, Cuba.	E.	
CMJF	z	200		Camaguey, Cuba.	E.	
CRCM	ck	5000	F	Montreal, Que.	E.	
TICR	z	75	911	San Jose, C. R.	C.	

920 kilocycles 325.9 meters

HHK	ae	1000		Port-au-Prince, Haiti.		
KFEL	ak	500	1	Denver, Colo.	M.	1728 Stout St.
KFXF	ak	500	1	Denver, Colo.	M.	Continental Oil Bldg.
KOMO	ak	1000	N	Seattle, Wash.	P.	Skinner Bldg.
KPRC	ae	1000	N (2.5)	Houston, Texas.	C.	2204 Shell Bldg.
WAAF	ak	500	D	Chicago, Ill.	C.	836 Exchange Ave.
WBSO	ae	500	D	Babson Park, Mass.	E.	
WWJ	ae	1000	R	Detroit, Mich.	E.	616 Lafayette Blvd.

930 kilocycles 322.4 meters

CFAC	ak	100		Calgary, Alta.	M.	Herald Bldg.
CFCH	ak	100	F	North Bay, Ont.	E.	Capital Theatre Bldg.
CFLC	ae	100		Prescott, Ont.	E.	Doyle Bldg.
CKPC	ae	100	FG	Brantford, Ont.	E.	268 Guelph St.
CKPR	ak	50	F	Fort William, Ont.	E.	Royal Edward Hotel
KFWI	ak	500	1	San Francisco, Calif.	E.	DeYoung Bldg.
KGBZ	ak	500	2 (1)	York, Neb.	C.	
KMA	ak	500	2 (1)	Shenandoah, Iowa.	C.	
KROW	ak	500	1 (1)	Oakland, Calif.	P.	1803 Franklin St.
WBRC	ak	500	C (1)	Birmingham, Ala.	C.	2300 5th Ave.
WDBJ	ae	250	C (.5)	Roanoke, Va.	E.	122 W. Church Ave.

940 kilocycles 319.0 meters

CMHD	dk	500	945.5	Caibarien, Cuba.	E.	Box 155
KOIN	ak	1000	CT	Portland, Ore.	P.	New Heathman Hotel
VOAS	ak	100		St. John's, Nfld.	L.	Water St.
WAAT	ae	300	D	Jersey City, N. J.	E.	50 Journal Square
WAVE	ak	1000	N	Louisville, Ky.	C.	Brown Hotel
WCSH	ae	1000	R (2.5)	Portland, Maine.	E.	157 High St.
WDAY	ae	1000	N	Fargo, N. D.	C.	118 Broadway
WHA	ak	1000	D	Madison, Wis.	C.	Sterling Hall
XEFO	ak	5000		Mexico City, D. F.	C.	Donato Guerra 14

950 kilocycles 315.6 meters

KFWB	ak	1000		Hollywood, Calif.	P.	6425 Hollywood Blvd.
KGHL	ak	1000	NJ (2.5)	Billings, Mont.	M.	4th and Broadway
KMBC	ak	1000	C	Kansas City, Mo.	C.	Pickwick Hotel
WRC	ae	500	R	Washington, D. C.	E.	National Press Bldg.

960 kilocycles 312.3 meters

CMBD	z	250	965	Havana, Cuba.	E.	Enamorados y Flores
CMCW	ak	150	965	Havana, Cuba.	E.	Fabrica y Aspuru
CMJL	z	50		Camaguey, Cuba.		Cuba Nr. 27
CRCT	ak	5000	NF	Toronto, Ont.	E.	805 Davenport Road
XEAW	ak	10000	965	Reynosa, Tams.	C.	McAllen, Texas
YVIBC	ak	5000		Caracas, Venez.	L.	Apdo. 290

970 kilocycles 309.1 meters

CMGF	ak	100	971.5	Mantanzas, Cuba.	E.	General Betencourt Nr. 105
KJR	z	5000	N	Seattle, Wash.	P.	Skinner Bldg.
WCFL	ae	1500	BX	Chicago, Ill.	C.	666 Lake Shore Drive
WIBG	ae	100	D	Glenside, Pa.	E.	Keswick Bldg.

980 kilocycles 303.9 meters

KDKA	ak	50000	B	Pittsburgh, Pa.	E.	700 Braddock Ave.
XEFE	z	100	985	Nuevo Laredo, Tams.	C.	Km. 4, Carretera Laredo-Monterrey

990 kilocycles 302.8 meters

LR-4	z	12000		Buenos Aires, Arg.	L.	
TITV	z	7.5	999	San Jose, C. R.	C.	
WBZ	ak	50000	BSy	Boston, Mass.	E.	Hotel Bradford
WNZA	ak	1000	BSy	Springfield, Mass.	E.	

KCSY.  
990  
DIA

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WJEM	z	500	DP	Tupelo, Miss.	C.
XEAF	z	750	.....	Nogales, Son.	Hotel Central
XEK	ak	100	.....	Mexico City, D. F.	C. Jalapa Nr. 51

### 1000 kilocycles 299.8 meters

CMBZ	ak	150	1005	Havana, Cuba.	E. San Rafael 14
CMHI	ae	250	1007	Santa Clara, Cuba.	E. Independencia Nr. 34
KFVD	ae	250	Dn	Los Angeles, Calif.	P. 645 So. Mariposa Ave.
WHO	ak	50000	R	Des Moines, Iowa.	C. 914 Walnut St.
WORK	ak	1000	D	York, Pa.	E. 13 So. Beaver St.
XEC	z	50	.....	Toluca, D. F.	C. Independencia Nr. 76
XEFJ	ak	100	.....	Monterrey, N. L.	C. Morelas 759
XEL	ak	10	.....	Saltillo, Coah.	C. Escuela Normal

### 1010 kilocycles 296.9 meters

CHML	aei	50	M	Hamilton, Ont.	E. Pigott Bldg.
CHWC	ae	500	3F	Regina, Sask.	M. Rose off 11th
CKCD	ak	100	.....	Vancouver, B. C.	P. 198 W. Hastings St.
CKCK	ak	500	3F	Regina, Sask.	M. Leader Bldg.
CKCO	z	100	.....	Ottawa, Ont.	E. 272 Summerset St. W.
CKIC	ak	50	.....	Wolfville, N. S.	A.
CKWX	aeH	100	L	Vancouver, B. C.	P. 801 W. Georgia St.
CMJO	ak	50	.....	Ciego de Avila, Cuba.	C. Central y Maceo
KGGF	ak	500	2 (1)	Coffeyville, Kans.	C. 8th and Elm Sts.
KQW	ae	500	.....	San Jose, Calif.	P. 87 E. San Antonio
TIGA	z	30	1014	Cartago, C. R.	
WHN	ae	1000	.....	New York, N. Y.	E. 1540 Broadway
WIS	ae	500	N (1)	Columbia, S. C.	E. 1811 Main St.
WNAD	ae	500	2	Norman, Okla.	C.
XEJ	ak	250	1015	Jaurez, Chih.	C. Ave. Lerdo 309
XEU	ak	100	.....	Veracruz, Ver.	C. Vicario 12

### 1020 kilocycles 293.9 meters

KYW	ak	1000	NY	Chicago, Ill.	C. 310 S. Michigan Ave.
WRAX	ak	250	DZ	Philadelphia, Pa.	E. 22nd and Walnut St.
XES	dk	250	.....	Tampico, Tams.	E. Aduana Sur 4 Altos

### 1030 kilocycles 291.1 meters

CFCN	ak	10000	F	Calgary, Alta.	M. Toronto General Trust Bldg.
CFNB	ae	500	FE	Fredericton, N. B.	A. Queen St.
CKNC	ak	100	F	Toronto, Ont.	E. 805 Davenport Road
CMKC	z	150	1034	Santiago, Cuba.	E. J. A. Saco, Alta 23
XEB	ak	10000	.....	Mexico City, D. F.	C. Buen Tono Nr. 6

### 1040 kilocycles 288.3 meters

CMBG	z	225	1048a	Havana, Cuba.	E. Hospital Nr. 100
CMCB	ak	150	1048a	Havana, Cuba.	E. Metropolitan Bldg.
CMGH	ak	15	.....	Matanzas, Cuba.	E. Bonifacio Byrne 113
KRLD	ae	10000	iC	Dallas, Texas.	C. Adolphus Hotel
KTHS	ae	10000	DN	Hot Springs, Ark.	C. 135 Benton St.
WESG	ak	1000	D	Elmira, N. Y.	E. Mark Twain Hotel
WKAR	ak	1000	D	East Lansing, Mich.	E.

### 1050 kilocycles 285.5 meters

CHNS	ae	500	FL	Halifax, N. S.	A. Lord Nelson Hotel
CMJG	z	50	.....	Camaguey, Cuba.	E. Martires Nr. 133
KFBI	ak	5000	Dn	Abilene, Kans.	C. Box 345
KNX	ak	25000	.....	Hollywood, Calif.	P. 1558 No. Vine St.
VOGY	ak	75	.....	St. John's, Nfld.	L. Newfoundland Hotel
XEFC	ak	100	.....	Merida, Yuc.	C. Calle 59, 517

### 1060 kilocycles 282.8 meters

KWJJ	ak	500	.....	Portland, Ore.	P. 328 Salmon St.
WBAL	ae	10000	1B	Baltimore, Md.	E. Lesington Bldg.
WJAG	ak	1000	D	Norfolk, Neb.	C. Hotel Norfolk
WTIC	ak	50000	1R	Hartford, Conn.	E. 26 Grove St.

### 1070 kilocycles 280.2 meters

KJBS	ae	100	D	San Francisco, Calif.	P. 1380 Bush St.
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WCAZ ae 100 D  
 WDZ ak 100 D  
 WTAM ck 5000 R

Carthage, Ill. C. 97½ Adams St.  
 Tuscola, Ill. C. Star Store Bldg.  
 Cleveland, Ohio. E. 1367 E. 6th St.

### 1080 kilocycles 277.6 meters

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VOKW z 30 1085  
 WBT ae 5000 CU  
 WCBD ae 5000 1Dn  
 WMBI ae 5000 1Dn

St. John's, Nfld. L. P. O. Box East 5039  
 Charlotte, N. C. E. Wilder Bldg.  
 Zion, Ill. C. Temple Site  
 Chicago, Ill. C. 153 Institute Place

### 1090 kilocycles 275.1 meters

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KMOX ak 5000 C  
 XEAI z 100  
 XEWW z 250 1095

St. Louis, Mo. C. Mart Bldg., 12th and Spruce Sts.  
 Mexico City, D. F. Ave. Insurgentes 366  
 Veracruz, Ver. C. Ave. Independencia 57

### 1100 kilocycles 272.6 meters

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CMHA z 1103  
 CMCU ak 500  
 CRCV ak 1000 F  
 KGDM ak 250 D  
 TIRCA ak 500  
 WLWL ae 5000 1  
 WPG ak 5000 1C  
 XEA ak 125  
 XEFG ak 250 1105

Sagua la Grande, Cuba.  
 Havana, Cuba. E. San Francisco 13, Vibora  
 Vancouver, B. C. P. 1150 Main St.  
 Stockton, Calif. P. Market and California Sts.  
 San Jose, C. R. C. Apdo. 225  
 New York, N. Y. E. 415 W. 59th St.  
 Atlantic City, N. J. Convention Hall  
 Guadalajara, Jal. C. Pedro Loza 28  
 Mexico City, D. F. C. Tepic 48

### 1110 kilocycles 270.1 meters

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KSOO ak 1000 Dn (2.5)  
 WRVA ae 5000 N  
 XENT ak 30000 1115

Sioux Falls, S. D. C. 1613 So. Duluth Ave.  
 Richmond, Va. E. 22nd and Cary Sts.  
 Nuevo Laredo, Tams. Apdo. 47

### 1120 kilocycles 267.7 meters

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CFTP z 100  
 CHGS ae 50 F  
 CHLP z 100  
 CKOC ae 500 F (1)  
 CMHJ ae 60 1125  
 KFIO ae 100 D  
 KFSG ag 500 a  
 KRKD ae 500 a  
 KRSC ak 100 D  
 KTRH z 1000 2C  
 WDEL ak 250 (.5)  
 WHAD ak 250 1C  
 WISN ak 250 1  
 WTAW ae 500 2

Edmonton, Alta. M.  
 Summerside, P. E. I. Water St.  
 Montreal, Que. E. 180 St. Catherine E.  
 Hamilton, Ont. E. Wentworth Bldg.  
 Cienfuegos, Cuba. E. Apdo. 57  
 Spokane, Wash. P. 213 Riverside  
 Los Angeles, Calif. P. 1100 Glendale Blvd.  
 Los Angeles, Calif. P. 815 Spring Arcade Bldg.  
 Seattle, Wash. P. Washington Athletic Club  
 Houston, Texas. C. Rice Hotel  
 Wilmington, Del. E. 10th and King Sts.  
 Milwaukee, Wis. C. 1217 W. Wisconsin Ave.  
 Milwaukee, Wis. C. 123 W. Michigan Ave.  
 College Station, Tex.

### 1130 kilocycles 265.3 meters

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KSL ae 50000 C  
 TGW ak 500 X  
 WJJD ae 20000 Dn  
 WOV ag 1000 D  
 XEH ak 250 1132

Salt Lake City, Utah. Vermont Bldg.  
 Guatemala City, Gua. L.  
 Chicago, Ill. C. 201 N. Wells St.  
 New York, N. Y. E. 16 E. 42nd St.  
 Monterrey, N. L. C. P. O. Box 147

### 1140 kilocycles 263.0 meters

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CMBJ z 500 1147  
 CMBW ak 600  
 CMCG z 500  
 KVOO ae 25000 1N  
 WAPI ae 5000 1N

Havana, Cuba. E. San Lazoro 92  
 Havana, Cuba. E. Obrapia Nr. 13  
 Havana, Cuba. E.  
 Tulsa, Okla. C. Wright Bldg.  
 Birmingham, Ala. C. Protective Life Bldg.

### 1150 kilocycles 260.7 meters

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CMJH ak 50  
 WHAM ae 50000 B  
 XED ak 500 1155

Ciego de Avila, Cuba. Independencia 89  
 Rochester, N. Y. E. Sagamore Hotel  
 Guadalajara, Jal. C. Apdo. 197

### 1160 kilocycles 258.5 meters

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WOWO ae 10000 1C  
 WWVA ae 5000 1C

Fort Wayne, Ind. C. 213 W. Main St.  
 Wheeling, W. Va. E. Hawley Bldg.

KCYC  
 1160

DI

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### 1170 kilocycles 256.3 meters

CMJE	z	50	C	Camaguey, Cuba.	E. Plaza de Macco
WCAU	ae	50000		Philadelphia, Pa.	E. 1622 Chestnut St.

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### 1180 kilocycles 254.1 meters

CMBN	ak	150	1185	Havana, Cuba.	E. Agramonte Nr. 32 Regla
CMBX	z		1185	Havana, Cuba.	E.
CMCJ	ak	500		Havana, Cuba.	E. Estevez Nr. 4
KEX	ak	5000	2N	Portland, Ore.	P. 205 Terminal Sales Bldg.
KOB	ae	10000	2	Albuquerque, N. M.	M. Box 667
WDGY	ak	1000	Dn	Minneapolis, Minn.	C. 909 W. Broadway
WINS	ae	500		New York, N. Y.	E. 235 E. 45th St.
WMAZ	ak	500		Macon, Ga.	E. Cotton Ave.

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### 1190 kilocycles 252.0 meters

HIJ	z	15	1195	Santo Domingo, D. R.	E. Hostos 34
VE9EK	ak	10	1195	Montmagny, Que.	E.
YONF	ak	400	1195	St. John's, Nfld.	L. P. O. Box 1355
WOAI	ae	50000	N	San Antonio, Texas.	C. 1038 Navarro St.
WSAZ	ak	1000		Huntington, W. Va.	E. 929 1/2 Fourth Ave.
	z	100	DP	Waterbury, Conn.	E.

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### 1200 kilocycles 249.9 meters

CHAB	ak	100	F	Moose Jaw, Sask.	M. 12 High St. W.
CJAT	ak	50		Trail, B. C.	P.
CKTB	ae	100	G	St. Catharines, Ont.	E. Welland House
CMGH	z	30	1205	Matanzas, Cuba.	E. Magdalena Nr. 1
CMHW	z	100		Cienfuegas, Cuba.	E.
KBTM	ak	100	DY	Jonesboro, Ark.	C. Hotel Noble
KERN	ak	100	CT	Bakersfield, Calif.	P. Elks Club
KFJB	ak	100	(.25)	Marshalltown, Iowa.	C. 1603 W. Main St.
KFXD	ae	100		Nampa, Idaho.	M. 1024 12th Ave. So.
KFXJ	ak	100		Grand Junction, Colo.	M. Hillcrest Manor
KGDE	ak	100	(.25)	Fergus Falls, Minn.	C.
KGEK	ak	100		Yuma, Colo.	M. 109 W. 2nd St.
KGFJ	ae	100		Los Angeles, Calif.	P. 1417 So. Figueroa St.
KGHI	ak	100	(.25)	Little Rock, Ark.	C. Marion Hotel
KGVO	ak	100		Missoula, Mont.	M. 240 N. Higgins St.
KMLB	ak	100		Monroe, La.	C. Francis Hotel
KSUN	ae	100	D	Lowell, Ariz.	M. Drawer C
KVOS	ak	100		Bellingham, Wash.	P. Bellingham Hotel
KWVG	ae	100	CT	Stockton, Calif.	P. Medico Dental Bldg.
WABI	ak	100		Bangor, Maine.	E. Park St.
WBEX	ck	100	1	New Orleans, La.	C. Marber Hotel
WBZ	ak	100		Ponca City, Okla.	C. 407 W. South Ave.
WBFS	z	100	4	Huntsville, Ala.	C.
WCAT	ak	100	D	Rapid City, S. D.	C.
WCAX	ak	100		Burlington, Vt.	E. 203 College St.
WCLO	ak	100		Janesville, Wis.	C. 200 E. Milwaukee St.
WFAM	ak	100	8C	South Bend, Ind.	C. 225 W. Colfax Ave.
WFBC	ak	100	4 (.25)	Greenville, S. C.	E. Imperial Hotel
WFBE	ak	100	(.25)	Cincinnati, Ohio.	E. Hotel Sinton-St. Nicholas
WHBC	ak	100	2	Canton, Ohio.	E. 319 W. Tuscarawas St.
WHBY	ak	100		Green Bay, Wis.	C. Bellin Bldg.
WIBX	ae	100	(.3)	Utica, N. Y.	E. First National Bank Bldg.
WIL	ak	100	5 (.25)	St. Louis, Mo.	C. Melbourne Hotel
WJBC	ae	100	6	LaSalle, Ill.	C. Kaskaskia Hotel
WJBL	ae	100	6	Decatur, Ill.	C. 134 S. Water St.
WJBW	ak	100	1	New Orleans, La.	C. 2743 Dumaine St.
WKBO	ak	100	3	Harrisburg, Pa.	E. 4th and Market Sts.
WKJC	ae	100	3	Lancaster, Pa.	E. 16 W. King St.
WNBO	ae	100	2	Silverhaven, Pa.	E. Warner State Studio, Washington, Pa.
WNBW	z	10	(.1)	Carbondale, Pa.	E. 50 Main St. No.
WPHR	z	100	(.25)	Petersburg, Va.	E. Medical Arts Bldg.
WRBL	z	100		Columbus, Ga.	C. Royal Theatre Bldg.
WRAE	ae	100	8	Hammond, Ind.	C. 402 Hammond Bldg.
XETH	ak	100		Puebla, Pue.	C. Edificio Alhondiga
YV3BC	ak	1000		Caracas, Venez.	L.
10-AK	ak	15		Stratford, Ont.	E.—151 Ontario St.
10-BP	ak	15		Wingham, Ont.	E—Box 65.
10-BQ	ak	15		Brantford, Ont.	E. 12 Terrace Hill St.
10-BU	z	15		Canora, Sask.	C. Railway Ave. E.

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### 1210 kilocycles 247.8 meters

CFBO	z	100	F	St. John, N. B.	A. Canterbury Court.
CHNC	ak	100	PF	New Carlisle, Que.	A.

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## INDEX BY FREQUENCIES AND DIAL NUMBERS

CKBI	ak	100	.....	Prince Albert, Sask.	M.	Orpheum Theatre Bldg.
CKCH	z	100	.....	Hull, Que.	E.	
CKMC	ak	50	.....	Cobalt, Ont.	E.	Box 788
CKOV	ak	50	F	Kelowna, B. C.	P.	Box 243
CMHK	ak	50	1215	Cruces, Cuba.	E.	Apdo. 79
KASA	ak	100	.....	Elk City, Okla.	C.	Casa Grande Hotel.
KDLR	ak	100	.....	Devils Lake, N. D.	C.	1025 3rd St.
KFJI	ak	100	.....	Klamth Falls, Ore.	P.	Willard Hotel.
KFOR	ak	100	(.25)C	Lincoln, Neb.	C.	Box 1537.
KFPW	ak	100	.....	Fort Smith, Ark.	C.	1215 Garrison Ave.
KFVS	ae	100	6	Cape Girardeau, Mo.		Box 275
KFXM	ak	100	9	San Bernardino, Calif.		California Hotel.
KGCR	ak	100	.....	Watertown, S. D.	C.	312 Citizens Bank Bldg.
KGY	ak	100	.....	Olympia, Wash.	P.	11th and Capitol Way
KIEM	ak	100	.....	Eureka, Calif.	P.	Vance Hotel
KPPC	ak	50	9	Pasadena, Calif.	P.	585 E. Colorado St.
KWEA	z	100	.....	Shreveport, La.	C.	Spring and Fannin Sts.
KWVF	z	100	.....	Hilo, Hawaii.	L.	
WALR	ae	100	.....	Zanesville, Ohio.		First Trust & Savings Bldg.
WBAX	ae	100	1	Wilkes Barre, Pa.	E.	70 S. Main St.
WBBL	ak	100	7S	Richmond, Va.	E.	1627 Monument Ave.
WCBS	ak	100	2	Springfield, Ill.	C.	208 1/2 S. 5th St.
WCRW	ae	100	4	Chicago, Ill.	C.	2756 Pine Grove Ave.
WEBQ	ae	100	6	Harrisburg, Ill.	C.	100 E. Poplar St.
WEDC	ae	100	4	Chicago, Ill.	C.	3860 Ogden Ave.
WFAS	ak	100	3	White Plains, N. Y.	E.	Roger Smith Hotel
WGBB	ae	100	3	Freeport, N. Y.	E.	64 S. Grove St.
WGCM	ae	100	(.25)	Mississippi City, Miss.		Great Southern Hotel, Gulfport.
WGNV	ak	100	3	Chester, N. Y.	E.	Orange County.
WHBF	ak	100	.....	Rock Island, Ill.	C.	100 18th St.
WHBU	ah	100	.....	Anderson, Ind.	C.	641 Citizens Bank Bldg.
WIBU	a	100	.....	Poynette, Wis.	C.	RFD 3.
WJBI	ak	100	3	Red Bank, N. J.	E.	63-65 Broad St.
WJBY	ak	100	.....	Gadsden, Ala.	C.	112 N. 8th St.
WJEJ	ah	100	D	Hagerstown, Md.	E.	Alexander Hotel.
WJW	ak	100	.....	Akron, Ohio.	E.	41 S. High St.
WKFI	ak	100	Y	Greenwood, Miss.	C.	Box 302.
WKOK	ak	100	1P	Suabury, Pa.	E.	1150 N. Front St.
WMBG	ak	100	7C	Richmond, Va.	E.	914 W. Broad St.
WOCL	ak	50	.....	Jamestown, N. Y.	E.	840 N. Main St.
WOMT	ae	100	.....	Manitowoc, Wis.	C.	P. O. Box 325.
WPRO	ak	100	X	Providence, R. I.	E.	15 Chestnut St.
WQDX	ae	100	.....	Thomasville, Ga.	E.	135 E. Jackson St.
WWSB	ae	100	4	Chicago, Ill.	C.	1258 S. Michigan Ave.
WSEN	ak	100	.....	Columbus, Ohio.	E.	144 S. High St.
WSIX	ak	100	.....	Springfield, Tenn.	C.	
WSOC	ae	100	N(.25)	Charlotte, N. C.	E.	Box 730.
WTAX	ae	100	2	Springfield, Ill.	C.	416 E. Capitol Ave.
XETZ	z	500	.....	Mexico City, D. F.	C.	Pasaje Yucatan.

KCY.S.  
1240  
DIAL

### 1220 kilocycles 245.8 meters

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KFKU	ae	500	a	Lawrence, Kas.	C.	109 Fraser Hall.
KTW	ak	1000	S2	Seattle, Wash.	P.	7th Ave. and Spring St.
KWSC	ae	1000	2 (2)	Pullman, Wash.	P.	
WCAD	ak	500	D	Canton, N. Y.	E.	Park St.
WCAE	ak	1000	R	Pittsburgh, Pa.	E.	359 6th Ave.
WDAE	ae	1000	CW	Tampa, Fla.	E.	Tampa Terrace Hotel.
WREN	ak	1000	Ba	Lawrence, Kas.	C.	8th and Vermont Sts.

### 1230 kilocycles 243.8 meters

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CFOC	z	500	F	Saskatoon, Sask.	C.	
CMBY	z	250	2	Havana, Cuba.	E.	Principe Nr. 33.
CNCA	z	150	2	Havana, Cuba.	E.	Ave. de Italia Nr. 102
KGGM	ak	250	(.5)	Albuquerque, N. M.		Franciscan Hotel.
KYA	ae	1000	N	San Francisco, Calif.	P.	988 Market St.
WFBM	ae	1000	1C	Indianapolis, Ind.	C.	229 N. Pennsylvania St.
WNAC	ak	1000	CH	Boston, Mass.	E.	21 Brookline St.
WSBT	ak	500	1C	South Bend, Ind.	C.	225 W. Colfax Ave.

### 1240 kilocycles 241.8 meters

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CMAB	z	20	1249	Pinar del Rio, Cuba.	E.	Marti Nr. 101
CMJN	z	50	.....	Carnaguey, Cuba.	E.	Martires Nr. 11.
KGCU	ak	250	1	Mandan, N. D.	M.	404 W. Main St.
KLPM	ak	250	1	Minot, N. D.	C.	Box 707.
KTAT	ak	1000	C	Fort Worth, Texas.	C.	Texas Hotel.

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KTFI	ae	1000	.....	Twin Falls, Idaho.	M. 262 3rd Ave. W.
WKAQ	ae	1000	.....	San Juan, P. R.	A. Box 358.
WXYZ	ak	1000	K	Detroit, Mich.	E. 300 Madison Theatre Bldg.

### 1250 kilocycles 239.9 meters

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KFOX	ae	1000	.....	Long Beach, Calif.	P. 220 E. Anaheim St.
WCAL	ah	1000	2	Northfield, Minn.	C.
WDSU	ak	1000	C	New Orleans, La.	C. 400 Baronne St.
WGCP	ak	1000	1 (2.5)	Newark, N. J.	E. 100 Shipman St.
WLB	ak	1000	2	Minneapolis, Minn.	C.
WNEW	ae	1000	(2.5)	Newark, N. J.	E. 1060 Broad St.
WRHM	ak	1000	2	Minneapolis, Minn.	C. 150 E. Grant St.
XEFA	z	500	.....	Mexico City, D. F.	C. Mar Mediterraneo 236, Tacuba

### 1260 kilocycles 238.0 meters

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KOIL	ak	1000	B	Council Bluffs, Iowa.	C.
KRGV	ae	500	1	Harlingen, Texas.	C. Rio Grande National Life Bldg.
KUOA	ak	1000	D	Fayetteville, Ark.	C. Washington Hotel.
KVOA	ak	500	.....	Tucson, Ariz.	M. Steinfeld Dept. Store.
KWWG	z	500	1	Brownsville, Tex.	C.
WLBW	ac	500	C(1)	Erie, Pa.	E. Reed Hotel, Perry Square.
WNBX	ak	250	D	Springfield, Vt.	E. 39 Main St.
WTOC	ae	500	C	Savannah, Ga.	E. DeSoto Hotel.
XEFI	ak	250	.....	Chihuahua, Chih.	C. Apdo. 157

### 1270 kilocycles 236.1 meters

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CMBC	ae	150	1	Havana, Cuba.	E. Maximo Gomez Nr. 139.
CMCP	z	150	1	Havana, Cuba.	E.
KGCA	ak	100	2D	Decorah, Iowa.	C. 111 Winnebago St.
KOL	ae	1000	CT	Seattle, Wash.	P. Northern Life Tower
KVOR	ae	1000	C	Colorado Springs, Colo.	M. Mining Exchange Bldg.
KWLC	ak	100	2D	Decorah, Iowa.	C.
WASH	ak	500	Ka	Grand Rapids, Mich.	E. 501 Young Bldg.
WFBR	ae	500	R	Baltimore, Md.	E. 7 S. Paul St.
WJDX	ae	1000	N(2.5)	Jackson, Miss.	C. Lamar Life Bldg.
WOOD	ak	500	Ka	Grand Rapids, Mich.	E. 501 Young Bldg.

### 1280 kilocycles 234.2 meters

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KFBB	ae	1000	(2.5)	Great Falls, Mont.	M. P. O. Box 1817
WCAM	ae	500	1	Camden, N. J.	E. 18th floor, City Hall.
WCAP	ae	500	1	Asbury Park, N. J.	E. Convention Hall.
WDOD	ae	1000	C(2.5)	Chattanooga, Tenn.	C. Hotel Patten.
WIBA	ae	500	N(1)	Madison, Wis.	C. 111 King St.
WORC	ak	500	CH	Worcester, Mass.	E. 60 Franklin St.
WRR	ak	500	C	Dallas, Texas.	C. Hilton Hotel.
WTNJ	ak	500	1	Trenton, N. J.	E. Stacy Trent Hotel.

### 1290 kilocycles 232.4 meters

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CMHL	ak	20	.....	Cienfuegos, Cuba.	E. San Carlos 143.
KDYL	ae	1000	NJ	Salt Lake City, Utah.	M. Ezra Thompson Bldg.
KLCN	z	100	D	Blytheville, Ark.	C. Main and Division Sts.
KTSA	ak	1000	C	San Antonio, Texas.	C. Plaza Hotel.
WEBC	ae	1000	N (2.5)	Superior, Wis.	C. 1225 Tower Ave.
WJAS	ak	1000	C (2.5)	Pittsburgh, Pa.	E. Law and Finance Bldg.
WNBC	z	50	D	Saranac Lake, N. Y.	E. P. O. Box 297
WNEL	z	500	P	San Juan, P. R.	A.
XEAC	z	100	1295	San Luis Potosi, S. L.	P.
XFB	ak	1000	.....	Jalapa, Ver.	C.

### 1300 kilocycles 230.6 meters

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CMKJ	z	20	.....	Guantanamo, Cuba.	E. E. Giro Nr. 11.
HIZ	z	10	.....	Santo Domingo, D. R.	L.
KALE	ak	500	3CT	Portland, Ore.	P. New Heathman Hotel.
KFAC	ae	1000	.....	Los Angeles, Calif.	P. 645 S. Mariposa Ave.
KFH	ak	1000	C2	Wichita, Kans.	C. Wichita Eagle Bldg.
KFJR	ag	500	3	Portland, Ore.	P. 622 Lumbermen's Bldg.
VOAC	z	40	.....	St. John's, Nfld.	L.
WBBR	aej	1000	1	Brooklyn, N. Y.	E. 124 Columbia Heights
WEVD	ak	500	1	New York, N. Y.	E. Hotel Claridge
WFAB	ae	1000	1	New York, N. Y.	E. 154 W. 57th St.
WHAZ	ae	500	1	Troy, N. Y.	E. 8th St.
WIOD	ae	1000	N	Miami, Fla.	E. Herald Bldg.
WOQ	ae	1000	2	Kansas City, Mo.	C. 917 Tracy Ave.



INDEX BY FREQUENCIES AND DIAL NUMBERS

1310 kilocycles 228.9 meters

CFJC	ak	100	FLE	Kamloops, B. C.	P. Box 760.
CHCK	ak	50		Charlottetown, P. E. I.	174 Great George St.
CJL	z	100		Kirkland Lake, Ont.	E.
CJLS	z	100		Yarmouth, N. S.	A.
CKCY	ak	50		Quebec, Que.	E. 155 St. Paul St.
CNCY	ak	500	1316	Havana, Cuba	E. Ave. de los Pdtes 215
KCRJ	ak	100	D	Jerome, Ariz.	M. Drawer D.
KFBK	ak	100	C	Sacramento, Calif.	P. Sacramento Bee.
KFGQ	ak	100		Boone, Iowa.	C. 924 W. 2nd St.
KFPL	ak	100		Dublin, Texas.	C. Box 176.
KFFM	ae	15		Greenville, Texas.	C. 2109 Park St.
KFXR	ak	100	(.25)	Oklahoma City, Okla.	535 High Tower Bldg.
KFYO	ak	100	(.25)	Lubbock, Texas.	C. Hotel Lubbock.
KGBX	ae	100		Springfield, Mo.	C.
KGCX	ak	100	(.25)	Wolf Point, Mont.	C. M.
KGEZ	aj	100		Kalispell, Mont.	M. 1236 Fourth Ave. E.
KGFV	z	100		Kearney, Neb.	C. Hotel Midway.
KIFH	z	100		Juneau, Alaska.	L.
KIT	ak	100		Yakima, Wash.	P. 109 1/2 E. Yakima St.
KMED	ck	100		Medford, Ore.	P. Sparta Bldg.
KRMD	ak	100		Shreveport, La.	C. 901 Louisiana St.
KTSM	ak	100	a	El Paso, Texas.	M. P. O. Box 1976.
KXRO	ak	100		Aberdeen, Wash.	P. Hotel Morck.
WAML	ak	100		Laurel, Miss.	C. Magnolia St.
WBEO	ae	100		Marquette, Mich.	C. 146 W. Washington St.
WBOW	ak	100		Terre Haute, Ind.	C. 24 1/2 So. 6th St.
WBRE	ak	100		Wilkes Barre, Pa.	E. 16 No. Main St.
WCLS	ae	100	b	Joliet, Ill.	C. 301 E. Jefferson St.
WDAH	ck	100	Sa	El Paso, Texas.	M. Box 1976
WBER	aej	100	(.25)	Buffalo, N. Y.	E. 735 Main St.
WEXL	ak	50		Royal Oak, Mich.	E. 212 W. 6th St.
WFBC	ae	100	3	Altoona, Pa.	E. 12th Ave. and 13th St.
WDFD	ak	100	K	Flint, Mich.	E. Union Industrial Bldg.
WGAL	ae	100	5	Lancaster, Pa.	E. 8 W. King St.
WGH	ae	100		Newport News, Va.	E. 2813 Washington Ave.
WHAT	ak	100	4	Philadelphia, Pa.	E. 872 Public Ledger Bldg.
WIAC	ae	100	3	Johnstown, Pa.	E. Tribune Bldg. Annex.
WLBC	ak	100	6	Muncie, Ind.	C. Anthony Bldg.
WLNH	z	100	DP	Laconia, N. H.	E.
WMBO	ak	10		Auburn, N. Y.	E. Metcalf Bldg.
WNBH	ae	100	(.25)	New Bedford, Mass.	E. 725 Pleasant St.
WOL	ae	100		Washington, D. C.	E. Annapolis Hotel.
WRWA	ak	100	5	Reading, Pa.	E. 533 Penn St.
WROL	ak	100		Knoxville, Tenn.	C. 524 S. Gay St.
WSAJ	ae	100		Grove City, Pa.	E. Main and Broad Sts.
WSGN	ak	100	(.25)	Birmingham, Ala.	2021 Second Ave. No.
WSJS	ak	100	C	Winston-Salem, N. C.	416-420 N. Marshall St.
WTEL	ah	100	4	Philadelphia, Pa.	E. 3701 N. Broad St.
WTJS	ak	100	(.25)	Jackson, Tenn.	C. Sun Bldg.
WTRC	ak	50	6 (.1)	Elkhart, Ind.	C. Main and Marion Sts.
XECW	z	10		Mexico City, D. F.	C. Av. Juarez 104
XEFB	ak	100	1315	Monterrey, N. L.	C. 5 DeMayo 112-Ote.
XEFW	ak	70		Tampico, Tams.	E. S. D. Miron 6-or.
XEI	ak	125		Morelia, Mich.	C. Valla Dolid 137.

1320 kilocycles 227.1 meters

KGHF	ak	250	(.5)	Pueblo, Colo.	M. 113 Broadway.
KGMB	ak	250	C	Honolulu, T. H.	L. 119 Merchant St.
KID	ae	250	(.5)	Idaho Falls, Idaho.	M. Box 487.
WADC	ae	1000	C	Akron, Ohio.	E. Box 29.
WSMB	ak	500	N	New Orleans, La.	C. Maison Blanche Bldg.

1330 kilocycles 225.4 meters

CMJI	ak	45	1335	Ciego de Avila, Cuba.	E. Independencia Nr. 95.
KGB	agj	1000	CT	San Diego, Calif.	P. 1012 First St.
KMO	ak	250		Tacoma, Wash.	P. Hotel Winthrop.
KSCJ	aj	1000	1C (.25)	Sioux City, Iowa.	C. 415 Douglas St.
WDRG	ae	1000	CH	Hartford, Conn.	E. 11 Asylum St.
WSAI	ak	1000	R (.25)	Cincinnati, Ohio.	E. 1329 Arlington St.
WTAQ	ae	1000	1C	Eau Claire, Wis.	C. Hotel Eau Claire.

1340 kilocycles 223.7 meters

KFPY	ak	1000	C	Spokane, Wash.	P. Symons Bldg.
KGDY	ak	250		Huron, S. D.	C. 347 Dakota Ave.
KGNO	ak	250		Dodge City, Kans.	C. First National Bank Bldg.
WCOA	ae	500		Pensacola, Fla.	E. San Carlos Hotel.
WEA	ae	500	C	Manchester, N. H.	E. Carpenter Hotel.
WSPD	ae	1000	C	Toledo, Ohio.	E. 505 Jefferson Ave.

KCY.S.

1340

DIA

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1350 kilocycles 222.1 meters

CMCN	z	250	1357	Havana, Cuba.	E.	Reina y Ave. Buen Retiro, Mariano.
CMCR	ak	150	1357	Havana, Cuba.	E.	Milagros 35, Vibora.
KIDO	ak	1000	.....	Boise, Idaho.	M.	Hotel Boise.
KWK	ak	1000	B	St. Louis, Mo.	C.	Hotel Chase.
WAWZ	ae	250	1	Zarephath, N. J.	E.	
WBXN	ae	250	1	New York, N. Y.	E.	101 Park Ave.
WEHC	ae	500	D	Charlottesville, Va.	E.	

### 1360 kilocycles 220.4 meters

CMJP	ak	75	.....	Moron, Cuba.	E.	Callejas Nr. 28.
KGER	ak	1000	.....	Long Beach, Calif.	P.	435 Pine Ave.
KGIR	ak	500	N (1)	Butte, Mont.	M.	121 W. Broadway.
WCSC	ae	500	.....	Charleston, S. C.	E.	Francis Marion Hotel.
WFBL	ak	1000	C(2.5)	Syracuse, N. Y.	E.	Onondaga Hotel.
WGES	ae	500	.....	Chicago, Ill.	C.	128 N. Crawford Ave.
WQBC	ak	500	.....	Vicksburg, Miss.	C.	Hotel Vicksburg.

### 1370 kilocycles 218.8 meters

CHSJ	z	100	.....	St. John, N. B.	A.	
CMGE	z	30	1375	Cardenas, Cuba.	E.	Cespedes Nr. 180.
KCRC	ak	100	2(.25)	Enid, Okla.	C.	Oxford Hotel.
KFBL	ak	50	3	Everett, Wash.	P.	2814 Rucker Ave.
KFJM	ak	100	.....	Grand Forks, N. D.	C.	
KFJZ	ak	100	.....	Fort Worth, Texas.	C.	359 Texas Hotel.
KGAR	ae	100	(.25)	Tucson, Ariz.	M.	142-146 S. 6th Ave.
KGFG	bk	100	2	Oklahoma City, Okla.	C.	314 N. W. 2nd St.
KGFL	ak	100	4	Roswell, N. M.	M.	507 No. Main St.
KGKL	ak	100	.....	San Angelo, Texas.	C.	St. Angelus Hotel.
KICA	ak	100	4	Clovis, N. M.	M.	Hotel Clovis.
KLUF	z	100	.....	Galveston, Texas.	C.	3327 Ave. P.
KMAC	ak	100	5	San Antonio, Texas.	C.	Blue Bonnet Hotel.
KONO	ak	100	5	San Antonio, Texas.	C.	St. Anthony Hotel.
KOOS	ae	100	.....	Marshfield, Ore.	P.	Hall Bldg.
KRE	ak	100	.....	Berkeley, Calif.	P.	2345 Channing Way
KSO	ak	100	B(.25)	Des Moines, Iowa.	C.	Register and Tribune Bldg.
KUJ	ak	100	.....	Walla Walla, Wash.	P.	2nd and Rose St.
KWL	ak	100	3	Seattle, Wash.	P.	5th and Virginia St.
KWKC	z	100	.....	Kansas City, Mo.	C.	39th and Main St.
WBTM	ak	100	7	Danville, Va.	E.	427 Main St.
WCBM	ae	100	(.25)	Baltimore, Md.	E.	114 W. Lexington St.
WDAS	ae	100	(.25)	Philadelphia, Pa.	E.	Broadwood Hotel.
WGL	ae	100	C	Fort Wayne, Ind.	C.	213 W. Main St.
WGLC	ak	100	C	Hudson Falls, N. Y.	E.	Colonial Display House.
WBBD	ak	100	.....	Mount Orab, Ohio.	E.	
WBBO	ak	100	.....	Memphis, Tenn.	C.	Hotel Claridge.
WBDF	ak	100	(.25)	Calumet, Mich.	E.	515 Scott St.
WHET	ak	100	D	Dothan, Ala.	C.	North Oak and E. Walnut Sts.
WIBM	ae	100	IK	Jackson, Mich.	E.	Otsego Hotel.
WJBK	ae	50	I	Detroit, Mich.	E.	6559 Hamilton Ave.
WTL	ae	100	.....	Atlanta, Ga.	E.	
WLEY	ak	100	(1.25)	Lexington, Miss.	E.	Box D.
WLVA	ck	100	7	Lynchburg, Va.	E.	915 Main St.
WMBR	ak	100	.....	Jacksonville, Fla.	E.	907 Florida Ave.
WOC	z	100	P	Davenport, Iowa.	C.	
WPFB	ak	100	.....	Hattiesburg, Miss.	C.	Box 530.
WQDM	ae	100	D	St. Albans, Vt.	E.	16 Kingman St.
WRAK	ak	100	.....	Williamsport, Pa.	E.	244 W. 4th St.
WRAM	ae	100	Z	Durham, N. C.	E.	
WRDO	ae	100	.....	Augusta, Maine.	E.	Augusta House.
WRJN	ae	100	.....	Racine, Wis.	C.	Hotel Racine.
WSVS	ak	50	D	Buffalo, N. Y.	E.	666 E. Delavan Ave.
XEFZ	ae	100	.....	Mexico City, D. F.	C.	Calzada Nonoalco 481.
.....	z	100	P	Sheridan, Wyo.	M.	

### 1380 kilocycles 217.3 meters

CMJC	z	150	1382	Camaguey, Cuba.	E.	Cisneros y G. Gomez.
KOH	ak	500	C	Reno, Nev.	P.	440 N. Virginia St.
KOV	ak	500	2C	Pittsburgh, Pa.	E.	Chamber of Commerce Bldg.
TGX	z	75	.....	Guatemala City, Guat.		
WKBH	ae	1000	C	LaCrosse, Wis.	C.	409 Main St.
WSMK	ak	200	2	Dayton, Ohio.	E.	4th and Main St.
XETB	z	125	.....	Torreón, Coah.	R.	Corono 317.

### 1390 kilocycles 215.7 meters

CJRC	z	100	.....	Winnipeg, Man.	C.	
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## INDEX BY FREQUENCIES AND DIAL NUMBERS

CMPN	z	500	1395	Havana, Cuba.	E.			
HHH	ak	15	1395	San Pedro de Macoris,	D. R.	L.		
KLRA	ae	1000	C	Little Rock, Ark.	C.	Albert Pike Hotel.		
KOY	ae	500	(1)	Phoenix, Ariz.	M.	621 N. Central Ave.		
WHK	ae	1000	C(2.5)	Cleveland, Ohio.	E.	1311 Terminal Tower.		

### 1400 kilocycles 214.2 meters

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CMCM	z	15	1405	Havana, Cuba.	Belas Coain Nr.	639.		
KLO	ah	500	C	Ogden, Utah.	M.	Hotel Ben Lomond.		
KTUL	z	250	(.5)	Tulsa, Okla.	C.			
WARD	ak	500	2	Brooklyn, N. Y.	E.	427 Flatbush Ave. Extension.		
WBAA	z	500	1	Lafayette, Ind.	C.			
WBBC	ae	500	2	Brooklyn, N. Y.	E.	544 Atlantic Ave.		
WKBF	ak	500	1N	Indianapolis, Ind.	C.	540 1/2 N. Meridian St.		
WLTH	ak	500	2	Brooklyn, N. Y.	E.	307 Washington St.		
WVFW	ak	500	2	Brooklyn, N. Y.	E.			
XEFV	ae	100	.....	Jaurex, Chih.	C.	Ave. Lerdo Nr. 521.		

### 1410 kilocycles 212.6 meters

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CKFC	ak	50	5	Vancouver, B. C.	P.	734 Davie St.		
CKMO	aj	100	5	Vancouver, B. C.	P.	Bekins Bldg.		
CMCH	ak	50	.....	Havana, Cuba.	E.	88 Primellas St., Cerro.		
KGRS	ae	1000	1	Amarillo, Texas.	C.	Bellaire Park.		
WAAB	ae	500	CH	Boston, Mass.	E.	21 Brookline Ave.		
WBCEM	ae	500	K	Bay City, Mich.	E.	Hotel Wenonah		
WDAG	ae	1000	1	Amarillo, Texas.	C.	Box 306		
WHBL	ae	500	4	Sheboygan, Wis.	C.	626-636 Center Ave.		
WHIS	ak	250	2	Bluefield, W. Va.	E.	Bland St.		
WODX	ae	500	3C	Mobile, Ala.	C.	Battle House.		
WRBX	ae	250	2	Roanoke, Va.	E.	20 Salem Ave. S. E.		
WROK	ak	500	4	Rockford, Ill.	C.	230 Rockford News Tower.		
WSPA	ck	500	3C	Montgomery, Ala.	C.	Jefferson Davis Hotel.		

### 1420 kilocycles 211.1 meters

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CKGB	z	100	.....	Timmons, Ont.	E.			
KABC	ak	100	.....	San Antonio, Texas.	C.	Texas Theatre Bldg.		
KBPS	aj	100	4	Portland, Ore.	P.	East 12th and Hoyt Sts.		
KCMC	ak	100	.....	Texarkana, Ark.	C.	Box 865.		
KFIZ	ak	100	.....	Fond du Lac, Wis.	C.	18-20-22 W. First St.		
KGFF	ak	100	.....	Shawnee, Okla.	C.	Box 724		
KGGC	ak	100	.....	San Francisco, Calif.	P.	1445 Ellis St.		
KGIW	ak	100	1	Alamosa, Colo.	M.			
KGIX	ak	100	.....	Las Vegas, Nev.	M.	P. O. Box 656.		
KIDW	z	100	1	Lamar, Colo.	M.	129 W. Elm St.		
KORE	ae	100	.....	Eugene, Ore.	P.	733 Willamette St.		
KUMA	ak	100	.....	Yuma, Ariz.	M.	Box 267.		
KXL	ae	100	4	Portland, Ore.	P.	269 Pine St.		
WACO	ak	100	C	Waco, Texas.	C.	Trinity Life Bldg.		
WAGM	ae	100	.....	Presque Isle, Maine.	E.	National Bank Bldg.		
WAMC	ae	100	.....	Anniston, Ala.	C.	1200 Noble St.		
WAZL	ak	100	2	Hazleton, Pa.	E.	708 Hazleton National Bank Bldg.		
WEED	ak	100	D	Greenville, N. C.	E.	403 Evans St.		
WEHS	ak	100	a	Cicero, Ill.	C.	6138 W. 22nd St.		
WELL	ak	50	D	Battle Creek, Mich.	E.	Kellogg Inn.		
WENC	ak	100	D	Albany, Ga.	C.	Rylander Theatre Bldg.		
WHDL	ak	100	D	Tupper Lake, N. Y.	E.	Iroquois Hotel.		
WHFC	ae	100	a	Cicero, Ill.	C.	6138 W. 22nd St.		
WILM	aj	100	2	Wilmington, Del.	E.	920 King St.		
WJBO	z	100	D	Baton Rouge, La.	C.			
WJMS	ak	100	.....	Ironwood, Mich.	C.	St. James Hotel.		
WKBI	ak	100	a	Cicero, Ill.	C.	6138 W. 22nd St.		
WLAP	ae	100	(.25)	Louisville, Ky.	C.	Speed Bldg.		
WLBF	ak	100	(.25)	Kansas City, Kans.	C.	Huron Bldg.		
WMAS	ak	100	CH(.25)	Springfield, Mass.	E.	Hotel Stonehaven.		
WMBC	ag	100	(.25)	Detroit, Mich.	E.	7310 Woodward Ave.		
WMBH	ak	100	(.25)	Joplin, Mo.	C.	1334 Roosevelt St.		
WNRA	ak	100	D	Muscle Shoals, Ala.	C.	Box 745, Sheffield.		
WPAD	ak	100	.....	Paducah, Ky.	C.			
WSPA	ae	100	(.25)	Spartanburg, S. C.	E.	Ravenel and Avant Sts.		
WTBO	ae	100	(.25)	Cumberland, Md.	E.	Frederick and Liberty Sts.		
.....	z	100	P	Erie, Pa.	E.			

KCYS.

1430

### 1430 kilocycles 209.7 meters

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KECA	ak	1000	N	Los Angeles, Calif.	P.	1000 So. Hope St.		
KGNF	ak	500	D	North Platte, Neb.	C.	1521 W. 12th St.		
KWCR	ak	250	B(.5)	Cedar Rapids, Iowa.	C.	Montrose Hotel.		
WBAK	ak	500	(1)	Harrisburg, Pa.	E.	Capitol Bldg.		
WBNS	ae	500	C	Columbus, Ohio.	E.	Hotel Fort Hayes.		
WHEC	ae	500	C	Rochester, N. Y.	E.	40 Franklin St.		

DIAL

## INDEX BY FREQUENCIES AND DIAL NUMBERS

WHP	ak	500	C (.1)	Harrisburg, Pa.	E.	216 Locust St.
WNBK	ae	500	.....	Memphis, Tenn.	C.	Hotel DeVoy.
WOKO	ae	500	C	Albany, N. Y.	E.	Hotel Ten Eyck.

**1440 kilocycles 208.2 meters**

CMBL	ak	200	1445	Havana, Cuba.	E.	Zapata 150 Entre 6 y 8.
KDFN	ak	500	.....	Casper, Wyo.	M.	Hotel Townsend.
KLS	ae	250	D	Oakland, Calif.	P.	2201 Telegraph Ave.
KXYZ	ak	250	.....	Houston, Texas.	C.	Fannin and Rusk Sts.
TIFS	z	7.5	1441	Cartago, C. R.	L.	
WBIG	ae	500	C(1)	Greensboro, N. C.	E.	O. Henry Hotel.
WCBA	aj	250	a	Allentown, Pa.	E.	39-41 Tenth St.
WMBD	ae	500	3C(1)	Peoria, Ill.	C.	114 N. Madison Ave.
WSAN	aj	250	a	Allentown, Pa.	E.	39-41 Tenth St.
WTAD	ak	500	3	Quincy, Ill.	C.	State and 6th Sts.

**1450 kilocycles 206.8 meters**

CFCT	ae	50	.....	Victoria, B. C.	P.	630 View St.
CKX	ak	500	F	Brandon, Man.	C.	Box 115.
KTBS	ck	1000	N	Shreveport, La.	C.	Box 1642.
TIEP	z	7.5	.....	San Jose, C. R.	L.	
WGAR	ak	500	B (1)	Cleveland, Ohio.	E.	Hotel Statler.
WHOM	ae	250	.....	Jersey City, N. J.	E.	2870 Hudson Blvd.
WSAR	ae	250	.....	Fall River, Mass.	E.	10 Bedford St.
WTFI	ak	500	.....	Athens, Ga.	E.	Costa Bldg.
XEAB	ak	7.5	.....	Neuvo Laredo, Tams.	C.	1115 Iturbide St.

**1460 kilocycles 205.4 meters**

KSTP	ae	10000	N (25)	St. Paul, Minn.	C.	Hotel St. Paul.
WJSV	ak	10000	C	Washington, D. C.	E.	Shoreham Bldg.

**1470 kilocycles 204.0 meters**

KGA	ak	5000	N	Spokane, Wash.	P.	1023 Riverside Ave.
WLAC	ae	5000	C	Nashville, Tenn.	C.	159 Fourth Ave. N.

**1480 kilocycles 202.6 meters**

CMBK	z	15	1485	Havana, Cuba.	E.	Paula y Oficios.
KOMA	ak	5000	C	Oklahoma City, Okla.	C.	Biltmore Hotel.
WKBW	ae	5000	C	Buffalo, N. Y.	E.	Rand Bldg.

**1490 kilocycles 201.2 meters**

WCKY	ae	5000	BY	Covington, Ky.	E.	6th and Madison Sts.
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**1500 kilocycles 199.9 meters**

CRCS	z	100	F	Chicoutimi, Que.	E.	No. 4 Rue Larouche.
KDB	ak	100	CT	Santa Barbara, Calif.	P.	15-17 E. Haley St.
KGFI	ak	100	(.25)	Corpus Christi, Tex.	C.	Plaza Hotel.
KGFK	ak	100	Y	Moorhead, Minn.	C.	722 Center Ave.
KGKB	ak	100	.....	Tyler, Texas.	C.	115 St. College St.
KGKY	ck	100	.....	Scottsbluff, Neb.	M.	1517 1/2 Broadway.
KNOW	ak	100	.....	Austin, Texas.	C.	113 E. 7th St.
KOTN	z	100	DP	Pine Bluff, Ark.	C.	
KPJM	ak	100	.....	Prescott, Ariz.	M.	Box 852.
KPO	aj	100	.....	Wenatchee, Wash.	P.	Cascadian Hotel.
KREG	ak	100	.....	Santa Ana, Calif.	P.	3rd and Sycamore Sts.
KXO	al	100	.....	El Centro, Calif.	P.	793 Main Sts.
WCNW	ak	100	1	Brooklyn, N. Y.	E.	1525 Pitkin Ave.
WFDW	ak	100	.....	Rome, Ga.	C.	10 Third Ave.
WHEF	z	100	P (.25)	Kosciusko, Miss.	C.	417 W. Adams St.
WKBB	ae	100	.....	East Dubuque, Ill.	C.	
WKBY	z	100	.....	Richmond, Ind.	C.	
WKBZ	ak	100	.....	Ludington, Mich.	E.	First National Bank Bldg.
WKEU	ak	100	.....	LaGrange, Ga.	C.	906 Hill St.
WMBQ	ae	100	1	Brooklyn, N. Y.	E.	95 Leonard St.
WMEX	z	100	P (.25)	Chelsea, Mass.	E.	
WMPC	ak	100	.....	Lapeer, Mich.	E.	81 Liberty St.
WNBK	ae	100	.....	Binghamton, N. Y.	E.	Arlington Hotel.
WPOI	ae	100	.....	Bristol, Tenn.	E.	Box 283.
WPEN	ak	100	(.25)AZ	Philadelphia, Pa.	E.	217 S. Broad St.
WRDW	ae	100	.....	Augusta, Ga.	E.	309 Eighth St.
WSYB	ae	100	.....	Rutland, Vt.	E.	80 West St.
WWRL	ak	100	1	Woodside, N. Y.	E.	58th St. No. 41-30.
WWSW	ae	100	(.25)	Pittsburgh, Pa.	E.	Hotel Schenley.

**1510 kilocycles 198.6 meters**

CFRC	ak	100	.....	Kingston, Ont.	E.	.....
CKCR	ak	100	.....	Kitchener, Ont.	E.	24 King St. So.

## INDEX BY LOCATIONS

Frequency in kilocycles in second column. Night power in watts in third column. Network affiliations in fourth column: C Columbia, R National Red, B National Blue, N National Red and Blue, F Canadian.

<b>ALABAMA</b>			<b>Fresno</b>			<b>Yuma</b>			<b>Nampa</b>		
Anniston			KMJ	580	500 C	KGEK	1200	100	KFXD	1200	100
WAMC 1420	100		<b>Glendale</b>			<b>CONNECTICUT</b>			<b>Pocatello</b>		
Birmingham			KIEV	850	100	<b>Bridgeport</b>			<b>KSEI 890 250</b>		
WAPI 1140	5000 N		<b>Hollywood</b>			<b>WICC 600 500 C</b>			<b>Twain Falls</b>		
WBRC 930	500 C		KFWB	950	1000	<b>Hartford</b>			<b>KTFI 1240 1000</b>		
WSGN 1310	100		KMTR	570	500	<b>WDRG 1330 1000 C</b>			<b>ILLINOIS</b>		
Dothan			KNX	1050	25000	<b>WTIC 1060 50000 R</b>			<b>Carthage</b>		
WHET 1370	100		<b>Long Beach</b>			<b>Storrs</b>			<b>WCAX 1070 100</b>		
Gadsden			KFOK	1250	1000	<b>WCAC 600 500</b>			<b>Chicago</b>		
WJBY 1210	100		KGER	1360	1000	<b>Waterbury</b>			<b>KYW 1020 10000 N</b>		
Huntsville			<b>Los Angeles</b>			<b>..... 1190 100</b>			<b>WAAF 920 500</b>		
WBHS 1200	100		KECA	1430	1000 N	<b>DELAWARE</b>			<b>WBBM 770 25000 C</b>		
Mobile			KFCAC	1300	1000	<b>Wilmington</b>			<b>WCFL 970 1500 B</b>		
WODX 1410	500 C		KFI	640	50000 N	<b>WDEL 1120 250</b>			<b>WCRW 1210 100</b>		
Montgomery			KFSG	1120	500	<b>WILM 1420 100</b>			<b>WEDC 1210 100</b>		
WSFA 1410	500 C		KFVD	1000	250	<b>DISTRICT OF COLUMBIA</b>			<b>WENR 870 50000 N</b>		
Muscle Shoals			KGFJ	1200	100	<b>Washington</b>			<b>WGES 1360 500</b>		
WNRA 1420	100		KHJ	900	1000 C	<b>WJSV 1460 10000 C</b>			<b>WGN 720 50000</b>		
<b>ALASKA</b>			KRKD	1120	500	<b>WMAL 630 250 B</b>			<b>WJLD 1130 20000</b>		
<b>Anchorage</b>			KTM	780	500	<b>WOL 1310 100</b>			<b>WLS 870 50000 N</b>		
KFQD 600	250		<b>Modesto</b>			<b>WRC 950 500 R</b>			<b>WMAQ 670 5000 N</b>		
Juneau			.....	740	250	<b>FLORIDA</b>			<b>WMBI 1080 5000</b>		
KIPFH 1310	100		<b>Oakland</b>			<b>Clearwater</b>			<b>WSBC 1210 100</b>		
Ketchikan			KLS	1440	250	<b>WFLA 620 1000 N</b>			<b>Cleora</b>		
KGBU 900	500		KLX	880	1000	<b>Gainesville</b>			<b>WEHS 1420 100</b>		
<b>ARIZONA</b>			KROW	930	500	<b>WRUF 830 5000</b>			<b>WHFC 1420 100</b>		
<b>Jerome</b>			<b>Pasadena</b>			<b>Jacksonville</b>			<b>WKBI 1420 100</b>		
KCRJ 1310	100		KPPC	1210	50	<b>WJAX 900 1000 N</b>			<b>Decatur</b>		
Lowell			<b>Sacramento</b>			<b>WMBR 1370 100 C</b>			<b>WJBL 1200 100</b>		
KSUN 1200	100		KFBK	1310	100 C	<b>Miami</b>			<b>East Dubuque</b>		
Phoenix			<b>San Bernardino</b>			<b>WIOD 1300 1000 N</b>			<b>WKBE 1500 100</b>		
KOY 1390	500		KEXM	1210	100	<b>WQAM 560 1000 C</b>			<b>Webb 1210 100</b>		
KTRAR 620	1000 N		<b>San Diego</b>			<b>Orlando</b>			<b>Joliet</b>		
Prescott			KFSD	600	1000 N	<b>WDBO 580 250 C</b>			<b>WCLS 1310 100</b>		
KPJM 1500	100		KGB	1330	1000 C	<b>Pensacola</b>			<b>LaSalle</b>		
Tucson			<b>San Francisco</b>			<b>WCOA 1340 500</b>			<b>WJBC 1200 100</b>		
KGAR 1370	100		KFRG	610	1000 C	<b>St. Petersburg</b>			<b>Peoria</b>		
KVOA 1260	500		KFWI	930	500	<b>WSUN 620 1000 N</b>			<b>WMBD 1440 500 C</b>		
Yuma			KGGC	1420	100	<b>Tampa</b>			<b>Quincy</b>		
KUMA 1420	100		KGO	790	7500 N	<b>WDAE 1220 1000 C</b>			<b>WTAD 1440 500</b>		
<b>ARKANSAS</b>			KJBS	1070	100	<b>GEORGIA</b>			<b>Rockford</b>		
<b>Blytheville</b>			KPO	680	50000 N	<b>Albany</b>			<b>WROK 1410 500</b>		
KLCN 1290	100		KTAB	560	1000	<b>WENC 1420 100</b>			<b>Rock Island</b>		
Fayetteville			KYA	1230	1000 N	<b>Athens</b>			<b>WHBF 1210 100</b>		
KUOA 1260	1000		<b>San Jose</b>			<b>WTFI 1450 500</b>			<b>Springfield</b>		
Fort Smith			KQW	1010	500	<b>Atlanta</b>			<b>WCBS 1210 100</b>		
KFPW 1210	100		<b>Santa Ana</b>			<b>WGST 890 250 C</b>			<b>WTAX 1210 100</b>		
Hot Springs			KREG	1500	100	<b>WJTL 1370 100</b>			<b>Tuscola</b>		
KTHS 1040	10000 N		<b>Santa Barbara</b>			<b>WSB 740 50000 N</b>			<b>WDZ 1070 100</b>		
Jonesboro			KDB	1500	100 C	<b>Augusta</b>			<b>Urbana</b>		
KBTM 1200	100		<b>Stockton</b>			<b>WRDW 1500 100</b>			<b>WILL 890 250</b>		
Little Rock			KGDM	1100	250	<b>Columbus</b>			<b>Zion</b>		
KARK 890	250		KWG	1200	100 C	<b>WRBL 1200 100</b>			<b>WCBD 1080 5000</b>		
KGHI 1200	100		<b>COLORADO</b>			<b>LaGrange</b>			<b>INDIANA</b>		
KLRA 1390	1000 C		<b>Alamosa</b>			<b>WKEU 1500 100</b>			<b>Anderson</b>		
Pine Bluff			KGIW	1420	100	<b>Macon</b>			<b>WBHU 1210 100</b>		
KOTN 1500	100		<b>Colorado Springs</b>			<b>WMAZ 1180 500</b>			<b>Elkhart</b>		
Texarkana			KVOR	1270	1000 C	<b>Rome</b>			<b>WTRC 1310 50</b>		
KCMC 1420	100		<b>Denver</b>			<b>WFDV 1500 100</b>			<b>Evansville</b>		
<b>CALIFORNIA</b>			KFEL	920	500	<b>Savannah</b>			<b>WGBF 630 500</b>		
<b>Bakersfield</b>			KFXF	920	500	<b>WIOC 1260 500 C</b>			<b>Fort Wayne</b>		
KERN 1200	100 C		KLZ	560	1000 C	<b>Thomasville</b>			<b>WGL 1370 100 C</b>		
Berkeley			KOA	830	12500 N	<b>WQDX 1210 100</b>			<b>WOWO 1160 10000 C</b>		
KRE 1370	100		KPOF	880	500	<b>HAWAII</b>			<b>Gary</b>		
Beverly Hills			<b>Grand Junction</b>			<b>Hilo</b>			<b>WIND 560 1000 C</b>		
KMPC 710	500		KFXJ	1200	100	<b>KWV 1210 100</b>			<b>Hammond</b>		
Burbank			<b>Greely</b>			<b>Honolulu</b>			<b>WWAE 1200 100</b>		
KELW 780	500		KFKA	880	500	<b>KGMB 1320 250 C</b>			<b>Indianapolis</b>		
El Centro			<b>Lamar</b>			<b>KGU 750 2500 N</b>			<b>WFBM 1230 1000 C</b>		
KXO 1500	100		KIDW	1420	100	<b>IDAHO</b>			<b>WKBF 1400 500 N</b>		
Eureka			<b>Pueblo</b>			<b>Boise</b>			<b>Muncie</b>		
KIEM 1210	100		KGHF	1320	250	<b>KIDO 1350 1000</b>			<b>WLBC 1310 100</b>		
						<b>Idaho Falls</b>					
						<b>KID 1320 250</b>					

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<b>Richmond</b> WKBV 1500 100	<b>Shreveport</b> KRMD 1310 100 KTBS 1450 1000 N KWEA 1210 100 KWKH 850 10000	<b>Royal Oak</b> WEXL 1310 50	<b>Lincoln</b> KFAB 770 5000 C KFOR 1210 100 C
<b>South Bend</b> WFAM 1200 100 C WSBT 1230 500 C	<b>MAINE</b>	<b>MINNESOTA</b>	<b>Norfolk</b> WJAG 1060 1000
<b>Terre Haute</b> WBOW 1310 100	<b>Augusta</b> WRDO 1370 100	<b>Fergus Falls</b> KGD E 1200 100	<b>North Platte</b> KGNF 1430 500
<b>West Lafayette</b> WBAA 1400 500	<b>Bangor</b> WABI 1200 100 WLBZ 620 500 C	<b>Minneapolis</b> WCCO 810 50000 C WDGY 1180 1000 WLB 1250 1000 WRHM 1250 1000	<b>Omaha</b> WAAW 660 500 WOW 590 1000 R
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<b>Ames</b> WOI 640 5000	<b>Presque Isle</b> WAGM 1420 100	<b>Northfield</b> WCAL 1250 1000	<b>York</b> KGBZ 930 500
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<b>HIDALGO</b> <b>Pachuca</b> XETU 890 100			

The DX CREAM

(Continued from page 48)

"Wonder how many fans noticed the wonderful reception on Monday morning, Feb. 5," postcards Joe Stokes, 7318 Woodlawn Ave., Swissvale, Pa. "After I reached home from announcing the KDKA-W8XX tip period about 2:45 a. m., I pulled in 2YA, 4YA, 4QG, KGU, 2CO, 3LO and 2BL."

John Forbes, Arborfield, Sask., would like to have the following stations identified: WLDX, police station in EST zone, heard Jan. 5 on

1596 kc. A station on 1340-50 broadcasting what was apparently Spanish language and music.

"I just got 367 stations in the last 25 days," boasts A. G. Schleiter, 1098—4th Ave., Freedom, Pa., "but I spent several 'all nights' to do it. I got all of these on a Majestic. I have every station in California, except KERN. I missed him on the test."

Twelve-year-old William MacFarland, Jr., 221 Sylvania Ave., Rockledge, Pa., a full-fledged DXer sends his log. He uses a 6-tube Amplex battery set with three tuning dials.

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**CFAC 930 100** Calgary, Alta.  
 Calgary Herald.  
**CFBO 1210 100** St. John, N. B.  
 C. A. Munro, Ltd.  
**CFCF 800 600** Montreal, Que.  
 Canadian Marconi Co.  
**CFCH 930 100** North Bay, Ont.  
 Northern Broadcasting Co., Ltd.  
**CFCN 1030 10000** Calgary, Alta.  
 Voice of the Prairies, Ltd.  
**CFCO 600 60** Chatham, Ont.  
 John Beardall.  
**CFCT 1450 50** Victoria, B. C.  
 Victoria Broadcasting Assn.  
**CFCY 830 600** Charlottetown, P. E. I.  
 Island Radio Broadcasting Co., Ltd.  
**CFJC 1310 100** Kamloops, B. C.  
 Review Publishing Co., Ltd.  
**CFLC 930 100** Prescott, Ont.  
 Radio Assn. of Prescott.  
**CFNB 1030 600** Fredericton, N. B.  
 James S. Neill & Sons, Ltd.  
**CFPL 730 100** London, Ont.  
 Free Press & Printing Co., Ltd.  
**CFQC 1230 600** Saskatoon, Sask.  
 Electric Shop, Ltd.  
**CFRB 690 10000** Toronto, Ont.  
 Canadian Radio Corp., Ltd.  
**CFRC 1510 100** Kingston, Ont.  
 Queens University.  
**CFTP 1120 100** Edmonton, Alta.  
 Taylor & Pearson, Ltd.  
**CHAB 1200 100** Moose Jaw, Sask.  
 Moose Jaw Radio Assn.  
**CHCK 1310 50** Charlottetown, P. E. I.  
 J. A. Gesner.  
**CHGS 1120 50** Summerside, P. E. I.  
 R. T. Holman, Ltd.  
**CHLP 1120 100** Montreal, Que.  
 La Patrie Publishing Co., Ltd.  
**CHML 1010 60** Hamilton, Ont.  
 Maple Leaf Radio Co., Ltd.  
**CHNC 1210 100** New Carlisle, Que.  
 Dr. Charles Houde.  
**CHNS 1050 600** Halifax, N. S.  
 Maritime Broadcasting Co., Ltd.  
**CHRC 680 100** Quebec, Que.  
 CHRC, Ltd.  
**CHSJ 1370 100** St. John, N. B.  
 H. P. Robinson.  
**CHWC 1010 600** Regina, Sask.  
 R. H. Williams & Sons, Ltd.  
**CHWK 730 100** Chilliwack, B. C.  
 Chilliwack Broadcasting Co., Ltd.  
**CJAT 1200 50** Trail, B. C.  
 Trail Amateur Radio Assn.  
**CJCA 730 1000** Edmonton, Alta.  
 Edmonton Journal, Ltd.  
**CJCB 830 50** Sydney, N. S.  
 Nathanson's Radio Headquarters.  
**CJ CJ 690 100** Calgary, Alta.  
 Albertan Publishing Co., Ltd.  
**CJCS 780 600** Sudbury, Ont.  
 George McLeod Cootes  
**CJGX 630 600** Yorkton, Sask.  
 Winnipeg Grain Exchange.  
**CJKL 1310 100** Kirkland Lake, Ont.  
 O. J. Thorpe & Branchaud.  
**CJLS 1310 100** Yarmouth, N. S.  
 Laurie L. Smith.  
**CJOC 840 100** Lethbridge, Alta.  
 H. R. Carson, Ltd.

**CJOR 800 600** Vancouver, B. C.  
 G. C. Chandler.  
**CJRC 1380 100** Winnipeg, Man.  
 James Richardson & Sons.  
**CJRM 640 1000** Moose Jaw, Sask.  
 James Richardson & Sons, Ltd.  
**CKAC 730 6000** Montreal, Que.  
 LaPresse Publishing Co., Ltd.  
**CKBI 1210 100** Prince Albert, Sask.  
 Prince Albert Radio Club.  
**CKCD 1010 100** Vancouver, B. C.  
 Vancouver Daily Province.  
**CKCH 1210 100** Hull, Que.  
 Dr. J. L. Chabot.  
**CKCK 1010 600** Regina, Sask.  
 Leader-Post, Ltd.  
**CKCL 680 100** Toronto, Ont.  
 Dominion Battery Co., Ltd.  
**CKCO 1010 100** Ottawa, Ont.  
 Dr. G. M. Geldert.  
**CKCR 1510 100** Kitchener, Ont.  
 William C. Mitchell and G. Liddle.  
**CKCV 1310 60** Quebec, Que.  
 Vandry, Inc.  
**CKFC 1410 60** Vancouver, B. C.  
 Radio Service Engineers, Ltd.  
**CKGB 1420 100** Timmins, Ont.  
 R. H. Thompson.  
**CKIC 1010 60** Wolfville, N. S.  
 Acadia University.  
**CKLW 840 6000** Windsor, Ont.  
 Western Ontario Broadcasting Co., Ltd.  
**CKMC 1210 60** Cobalt, Ont.  
 R. L. MacAdam.  
**CKMO 1410 100** Vancouver, B. C.  
 Sprott-Shaw Radio Co.  
**CKNC 1030 100** Toronto, Ont.  
 Canadian National Carbon Co., Ltd.  
**CKOC 1120 600** Hamilton, Ont.  
 Wentworth Radio Broadcasting Co., Ltd.  
**CKOV 1210 60** Kellowna, B. C.  
 Okanagan Broadcasters, Ltd., Box 243.  
**CKPC 930 100** Brantford, Ont.  
 Cyrus Dolph.  
**CKPR 930 60** Fort William, Ont.  
 Dougall Motor Co., Ltd.  
**CKTB 1200 100** St. Catharines, Ont.  
 E. T. Sandell.  
**CKUA 680 600** Edmonton, Alta.  
 University of Alberta.  
**CKWX 1010 100** Vancouver, B. C.  
 Western Broadcasting Co., Ltd.  
**CKX 1450 600** Brandon, Man.  
 Manitoba Telephone System  
**CKY 780 6000** Winnipeg, Man.  
 Manitoba Telephone System.  
**CMAB 1249 20** Pinar del Rio, Cuba.  
 Jose Silveira, Marti No. 101.  
**CMAF 680 1000** Havana, Cuba.  
 International Broadcasting Co., Miramar.  
**CMBC 1270 150** Havana, Cuba.  
 Domingo Fernandez, Maximo Gomez No. 139.  
**CMBD 965 250** Havana, Cuba.  
 Luis Perez Garcia, Enamorados y Flores.  
**CMBG 1048 225** Havana, Cuba.  
 John L. Stowers, Hospital No. 100  
**CMBJ 1147 600** Havana, Cuba.  
 Emilio Perera, Consulado y Virtudes.  
**CMBK 1485 15** Havana, Cuba.  
 Alberto Alvarez, Paula y Oficio.  
**CMBL 1445 200** Havana, Cuba.  
 Julio C. Hidalgo, Zapata 150, 6 y 8, Vedado

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<b>CMBN</b> 1185	150	Havana, Cuba.
G. de Sequelra, Agrimonte No. 32		
<b>CMBS</b> 765	200	Havana, Cuba.
Enrique Artalejo, Calzada y H. St.		
<b>CMBW</b> 1140	600	Havana, Cuba.
Alvarez, Morla y Cla, Obrapia No. 13.		
<b>CMBX</b> 1185	.....	Havana, Cuba.
<b>CMBY</b> 1230	250	Havana, Cuba.
Callejas-Estefani, Principe No. 33.		
<b>CMBZ</b> 1005	150	Havana, Cuba.
Manuel y G. Salas, San Rafael No. 14.		
<b>CMC</b> 835	500	Havana, Cuba.
Radio Corp. of Cuba.		
<b>CMCA</b> 1230	150	Havana, Cuba.
J. M. Gonzales Ave. de Italia No. 102.		
<b>CMCB</b> 1048	150	Havana, Cuba.
Metropolitan-Radio de Cuba.		
<b>CMCD</b> 915	500	Havana, Cuba.
Angel Bertematy.		
<b>CMCF</b> 873	250	Havana, Cuba.
Raoul Karman.		
<b>CMCG</b> 1140	500	Havana, Cuba
<b>CMCH</b> 1410	50	Havana, Cuba.
Wifredo y Humberto Fontarnis Sanchez.		
<b>CMCJ</b> 1180	500	Havana, Cuba.
Rafael Rodriguez, Estevez No. 4.		
<b>CMCM</b> 1405	15	Havana, Cuba.
Aurelio Balino, Belas Coain No. 639.		
<b>CMCN</b> 1357	250	Havana, Cuba.
Antonio Ginard, Reina y Ave. Buen Retiroe		
<b>CMCP</b> 1270	150	Havana, Cuba.
Jose A. Yanis		
<b>CMCQ</b> 767	1000	Havana, Cuba.
Andres Martinez, Vista Alegre No. 80.		
<b>CMCR</b> 1357	150	Havana, Cuba.
Aurelio Hernandez.		
<b>CMCU</b> 1100	500	Havana, Cuba.
Jorge Garcia Serra.		
<b>CMCW</b> 865	150	Havana, Cuba.
Vilarino y Cervantes		
<b>CMCY</b> 1318	500	Havana, Cuba.
Manuel D. Autran, Ave. de La Pdt s.215.		
<b>CMDD</b> 588	150	Havana, Cuba.
G. de Sequira		
<b>CMDE</b> 915	150	Havana, Cuba.
Radio Aerial Ad.		
<b>CMGA</b> 834	100	Colen, Cuba.
L. Valdes Figueroa, Marti No. 19.		
<b>CMGB</b> 1205	30	Matanzas, Cuba.
Jose Anorga, Magdalena No. 1.		
<b>CMGC</b> 915	30	Matanzas, Cuba.
Oscar S. Mechoso, Independia No. 56.		
<b>CMGE</b> 1376	30	Cardenas, Cuba.
Genaro Sebater, Cespedes No. 180.		
<b>CMGF</b> 971.5	100	Matanzas, Cuba.
Bernabe R. de la Torre.		
<b>CMGH</b> 1040	15	Matanzas, Cuba.
Octavio y Julio Alvarez.		
<b>CMHA</b> 1103	.....	Sagua la Grande, Cuba.
<b>CMHD</b> 945.5	500	Caibarien, Cuba.
Manuel Alvarez, M. Escobar 17.		
<b>CMHI</b> 1007	250	Santa Clara, Cuba.
Lavis y Paz.		
<b>CMHJ</b> 1125	50	Cienfuegos, Cuba.
Victorino Lopez Hontanon.		
<b>CMHK</b> 1215	50	Cruces, Cuba.
Virgilio Villaneuva Fernandez.		
<b>CMHL</b> 1290	20	Cienfuegos, Cuba.
Oscar Zayas, San Carlos 143.		
<b>CMHW</b> 1200	100	Cienfuegos, Cuba.
San Carlos No. 106		
<b>CMJC</b> 1382	150	Camaguey, Cuba.
Feliciano Isaac, Cisneros y G. Gomez.		
<b>CMJE</b> 1170	50	Camaguey, Cuba.
Manuel Fernandez, Plaza de Maceo.		
<b>CMJF</b> 910	200	Camaguey, Cuba.
John L. Stowers, Hotel Plaza.		
<b>CMJG</b> 1050	50	Camaguey, Cuba.
Jose Antonio Lefran, Martires 133.		
<b>CMJH</b> 1150	50	Ciego de Avila, Cuba.
Luis Marauri Mendosa.		
<b>CMJI</b> 1335	45	Ciego de Avila, Cuba.
Gilberto Gessa Lopez, Independencia 95.		
<b>CMJK</b> 790	500	Camaguey, Cuba.
Compania Cubana Nacional de Radio S. A.		
<b>CMJL</b> 960	50	Camaguey, Cuba.
Enrique Artime, Cuba No. 27.		
<b>CMJN</b> 1240	50	Camaguey, Cuba.
Ernesto de Ugarriza, Martires 11.		
<b>CMJO</b> 1010	50	Ciego de Avila, Cuba.
Jose M. Rey, C. Central & Maceo.		
<b>CMJP</b> 1360	75	Moran, Cuba.
Cesar Canall, Callejas No. 28.		
<b>CMK</b> 730	2000	Havana, Cuba.
National Broadcasting Co. of Cuba.		
<b>CMKC</b> 1034	150	Santiago, Cuba.
Pinol Batlle y Co.		
<b>CMKJ</b> 1300	20	Guantanamo, Cuba.
Luis Morlote, Faat Giro 11.		
<b>CMPN</b> 1395	500	Havana, Cuba
Police Headquarters		
<b>CMQ</b> 645	500	Havana, Cuba.
Jose Fernandez, 25 Numero 445.		
<b>CMW</b> 595	1400	Havana, Cuba.
Troncoso y Gil, Paseo de Marti 103.		
<b>CMX</b> 875	1000	Havana, Cuba.
Casa "Lavin," Ave. de la Republica 99A.		
<b>CRCM</b> 910	5000	Montreal, Que.
Canadian Radio Broadcasting Commission		
<b>CRCO</b> 880	1000	Ottawa, Ont.
Canadian Radio Broadcasting Commission.		
<b>CRCS</b> 1500	100	Chicoutimi, Que.
Canadian Marconi Co., Ltd.		
<b>CRCT</b> 960	5000	Toronto, Ont.
Canadian Radio Broadcasting Commission.		
<b>CRCV</b> 1100	1000	Vancouver, B. C.
Canadian Radio Broadcasting Commission.		
<b>FQN</b> 572	250	St. Pierre, Mik.
<b>HHK</b> 920	1000	Port-au-Prince, Haiti.
Haitian Government.		
<b>HIH</b> 1395	15	San Pedro de M., D. R.
Domingo Dominguez		
<b>HIJ</b> 1195	15	Santo Domingo, D. R.
Tuto Baer, Hostos 34		
<b>HIX</b> 598	1500	Santo Domingo, D. R.
J. R. Saladin, Director General		
<b>HIZ</b> 1300	10	Santo Domingo, D. R.
Abbes and Gareia		
<b>HJN</b> 691	500	Bogota, Colombia
Government of Colombia, National Library.		
<b>KABC</b> 1420	100	San Antonio, Texas.
Alamo Broadcasting Co., Inc.		
<b>KALE</b> 1300	500	Portland, Ora.
Kale, Inc., New Heathman Hotel		
<b>KARK</b> 890	250	Little Rock, Ark.
Arkansas Radio & Equipment Co.		
<b>KASA</b> 1210	100	Elk City, Okla.
E. M. Woody, Casa Grande Hotel.		
<b>KBPS</b> 1420	100	Portland, Ora.
Benson Polytechnic School		

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<b>KBTM 1200</b>	100	Jonesboro, Ark.
Jay P. Beard.		
<b>KCMC 1420</b>	100	Texarkana, Ark.
M. P. Mlms, Box 885.		
<b>KCRC 1370</b>	100	Enid, Okla.
Enid Radiophone Co.		
<b>KCRJ 1310</b>	100	Jerome, Ariz.
Chas. C. Robinson, Drawer 8.		
<b>KDB 1500</b>	100	Santa Barbara, Calif.
Santa Barbara Broadcasters, Ltd.		
<b>KDFN 1440</b>	500	Casper, Wyo.
Donald Lewis Hathaway.		
<b>KDKA 980</b>	58000	Pittsburgh, Pa.
Westinghouse Electric & Mfg. Co.		
<b>KDLR 1210</b>	100	Devils Lake, N. D.
KDLR, Inc., 1025 3rd Street.		
<b>KDYL 1290</b>	1000	Salt Lake City, Utah.
Intermountain Broadcasting Corp.		
<b>KECA 1430</b>	1000	Los Angeles, Calif.
Earle C. Anthony, Inc.		
<b>KELW 780</b>	500	Burbank, Calif.
Evening Herald Pub. Co.		
<b>KERN 1200</b>	100	Bakersfield, Calif.
Bee Bakersfield Broadcasting Co.		
<b>KEX 1180</b>	5000	Portland, Ore.
National Broadcasting Co.		
<b>KFAB 770</b>	5000	Lincoln, Neb.
KFAB Broadcasting Co.		
<b>KFAC 1300</b>	1000	Los Angeles, Calif.
E. L. Cord, 645 S. Mariposa.		
<b>KFBB 1280</b>	1800	Great Falls, Mont.
Buttrely Broadcast, Inc.		
<b>KFBI 1050</b>	5000	Abilene, Kans.
Farmers & Bankers Life Ins. Co.		
<b>KFBK 1310</b>	100	Sacramento, Calif.
James McClatchy Publishing Co.		
<b>KFBL 1370</b>	50	Everett, Wash.
Leese Bros., 2814 Rucker Ave.		
<b>KFDM 580</b>	500	Baumont, Texas.
Sabine Broadcasting Co.		
<b>KFDY 550</b>	500	Brookings, S. D.
South Dakota State College.		
<b>KFEL 920</b>	500	Denver, Colo.
Eugene P. O'Fallon, Inc.		
<b>KFEQ 680</b>	2500	St. Joseph, Mo.
Scroggin & Co. Bank		
<b>KFGQ 1310</b>	100	Boone, Iowa.
Boone Biblical College.		
<b>KFH 1300</b>	1000	Wichita, Kans.
Radio Station KFH Co.		
<b>KFI 640</b>	50000	Los Angeles, Calif.
Earle C. Anthony, Inc.		
<b>KFIO 1120</b>	100	Spokane, Wash.
Spokane Broadcasting Corp.		
<b>KFIZ 1420</b>	100	Fand du Lac, Wis.
Reporter Printing Co.		
<b>KFJB 1200</b>	100	Marshalltown, Iowa.
Marshall Electric Co.		
<b>KFJI 1210</b>	100	Klamath Falls, Ore.
KFJI Broadcasters, Inc., Willard Hotel.		
<b>KFJM 1370</b>	100	Grand Forks, N. D.
University of North Dakota.		
<b>KFJR 1300</b>	500	Portland, Ore.
Ashley C. Dixon-KFJR, Inc.		
<b>KFJZ 1370</b>	100	Fort Worth, Texas.
Fort Worth Broadcasters, Inc.		
<b>KFKA 880</b>	500	Graeley, Colo.
Mid-Western Radio Corp.		
<b>KFKU 1220</b>	500	Lawrence, Kans.
University of Kansas.		
<b>KFNF 890</b>	500	Shenandoah, Iowa.
Henry Field Co.		

<b>KFOR 1210</b>	100	Lincoln, Neb.
Howard Shuman		
<b>KFOX 1250</b>	1000	Long Beach, Calif.
Nicholas & Warriner, Inc.		
<b>KFPL 1310</b>	100	Dublin, Texas.
C. C. Baxter, Box 176		
<b>KFPN 1310</b>	16	Greenville, Texas.
New Furniture Co.		
<b>KFPW 1210</b>	100	Fort Smith, Ark.
Southwestern Hotel Co.		
<b>KFPY 1340</b>	1000	Spokane, Wash.
Symons Broadcasting Co.		
<b>KFQD 600</b>	250	Anchorage, Alaska
Anchorage Radio Club, Inc.		
<b>KFRC 810</b>	1000	San Francisco, Calif.
Don Lee, Inc.		
<b>KFRU 630</b>	500	Columbia, Mo.
KFRU, Inc., 9th and Elm Sts.		
<b>KFSB 800</b>	1000	San Diego, Calif.
Airfan Radio Corp., Ltd.		
<b>KFSG 1120</b>	500	Los Angeles, Calif.
Echo Park Evangelistic Assn.		
<b>KFVO 550</b>	500	St. Louis, Mo.
Evangelical Lutheran Church.		
<b>KFVD 1000</b>	250	Los Angeles, Calif.
E. L. Cord, 645 S. Mariposa.		
<b>KFVS 1210</b>	100	Cape Girardeau, Mo.
Oscar C. Hirsch, Box 275.		
<b>KFWB 950</b>	1000	Hollywood, Calif.
Warner Bros. Motion Pictures, Inc.		
<b>KFWI 930</b>	500	San Francisco, Calif.
Radio Entertainments, Ltd.		
<b>KFXD 1200</b>	100	Nampa, Idaho.
Frank E. Hurt, 1024 12th Ave., S.		
<b>KFXF 920</b>	500	Denver, Colo.
Colorado Radio Corp.		
<b>KFXJ 1200</b>	100	Grand Jct., Colo.
Western Slope Broadcasting Co.		
<b>KFXM 1210</b>	100	San Bernardino, Calif.
Lee Bros. Broadcasting Co.		
<b>KFXR 1310</b>	100	Oklahoma City, Okla.
Exchange Avenue Baptist Church.		
<b>KFYO 1310</b>	100	Lubbock, Texas.
Kirksey Bros., Hotel Lubbock.		
<b>KFYR 550</b>	1000	Bismarck, N. D.
Mayer Broadcasting Co.		
<b>KGA 1470</b>	5000	Spokane, Wash.
Northwest Broadcasting Co., Inc.		
<b>KGAR 1370</b>	100	Tucson, Ariz.
Tucson Motor Service Co.		
<b>KGB 1330</b>	1000	San Diego, Calif.
Don Lee Broadcasting System		
<b>KGBU 900</b>	500	Ketchikan, Alaska.
Alaska Radio & Service Co., Inc.		
<b>KGBX 1310</b>	100	Springfield, Ma.
KGBX, Inc.		
<b>KGBZ 930</b>	500	York, Neb.
KGBZ Broadcasting Co., 715 Grant Ave.		
<b>KGCA 1270</b>	100	Decorah, Iowa
Charles W. Greenley		
<b>KGCR 1210</b>	100	Watertown, S. D.
Greater Kampeska Radio Corp.		
<b>KGCU 1240</b>	250	Mandan, N. D.
Mandan Radio Assn.		
<b>KGCC 1310</b>	100	Wolf Point, Mont.
E. E. Krebebach.		
<b>KGDE 1200</b>	100	Fergus Falls, Minn.
C. L. Jaren.		
<b>KGDM 1100</b>	250	Stockton, Calif.
E. F. Peffer, 42 S. Calif. St.		
<b>KGDY 1340</b>	250	Huron, S. D.
Voice of S. D., Inc., 347 Dakota Ave.		

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**KGEK 1200 100 Yuma, Colo.**  
 Elmer G. Beebler, 109 W. 2nd St.  
**KGER 1360 1000 Long Beach, Calif.**  
 Consolidated Broadcasting Co.  
**KGEZ 1310 100 Kallispell, Mont.**  
 Donald C. Treloar, Box 1.  
**KGFF 1420 100 Shawnee, Okla.**  
 KGFF Broadcasting Co., Inc.  
**KGFG 1370 100 Oklahoma City, Okla.**  
 Oklahoma Broadcasting Co., 1113 N. Broadway  
**KGFI 1500 100 Corpus Christi, Texas.**  
 Eagle Broadcasting Co., Inc.  
**KGFI 1200 100 Los Angeles, Calif.**  
 Ben S. McGlashan, 1417 S. Figueroa.  
**KGFK 1600 100 Moorhead, Minn.**  
 Red River Broadcasting Co., Inc.  
**KGFL 1370 100 Roswell, N. M.**  
 KGFL, Inc., 507 N. Main St.  
**KGFW 1310 100 Kearney, Neb.**  
 Central Nebraska Broadcasting Corp.  
**KGFX 630 200 Pierre, S. D.**  
 Dana McNeil, 510 Summit Ave.  
**KGGC 1420 100 San Francisco, Calif.**  
 Golden Gate Broadcasting Co.  
**KGGF 1010 500 Coffeyville, Kans.**  
 Hugh J. Powell and Stanley Platz.  
**KGGM 1230 250 Albuquerque, N. M.**  
 New Mexico Broadcasting Co.  
**KGHF 1320 250 Pueblo, Colo**  
 C. P. Ritche  
**KGHI 1200 100 Little Rock, Ark.**  
 Lloyd Judd Co., Marlon Hotel.  
**KGHL 960 1000 Billings, Mont.**  
 Northwestern Auto Supply Co.  
**KGIR 1360 500 Butte, Mont.**  
 KGIR, Inc., 121 W. Broadway.  
**KGIW 1420 100 Alamosa, Colo.**  
 Leonard E. Wilson, 326 N. Commercial  
**KGIX 1420 100 Las Vegas, Nev.**  
 J. M. Heaton, Box 656.  
**KGKB 1500 100 Tyler, Texas.**  
 East Texas Broadcasting Co.  
**KGKL 1370 100 San Angelo, Texas.**  
 KGKL, Inc., St. Angelus Hotel.  
**KGKO 670 250 Wichita Falls, Texas.**  
 Wichita Falls Broadcasting Co.  
**KGKY 1600 100 Scottsbluff, Neb.**  
 Hilliard Co., Inc., 1517½ Broadway.  
**KGMB 1320 250 Honolulu, T. H.**  
 Honolulu Broadcasting Co., 119 Merchant St.  
**KGNF 1430 500 North Platte, Neb.**  
 Great Plains Broadcasting Co.  
**KGNO 1340 250 Dodge City, Kans.**  
 KGNO Broadcasting Station  
**KGO 790 7500 San Francisco, Calif.**  
 National Broadcasting Co., Inc.  
**KGRS 1410 1000 Amarillo, Texas.**  
 E. B. Gish, Bellaire Park.  
**KGU 750 2500 Honolulu, T. H.**  
 Advertiser Publishing Co., Ltd.  
**KGVO 1200 100 Missoula, Mont.**  
 Mosbys, Inc., 240 N. Higgins.  
**KGW 620 1000 Portland, Ore.**  
 Oregonian Publishing Co.  
**KGY 1210 100 Olympia, Wash.**  
 KGY, Inc., 11th and Capitol Way.  
**KHJ 900 1000 Los Angeles, Calif.**  
 Don Lee Broadcasting System.  
**KHQ 690 1000 Spokane, Wash.**  
 Louis Wasmer, Inc.  
**KICA 1370 100 Clovis, N. M.**  
 Southwest Broadcasting Co.

**KID 1320 250 Idaho Falls, Idaho.**  
 KID Broadcasting Co., Inc.  
**KIDO 1350 1000 Boise, Idaho.**  
 C. G. Phillips & Frank L. Hill.  
**KIDW 1420 100 Lamar, Colo.**  
 Lamar Broadcasting Co., Box 688  
**KIEM 1210 190 Eureka, Calif.**  
 Harold H. Hanseth, Vance Hotel.  
**KIEV 850 100 Glendale, Calif.**  
 Cannon System, Ltd., Glendale Hotel.  
**KIFH 1310 100 Juneau, Alaska**  
 Juneau Broadcasting Co.  
**KIT 1310 100 Yakima, Wash.**  
 Valley Broadcasters, Inc.  
**KJBS 1070 100 San Francisco, Calif.**  
 Julius Brunton & Sons Co.  
**KJR 970 5000 Seattle, Wash.**  
 Fishers Blend Station, Inc.  
**KLCN 1290 100 Blytheville, Ark.**  
 C. L. Lintzenloh, Main and Division St.  
**KLO 1400 500 Ogden, Utah.**  
 Interstate Broadcasting Co.  
**KLPM 1240 250 Minot, N. D.**  
 John B. Cooley.  
**KLRA 1390 1000 Little Rock, Ark.**  
 Arkansas Broadcasting Co.  
**KLS 1440 250 Oakland, Calif.**  
 Warner Bros., 2201 Telegraph Ave.  
**KLUF 1370 100 Galveston, Texas.**  
 Geo. R. Clough, 3327 Ave. P.  
**KLX 880 1000 Oakland, Calif.**  
 Tribune Building Co.  
**KLZ 580 1000 Denver, Colo.**  
 Reynolds Radio Co., Inc.  
**KMA 930 500 Shenandoah, Iowa.**  
 Earl E. May Seed & Nursery Co.  
**KMAC 1370 100 San Antonio, Texas.**  
 W. W. McAllister, Blue Bonnet Hotel.  
**KMBC 950 1000 Kansas City, Mo**  
 Midland Broadcasting Co.  
**KMED 1310 100 Madford, Ore.**  
 Mrs. W. J. Virgin, Sparta Bldg.  
**KMJ 580 500 Fresno, Calif.**  
 James McClatchy Co.  
**KMLB 1200 100 Monroe, La.**  
 Liners Broadcasting Station, Inc.  
**KMMJ 740 1000 Clay Center, Neb.**  
 The M. M. Johnson Co.  
**KMO 1330 250 Tacoma, Wash.**  
 KMO, Inc., Hotel Winthrop.  
**KMOX 1090 50000 St. Louis, Mo.**  
 The Voice of St. Louis, Inc.  
**KMPC 710 500 Beverly Hills, Calif.**  
 Beverly Hills Broadcasting Corp.  
**KMTR 570 500 Hollywood, Calif.**  
 KMTR Radio Corp., 915 N. Formosa Ave.  
**KNOW 1500 100 Austin, Texas.**  
 Southwest Broadcasting Co.  
**KNX 1050 25000 Hollywood, Calif.**  
 Western Broadcast Co., Inc.  
**KOA 830 12,500 Denver, Colo.**  
 General Electric Co., 1370 Krameria St  
**KOAC 550 1000 Corvallis, Ore.**  
 Oregon State Agricultural College.  
**KOB 1180 10000 Albuquerque, N. M.**  
 Albuquerque Journal, Box 667.  
**KOH 1380 500 Reno, Nev.**  
 The Bee, Inc.  
**KOIL 1260 1000 Council Bluffs, Iowa**  
 Mona Motor Oil Co.  
**KOIN 940 1000 Portland, Ore.**  
 KOIN, Inc., New Heathman Hotel.

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**KOL** 1270 1000 Seattle, Wash.  
Seattle Broadcasting Co.

**KOMA** 1480 6000 Oklahoma City, Okla  
National Radio Manufacturing Co.

**KOMO** 920 1000 Seattle, Wash.  
Fishers Blend Station, Inc.

**KONO** 1370 100 San Antonio, Texas.  
Miscion Broadcasting Co., St. Anthony Hotel

**KOOS** 1370 100 Marshfield, Ora.  
H. H. Hanseth, Hall Bldg.

**KORE** 1420 100 Eugene, Ora.  
Frank L. Hill and Curtis G. Phillipps

**KOTN** 1500 100 Pine Bluff Ark.  
William H. Chaplin

**KOY** 1390 600 Phoenix, Ariz.  
Nielsen Radio & Sporting Goods Co.

**KPCB** 650 100 Seattle, Wash.  
Queen City Broadcasting Co.

**KPJM** 1600 100 Prescott, Ariz.  
Frank Mauthe, Box 852

**KPO** 680 60000 San Francisco, Calif.  
National Broadcasting Co., Inc.

**KPOF** 880 600 Denver, Cole.  
Pillar Of Fire, 1845 Champa St.

**KPPC** 1210 60 Pasadena, Calif.  
Pasadena Presbyterian Church.

**KPQ** 1500 100 Wenatchee, Wash.  
Westcoast Broadcasting Co.

**KPRC** 920 1000 Houston, Texas.  
Houston Printing Co.

**KQV** 1380 600 Pittsburgh, Pa.  
KQV Broadcasting Co., Investment Bldg.

**KQW** 1010 600 San Jose, Calif.  
Pacific Agricultural Foundation, Ltd.

**KRE** 1370 100 Berkeley, Calif.  
First Congregational Church.

**KREG** 1500 100 Santa Ana, Calif.  
The Voice of the Orange Empire, Inc.

**KRGV** 1260 600 Harlingen, Texas.  
KRGV, Inc.

**KRKD** 1120 600 Los Angeles, Calif  
Fireside Broadcasting Corp.

**KRLD** 1040 10000 Dallas, Texas.  
KRLD Radio Corp., Adolphus Hotel.

**KRMD** 1310 100 Shreveport, La.  
Radio Station KRMD, Inc.

**KROW** 930 600 Oakland, Calif.  
Educational Broadcasting Corp.

**KRSC** 1120 100 Seattle, Wash.  
Radio Sales Corp., Washington Athletic Club.

**KSAC** 580 600 Manhattan, Kans.  
State College of Agriculture.

**KSCJ** 1330 1000 Sioux City, Iowa.  
Perkins Bros. Co., 415 Douglas St.

**KSD** 560 600 St. Louis, Mo.  
Pulitzer Publishing Co.

**KSEI** 890 250 Pocatello, Idaho.  
Radio Service Corp., 141 S. 6th Ave.

**KSL** 1130 50000 Salt Lake City, Utah.  
Radio Service Corp. of Utah.

**KSO** 1370 100 Des Moines, Iowa.  
Des Moines Register & Tribune.

**KSOO** 1110 1000 Sioux Falls, S. D.  
Sioux Falls Brodst Assn, Carpenter Hotel

**KSTP** 1460 10000 St. Paul, Minn.  
National Battery Broadcasting Co.

**KSUN** 1200 100 Lowell, Ariz.  
Copper Electrical Co.

**KTAB** 560 1000 San Francisco, Calif.  
Associated Broadcasters, Inc.

**KTAR** 820 1000 Phoenix, Ariz.  
KTAR Broadcasting Co.

**KTAT** 1240 1000 Fort Worth, Texas.  
Southwest Broadcasting Co.

**KTBS** 1460 1000 Shreveport, La.  
Tri-State Broadcasting System.

**KTFI** 1240 1000 Twin Falls, Idaho.  
Radio Broadcasting Corp.

**KTHS** 1040 10000 Hot Springs, Ark.  
Chamber of Commerce.

**KTM** 780 600 Los Angeles, Calif.  
Evening Herald Pub. Co.

**KTRH** 1120 1000 Houston, Texas.  
KTRH Broadcasting Co., Rice Hotel.

**KTSA** 1290 1000 San Antonio, Texas.  
Southwest Broadcasting Co.

**KTSM** 1310 100 El Paso, Texas.  
Tri-State Broadcasting Co., Inc.

**KTUL** 1400 250 Tulsa, Okla.  
J. T. Griffin

**KTW** 1220 1000 Seattle, Wash.  
First Presbyterian Church.

**KUJ** 1370 100 Walla Walla, Wash.  
KUJ, Inc., Marcus Whitman Hotel.

**KUMA** 1420 100 Yuma, Ariz.  
Dr. A. H. Schermann, Box 267.

**KUOA** 1260 1000 Fayetteville, Ark.  
KUOA, Inc., Washington Hotel.

**KUSD** 890 600 Vermillion, S. D.  
University of South Dakota.

**KVI** 570 600 Tacoma, Wash.  
Puget Sound Broadcasting Co., Tacoma Hotel.

**KVL** 1370 100 Seattle, Wash.  
KVL, Inc., 5th and Virginia St.

**KVOA** 1260 600 Tucson, Ariz.  
Arizona Broadcasting Co., Inc.

**KVOO** 1140 25000 Tulsa, Okla.  
Southwestern Sales Corp.

**KVOR** 1270 1000 Colorado Springs, Colo  
S. H. Patterson

**KVOS** 1200 100 Bellingham, Wash.  
KVOS, Inc., Bellingham Hotel.

**KWCR** 1430 250 Cedar Rapids, Iowa.  
Cedar Rapids Broadcast Co.

**KWEA** 1210 100 Shreveport, La.  
International Broadcasting Corp.

**KWFFV** 1210 100 Hilo, Hawaii  
Hilo Broadcasting Co., Ltd.

**KWG** 1200 100 Stockton, Calif.  
McClatchy Newspapers, Inc.

**KWJJ** 1060 600 Portland, Ora.  
KWJJ Broadcast Co., Inc., 328 Salmon St

**KWK** 1360 1000 St. Louis, Mo.  
Thomas Patrick, Inc., Hotel Chase.

**KWKC** 1370 100 Kansas City, Mo.  
Wilson Durcan Broadcasting Co.

**KWKH** 860 10000 Shreveport, La.  
International Broadcasting Corp.

**KWLC** 1270 100 Decorah, Iowa.  
Luther College.

**KWSC** 1220 1000 Pullman, Wash.  
State College of Washington.

**KWTO** 560 600 Springfield, Mo.  
KGBX Inc.

**KWWS** 1260 600 Brownsville, Texas.  
Frank P. Jackson.

**KXA** 760 250 Seattle, Wash.  
American Radio Tel. Co., 218 Bigelow Bldg.

**KXL** 1420 100 Portland, Ore.  
KXL Broadcasters, 269 Pine St.

**KXO** 1600 100 El Centro, Calif.  
E. R. Irey and F. M. Bowles.

**KXRO** 1310 100 Aberdeen, Wash.  
KXRO, Inc., Hotel Morck.

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<b>KXYZ</b>	1440	250	Houston, Texas. Harris County Broadcast Co.
<b>KYA</b>	1230	1000	San Francisco, Calif. Pacific Broadcasting Corp.
<b>KYW</b>	1020	10000	Chicago, Ill. Westinghouse Elec. & Mfg. Co.
<b>KZRM</b>	618.5	60000	Manila, P. I. Erlanger and Galingler, Inc. (KZEG)
<b>LR4</b>	990	12000	Buenos Aires, Arg.
<b>LR5</b>	830	20000	Buenos Aires, Arg.
<b>NAA</b>	690	1000	Arlington, Va. United States Navy.
<b>RUS</b>	684	500	San Salvador, E. S. Republic of El Salvador.
<b>TGW</b>	1130	500	Guatemala, Gua. Gobierno de Guatemala.
<b>TGX</b>	1380	75	Guatemala City
<b>TICR</b>	912	75	San Jose, C. R. Government of Costa Rica.
<b>TIEA</b>	833	7.5	San Jose, C. R.
<b>TIEP</b>	1450	7.5	San Jose, C. R.
<b>TIFB</b>	714	30	San Jose, C. R.
<b>TIFS</b>	1441	7.5	Cartago, C. R.
<b>TIGA</b>	1014	30	Cartago, C. R.
<b>TIGP</b>	800	75	San Jose, C. R. Gonzalo Pinto H. Apt. 225.
<b>TIRCA</b>	1100	500	San Jose, C. R. Perry Girton, Apt. 225.
<b>TISO</b>	550	250	San Jose, C. R. P. F. Saborio, Apt. 1354
<b>TITV</b>	889	7.5	San Jose, C. R.
<b>TIVL</b>	889	30	San Jose, C. R.
<b>TIXA</b>	814	7.5	San Jose, C. R. I
<b>VAS</b>	685	2000	Glace Bay, N. S. Canadian Maroon Co., Ltd.
<b>VE9EK</b>	1195	10	Montmagny, Que. J. A. Marquis, P. O. Box 57
<b>VOAC</b>	1300	40	St. John's, Nfld.
<b>VOAS</b>	940	100	St. John's, N. F. Ayre & Sons, Ltd.
<b>VOGY</b>	1050	75	St. John's, N. F. Newfoundland Broadcasting Co.
<b>VOKW</b>	1085	30	St. John's, N. F. Cyril L. Parkins.
<b>VONF</b>	1195	400	St. John's, N. F. Dominion Broadcasting Co., Ltd., Box 1355.
<b>VOWR</b>	700	500	St. John's, N. F. Wesley United Church, Box 157.
<b>WAAB</b>	1410	500	Boston, Mass. Bay State Broadcasting Corp., 1 Winter Pl.
<b>WAAF</b>	920	500	Chicago, Ill. Chicago Daily Drivers Journal.
<b>WAAT</b>	940	300	Jersey City, N. J. Bremer Broadcasting Corp., 50 Journal Sq.
<b>WAAW</b>	660	500	Omaha, Neb. Omaha Grain Exchange.
<b>WABC</b>	860	50000	New York, N. Y. Atlantic Broadcasting Corp.
<b>WABI</b>	1200	100	Bangor, Maine. First Universalist Society.

<b>WACO</b>	1420	100	Waco, Texas. Southwest Broadcasting Co.
<b>WADC</b>	1320	1000	Akron, Ohio. Allen T. Strimmons, P. O. Box 29.
<b>WAGM</b>	1420	100	Presque Isle, Me. Aroostook Broadcasting Corp.
<b>WAIU</b>	840	500	Columbus, Ohio. Associated Radiocasting Corp.
<b>WALR</b>	1210	100	Zanesville, Ohio. WALR Broadcasting Corp.
<b>WAMC</b>	1420	100	Anniston, Ala. R. C. Hammett, 1200 Noble St.
<b>WAML</b>	1310	100	Laurel, Miss. Southland Radio Corp.
<b>WAPI</b>	1140	5000	Birmingham, Ala. WAPI Broadcasting Corp.
<b>WARD</b>	1400	500	Brooklyn, N. Y. United States Broadcasting Corp.
<b>WASH</b>	1270	500	Grand Rapids, Mich. Kunsky-Trendle Broadcasting Corp.
<b>WAVE</b>	940	1000	Louisville, Ky. WAVE, Inc.
<b>WAWZ</b>	1350	250	Zarephath, N. J. Pillar of Fire.
<b>WAZL</b>	1420	100	Hazleton, Pa. Hazleton Broadcasting Service, Inc.
<b>WBAA</b>	1400	500	West Lafayette, Ind. Purdue University.
<b>WBAK</b>	1430	1000	Harrisburg, Pa. Commonwealth of Pennsylvania.
<b>WBAL</b>	1080	10000	Baltimore, Md. Consolidated Gas, Elec. Light & Power Co.
<b>WBAP</b>	800	50000	Fort Worth, Texas. Carter Publications, Inc.
<b>WBAX</b>	1210	100	Wilkes-Barre, Pa. John H. Stenger, Jr., 70 S. Main St.
<b>WBBC</b>	1400	500	Brooklyn, N. Y. Brooklyn Broadcasting Corp.
<b>WBBL</b>	1210	100	Richmond, Va. Grace Covenant Presbyterian Church.
<b>WBBM</b>	770	25000	Chicago, Ill. WBBM Broadcasting Corp., Wrigley Bldg.
<b>WBBR</b>	1300	1000	Brooklyn, N. Y. Peoples Pulpit Assn.
<b>WBSY</b>	1200	100	New Orleans, La. Samuel D. Reeks, Marbere Hotel.
<b>WBBZ</b>	1200	100	Peena City, Okla. C. L. Carrell.
<b>WBCM</b>	1410	500	Bay City, Mich. James E. Davidson, Hotel Wenonah.
<b>WBEN</b>	900	1000	Buffalo, N. Y. WBEN, Inc. (Buffalo Evening News.)
<b>WBEO</b>	1310	100	Marquette, Mich. Lake Superior Broadcasting Co., Inc.
<b>WBHS</b>	1200	100	Huntsville, Ala. Radio Station WBHS, Inc.
<b>WBIG</b>	1440	500	Greensboro, N. C. North Carolina Broadcasting Co., Inc.
<b>WBNS</b>	1430	500	Columbus, O. WBNS, Inc.
<b>WBNX</b>	1350	250	New York, N. Y. Standard Cahill Co., Inc.
<b>WBOQ</b>	860	50000	New York, N. Y. Atlantic Broadcasting Corp.
<b>WBOW</b>	1310	100	Terre Haute, Ind. Banks of Wabash, Inc., 24½ S. 6th.
<b>WBRC</b>	930	500	Birmingham, Ala. Birmingham Brdcastg. Co., Inc.
<b>WBRE</b>	1310	100	Wilkes-Barre, Pa. Louis G. Baltimore, 16 N. Main.
<b>WBSO</b>	920	500	Babson Park, Mass. Broadcasting Service Organization, Inc.

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**WBT** 1080 60000 Charlotte, N. C.  
 Station WBT, Inc., Wilder Bldg.  
**WBTV** 1370 100 Danville, Va.  
 Piedmont Broadcasting Corp.  
**WBZ** 990 60000 Boston, Mass.  
 Westinghouse Elec. & Mfg. Co.  
**WBZA** 990 1000 Springfield, Mass.  
 Westinghouse Elec. & Mfg. Co.  
**WCAC** 800 500 Storrs, Conn.  
 Connecticut State College.  
**WCAD** 1220 500 Canton, N. Y.  
 St. Lawrence University.  
**WCAE** 1220 1000 Pittsburgh, Pa.  
 WCAE, Inc., Sun-Telegraph.  
**WCAL** 1250 1000 Northfield, Minn.  
 St. Olaf College.  
**WCAM** 1280 500 Camden, N. J.  
 City of Camden, City Hall.  
**WCAO** 800 500 Baltimore, Md.  
 Monumental Radio Co.  
**WCAP** 1280 500 Asbury Park, N. J.  
 Radio Industries Broadcast Co.  
**WCAT** 1200 100 Rapid City, S. D.  
 South Dakota State School of Mines.  
**WCAU** 1170 60000 Philadelphia, Pa.  
 WCAU Broadcasting Co., 1622 Chestnut.  
**WCAX** 1200 100 Burlington, Vt.  
 Burlington Daily News, Inc.  
**WCAZ** 1070 100 Carthage, Ill.  
 Superior Broadcasting Service, Inc.  
**WCBA** 1440 250 Allentown, Pa.  
 B. Bryan Musselman, 39-41 10th St.  
**WCBD** 1080 5000 Zion, Ill.  
 Wilbur Glenn Vollva.  
**WCBM** 1370 100 Baltimore, Md.  
 Baltimore Broadcasting Corp.  
**WCBS** 1210 100 Springfield, Ill.  
 WCB, Inc., 208½ S. 5th.  
**WCBO** 810 60000 Minneapolis, Minn.  
 Northwestern Broadcasting, Inc.  
**WCFL** 970 1500 Chicago, Ill.  
 Chicago Federation of Labor.  
**WCBS** 580 750 Charleston, W. Va.  
 WOB, Inc., Rufner Hotel.  
**WCKY** 1490 6000 Covington, Ky.  
 L. B. Wilson, Inc.  
**WCLO** 1200 100 Janesville, Wis.  
 WCLO Radio Corp.  
**WCLS** 1310 100 Joliet, Ill.  
 WCLS, Inc., 301 E. Jefferson St.  
**WGNW** 1500 100 Brooklyn, N. Y.  
 Arthur Faske, 1525 Pitkin Ave.  
**WCOA** 1340 500 Pensacola, Fla.  
 Pensacola Broadcasting Co.  
**WCOC** 880 500 Meridian, Miss.  
 Mississippi Broadcasting Co., Inc.  
**WCRW** 1210 100 Chicago, Ill.  
 Clinton R. White, 2756 Pine Grove Ave.  
**WCSC** 1360 500 Charleston, S. C.  
 South Carolina Broadcasting Co., Inc.  
**WCSH** 940 1000 Portland, Me.  
 Congress Square Hotel Co., 157 High.  
**WDAA** 1220 1000 Tampa, Fla.  
 Tampa Times Co., Tampa Terrace.  
**WDAF** 610 1000 Kansas City, Mo.  
 Kansas City Star Co.  
**WDAG** 1410 1000 Amarillo, Texas.  
 National Radio & Broadcasting Corp.  
**WDAA** 1310 100 El Paso, Texas.  
 Tri-State Broadcasting Co., Inc.  
**WDAS** 1370 100 Philadelphia, Pa.  
 WDAS Broadcastg. Co., Inc. Broadwood Hotel.

**WDAY** 940 1000 Fargo, N. D.  
 WDAY, Inc., Black Bldg., 118 Broadway.  
**WDBJ** 930 250 Roanoke, Va.  
 Times World Corp., 122 W. Church Ave.  
**WDBO** 680 250 Orlando, Fla.  
 Orlando Broadcasting Co., Inc.  
**WDEL** 1120 250 Wilmington, Del.  
 WDEL, Inc., 10th and King Sts.  
**WDEV** 560 500 Waterbury, Vt.  
 Harry C. Whitehill, Stowe St.  
**WDGY** 1180 1000 Minneapolis, Minn.  
 Dr. Geo. W. Young, 909 W. Broadway.  
**WDDO** 1280 1000 Chattanooga, Tenn.  
 WDDO Broadcasting Corp., Hotel Fatten.  
**WDRC** 1330 1000 Hartford, Conn.  
 WDRC, Inc., Corning Bldg., 11 Asylum St.  
**WDSU** 1260 1000 New Orleans, La.  
 Jos. H. Uhalt, On Hotel DeSoto.  
**WDZ** 1070 100 Tuscola, Ill.  
 James L. Bush.  
**WEAF** 660 60000 New York, N. Y.  
 National Broadcasting Co., Inc.  
**WEAN** 780 500 Providence, R. I.  
 Shepard Broadcasting Service, Inc.  
**WEBC** 1290 1000 Superior, Wis.  
 Head of the Lakes Broadcasting Co.  
**WEBQ** 1210 100 Harrisburg, Ill.  
 Harrisburg Broadcasting Co.  
**WEBR** 1310 100 Buffalo, N. Y.  
 Howell Broadcasting Co., Inc., 735 Main.  
**WEDC** 1210 100 Chicago, Ill.  
 Emil Denemark, 3860 Ogden Ave.  
**WEED** 1420 100 Greenville, N. C.  
 Wm. Avera Wynne.  
**WEEL** 590 1000 Boston, Mass.  
 Edison Elec. Illuminating Co.  
**WEUU** 830 1000 Reading, Pa.  
 Berks Broadcasting Co., 533 Penn.  
**WEHC** 1360 500 Charlottesville, Va.  
 Community Broadcastg. Corp.  
**WEHS** 1420 100 Cicero, Ill.  
 WEHS, Inc., 6138 W. 22nd St.  
**WELL** 1420 50 Battle Creek, Mich.  
 Enquirer News Co., 7 N. McCamly St.  
**WENC** 1420 100 Albany, Ga.  
 Americus Broadcast Corp.  
**WENR** 870 60000 Chicago, Ill.  
 Great Lakes Broadcasting Co.  
**WESQ** 1040 1000 Elmira, N. Y.  
 Elmira Star Gazette, Inc.  
**WEVD** 1300 500 New York, N. Y.  
 Jewish Daily Forward, Hotel Claridge.  
**WEW** 780 1000 St. Louis, Mo.  
 St. Louis University, 221 N. Grand Blvd.  
**WEXL** 1310 50 Royal Oak, Mich.  
 Royal Oak Broadcasting Co.  
**WFAA** 900 60000 Dallas, Texas.  
 Morning News and Journal.  
**WFAB** 1300 1000 New York, N. Y.  
 Fifth Avenue Broadcasting Corp.  
**WFAM** 1200 100 South Bend, Ind.  
 South Bend Tribune, 200 W. Colfax.  
**WFAS** 1210 100 White Plains, N. Y.  
 Westchester Broadcasting Corp.  
**WFBC** 1200 100 Greenville, S. C.  
 Greenville News-Piedmont Co.  
**WFBE** 1200 100 Cincinnati, Ohio.  
 WFBE, Inc., Hotel Stanton.  
**WFBG** 1310 100 Altoona, Pa.  
 Gable Broadcasting Co. 12th Av. & 13th St.  
**WFBL** 1360 1000 Syracuse, N. Y.  
 Onondaga Radio Broadcasting Corp.



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<b>WFBM 1230 1000 Indianapolis, Ind.</b> Indianapolis Power & Light Co.	<b>WHBY 1200 100 Green Bay, Wis.</b> WHBY, Inc., Bellin Bldg.
<b>WFBR 1270 500 Baltimore, Md.</b> Baltimore Radio Show, Inc.	<b>WHDF 1370 100 Calumet, Mich.</b> Upper Michigan Broadcasting Co.
<b>WFDF 1310 100 Flint, Mich.</b> Flint Broadcasting Co.	<b>WHDH 830 1000 Boston, Mass.</b> Matheson Radio Co., 62 Boylston.
<b>WFDV 1500 100 Rome, Ga.</b> Rome Broadcasting Corp., 10 3rd Ave.	<b>WHDL 1420 100 Tupper Lake, N. Y.</b> Tupper Lake Broadcasting Co.
<b>WFEA 1340 500 Manchester, N. H.</b> New Hampshire Broadcasting Co.	<b>WHES 740 250 Portsmouth, N. H.</b> Granite State Broadcasting Corp.
<b>WFI 580 500 Philadelphia, Pa.</b> WFI Broadcasting Co., 801 Market.	<b>WHEC 1430 500 Rochester, N. Y.</b> WHEC, Inc., 40 Franklin St.
<b>WFLA 620 1000 Clearwater, Fla.</b> Florida West Coast Broadcasting Co., Inc.	<b>WHEF 1500 100 Koccluske, Miss.</b> Attala Milling & Produce Co.
<b>WGAL 1310 100 Lancaster, Pa.</b> WGAL, Inc., 8 W. King St.	<b>WHET 1370 100 Dothan, Ala.</b> Troy Broadcasting Co.
<b>WGAR 1450 500 Cleveland, Ohio.</b> WGAR Broadcasting Co., Hotel Statler.	<b>WHFC 1420 100 Clarks, Ill.</b> WHFC, Inc., 6138 W. 22nd St.
<b>WGBB 1210 100 Freeport, N. Y.</b> H. H. Carman, 64 S. Grove St.	<b>WHIS 1410 250 Bldfield, W. Va.</b> Daily Telegraph Printing Co., Inc.
<b>WGBF 630 500 Evansville, Ind.</b> Evansville On the Air, Inc.	<b>WHK 1390 1000 Cleveland, Ohio.</b> Radio Air Service Corp.
<b>WGBI 880 500 Scranton, Pa.</b> Scranton Broadcasters, Inc.	<b>WHN 1010 1000 New York, N. Y.</b> Marcus Loew Booking Agency.
<b>WGCM 1210 100 Mississippi City, Miss.</b> Great Southern Land Co., Gulfport, Miss.	<b>WHO 1000 50000 Des Moines, Iowa</b> Central Brcdstg Co., 914 Walnut St.
<b>WGCP 1250 1000 Newark, N. J.</b> May Radio Broadcasting Co.	<b>WHOM 1450 250 Jersey City, N. J.</b> New Jersey Broadcasting Corp.
<b>WGES 1360 500 Chicago, Ill.</b> Oak Leaves Broadcasting Station, Inc.	<b>WHP 1430 500 Harrisburg, Pa.</b> WHP, Inc., Harrisburg Telegraph.
<b>WGH 1310 100 Newport News, Va.</b> Hampton Roads Broadcasting Corp.	<b>WIBA 1280 500 Madison, Wis</b> Badger Broadcasting Co., Inc.
<b>WGL 1370 100 Fort Wayne, Ind.</b> F. C. Zieg, 213 W. Main St.	<b>WIBQ 970 100 Glenview, Pa.</b> WIBG, Inc., Keswick Bldg.
<b>WGLC 1370 100 Hudson Falls, N. Y.</b> O. T. Griffin & G. F. Bissell.	<b>WIBM 1370 100 Jackson, Mich.</b> WIBM, Inc., Otsego Hotel.
<b>WGN 720 50000 Chicago, Ill.</b> WGN, Inc., Tribune Tower.	<b>WIBU 1210 100 Poynette, Wis.</b> Wm. C. Forrest, R. F. D. No. 3.
<b>WGNV 1210 100 Chester, N. Y.</b> Peter Goelt (Orange County).	<b>WIBW 580 1000 Topeka, Kans.</b> Topeka Broadcasting Assn. Inc.
<b>WGR 550 1000 Buffalo, N. Y.</b> Buffalo Broadcasting Corp.	<b>WIBX 1200 100 Utica, N. Y.</b> WIBX, Inc., 1st Natl. Bank Bldg.
<b>WGST 890 250 Atlanta, Ga.</b> Georgia School of Technology.	<b>WICC 800 500 Bridgeport, Conn.</b> Southern Conn. Broadcasting Corp.
<b>WGY 790 50000 Schenectady, N. Y.</b> National Broadcasting Co., Inc.	<b>WIL 1200 100 St. Louis, Mo.</b> Missouri Broadcasting Corp.
<b>WHA 840 1000 Madison, Wis.</b> University of Wisconsin.	<b>WILL 890 250 Urbana, Ill.</b> University of Illinois.
<b>WHAD 1120 250 Milwaukee, Wis.</b> WHAD, Inc.	<b>WILM 1420 100 Wilmington, Del.</b> Delaware Broadcasting Co., Inc.
<b>WHAM 1150 50000 Rochester, N. Y.</b> Stromberg-Carlson Tel. Mfg. Co.	<b>WIND 580 1000 Gary, Ind.</b> Johnson-Kennedy Broadcasting Corp.
<b>WHAS 820 50000 Louisville, Ky.</b> Courier Journal & Louisville Times.	<b>WINS 1180 500 New York, N. Y.</b> American Radio News Corp.
<b>WHAT 1310 100 Philadelphia, Pa.</b> Curtis-Martin Newspapers, Inc.	<b>WIOD 1300 1000 Miami, Fla.</b> Isle of Dreams Broadcasting Corp.
<b>WHAZ 1300 500 Troy, N. Y.</b> Rensselaer Polytechnic Institute.	<b>WIP 610 500 Philadelphia, Pa.</b> Pennsylvania Broadcasting Co.
<b>WHB 860 500 Kansas City, Mo.</b> WHB Broadcasting Co., Scarritt Bldg.	<b>WIS 1010 500 Columbia, S. C.</b> Station WIS, Inc., 1811 Main St.
<b>WHBC 1200 100 Canton, Ohio.</b> Edw. P. Graham, 319 Tusc. St., W.	<b>WISN 1120 250 Milwaukee, Wis.</b> American Radio News Corp.
<b>WHBD 1370 100 Mount Orab, Ohio.</b> F. P. Moler.	<b>WJAC 1310 100 Johnstown, Pa.</b> WJAC, Inc., Tribune Bldg. Annex.
<b>WHBF 1210 100 Rock Island, Ill.</b> Rock Island Broadcasting Co.	<b>WJAG 1080 1000 Norfolk, Neb.</b> Norfolk Daily News.
<b>WHBL 1410 500 Sheboygan, Wis.</b> Press Publishing Co.	<b>WJAR 890 500 Providence, R. I.</b> Outlet Co., Weybossett St.
<b>WHBQ 1370 100 Memphis, Tenn.</b> Broadcasting Sta. WNBQ, Inc., Hotel Claridge.	<b>WJAS 1290 1000 Pittsburgh, Pa.</b> Pittsburgh Radio Supply House.
<b>WHBU 1210 100 Anderson, Ind.</b> Anderson Broadcasting Corp.	<b>WJAX 900 1000 Jacksonville, Fla.</b> City of Jacksonville.

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<b>WJAY 810 600</b> Cleveland, Ohio. Cleveland Radio Broadcasting Corp.	<b>WLAC 1470 5000</b> Nashville, Tenn. Life & Casualty Insurance Co.
<b>WJBC 1200 100</b> LaSalle, Ill. Kaskaskia Broadcasting Co.	<b>WLAP 1420 100</b> Louisville, Ky. American Broadcasting Corp. of Ky.
<b>WJBI 1210 100</b> Red Bank, N. J. Monmouth Broadcasting Co., Inc.	<b>WLB 1250 1000</b> Minneapolis, Minn. University of Minnesota.
<b>WJBK 1370 50</b> Detroit, Mich. James F. Hopkins, Inc., Curtiss Bldg.	<b>WLBC 1310 100</b> Muncie, Ind. D. A. Burton, Anthony Bldg.
<b>WJBL 1200 100</b> Decatur, Ill. Commodore Broadcasting, Inc.	<b>WLBK 1420 100</b> Kansas City, Kans. WLBK Broadcasting Co., Huron Bldg.
<b>WJBO 1420 100</b> Baton Rouge, La. Baton Rouge Broadcasting Co., Inc.	<b>WLBL 900 2500</b> Stevens Point, Wis. Wisconsin Dept. of Agriculture and Markets.
<b>WJBW 1200 100</b> New Orleans, La. C. C. Carlson, 2743 Dumaine St.	<b>WLBW 1280 500</b> Erie, Pa. Broadcasters of Pennsylvania, Inc.
<b>WJBY 1210 100</b> Gadsden, Ala. Gadsden Broadcasting Co., 112 N. 8th St.	<b>WLBZ 620 500</b> Bangor, Me. Maine Broadcasting Co., Inc., 100 Main.
<b>WJDX 1270 1000</b> Jackson, Miss. Lamar Life Insurance Co.	<b>WLEY 1370 100</b> Lexington, Mass. Albert S. Moffat
<b>WJEJ 1210 100</b> Hagerstown, Md. Hagerstown Broadcasting Co., Inc.	<b>WLIT 560 500</b> Philadelphia, Pa. Lit Bros. Broadcasting System, Inc.
<b>WJEM 990 500</b> Tupelo, Miss. Britt A. Rogers, Jr.	<b>WLNH 1310 100</b> Laconia, N. H.
<b>WJJD 1130 20000</b> Chicago, Ill. WJJD, Inc., 201 N. Wells St.	<b>WLS 870 50000</b> Chicago, Ill. Agricultural Broadcasting Co.
<b>WJMS 1420 100</b> Ironwood, Mich. WJMS, Inc., St. James Hotel.	<b>WLTH 1400 500</b> Brooklyn, N. Y. Voice of Brooklyn, Inc.
<b>WJR 750 10000</b> Detroit, Mich. WJR, Inc., Fisher Bldg.	<b>WLVA 1370 100</b> Lynchburg, Va. Lynchburg Broadcasting Corp.
<b>WJSV 1480 10000</b> Washington, D. C. Old Dominion Broadcasting Co.	<b>WLW 700 50000</b> Cincinnati, Ohio. Crosley Radio Corp.
<b>WJTL 1370 100</b> Atlanta, Ga. Oglethorpe University.	<b>WLWL 1100 5000</b> New York, N. Y. Missionary Society of St. Paul.
<b>WJW 1210 100</b> Akron, Ohio. WJW, Inc., 41 S. High St.	<b>WMAL 630 250</b> Washington, D. O. National Broadcasting Co., Inc.
<b>WJZ 780 50000</b> New York, N. Y. National Broadcasting Co., Inc.	<b>WMAQ 870 5000</b> Chicago, Ill. National Broadcasting Co., Inc.
<b>WKAQ 1240 1000</b> San Juan, P. R. Radio Corp. of Porto Rico, P. O. Box 358	<b>WMAS 1420 100</b> Springfield, Mass. WMAS, Inc., Hotel Stonehaven.
<b>WKAR 1040 1000</b> East Lansing, Mich. Michigan State College.	<b>WMAZ 1180 500</b> Macon, Ga. Southeastern Broadcasting Co.
<b>WKBB 1500 100</b> East Dubque, Ill. Richard W. Hoffman	<b>WMB 1420 100</b> Detroit, Mich. Michigan Broadcasting Co.
<b>WKBF 1400 500</b> Indianapolis, Ind. Indianapolis Broadcasting, Inc.	<b>WMBD 1440 500</b> Peoria, Ill. Peoria Broadcasting Co.
<b>WKBH 1380 1000</b> LaCrosse, Wis. WKBH, Inc., 409 Main St.	<b>WMBG 1210 100</b> Richmond, Va. Havens and Martin, Inc.
<b>WKBI 1420 100</b> Cicero, Ill. WKBI, Inc., 8138 W. 22nd St.	<b>WMBH 1420 100</b> Joplin, Mo. W. M. Robertson.
<b>WKBN 570 500</b> Youngstown, Ohio. WKBN Broadcasting Corp.	<b>WMBI 1080 5000</b> Chicago, Ill. Moody Bible Institute.
<b>WKBO 1200 100</b> Harrisburg, Pa. Keystone Broadcasting Corp.	<b>WMBO 1310 100</b> Auburn, N. Y. WMBO, Inc., Metcalf Bldg.
<b>WKBV 1500 100</b> Richmond, Ind. Wm. O. Knox, Box 286	<b>WMBQ 1500 100</b> Brooklyn, N. Y. Paul J. Gollhofer, 95 Leonard St.
<b>WKBW 1480 5000</b> Buffalo, N. Y. Buffalo Broadcasting Corp.	<b>WMBR 1370 100</b> Jacksonville, Fla. F. J. Reynolds, Carling Hotel
<b>WKBZ 1500 100</b> Ludington, Mich. Karl L. Ashbacher & Sons.	<b>WMC 780 500</b> Memphis, Tenn. WMC, Inc., Hotel Gayoso.
<b>WKEU 1500 100</b> LaGrange, Ga. Radio Station WKEU, 906 Hill St.	<b>WMCA 570 500</b> New York, N. Y. Knickerbocker Broadcasting Co.
<b>WKFI 1210 100</b> Greenwood, Miss. J. Pat Scully.	<b>WMEX 1500 100</b> Chelsea, Mass. The Northern Corp.
<b>WKJC 1200 100</b> Lancaster, Pa. Lancaster Broadcasting Service, Inc.	<b>WMMN 890 250</b> Fairmont, W. Va. A. M. Rowe, Inc., 325 Main St.
<b>WKOK 1210 100</b> Sunbury, Pa. Sunbury Broadcasting Co.	<b>WMPC 1500 100</b> Lapeer, Mich. First Methodist Protestant Church.
<b>WKRC 550 1000</b> Cincinnati, Ohio. WKRC, Inc., Hotel Alms.	<b>WMT 800 500</b> Waterloo, Iowa. Waterloo Broadcasting Co.
<b>WKY 900 1000</b> Oklahoma City, Okla. Oklahoma Publishing Co.	<b>WNAC 1230 1000</b> Boston, Mass. Shepard Broadcasting Service, Inc.
<b>WKZO 590 1000</b> Kalamazoo, Mich. John E. Fetzer, Burdick Hotel.	<b>WNAD 1010 500</b> Norman, Okla. University of Oklahoma.

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<b>WNAK</b> 670 1000	<b>Yankton, S. D.</b> The House of Gurney, Inc., 2nd and Capita St.	<b>WPHR</b> 1200 100	<b>Petersburg, Va.</b> WLBG, Inc., Medical Arts Bldg.
<b>WNBK</b> 1500 100	<b>Binghamton, N. Y.</b> Howitt-Wood Radio Co., Inc.	<b>WPRO</b> 1210 100	<b>Providence, R. I.</b> Cherry & Webb Broadcasting Co., 15 Chestnut.
<b>WNBH</b> 1310 100	<b>New Bedford, Mass.</b> New Bedford Broadcasting Co.	<b>WPTF</b> 680 6000	<b>Raleigh, N. C.</b> Durham Life Insurance Co.
<b>WNBO</b> 1200 100	<b>Silver Haven, Pa.</b> John Brownlee Spriggs, (Washington, Pa.)	<b>WQAM</b> 660 1000	<b>Miami, Fla.</b> Miami Broadcasting Co., Inc., 327 N. E. 1st Ave.
<b>WNBK</b> 1430 500	<b>Memphis, Tenn.</b> Memphis Broadcasting Co., Hotel DeVoy.	<b>WQAN</b> 880 250	<b>Scranton, Pa.</b> Scranton Times, 149 Penn Ave.
<b>WNBW</b> 1200 10	<b>Carbondale, Pa.</b> WNBW, Inc., 50 Main St., N.	<b>WQBC</b> 1360 500	<b>Vicksburg, Miss.</b> Delta Broadcasting Co., Hotel Vicksburg.
<b>WNBX</b> 1260 250	<b>Springfield, Vt.</b> WNBX Broadcasting Corp., 39 Main St.	<b>WQDM</b> 1370 100	<b>St. Albans, Vt.</b> A. J. St. Antoine and E. J. Regan.
<b>WNBZ</b> 1290 50	<b>Saranac Lake, N. Y.</b> Smith & Mace, 70 Broadway.	<b>WQDX</b> 1210 100	<b>Thomasville, Ga.</b> Stevens Luke, 135 E. Jackson St.
<b>WNEL</b> 1290 500	<b>San Juan, P. R.</b>	<b>WRAC</b> 1370 100	<b>Williamsport, Pa.</b> WRAC, Inc., 244 W. 4th St.
<b>WNEW</b> 1250 1000	<b>Newark, N. J.</b> Wodaam Corp., 1060 Broad	<b>WRAM</b> 1370 100	<b>Durham, N. C.</b> Washington-Duke Hotel
<b>WNOX</b> 560 1000	<b>Knoxville, Tenn.</b> WNOX, Inc.	<b>WRAW</b> 1310 100	<b>Reading, Pa.</b> Reading Broadcasting Co., 533 Penn St.
<b>WNRA</b> 1420 100	<b>Muscle Shoals, Ala.</b> Kathryn Jones, P. O. Box 745, Sheffield, Ala.	<b>WRAX</b> 1020 250	<b>Philadelphia, Pa.</b> WRAX Broadcasting Co., 217 S. Broad St.
<b>WNYC</b> 810 500	<b>New York, N. Y.</b> Dept. of Plant and Structures.	<b>WRBL</b> 1200 100	<b>Columbus, Ga.</b> WRBL Radio Station, Inc.
<b>WOAI</b> 1190 50000	<b>San Antonio, Texas.</b> Southland Industries, Inc., 1038 Navarro.	<b>WRBX</b> 1410 250	<b>Roanoke, Va.</b> Richmond Development Corp.
<b>WOC</b> 1370 100	<b>Davenport, Iowa</b> Palmer School of Chiropractic	<b>WRC</b> 950 500	<b>Washington, D. C.</b> National Broadcasting Co., Inc.
<b>WOCL</b> 1210 60	<b>Jamestown, N. Y.</b> A. E. Newton, 840 N. Main St.	<b>WRDO</b> 1370 100	<b>Augusta, Mo.</b> WRDO, Inc., Augusta House.
<b>WODX</b> 1410 500	<b>Mobile, Ala.</b> Mobile Broadcasting Corp., Battle House.	<b>WRDW</b> 1500 100	<b>Augusta, Ga.</b> Virgil V. Evans Co., 309 8th St.
<b>WOI</b> 840 5000	<b>Ames, Iowa.</b> Iowa State College.	<b>WREC</b> 800 500	<b>Memphis, Tenn.</b> WREC, Inc., Hotel Peabody.
<b>WOKO</b> 1430 500	<b>Albany, N. Y.</b> WOKO, Inc., Hotel Ten Eyck.	<b>WREN</b> 1220 1000	<b>Lawrence, Kans.</b> Jenny Wren Co., 8th and Vermont St.
<b>WOL</b> 1310 100	<b>Washington, D. C.</b> American Broadcasting Co., Annapolis Hotel.	<b>WRHM</b> 1250 1000	<b>Minneapolis, Minn.</b> Minnesota Broadcasting Corp., 115 E. Grant
<b>WOMT</b> 1210 100	<b>Manitowoc, Wis.</b> Francis M. Kadow, Box 328.	<b>WRJN</b> 1370 100	<b>Racine, Wis.</b> Racine Broadcasting Corp., Hotel Racine.
<b>WOOD</b> 1270 500	<b>Grand Rapids, Mich.</b> Kunsky-Trendle Broadcasting Corp.	<b>WROK</b> 1410 500	<b>Rockford, Ill.</b> Rockford Broadcasters, Inc.
<b>WOPI</b> 1500 100	<b>Bristol, Tenn.</b> Radiophone Broadcasting Station WOPI, Inc.	<b>WROL</b> 1310 100	<b>Knoxville, Tenn.</b> Stuart Broadcasting Corp., 524 S. Gay.
<b>WOQ</b> 1300 1000	<b>Kansas City, Mo.</b> Unity School of Christianity.	<b>WRR</b> 1280 500	<b>Dallas, Texas.</b> City of Dallas, Hilton Hotel.
<b>WOR</b> 710 5000	<b>Newark, N. J.</b> Bamberger Broadcasting Service, Inc.	<b>WRUF</b> 830 5000	<b>Gainesville, Fla.</b> State University.
<b>WORC</b> 1280 500	<b>Worcester, Mass.</b> Alfred F. Kleinhenst, 60 Franklin St.	<b>WRVA</b> 1110 5000	<b>Richmond, Va.</b> Larus & Bro. Co., Inc., 22nd and Gary St
<b>WORK</b> 1000 1000	<b>York, Pa.</b> York Broadcasting Co., 15 S. Beaver St.	<b>WSAI</b> 1330 1000	<b>Cincinnati, Ohio.</b> Crosley Radio Corp., 1329 Arlington.
<b>WOS</b> 630 500	<b>Jefferson City, Mo.</b> State Highway Control, Capitol Bldg.	<b>WSAJ</b> 1310 100	<b>Grove City, Pa.</b> Grove City College
<b>WOSU</b> 570 750	<b>Columbus, Ohio.</b> Ohio State University	<b>WSAN</b> 1440 250	<b>Allentown, Pa.</b> WSAN, Inc., 39 10th St.
<b>WOV</b> 1130 1000	<b>New York, N. Y.</b> International Broadcasting Corp.	<b>WSAR</b> 1450 250	<b>Fall River, Mass.</b> Doughty & Welch Electric Co., Inc.
<b>WOW</b> 590 1000	<b>Omaha, Neb.</b> Woodmen of the World, 4th and Farming.	<b>WSAZ</b> 1190 1000	<b>Huntington, W. Va.</b> WSAZ, Inc., 929½ 4th Ave.
<b>WQWO</b> 1160 10000	<b>Fort Wayne, Ind.</b> Main Auto Supply Co., 213 W. Main.	<b>WSB</b> 740 50000	<b>Atlanta, Ga.</b> Atlanta Journal, 7 N. Forsyth St.
<b>WPAD</b> 1420 100	<b>Paducah, Ky.</b> Paducah Broadcasting Co., Inc.	<b>WSBC</b> 1210 100	<b>Chicago, Ill.</b> Gene T. Dyer, 1258 S. Michigan Ave.
<b>WPEN</b> 1500 100	<b>Philadelphia, Pa.</b> William Penn Broadcasting Co.	<b>WSBT</b> 1230 500	<b>South Bend, Ind.</b> South Bend Tribune.
<b>WPFB</b> 1370 100	<b>Hattiesburg, Miss.</b> Otis P. Eure, Box 530.	<b>WSEN</b> 1210 100	<b>Columbus, Ohio.</b> Columbus Broadcasting Corp., 144 S. High.
<b>WPG</b> 1100 5000	<b>Atlantic City, N. J.</b> Columbia Broadcasting System.	<b>WSFA</b> 1410 500	<b>Montgomery, Ala.</b> Montgomery Brdg. Co., Inc., Jeff. Dav. H'l.

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<b>WISG</b> 1310 100 Birmingham, Ala. R. B. Broyles, Tutwiler Hotel.	<b>WWSW</b> 1500 100 Pittsburgh, Pa. Walker & Downing Radio Corp.
<b>WSIX</b> 1210 100 Springfield, Tenn. 638 Tire & Vulcanizing Co.	<b>WWVA</b> 1160 5000 Wheeling, W. Va. West Virginia Broadcasting Corp.
<b>WSJS</b> 1310 100 Winston-Salem, N. O. Winston-Salem Journal Co., 416 N. Marshall.	<b>WXYZ</b> 1240 1000 Detroit, Mich. Kunsky-Trendle Broadcasting Corp.
<b>WSM</b> 650 50000 Nashville, Tenn. National Life & Accident Insurance Co.	<b>XEA</b> 1100 125 Guadalupe, Jal. Alberto Pálos Souza, Juan Manuel 383
<b>WSMB</b> 1320 500 New Orleans, La. WSMB, Inc., Maison Blanche Bldg.	<b>XEAB</b> 1450 7.5 Nuevo Laredo, Tams. Homberto Garcia.
<b>WSMK</b> 1380 200 Dayton, Ohio. S. M. Krohn, Jr., 4th and Main St.	<b>XEAC</b> 1295 100 San Luis Potosí, S.L.P. Francisco de P. Cabrera.
<b>WSOC</b> 1210 100 Charlotte, N. C. WSOC, Inc., Box 730.	<b>XEAF</b> 990 750 Nogales, Son. Francisco G. Elias, Hotel Central.
<b>WSPA</b> 1420 100 Spartanburg, S. O. Virgil V. Evans, Ravenel and Avant St.	<b>XEAI</b> 1090 100 Mexico City, D. F. Carlos Gonzalez Caballero, Insurgentes 366.
<b>WSPD</b> 1340 1000 Toledo, Ohio. Toledo Broadcasting Co., 505 Jefferson	<b>XEAO</b> 560 250 Mexicali, B. C. Luis L. Castro, C. Altamirano 156.
<b>WSUI</b> 880 500 Iowa City, Iowa. State University of Iowa.	<b>XEAW</b> 965 10000 Reynosa, Tams. Internacional Broadcasting Co., S. A.
<b>WSUN</b> 620 1000 St. Petersburg, Fla. Florida Westcoast Broadcasting Co., Inc.	<b>XEB</b> 1030 10000 Mexico City, D. F. El Buen Tono, S. A., Buen Tono No. 6.
<b>WSVS</b> 1370 50 Buffalo, N. Y. Seneca Vocational High School.	<b>XEBC</b> 815 2500 Agua Caliente, B.C. Agua Caliente Broadcasting Co.
<b>WSYB</b> 1500 100 Rutland, Vt. Philip Welas Music Co., 80 West St.	<b>XEC</b> 1000 50 Toluca, D. F. Jesus R. Benavides, Independencia 76.
<b>WSYR</b> 570 250 Syracuse, N. Y. Central New York Broadcasting Corp.	<b>XECW</b> 1310 10 Mexico City, O. F. Maria Elena Bravo de Cordero
<b>WTAD</b> 1440 500 Quincy, Ill. Illinois Broadcasting Corp., State and 6th.	<b>XEO</b> 1155 500 Guadalupe, Jal. Cia. Radiofonografica, 16 de Septiembre 13
<b>WTAQ</b> 580 750 Worcester, Mass. Worcester Telegram Publishing Co.	<b>XEF</b> 735 160000 Villa Acuna, Coah. Compania Radiodifusora de Acuna, S. A.
<b>WTAM</b> 1070 50000 Cleveland, Ohio. National Broadcasting Co., Inc.	<b>XEFA</b> 1250 500 Mexico City, O. F. Eduardo Limon Segul, Mediterraneo 236
<b>WTAQ</b> 1330 1000 Eau Claire, Wis. Gillette Rubber Co., Hotel Eau Claire.	<b>XEFB</b> 1315 100 Monterrey, N. L. Jesus Quintanilla, 5 de Mayo Oriente 112.
<b>WTAR</b> 780 500 Norfolk, Va. WTAR Radio Corp., Wainwright Bldg.	<b>XEFC</b> 1050 100 Merida, Yuc. J. Molina Font, Calle 59, 517.
<b>WTAW</b> 1120 500 College Station, Texas. Agricultural and Mechanical College.	<b>XEFE</b> 985 100 Laredo, Tams. Rafael T. Carranza.
<b>WTAX</b> 1210 100 Springfield, Ill. WTAX, Inc., 416 E. Capitol Ave.	<b>XEFG</b> 1105 250 Mexico City, D. F. Ricardo Gonzales Montero, Tepic 48
<b>WTBO</b> 1420 100 Cumberland, Md. Associated Broadcasting Corp., Box 794	<b>XEFI</b> 1260 250 Chihuahua, Chih. Feliciano Lopes Isles, Ap. 157.
<b>WTEL</b> 1310 100 Philadelphia, Pa. Foulkrod Radio Engineering Co., Inc.	<b>XEFJ</b> 1000 100 Monterrey, N. L. R. Junco de la Vega, C. Morelos Oriente 859.
<b>WTFI</b> 1450 500 Athens, Ga. Liberty Broadcasting Co., Costa Bldg.	<b>XEFO</b> 940 5000 Mexico City, D. F. Partido Nacional Revolucionario.
<b>WTIC</b> 1060 50000 Hartford, Conn. Travelers Broadcasting Service Corp.	<b>XEFV</b> 1400 100 Jaurez, Chih. J. Onofre Meza Ave. Lerdo Norte 521.
<b>WTJS</b> 1310 100 Jackson, Tenn. Sun Publishing Co., Sun Bldg.	<b>XEFW</b> 1310 70 Tampico, Tams. J. Expedito Martinez, C. Madero Poniente 19
<b>WTMJ</b> 620 1000 Milwaukee, Wis. The Journal Co., 333 W. State St.	<b>XEFZ</b> 1370 100 Mexico City, D. F. Manuel Zetina
<b>WTNJ</b> 1280 500 Trenton, N. J. Trenton Broadcasting Co., Stacy Trent Hotel	<b>XEH</b> 1132 250 Monterrey, N. L. Tarnava y Cia, P. Mier 215.
<b>WTOC</b> 1280 500 Savannah, Ga. Savannah Broadcasting Co., Inc., DeSoto Hotel.	<b>XEI</b> 1310 125 Morelia, Mich. Carlos Gutierrez M., F. I. Madero 545
<b>WTRC</b> 1310 50 Elkhart, Ind. Truth Radio Corp., Hotel Elkhart.	<b>XEJ</b> 1015 250 Juarez, Chih. Juan G. Buttner, Ave. Lerdo 309.
<b>WVFW</b> 1400 500 Brooklyn, N. Y. Paramount Brdcastg. Co., 1 Nevins St.	<b>XEK</b> 990 100 Mexico City, O. F. Arturo Martinez, Jalapa No. 51
<b>WWAE</b> 1200 100 Hammond, Ind. Hammond Calumet Broadcasting Corp.	<b>XEL</b> 1000 10 Saltillo, Coah. Antonio Garza Castro, Aldama 59
<b>WWJ</b> 920 1000 Detroit, Mich. Evening News Assn., 616 Lafayette Blvd.	<b>XEMO</b> 865 1500 Tijuana, B. C. Savoy Theatre Bldg., San Diego, Calif.
<b>WWL</b> 850 10000 New Orleans, La. Loyola University, Roosevelt Hotel.	<b>XEMZ</b> 630 30 Tijuana, B. C. Adolfo Labastida, Jr. Av. B 506
<b>WWNC</b> 570 1000 Asheville, N. C. Citizen Broadcasting Co., Inc., Flatiron Bldg.	<b>XEN</b> 711 1000 Mexico City, D. F. Cervecería Modelo S. A., Motolinia 22.
<b>WWRL</b> 1500 100 Woodside, N. Y. Long Island Broadcasting Corp.	<b>XENT</b> 1115 30000 Nuevo Laredo, Tams. Advertising Dept. P. O. Box 163, Laredo, Tex.

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<b>XEOK</b> 760 2500 Tijuana, B. C. Carlos de la Sierra Calle 5 a 312	<b>KEY</b> 646.8 10 Merida, Yuc. Bartolome Garcia Correa
<b>XEP</b> 780 600 Mexico City, D. F. Cia Difusora de Mexico S. A. Rembrandt 11.	<b>KEYZ</b> 760 10000 Mexico City, D. F. Angel M. Diez, Ave. Jusrez 48.
<b>XEPN</b> 685 50000 Piedras Negras, Coah. Piedras Negras Broadcasting Co.	<b>KEZ</b> 630 600 Merida, Yuc. Bartolome Garcia Correa, Calle 58 No. 497.
<b>XER</b> 735 160000 Villa Acuna, Coah Compania Radiodifusora de Acuna, Apdo. 30	<b>XFB</b> 1290 1000 Jalapa, Ver. Gobierno del Estado de Veracruz.
<b>XES</b> 1020 260 Tampico, Tams. Fernando Sada, Hotel Inglaterra.	<b>XFC</b> 805 360 Aguascalientes, Ags. Gobierno del Estado de Aguascalientes.
<b>XET</b> 690 600 Monterrey, N. L. Cadena Radiodifusora Mexicana, S. A.	<b>XFG</b> 638.3 2000 Mexico City, D. F. Secretaria de Guerra y Marina.
<b>XETB</b> 1380 126 Torreon, Coah. Jose A. Berumen, R. Corona 317.	<b>XFO</b> 940 6000 Mexico City, D. F. National Revolucionario Party.
<b>XETH</b> 1200 100 Puebla, Pue. Ramon Huerta G., Calle 17, Oriente 11.	<b>XFX</b> 610 500 Mexico City, D. F. Secretaria de Educacion Publica.
<b>XETU</b> 890 100 Pachuca, Hdge. Benito Castillo	<b>YV1BC</b> 980 6000 Caracas, Venez Cia Ama Alamacen Americana. Apt. 290
<b>XETW</b> 830 600 Mexico City, D. F. Rafael M. Pena, Gante 4, 3er piso	<b>YV2BC</b> 882 100 Caracas, Venez.
<b>XETZ</b> 1210 600 Mexico City, D. F. Jose Alvarez del Villar, 92 Londres 190.	<b>YV3BC</b> 1200 1000 Caracas, Venez. Degwitz & Sibless.
<b>XEU</b> 1010 100 Veracruz, Ver. Fernando Pazos Sosa, Vicurio 12.	<b>10-AK</b> 1200 15 Stratford, Ont. M. I. Higgins, 151 Ontario St.
<b>XEW</b> 890 50000 Mexico City, D. F. Cadena Radiodifusora Mexicana S. A.	<b>10-BP</b> 1200 15 Wingham, Ont. W. T. Crulckshank.
<b>XEWW</b> 1095 250 Veracruz, Ver. Esteben Silva, Ave., Independencia 57	<b>10-BQ</b> 1200 15 Brantford, Ont. Tom and Harold Brown.
<b>XEX</b> 630 60 Monterrey, N. L. Luis F. Petit Jean, Aldama 932 Sur.	<b>10-BU</b> 1200 15 Canora, Sask. Canora Radio Assn.

## SHORT WAVE RELAY BROADCASTING STATIONS OF NORTH AMERICA

Arranged Alphabetically by the call letters of the Broadcasting Stations which they relay. The frequencies preceded by an asterisk are not in operation at the present time.

<b>CF80</b> , St. John, N. B. <b>VE9BJ</b> , St. John, N. B. 6,090 kcs., 49.23 meters	<b>CKFC</b> , Vancouver, B. C. <b>VE9CS</b> , Vancouver, B. C. 6,070 kcs., 49.39 meters	<b>WCFL</b> , Chicago, Ill. <b>W9XAA</b> , Chicago, Ill. *17,780 kcs., 16.86 meters *11,840 kcs., 25.32 meters 6,080 kcs., 49.31 meters
<b>CFCF</b> , Montreal, P. Q. <b>VE9DR</b> , Montreal, P. Q. *15,130 kcs., 19.82 meters *11,780 kcs., 25.45 meters * 9,555 kcs., 31.38 meters 6,005 kcs., 49.93 meters	<b>CK1C</b> , Wolfville, N. S. <b>VE9CX</b> , Wolfville, N. S. * 6,015 kcs., 49.85 meters	<b>WEEL</b> , Boston, Mass. <b>W1XAL</b> , Boston, Mass. 15,242 kcs., 19.67 meters 11,780 kcs., 25.45 meters
<b>CFCA</b> , Calgary, Alta. <b>VE9CA</b> , Calgary, Alta. *11,860 kcs., 25.28 meters * 6,030 kcs., 49.72 meters	<b>CRCT</b> , Toronto, Ont. <b>VE9GW</b> , Bowmanville, Ont. *24,380 kcs., 12.30 meters *11,810 kcs., 25.39 meters 6,095 kcs., 49.19 meters	<b>WENR</b> , Chicago, Ill. <b>W9XF</b> , Downer's Grove, Ill. 6,100 kcs., 49.15 meters
<b>CFCY</b> , Charlottetown, P. E. I. <b>VE9EH</b> , Charlottetown, P. E. I. * 6,080 kcs., 49.31 meters	<b>KDKA</b> , Pittsburgh, Pa. <b>W8XK</b> , Saxonburg, Pa. 21,540 kcs., 13.82 meters *17,780 kcs., 16.86 meters 15,210 kcs., 19.71 meters 11,870 kcs., 25.25 meters * 9,570 kcs., 31.33 meters 6,140 kcs., 48.83 meters	<b>WGY</b> , Schenectady, N. Y. <b>W2XAD</b> , Schenectady, N. Y. 15,340 kcs., 19.55 meters
<b>CHNS</b> , Halifax, N. S. <b>VE9HX</b> , Halifax, N. S. *11,835 kcs., 25.33 meters 6,110 kcs., 49.07 meters	<b>WABC</b> , New York, N. Y. <b>W2XE</b> , Wayne, N. J. 15,280 kcs., 19.62 meters 11,840 kcs., 25.32 meters 6,120 kcs., 48.99 meters	<b>WGY</b> , Schenectady, N. Y. <b>W2XAF</b> , Schenectady, N. Y. 9,530 kcs., 31.46 meters
<b>CJRC</b> , Fleming, Sask. <b>VE9CL</b> , Middlechurch, Man. * 6,150 kcs., 48.73 meters	<b>WBZ</b> , Boston, Mass. <b>WBZA</b> , Springfield, Mass. <b>W1XAZ</b> , Millis, Mass. 9,570 kcs., 31.33 meters	<b>WIOD</b> , Miami, Fla. <b>W4XB</b> , Miami Beach, Fla. * 6,036 kcs., 49.67 meters
<b>CJRC</b> , Fleming, Sask. <b>VE9JR</b> , Middlechurch, Man. 11,720 kcs., 25.58 meters	<b>WCAU</b> , Philadelphia, Pa. <b>W3XAU</b> , Byberry, Pa. 9,590 kcs., 31.26 meters 6,060 kcs., 49.48 meters	<b>WJZ</b> , New York, N. Y. <b>W3XL</b> , Boundbrook, N. J. 17,772 kcs., 16.87 meters 6,100 kcs., 49.15 meters
<b>CKCL</b> , Toronto, Ont. <b>VE9AO</b> , Toronto, Ont.		<b>WJZ</b> , New York, N. Y. <b>W3XL</b> , Boundbrook, N. J. 6,425 kcs., 46.66 meters
		<b>WLW</b> , Cincinnati, Ohio. <b>W8XAL</b> , Mason, Ohio. 6,060 kcs., 49.48 meters

# AROUND *the* CLOCK on *the* SHORT WAVES

MIDNIGHT TO NOON (EST)

GMT	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	W3XAU W8XK W9XF	VK2ME W9XF	GSB GSD VK2ME	GSB GSD RV15 VQ7LO	PK1WK RV15 VQ7LO	HVJ J1AA RNE RV15 VK2ME VK3ME PK1WK VQ7LO	J1AA RV15 VK2ME ZGE	GSF GSG PHI Rabat RV15 VE9GW VK2ME W1XAZ W8XK ZGE	DJB DJD GSF GSG PHI Pont. Rabat VE9DR VE9GW VK2ME W1XAZ W8XK YV2AM ZGE	CP5 DJB DJD GSE GSF Pont. VE9DR VE9GW VE9JR VK2ME W1XAZ W3XAL YV2AM	CT1AA CP5 DJB DJD GSE GSF Pont. VE9DR VE9GW W1XAL W8XK W3XAL	GSB GSF I2RO Pont. VE9DR VE9JR W1XAL W1XAZ W8XK W3XAL

NOON TO MIDNIGHT (EST)

GMT	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00	4:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	GSB GSF I2RO Pont. VE9DR VE9GW VE9JR W1XAL W1XAZ W2XE W3XAL W3XL W3XAU W3XL W8XK W8XK	GSB GSD I2RO Pont. RNE OXY VE9DR VE9GW VE9JR W1XAZ W3XAL W3XL W3XAU W3XL W8XK W9XF	GSA GSB GSD I2RO OXY Rabat VE9DR VE9GW VE9JR W1XAZ W3XAL W3XL W3XAU W3XL W8XK W9XF	GSA GSB HAT I2RO LSX OXY Pont. Rabat RV59 VE9DR VE9GW VE9JR W1XAZ W2XAD W2XE W3XAL W3XAU W3XL W8XK W9XF YV3BC	CT1AA GSA GSB I2RO OXY Pont. Rabat RV59 VE9DR VE9GW VE9JR W1XAZ W2XAD W2XE W3XAL W3XAU W3XL W8XK W9XF YV3BC	CT1AA EAQ GSA GSB HBL HBP HC2RL HIZ OXY Pont. RV59 VE9DR VE9GW VE9HJ VE9JR W1XAL W1XAZ W2XE W3XAL W3XAU W3XL W8XK W9XF YV3BC	COC CP5 EAQ GSA GSC HC2RL HJ1ABB HBL HBP HC2RL I2RO HJ1ABB OXY Pont. RV59 VE9DR VE9GW VE9HJ VE9JR W1XAL W1XAZ W2XE W3XAL W3XAU W3XL W8XK W9XF YV3BC	COC CP5 EAQ GSA GSC HC2RL HJ1ABB HBL HBP HC2RL I2RO HJ1ABB OCM PSK Pont. RV59 VE9DR VE9GW VE9HJ VE9JR W1XAL W1XAZ W2XE W3XAL W3XAU W3XL W8XK W9XF YV3BC	DJC G6RX HCJB HJX H11A HJ1ABB HJ3ABB HJ4ABE LSX VE9CS VE9DR VE9GW VE9HJ VE9JR W1XAL W2XAF W2XAF W3XAL W3XAU W3XL W8XK W9XF YV3BC	CP5 DJC HCJB HC2RL HJ 3ABD PRADO VE9DN VE9GW HKN PRADO VE9CS VE9DR VE9GW VE9HJ VE9JR W1XAL W2XAF W2XAF W3XAL W3XAU W3XL W8XK W9XF YV3BC	CP5 DJC HC2RL HJ 3ABD PRADO VE9DN VE9GW VE9HJ VE9JR W1XAL W2XAF W2XAF W3XAL W3XAU W3XL W8XK W9XF YV3BC	CP5 HJ 4ABB HJ4ABE VE9DN W1XAZ W3XAL W3XAU W8XK W9XF XETE

# One Hundred Best S. W. Stations by Calls

Stations marked with an asterisk (\*) will not verify. Frequencies are given in megacycles. Times are given in Eastern Standard.

- \*British Shlps, 13.220, 8.831, 4.174
- \*CEC, Chile, 19.678, 15.855
- CGA, Canada, 13.296, 9.340
- CNR, Morocco, 12.820
- COC, Cuba, 5.996, 4-6 p.m.
- CP5, Bolivia, 15.300, 9-11 a.m.
- CP5, Bolivia, 6.081, 6:30 to 7:30 or 8 p.m., daily, exc. Sun.; 9-11:30 p.m. daily
- CT1AA, Portugal, 9.592, Tues. and Fri., 4:30-7 p.m.
- CT3AQ, Madeira, Tues., Thurs., 5-6:30 p.m.; Sun. 10:30 a.m.-noon.
- DAF, Germany, 12.394
- DFB, Germany, 17.512
- DIQ, Germany, 10.285
- DJA, Germany, 9.552
- DJB, Germany, 15.190, 8-11 a.m.
- DJC, Germany, 6.017, 8-11 p.m.
- DJD, Germany, 11.753, 8-11 a.m.
- DJL, Germany, 15.110
- EAQ, Spain, 9.862, 5:30-8 p.m.
- EHY, Spain, 10.164
- FTK, France, 15.863
- FTM, France, 19.282
- FZS, Indo-China, 11.983
- \*German Ships, 13.135, 10.163, 8.328, 4.174
- GAS, England, 18.304
- GBB, England, 13.500
- GBS, England, 12.148
- GBW, England, 14.450
- GSA, England, 6.050, 6-8 p.m.; 2:45-5:45 p.m.
- GSB, England, 9.510, 2:15-4:15 a.m.; 11 a.m. to 1 p.m.; 1:15-5:45 p.m.
- GSC, England, 9.585, 6-8 p.m.
- GSD, England, 11.750, 2:30-4:30 a.m.; 1:15-2:45 p.m.
- GSE, England, 11.865, 9 a.m. to 1 p.m.
- GSF, England, 15.140, 7-8:45 a.m.; 9-11 a.m.
- GSG, England, 17.770, 7 to 8:45 a.m.
- G6RX, England, 4.972, Testing nights 4:30-8 p.m.
- HAT, Hungary, 7.220, Tests Sunday, 4 p.m.
- HBL, Switzerland, 9.580, Sat., 5:30 to 6:15 p.m.
- HBP, Switzerland, 7.872, Sat., 5:30 to 6:15 p.m.
- HC2RL, Ecuador, 6.659, Tues., 9:14 to 11:14 p.m.; Sun., 5:45 to 7:45 p.m.
- HCJZ, Ecuador, 3.998, 8:14 to 10:14 daily, exc. Mon.
- HCK, Ecuador, 5.694, 8 to 11 p.m.
- HIX, Santo Domingo, 5.948, Tues. and Fri., 8 to 10 p.m.; Sun., 7:40 a.m.
- HIZ, Santo Domingo, 6.379, 5-6 p.m.
- HI-1-A, Santo Domingo, 6.272, 8-8:30 a.m.; 12:30-1:30 p.m.; 8-9 p.m.
- \*HJB, Colombia, 14.930
- \*HJY, Colombia, 18.444
- HJ1AB, Colombia, 6.447, 7:30-10 p.m.
- HJ2AB, Colombia, 5.879, 7:30 to 10 p.m.
- HJ3AB, Colombia, 7.402, 9-11:15 p.m., daily
- HJ4AB, Colombia, 7.139, Sat., 11 p.m. to Mid.; Sun. 3-6 p.m.; Wed., 8-10 p.m.
- HJ4ABE, Colombia, 5.900, 7-11 p.m.
- HJ5AB, Colombia, 6.378
- HJ5ABF, Colombia, 8.271
- HKN, Colombia, 7.138, 8-10 p.m., daily
- \*HPF, Panama, 14.545
- HSP, Siam, 17.719
- HVJ, Vatican City, 15.120, 5 to 5:15 a.m.
- IAC, Italy, 12.785
- IR0, Italy, 11.800, 11:30 a.m. to 12:30 p.m.; 1:15 to 6 p.m.
- J1AA, Japan, 9.862, 5 to 8 a.m.
- KAY, Philippines, 14.980
- KAZ, Philippines, 9.980
- \*KKP, Hawaii, 16.024
- LSN, Argentina, 9.896
- LSX, Argentina, 10.345
- LSY, Argentina, 18.116
- \*OCI, Peru, 18.670
- OXY, Denmark, 9.520, 2 to 6:30 p.m.
- PHI, Holland, 11.725, 7:30 to 10 a.m., except Tues. and Wed.
- PK1WK, Java, 6.116, 4:15-6 a.m.
- PLE, Java, 18.820
- PLV, Java, 9.410
- Pontoise, France, 15.454
- Pontoise, France, 15.234, 8-11 a.m.
- 11.898, 11:15 a.m. to 2:15 p.m.; 3 to 6 p.m.
- 11.711, 3 to 9 p.m.; 10 p.m. to mid
- \*PPU, Brazil, 19.270
- PRADO, Ecuador, 6.618, Thursday, 9-11 p.m.
- \*PSF, Brazil, 14.682
- Rabat, Morocco, 12.820, Sun, 7:30 to 9 a.m.
- 8.218, Sun, 2:30 to 5 p.m.
- Radio-Tananarive, Madagascar, 6.000, 2:30-4 a.m., Sun. 3-3:45 a.m., daily exc. Sun. and Mon.
- RNE, USSR, 11.923, Testing Irregularly
- RV15, Siberia, 4.273, 3-9 a.m., daily
- RV59, USSR, 5.996, 3-6 p.m., daily
- TGA, Guatemala, 14.545
- TIN-TIU, Costa Rica, 14.545
- VE9AO, Toronto, Canada.
- VE9BJ, Canada, 6.090, Irreg.
- VE9CA, Canada, 6.030.
- VE9CS, Canada, 6.074, 8-10 p.m.
- VE9DN, Canada, 6.005, Testing irreg.
- VE9DR, Canada, 6.005, 7:30 a.m. to Midnight; Sun., noon to 11:15 p.m.
- VE9GW, Canada, 6.092, 3 p.m.-midnight
- VE9HX, Canada, 6.110, 5-11 p.m., daily
- VE9JR, Canada, 11.720, Irreg., approx. 9:30 a.m.-10:30 p.m.
- VK2ME, Australia, 10.520, 9.585, Sun., 1 to 3 a.m.; 5 to 11 a.m.
- VK3ME, Australia, 9.503, Wed., 5-6:30 a.m.; Sat., 5-7 a.m.
- VWZ, India, 17.533
- \*WNC, U. S. A., 15.055
- W1XAL, U. S. A., 15.242, Sunday, 10 a.m.-1 p.m.
- 11.780, Sat., 5:30-11 p.m.; Sun., 6:00-8:30 p.m.
- W1XAZ, USA, 9.570
- W2XAD, USA, 15.320, Sun., Mon. Wed., Fri., 4-5 p.m.
- W2XAF, USA, 9.530, 7:45 to 11 p.m.
- W2XE, U. S. A., 15.258, 11 a.m. to 1 p.m.
- 11.823, 3 to 5 p.m.
- 6.116, 6 to 11 p.m.
- W3XAL, U. S. A., 17.772, 9 a.m.-3 p.m., except Sat. 6:096 3 p.m. to midnight, Saturday
- W3XAU, USA, 9.585, Noon to 6 p.m.
- 8.057, 8 p.m. to 1 a.m.
- W3XL, U. S. A., 6.421, Irregular
- W4XB, U. S. A., 6.040, 4 p.m. to 1 a.m.
- W8XAL, U. S. A., 6.060, Relay WLW irreg.
- W8XK, U. S. A., 21.451, 7 a.m. to 2 p.m.
- 15.204, 10 a.m. to 4:15 p.m.
- 11.870, 4:30-10 p.m.
- 6.140, 4:30 p.m. to 12:30 a.m.
- 3 to 6 p.m.
- W9XAA, U. S. A., 6.076, 3 to 6 p.m.
- W9XF, U. S. A., 6.425
- W9XF, U. S. A., 6.100, Silent Sat.; Sun, 1-2:30 p.m.; 4:00-7 p.m.; 9 p.m. to 2 a.m.; other days, 4:30-8 p.m.; 9:00 p.m. to 2 a.m.
- XAM, Mexico, 11.187
- XDS, Mexico, 11.760
- XETE, Mexico, 9.600, 2:30-5 p.m.; 6:30 p.m. to midnight
- \*YNA, Nicaragua, 14.480, Phones Hialeah.
- \*YVQ, Venezuela, 13.337, Phones Hialeah
- \*YVR, Venezuela, 18.296 and 9.168
- YV1BC, Venezuela, 6.112, 5:15 to 10 p.m.
- YV2AM, Venezuela, 7.138, Sun., 8-10 a.m.
- 10:30 a.m. to 1 p.m. and 4:00-9:30 p.m.; Sun., 8:30 a.m. to noon and 3-6:30 p.m.
- 6.150, 10:30 a.m. to 1 p.m. and 4:00-9:30 p.m.; Sun., 8:30 a.m. to noon and 3-6:30 p.m.
- \*ZFA, Bermuda, 5.045
- \*ZFB, Bermuda, 10.060
- ZFS, Bahamas, 4.513
- ZGE, Malaya, 5.996, Tues., Fri., 6:30-8:30 a.m. and Sun., 7-9 a.m.

## SHORT WAVE RELAY STATIONS BY CALLS

This list includes only stations broadcasting programs on regular operating schedules. Frequencies are given in megacycles and time indicated is Eastern Standard Time.

CP5, Bolivia, 6.081. 6:30 to 7:30 or 8 p.m., daily, except Sun.; 9-11:30 p.m., daily.	11.898. 11:15 a.m. to 2:15 p.m.; 3-6 p.m. 15.234. 8-11 a.m.
15.300. 9-11 a.m.	Prado, Ecuador, 6.618. Thurs., 9-11 p.m.
CT1AA, Portugal, 9.592. Tues., Fri., 4:30-7 p.m. 15.350. 10-11 a.m.	PSK, Brazil, 8.180. 7-7:30 p.m. (Relays PRA-3).
DJB, Germany, 15.190. 8-11 a.m.	Rabat, Morocco, 8.218. Sun., 2:30-5 p.m. 12.820. Sun., 7:30-9 a.m.
DJC, Germany, 6.017. 8-11 p.m.	RNE, USSR, 11.923. Sun., 5-6 and 10-11 a.m.
DJD, Germany, 11.753. 8-11 a.m.	RV15, USSR, 4.273. 3-9 a.m.
EAQ, Spain, 9.862. 6:30-8 p.m.	RV59, USSR, 5.996. 3-6 p.m.
GSA, England, 6.050. 2:45-5:45 p.m.; 6-8 p.m.	VE9CS, Canada, 6.070. 8-10 p.m.
GSB, England, 9.510. 2:15-4:15 a.m.; 11 a.m. to 1 p.m.; 1:15-5:45 p.m.	VE9DN, Canada, 6.005. Saturday night.
GSC, England, 9.585. 6-8 p.m.	VE9DR, Canada, 6.005. 7:30 a.m. to midnight.
GSD, England, 11.750. 2:15-4:15 a.m.; 1:15-2:45 p.m.	VE9GW, Canada, 6.095. 3 p.m. to midnight.
GSE, England, 11.865. 9-11 a.m.	VE9HX, Canada, 6.110. 5-11 p.m.
GSF, England, 15.140. 7-8:45 a.m.; 9 a.m. to 1 p.m.	VE9JR, Canada, 11.720. Irreg. between 9 a.m. and 11 p.m.
GSG, England, 17.790. 7-8:45 a.m.	VK2ME, Australia, 9.585. Sun., 1-3 a.m.; 5-11 a.m.
G6RX, England, 4.302. 7-10 p.m.	VK3ME, Australia, 9.503. Wed., 5-6:30 a.m.; Sat. 5-7 a.m.
HAT, Hungary, 7.220. 4 p.m., Sunday.	W1XAL, USA, 11.780. Sat., 5:30-11 p.m.; Sun., 6:30-8:30 p.m.
HBL, Switzerland, 9.595. Sat., 5:30-6:15 p.m.	15.242. Sun., 10 a.m. to 1 p.m.
HBP, Switzerland, 7.797. Sat., 5:30-6:15 p.m.	W1XAZ, USA, 9.570. 7 a.m. to midnight.
HCJB, Ecuador, 4.107. 8:14-10:14, daily except Mon.	W2XAD, USA, 15.340. Sun., Mon., Wed., Fri., 4-5 p.m.
HC2RL, Ecuador, 6.659. Tues., 9:14-11:14 p.m.; Sun., 5:45-7:45 p.m.	W2XAF, USA, 9.530. 7:45-11 p.m.
HIX, Dominican Rep., 5.948. Tues., Fri., 8-10 p.m.	W2XE, USA, 6.120. 6-11 p.m. 11.830. 3-5 p.m. 15.270. 11 a.m. to 1 p.m.
HIZ, Dominican Rep., 6.379. 5-6 p.m.	W3XAL, USA, 6.100. Sat., 3 p.m. to midnight.
HJ1ABB, Colombia, 6.447. 5-10 p.m.	17.780. 9 a.m. to 3 p.m., daily exc. Sat.
HJ3ABD, Colombia, 7.402. 7-11:15 p.m.	W3XAU, USA, 6.060. 8 p.m. to 1 a.m.
HJ4ABE, Colombia, 7.139. Wed., 8-9 p.m.; Sun., 3-5 p.m.	9.590. Noon to 6 p.m.
HJ4AB, Colombia, 5.900. 7-11 p.m.	W3XL, USA, 6.425. Fri., 5:30 p.m. to 1 a.m.
HKN, Colombia, 7.138. 8-10 p.m.	17.300. Fri., 11 a.m. to 5 p.m.
HVJ, Vatican City, 15.120. 5-5:15 and 10-10:30 a.m.	W8XK, USA, 6.140. 4:30 p.m. to 12:30 a.m. 11.870. 4:30-10 p.m. 15.210. 10 a.m. to 5:15 p.m. 21.540. 7 a.m. to 2 p.m.
I2RO, Italy, 11.800. 11:30 a.m. to 12:3 p.m. and 1:15-6 p.m.	W9XF, USA, 6.100. Sat. silent; Sun., 1-2:30 p.m.; 4:30-7 p.m.; 9 p.m. to 7 a.m.; Other days, 4:30-8 p.m.; 9:30 p.m. to 2 a.m.
J1AA, Japan, 9.862. 5-8 a.m.	XETE, Mexico, 9.600. 6:30 p.m. to midnight.
LSX, Argentina, 10.350. 3-4 and 8-9 p.m.	YV1BC, Venezuela, 6.018. 5:15-10 p.m.
OCM, Peru, 6.233. 7-10 p.m.	YV3BC, Venezuela, 6.150. 4:30-10 p.m.
OXY, Denmark, 6.069. 2-6:30 p.m. 9.520. 2-6:30 p.m.	
PHI, Holland, 11.725. Mon., Thur., Fri., 7:30-9:30 a.m.; Sat., Sun., 7:30-10 a.m.	
PK1WK, Java, 6.116. 4:15-6 a.m.	
Pontoise, France, 11.711. 3-6 p.m.; 6:15 p.m. to midnight.	

## TWO HUNDRED DEPENDABLE S. W. STATIONS

Frequencies are shown in megacycles and wavelengths in meters. Key to symbols in parentheses: Capital letters indicate type of service, as follows:

A—Point-to-Point, Condition A, inverted modulation  
B—Point-to-Point, Condition B, intelligible speech  
E—Experimental

R—Relay (broadcasting)

SS—Ship to shore, or, shore to ship

Small letters concern verifications as follows:

a—Verifies for return postage

b—Verifies only occasionally

c—Does not verify

x—Address given alphabetically in address list

y—Address not given

z—No information available

123—figures indicate key numbers in address list

Complete lists of s.w. stations are found in

RADEX No. 75, Jan., Foreign stations by Countries

RADEX No. 76, Feb., North America by Frequencies

RADEX No. 77, Mar., Foreign stations by Frequencies.

Megs. Meters Location

4.107 73.00 Quito, Ecuador (R-ax)  
4.273 70.65 RV15, Khabarovsk, USSR (R-cy)  
4.320 69.40 G6RX, Rugby, England (E-ax)  
4.513 66.43 ZFS, Nassau, Bahamas (B-ax)  
4.900 61.19 CJA5, Drummondville, P. Q. (B-a6)

4.942 62.70 CZA, Drummondville, P. Q. (SS-a6)  
4.972 60.30 G6RX, Rugby, England (B-ax)  
5.045 59.42 ZFA, St. George, Bermuda (A-cy)  
5.900 50.82 HJ4ABE, Medellin, Colombia (R-ax)  
5.948 50.40 HIX, Santo Domingo, D. R. (R-ax)  
5.996 50.00 RV59, Moscow, USSR (R-ax)  
Tananarive, Madagascar (R-ax)  
6.000 49.97 YV2BC, Caracas, Venez. (R-z)  
6.005 49.93 VE9DN, Drummondville, P. Q. (R-a6)  
VE9DR, Montreal, P. Q. (R-a6)  
6.017 49.83 DJC, Zeesen, Germany (R-a14)  
6.036 49.67 W4XB, Miami, Fla. (R-cy)  
6.045 49.60 HJ3ABI, Bogota, Colombia (R-ax)  
6.050 49.56 GSA, Daventry, Eng. (R-a17)  
6.060 49.48 W3XAU, Newton, Sq., Pa. (R-ax)  
W8XAL, Mason, Ohio (R-ax)  
6.069 49.40 OXY, Skamlebaek, Denmark (R-ax)  
6.070 49.39 VE9CS, Vancouver, B. C. (R-bx)  
YV2AM, Maracaibo, Venez. (R-ax)  
6.080 49.31 W9XAA, Chicago, Ill. (R-ax)  
6.081 49.30 CP5, LaPaz, Bolivia (R-ax)  
6.095 49.19 VE9GW, Bowmansville, Ont. (R-ax)  
6.100 49.15 W3XAL, Boundbrook, N. J. (R-a37)



W9XF, Chicago, Ill. (R-ax)  
 6.110 49.07 VE9HX, Halifax, N. S. (R-ax)  
 6.112 49.10 YV1BC, Caracas, Venez. (R-ax)  
 6.116 49.02 HJ1ABD, Cartagena, Col. (R-z)  
 PK1WK, Bandoeng, Java. (R-ax)  
 6.120 48.99 W2XF, Wayne, N. J. (R-ax)  
 6.140 48.83 W8XK, Saxonburg, Pa. (R-ax)  
 6.150 48.78 YV3BC, Caracas, Venez. (R-ax)  
 6.233 48.10 OCM, Lima, Peru (R-ax)  
 6.378 47.00 HJ5ABB, Cali, Colombia (R-by)  
 6.379 47.00 HIZ, Santo Domingo, D. R. (R-ax)  
 6.425 46.66 W3XL, Boundbrook, N. J. (R-ax)  
 6.447 46.50 HJ1ABB, Barranquilla, Co. (R-ax)  
 6.618 45.31 PRADO, Riobamba, Ecuador (R-ax)  
 6.648 45.10 IAC, Coltano, Italy (SS-a-19)  
 6.659 45.02 HC2RL, Guayaquil, Ecuador (E-ax)  
 6.672 44.94 YVQ, Maracay, Venez. (B-y)  
 6.675 44.91 DGK, Nauen, Germany (B-a-13)  
 6.900 43.45 GDS, Rugby, England (A-a-16)  
 6.966 43.04 EDO, Madrid, Spain (B-a-28)  
 6.990 42.89 LCL, Jeloy, Norway (R-ax)  
 7.138 42.00 HJ4AB, Manizales, Col. (R-ax)  
 HKN, Medellin, Colombia (R-ly)  
 7.220 43.86 HAT2, Budapest, Hungary (R-az)  
 7.402 40.50 HJ3AB, Bogota, Col. (R-by)  
 HJ3ABD, Bogota, Col. (R-z)  
 7.501 39.97 RKL, Moscow, USSR. (B-cz)  
 7.621 39.34 RIM, Irkutsk, USSR. (B-cz)  
 7.685 39.01 TIR, Cartago, Costa Rica (B-b-9)  
 7.797 38.47 HBP, Prangins, Switz. (R-b-30)  
 7.980 37.57 HSJ, Bangkok, Siam (B-a-27)  
 8.180 36.65 PSK, Rio de Janeiro, Braz. (A-a-4)  
 PSK, Rio de Janeiro, Braz. (R-a-38)  
 8.218 36.36 Rabat, Morocco (R-ax)  
 8.464 35.42 DAF, Norden, Germany (SS-a-15)  
 8.760 34.34 PNT, Maassar, Celebes (E-z227)  
 8.980 33.39 VWY, Pirkee, India (B-z)  
 9.014 33.26 GCS, Rugby, England (A-a-16)  
 9.104 32.93 LST, Olivos, Argentina (B-b-1)  
 9.120 32.87 CP5, La Paz, Bolivia (R-ax)  
 9.168 32.70 YVR, Maracay, Venez. (B-cy)  
 9.273 32.33 GCB, Rugby, England (A-a-16)  
 9.340 32.10 CJAZ, Drummondville, P. Q. (A-a-6)  
 XDC, Mexico City, D. F. (B-cy)

9.410 31.86 PLV, Bandoeng, Java (A-a-22)  
 9.480 31.63 PLW, Bandoeng, Java (A-a-22)  
 9.503 31.55 VK3ME, Melbourne, Aust. (R-ax)  
 9.510 31.33 GSB, Daventry, England (R-a-17)  
 9.520 31.49 OXY, Skamlebaek, Denmark (R-ax)  
 9.530 31.46 W2XAF, Schenectady, N. Y. (R-ax)  
 9.570 31.33 W1XAZ, Millis, Mass. (R-ax)  
 9.585 31.28 GSC, Daventry, England (R-a-17)  
 VK2ME, Sydney, Aust. (R-a-3)  
 9.590 31.26 W3XAU, Newton Sq., Pa. (R-ax)  
 9.592 31.25 CT1AA, Lisbon, Portugal (R-ax)  
 9.595 31.30 HBL, Prangins, Switz. (R-a-30)  
 9.600 31.23 XETE, Mexico City, D. F. (R-bx)  
 YV2AM, Maracaibo, Venez. (R-ax)  
 9.609 31.20 DGU, Nauen, Germany (B-a-13)  
 9.670 31.00 T14NRH, Heredia, C. R. (R-ax)  
 9.702 30.90 GCA, Rugby, England (A-a-16)  
 9.750 30.75 VK2ME, Sydney, Aust. (B-a-3)  
 9.798 30.60 GCW, Rugby, England (A-a-16)  
 9.823 30.52 IRM, Rome, Italy (B-a-20)  
 9.830 30.50 LSI, Buenos Aires, Arg. (B-b-1)  
 9.862 30.40 EAQ, Kenikawa, Japan (R-bx)  
 J1A, Kenikawa-cho, Japan (R-bx)  
 9.895 30.30 LSN, Buenos Aires, Arg. (A-b-1)  
 9.942 30.15 GCU, Rugby, England (A-a-16)  
 10.014 29.84 SUV, Abu Zaiak, Egypt (B-a-10)  
 10.060 29.80 ZPB, St. George, Bermuda (A-cy)  
 10.163 29.50 German Ships  
 10.164 29.79 EHY, Madrid, Spain (B-a-28)  
 10.212 29.35 PSH, Rio de Janeiro, Braz. (B-b-5)  
 10.250 29.25 PAM, Bandoeng, Java (A-a-22)  
 10.285 29.15 DIQ, Zeesem, Germany (E-a-13)  
 10.290 29.14 HTC, Panama City, Pan. (B-cy)  
 10.296 29.12 LSI, Hurlingham, Arg. (B-b-1)  
 10.335 29.01 ZFD, St. George, Bermuda (A-cy)  
 10.350 28.98 LSX, Monte Grande, Arg. (B-cy)  
 LSX, Monte Grande, Arg. (R-b-2)  
 10.410 28.80 PKP, Medan, Sumatra (B-a-23)  
 10.520 28.50 VK2ME, Sydney, Aust. (B-a-3)  
 10.613 28.25 EDN, Madrid, Spain (B-a-28)  
 EDX, Madrid, Spain (B-a-28)  
 10.850 27.63 DFI, Nauen, Germany (B-a-13)  
 10.990 27.28 ZLT, Wellington, N. Z. (A-ax)  
 11.187 26.80 XAM, Merida, Yuc. (B-ax)

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11.680	25.67	YYQ, Maracaay, Venez. (B-cy)	15.454	19.40	Pontoise, France (R-ax)
11.711	25.60	Pontoise, France (R-ax)	15.863	18.90	FTK, St. Assise, France (B-a-11)
11.720	25.53	VEJR, Winnipeg, Man. (R-ax)	17.287	17.34	Italian Ships
11.725	25.57	PHI, Huizen, Holland (R-ax)	17.300	17.33	W3XL, Boundbrook, N. J. (E-a-37)
11.750	25.51	GSD, Daventry, England (R-a-17)	17.512	17.12	DFB, Nauen, Germany (B-a-13)
11.760	25.50	XDM-XDS, Chapultepec, D. F. (B-cy)	17.533	17.10	VWZ, Kirkee, India (B-z)
11.780	25.45	W1XAL, Boston, Mass. (R-ax)	17.580	17.05	British Ships
11.800	25.40	I2RO, Rome, Italy (I-bx)	17.719	16.92	HSP, Bangkok, Siam (B-a-27)
11.830	25.34	W2XE, Wayne, N. J. (R-ax)	17.760	16.88	DJE, Zeesee, Germany (E-a-14)
11.865	25.27	GSE, Daventry, Eng. (R-a-17)	17.770	16.87	IAC, Coltano, Italy (SS-b-19)
11.870	25.25	W8XK, Saxonburg, Pa. (R-ax)	17.775	16.87	PHI, Huizen, Holland (R-ax)
11.898	25.20	Pontoise, France (R-ax)	17.780	16.86	W3XAL, Boundbrook, N. J. (R-a-37)
11.923	25.16	RNE, Moscow, U.S.S.I. (E-ax)	17.790	16.85	SGG, Daventry, Eng. (R-a-17)
11.935	25.12	FTA, St. Assise, France (B-a-11)	18.116	16.55	LSY, Buenos Aires, Arg. (E-b-2)
11.983	25.02	PZS, Saigon, Indo-China (B-a-12)	18.170	16.50	PMC, Bandoeng, Java (B-a-22)
12.148	24.68	GBS, Rugby, England (A-a-16)	18.237	16.44	PTE, St. Assise, France (B-a-11)
12.241	24.41	GBU, Rugby, England (A-a-16)	18.296	16.39	YVR, Maracaay, Venez. (B-cy)
12.334	24.19	DAF, Norden, Germany (SS-a-15)	18.304	16.38	GAS, Rugby, Eng. (A-a-16)
12.780	23.46	GBC, Rugby, England (SS-a-16)	18.400	16.29	PCk, Kootwijk, Holland (B-cy)
12.785	23.45	IAC, Coltano, Italy (SS-a-19)	18.444	16.25	HJY, Bogota, Colombia (B-cy)
12.820	23.38	CNR, Rabat, Morocco (B-ax)	18.611	16.11	GAU, Rugby, Eng. (A-a-16)
		Rabat, Morocco (R-ax)	18.670	16.06	OCI, Valverde, Peru (B-cy)
12.830	23.36	HIA3, Barranquilla, Col. (B-az)	18.820	15.93	PLE, Bandoeng, Java (E-a-22)
13.135	23.00	German Ships	18.856	15.90	ZSS, Klipheuvcl, South Afr. (A-z)
13.220	22.68	British Ships	18.963	15.81	GAG, Rugby, England (A-a-16)
13.377	22.48	VYQ, Maracaay, Venez. (B-cy)	19.121	15.68	LSM, Hurlingham, Arg. (B-b-1)
13.500	22.09	GBB, Rugby, England (A-a-16)	19.240	15.58	DFa, Nauen, Germany (B-a-13)
13.671	21.93	HAS, Budapest, Hungary (R-az)	19.270	15.57	PPU, Rio de Janeiro, Braz. (B-a-5)
14.450	20.75	GBW, Rugby, England (A-a-16)	19.282	15.55	PTM, St. Assise, France (B-a-11)
14.480	20.70	YNA, Managua, Nicaragua (B-cy)	19.506	15.37	IRW, Rome Italy (B-a-20)
14.545	20.69	HFF, Panama City, Pan. (B-cy)	19.519	15.36	EDX, Madrid, Spain (B-a-28)
		TGF, Guatemala City, Guat. (B-by)	19.678	15.24	CEC, La Granja, Chile (B-cy)
14.682	20.42	TIN-TIU, Cartago, C. R. (B-b-9)	19.684	15.23	EAG, Aranjuez, Spain (B-c-29)
14.930	20.08	PSF, Rio de Janeiro, Braz. (A-b-4)	20.368	14.72	GAA, Rugby, Eng. (A-a-16)
14.969	20.03	EDQ, Madrid, Spain (B-a-28)	21.020	14.27	LSN, Hurlingham, Arg. (A-b-1)
15.110	19.84	DIL, Zeesee, Germany (R-a-14)	21.540	13.92	W8XK, Saxonburg, Pa. (R-ax)
15.120	19.83	HVJ, Vatican City (R-ax)			
15.140	19.81	GSE, Daventry, Eng. (R-a-17)			
15.190	19.73	DJB, Zeesee, Germany (R-a-14)			
15.210	19.71	W8XK, Saxonburg, Pa. (R-ax)			
15.234	19.68	Pontoise, France (R-ax)			
15.242	19.67	W1XAL, Boston, Mass. (R-ax)			
15.280	19.62	W2XE, Wayne, N. J. (R-ax)			
15.300	19.70	CP5, La Paz, Bolivia (R-ax)			
15.340	19.55	W2XAD, Schenectady, N. Y. (R-ax)			
15.350	19.53	CT1AA, Lisbon, Portugal (R-ax)			

Short wave fans watch for the April issue of the DX Log of the World. It will be entirely short wave.

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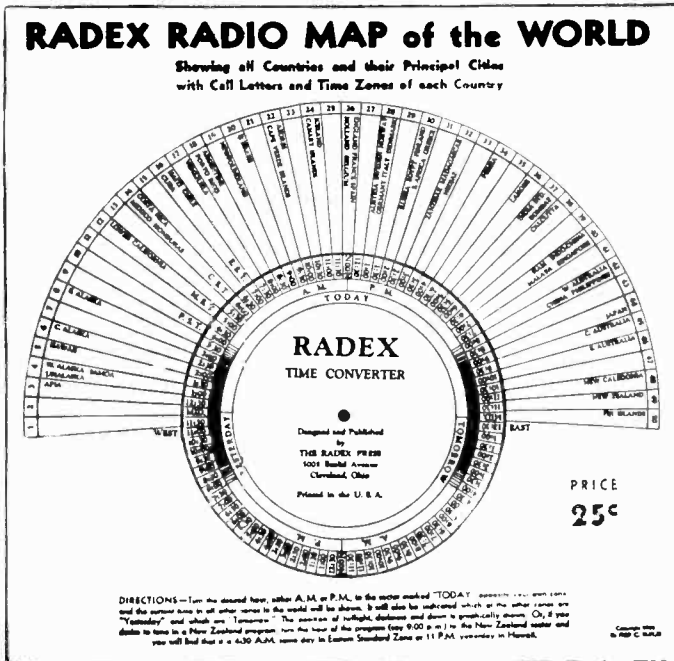
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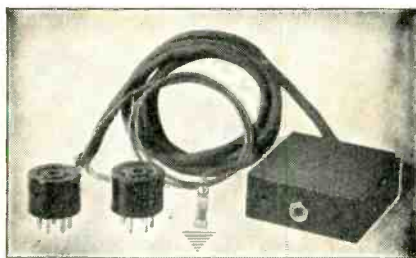
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