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THE MARCH 1937

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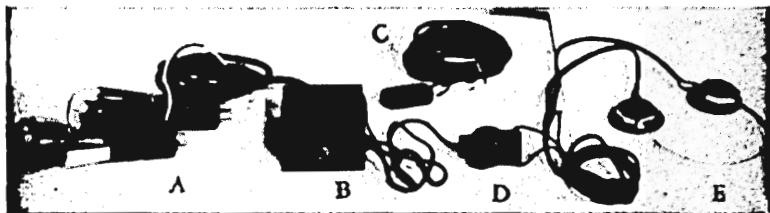
RADIO IN INDEX

The All-wave DX Log of the World



The Story of Television
The Mystery DX Contest
Complete Station-Identifying
Shortwave List

No. 107



The "Perfect" Phone Adapter

The device which makes it easy to attach headphones to any radio set. Anyone can install it, without tools, in no time at all. It cannot harm the receiver and the operation of the set is not affected in any way.

IDEAL FOR THE HARD-OF-HEARING

Those who are very hard of hearing can enjoy radio reception by using our new HOH Model Phone Adapter. It gives sufficient volume on the headphones without it being necessary to increase the volume of the receiver above normal.

THE VERY BEST HEADPHONES

For use with the Perfect Phone Adapter, we recommend the Trimm Featherweight Headphones. They weigh only 4 ounces and can be worn for hours, without fatigue. Very sensitive, designed for use by commercial operators, they get the weak signals which other, less sensitive 'phones fail to register.

We pay the postage on all orders.

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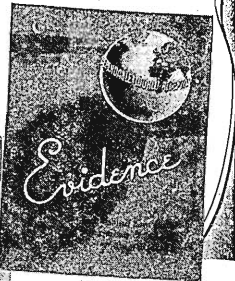
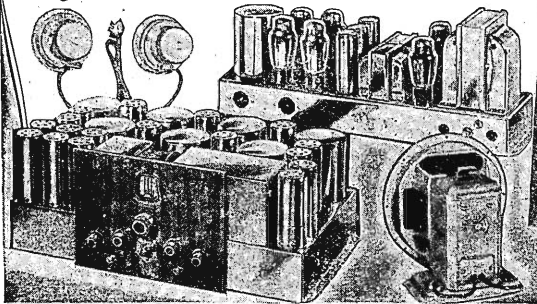
The HOH Model Perfect Phone Adapter
with Trimm Featherweight Headphones... **\$12.00**

The HOH Model Perfect Phone Adapter
with a good pair of Trimm Headphones.... **\$6.70**

*In ordering be sure to give
make and model of receiver
and a list of the tubes used.*

The Radex Press
Conneaut, Ohio

Get this Conclusive Evidence of WORLD SUPREMACY of 23 tube **SCOTT!**



E. H. SCOTT

STORY after story—page after page—of unique and exciting experiences—written by SCOTT owners—makes this 24-page Brochure unquestionably the most fascinating book of its kind ever written.—It tells of a side by side performance comparison test of the SCOTT and other radio receivers in a large, interference-crowded New York apartment building! Of unprecedented reception piercing a network of static in the iron-ore hills of Washington State!

How the SCOTT "CAME THRU" in the moisture-soaked, stifling heat of the Panama Canal Zone. What the celebrated Jean Marie Robinault discovered when exploring with the SCOTT in the blizzard-swept Swiss Alps.

Read about the experiences of New Englanders tuning in far away Japan—of Californians dancing to European "swing." Here's an amazing book you ought to have—filled with sensational experiences of SCOTT owners themselves, from Florida to Washington, from California to Maine!

There's a story of reception of U. S. A. Stations from H. L. Davis written from the battleship U.S.S. Oklahoma, tied up in the Portsmouth, England navy yard! Oboe player James B. Spear put SCOTT high fidelity tone to an "acid" test—read how he did it! Learn what the exclusive SCOTT Volume Range Expander did not only for Radio Programs but to old phonograph records!

This is but a fragmentary sketch of

the fascinating adventures SCOTT owners unfold in this mountain of EVIDENCE—conclusively establishing the world supremacy of the SCOTT.

Every tone—every silvery harmonic of the flute—every thundering thrill of organ bass—you hear them *all* in their inspiring and exquisite truth of tone on a SCOTT.

Clear, dependable, foreign reception, with ample volume, from practically every country on the face of the earth!

Every radio enthusiast will want this brochure, for it's the first of its kind. Your sending for it obligates you in no way. Your copy will be mailed to you FREE at once upon receipt of the coupon below. Fill it out and mail it now!

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Cultural interests have in many ways long since burst land and sea boundaries. Thousands have searched for years without *real* success for a radio that would bring in the endless procession of world music and news free from distortion of tone.

In the new 23-Tube Full Range High Fidelity SCOTT you will find, for the first time, a glorious and perfect musical instrument that finally satisfies that deep and lasting pride of ownership that comes only from the knowledge that you have the best. If, in addition to the book "EVIDENCE" you want

SCOTT receivers are not sold through dealers but direct from SCOTT Laboratories where each is custom-built to order. Only in this manner can any radio guarantee its owner the world-supreme performance for which SCOTT receivers are famous. In New York and Los Angeles I have direct branch Studios as well as a Studio at the Laboratories in Chicago; all are owned and operated by me. If you live near any of the studios call, and see and hear an actual living room demonstration of the SCOTT. Your order placed at any of the studios will receive the same immediate attention as though you had mailed it to Chicago. Studio addresses are below.

complete information on the Custom Built SCOTT Radio itself, or want a "living room" demonstration in our New York, Los Angeles or Chicago Salon, simply place a check mark in the space provided for this purpose on the coupon.

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4424 Ravenswood Ave., Dept. 15C7,
Chicago, Ill.

Send me:
 Free book "EVIDENCE Establishing World Supremacy of 23-Tube SCOTT."
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 Address.....
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MARCH 1, 1937



RADIO INDEX



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THIRTEENTH YEAR

NUMBER 107

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Let's Get Ready For TELEVISION

• • • By B. FRANCIS DASHIELL

CONTRARY to popular opinion there is little that is entirely new to the art of television. Many of its basic principles have been known for a long time. Some of these things were accidentally discovered far in the past century. However, television, like radio, could not be developed until some means of amplifying very weak electric currents had been found. Then came our modern radio and cathode tubes. Now these ideas have been assembled, and television will become the great achievement of 1937 and the years to come.

So let's be ready for television when it arrives fully grown. We all know that the world's greatest scientists have been working steadily on the problem. Success is at hand, and sight broadcasting is about to be added to sound reception. As this will revolutionize the radio world we should be prepared, but television need cause neither uncertainty nor misunderstanding in the minds of the people for whom it has been designed.

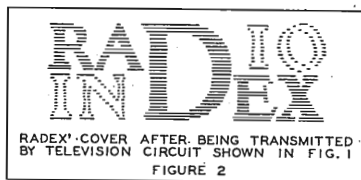
Television has passed through a period of development and, unfortunately, considerable premature exploitation. Many of us seemed to lose patience, while others lost some of their savings in various schemes. We still remember vivid promises that faded as the years passed by, but at last real progress has been made, actual receivers of excellent ability have been completed, and here and abroad the public is being given a taste of what is soon to come.

What Is Television?

Before we attempt any discussion of television, let's have an understanding of the meaning of the word

itself. Like "telephone" and "telegraph," it bears the Greek prefix "tele." This means, in effect, "far off" or "distant." To us, the remainder of the words is obvious. "Vision" means "to see"; "phone" signifying "sound"; and "graph" meaning "write." Thus, we "see from afar," have "sound at a distance," and "write far away."

Television must not always be associated with radio. The loose conception of the word may cover transmission of "still" pictures by wire. Certainly most of us are familiar with "Wirephotos" that appear in the daily papers. "Still" pictures, such as photographs, drawings and letters, are transmitted in facsimile. Even newspapers are copied over long telegraph lines. On the other hand, actual living scenes or motion pictures may be sent to distant points by the medium of land wires or radio. Radio, however, presents the greater prob-



lem, but offers the most to the public.

Right now the public fancy is television by radio—or "radiovision" if that term pleases. This is a natural result, for surely we look to radio to bring television entertainment into our homes. And, when the new receivers become available, as they are here and in England to a limited extent, we shall be able to watch plays and movies and actual scenes, while at the same time list-

ening to the sounds of music or voice as at present.

Unmasking Television

Television works essentially the same as radio. The greatest difference is the manner in which the signals are picked up and received. Instead of gathering sound in through a microphone, we must take light and broadcast it, in its many shades or degrees of illumination, as a simple radio wave. And the receiver, instead of throwing sound into a room from the loud speaker, must reassemble the jumbled radio signals in an orderly manner so as to recreate the picture, either "still" or "moving," and project it on a screen in the radio cabinet.

Some of us are not familiar with the simple fundamentals of radio—how it picks up the sound waves from a speaker's lips as they strike the microphone, and converts them into a flickering electric current that is impressed upon a penetrating "carrier" radio wave which is projected into space. As much of this is almost identical to the telephone, let us briefly consider that essential instrument.

First we speak into a mouthpiece, which is the microphone. The air waves we set in motion strike the thin inner surface and cause it to vibrate in harmony with our voice vibrations. In turn, these vibrations work to vary the resistance of an electric circuit, and the current flowing through it begins to flicker or fluctuate in exact pitch or unison. Then, these variations of current, after passing over miles of wire, enter an electromagnet within a telephone receiver, somewhat similar to the loud speaker. The strength of the magnet changes with the current variations; and a thin iron disc, fastened close to the magnet, is set into vibration. By placing one ear close to the disc we hear the original speaker through recreated sound waves.

Turning Vision Into Sound

Similar things happen in radio. The tubes and tuning parts are merely means toward an end. The essential thing in any case is to convert sound into an electric current that carries characteristics similar to the sound waves. Any text book on physics or radio will be illustrated by some wavy lines that depict sound through the air or carried by an electric current or radio wave. Then the electric vibrations are converted again into mechanical vibrations so the ear can understand. There is only this and very little more to the fundamental action.

Let us remember, then, that radio can transmit and receive only electrical vibrations. When we have only sound, such as music or speech, the job is relatively simple, as we have observed. But when we attempt to use a picture or an actual living scene, and change *that* into electric vibrations which can be transmitted over a wire or through space by radio, we are faced with quite another problem.

But this is exactly what happens when we place a photograph or actual moving view before the television transmitter. Strange as it seems, a picture can be broken down into flickering electric impulses which are passed along a wire or through the air the same as any sound vibration. Thus we can obtain a one-way movement (length) to the characteristics of something that previously possessed two-way dimensions (length and breadth). At the receiving end these unidirectional electric waves are assembled again into a picture having its two dimensions. Radio is merely the medium of transmission. The mechanical work of breaking down the picture and putting it together again is separate and distinct from the radio operation. Let us, then forget radio for the time being.

A picture of Jean Muir transmitted by television and received on a Philco receiver at a distance of seven miles. The 345 line system is employed.



Photo-Electric Cells

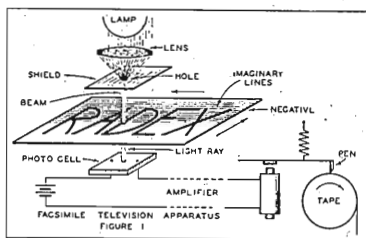
The discovery of the light-sensitive or photo-electric cell, frequently called the "electric-eye," dates back several generations. This, together with the moving picture, gave television investigators something to tie up with radio. The cell provided ways to control electric current by means of light. But this was not sufficient, for some method of splitting the picture into divisions or elements that could be transmitted successively was required. The early motion picture inventors, such as Nipkow, Weiller, Jenkins, and others, created whirling discs for this purpose, and they are still in use today.

In its simplest form the light-sensitive cell consists of selenium arranged so as to provide a resistance in an electric circuit. This re-

sistance varies whenever the cell is illuminated. Merely lighting a match will ring a bell; but in its highly developed state, such as the bolometer, the cell will measure the light from a tiny, distant start. The modern photo-electric cell will cause changes in the strength of an electric current when seemingly imperceptible variations occur in the illumination that falls upon it. On the other hand, in the receiver, tiny pulsations of current control powerful changes in the light that illuminates the television screen.

If a beam of light falls upon the photo-electric cell it causes a change in the current that flows through it. If anything passes through this ray of light so as to intercept it, there is an instant break in the current. Any opaque object will completely cut off the light and cause a mini-

Radlograms will be accepted free of charge by any amateur for transmission via "ham" radio to RADEX. Contact station W8BKM or W8PNF at Conneaut



mum of current to flow. But when a shaded or translucent object is used, less light will be cut off, and a little more current will flow. Now, if a transparent surface having different shadings between black and clear is passed slowly through the ray of light, the current flowing through the circuit will change accordingly.

Black Line Impulses

In this manner a light beam can be broken into impulses that correspond to the black lines of a drawing traced on a transparent surface. These impulses bring about changes in the current flowing through the circuit and may be detected any distance away. With this effect in mind we are ready to study an elementary television system that can be used to transmit pictures which are drawn in black and white.

First, we must study the simple circuit shown in Figure 1. There is a source of light, a concentrating lens, a sheet of opaque material with a tiny pin hole in it, and a sensitive photo-electric cell. The latter is connected in an electric circuit. Some distance away a magnetic relay moves a pen each time the "electric eye" permits a current to pass. The pen then touches a narrow strip of paper passing beneath, and makes marks whenever the sensitive cell operates.

Now draw some black lines on a sheet of clear celluloid. Pass the sheet slowly from side to side through the light ray that comes

through the tiny hole in the shield. Each time one of the black lines intercepts the tiny beam the current flickers and the pen will tap the paper. If the paper passes beneath the pen at *exactly the same rate of speed* as the celluloid is moved through the light ray, the distances between the marks on the tape and the corresponding portion of the picture will be the same. This brings us to one of the most important problems of television.

Synchronization

As long as the transmitter (sheet of celluloid) and the receiver (paper tape) run together always in step, the received picture will be synchronized with its original. Lack of synchronization produces distortion and the received picture will present only a meaningless jumble of marks. However, the new television receivers will automatically control synchronization, for timing signals keep the sending and receiving ends in exact step.

Instead of black marks on the transparent sheet let us sketch a picture in black lines. Place its upper-left-hand corner in the light ray. Then pass it steadily across until the spot of light rests on the upper-right-hand corner. The spot of light has then traced a horizontal line directly across the picture. The paper beneath the pen, which has moved at the same speed, bears marks that correspond to the black lines on the original. Return the picture to the left-hand-side, but *not* through the light ray. Then move the picture vertically upward, a fraction of an inch, and repeat its passage through the beam. This time the spot of light traces another horizontal line, but slightly below, and parallel to, the first. Now repeat the operation until the picture has been entirely passed through the light ray, and the little spot of brilliant light has swept across in many horizontal lines.

Each time the black lines of the picture break the light beam they operate the pen and make marks on the paper strip. Now, if this paper tape is cut into sections, and each placed parallel, side by side, so the rows of markings are spaced just as far apart as the original lines on the picture at the transmitter, a rather striking reproduction of the original picture will be produced. Of course, if the paper tape could be replaced with a sheet of paper that moves across horizontally, and vertically, a line at a time, always in step with the movement of the transmitting picture, a complete reproduction will be drawn by the receiving pen. Actually, all this is done, mechanically and electrically, in a more refined manner by commercial photograph transmitters.

Scanning the Pictures

The spot of light that moves across the image being transmitted is said to "scan" the scene. "Scanning" actually is accomplished at an extremely rapid rate. In the early days of television the best types of scanning devices, such as the Nipkow disc, wiped the spot of light across the picture about 25 times. This created 25 "lines." Then, when the last line was traced, that particular picture was completed, and the next "frame" began with another 25 lines. There usually appeared about 17 of these "frames" to the second the same that moving pictures used, and this meant that the disc turned at 17 revolutions per second. As scanning breaks up a picture into very narrow strips that apparently possess only length, it becomes obvious that the finer and closer the lines the clearer the results will be. This is a well-known fact in photo-engraving, such as the photographs reproduced in this magazine.

In the same way a photograph may be broken down into "lines"

or strips having their part of the high lights and dark shadows. The shadows vary the electric current proportionally. The current, instead of coming in sudden surges, as it does when a black line drawing is used, pulsates up and down in strength. For this reason the pen is no longer useful at the receiving end, for it cannot distinguish between faint shadows and solid blacks, and marks all alike.

Replace the pen with a tiny spot of concentrated light. It will now be possible to receive a photograph, for the lights and shadows of the original negative will be faithfully reproduced by the flickering of the illumination. As the spot of light sweeps, from left to right, a sheet of photographic paper, it affects the sensitive surface. Then the sheet must be moved up vertically to begin the next line. After the original negative has been passed completely through the transmitting beam of light, and the sensitive paper on the receiver has been covered by the flickering spot of light and finally developed, we shall find a very good print of the negative. All this, of course, hinges upon whether the two operations were exactly synchronized.

Living Scenes

The ultimate goal of television is the recreation of action—either motion pictures or actual, living scenes from studios or distant points. While we can produce "still" pictures with perfection, provided there is a sufficient number of "lines" to create every detail, we must work faster if a true, moving scene or picture is to be shown.

But, before we can grasp how all this happens, we must know something of the motion picture camera and projector. A moving picture machine projects in shadow on a screen a rapid succession of individual "still" pictures. Each of

(Please turn to Page 75)

The Mystery DX Contest

AS FINAL plans for the second Mystery DX contest approach the completion stage, it is evident that DXers of North America are in for a grand session of dial twisting over the week-end of February 20-22. If readers were able to gaze over our editorial shoulders, they would see the last-minute preparations for one of the finest DX marathons ever staged.

Since this issue will be on numerous news stands and in the hands of many subscribers before the contest actually gets under way, we cannot comment on the line-up of stations. However, our "CPC work" has been very successful and we can assure contestants of a great array of broadcasters.

Stations in every part of the country have expressed their willingness to participate, and we know that the final line-up will meet with the approval of listeners everywhere.

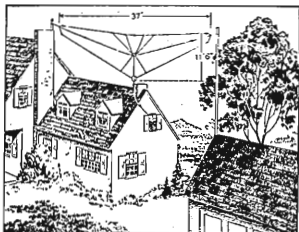
The actual scheduling of stations was done after full consideration had been given the particular requirements of every locality. We do not believe that any section of the country can complain that it did not receive an opportunity as good as any other territory.

One of the admitted weaknesses of last year's contest was an unintended hardship placed on West Coast listeners. During the 0200 to 0300 EST hour on each of the three mornings, stations in California, Oregon and Washington were still on their regular daily schedules. Obviously, it was a physical impossibility to dial each of these stations in search of a contest broadcaster.

This handicap has been eliminated by a definite policy in scheduling. During the 0200-0300 EST spot each morning, *no station in the Pacific Time zone will be transmitting for the contest.* Thus, listeners out there

can dial East with the knowledge that they aren't missing a thing.

Furthermore, realizing the congestion on the West Coast channels during this hour, we have made a particular effort to schedule only the more powerful stations which have a good chance of reaching the Pacific Coast at this time. With but one or two possible exceptions, a Western DXer should have no difficulty in tuning Central and Eastern



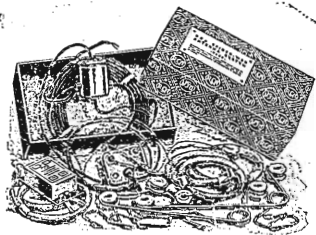
The Spider-Web antenna erected. This aerial system incorporates a series of doublet antennae and an improved transmission line to the receiver. It covers an exceptionally wide band of frequencies.

stations during the first hour each morning.

Scoring Changes

As noted last month, the scoring system has been altered slightly in an attempt to make up for possible handicaps of listeners on both the East and West coasts. We are of the opinion that this will eliminate any advantage of location on the part of contestants in the Central states, and will give every listener an equal opportunity to win one of the valuable awards.

Reports will still be judged on length and completeness. The mere *identification* of a station, which necessitates the definite reporting of one selection or announcement, won't be worth as much as a *complete report*, which must have at



The well-known RCA-Spider Web antenna kit which will be given as one of the prizes in the RADEX Mystery Contest.

least three successive selections or ten minutes of program material.

However, points for the two classifications will be awarded on a mileage basis. For an *identification report*—if the station is less than 200 miles from the contestant, 2½ points; between 200 and 2000 miles, 5 points; more than 2000 miles distant, 10 points. For a *complete report*—if the station is less than 200 miles from the contestant, 10 points; between 200 and 2000 miles, 20 points; over 2000 miles distant, 30 points.

We do not believe that contestants will have a great deal of difficulty in determining the mileage of each station heard. Most of the reports will undoubtedly be for stations between 200 and 2000 miles distant, and these will be easy to classify. All distances will be measured between the home town of the listener and the city in which the principal studios of the station are located, as listed in RADEX.

Contest Rules

As noted in the February issue, all contestants will compute their own scores and submit entries on the official contest forms supplied by us. However, all points claimed and so awarded will be subject to confirmation by the judges, and the decisions of the judges in all cases will be considered as final.

All entries must be postmarked

no later than February 24, 1937 at midnight and should be addressed to RADEX, Box 5284, Oak Lane Station, Philadelphia, Pa. Readers will note that this is a change over the address given in the February issue.

Because of the nature of the mail, all entries must be sent first class, and care should be taken that sufficient postage has been used. Entries arriving with postage due will not be accepted.

If one station is heard broadcasting for the contest on more than one day, it should be counted as many times as it was heard and a separate report made for each day. In no case, however, may a station be counted more than once on the same day, regardless of how many hours it may broadcast.

Late Comers

As a concession to DXers who wish to take part in the contest and who did not get their request for entry forms in by February 1st, we will continue to fill orders for these forms as long as the supply lasts. Late requests should be accompanied by the regular entry fee of 25 cents in coin or unused stamps, and should be addressed to RADEX, Box 5284, Oak Lane Station, Philadelphia, Pa.

All such orders will be filled on the date received, but we cannot assume responsibility if they are not received in time to be filled out and mailed before the contest deadline.

Verifying Contest Stations

In the February issue, we specified that no verifications would be issued for reports on contest stations. At the request of a number of stations, we have decided to reverse that rule.

If contestants desire a verification of a participating station, we will issue personal letters of confirmation for any broadcaster correctly reported. All such requests should be kept separate from contest entries and should be accompanied by 10

cents in coin for each verification desired.

All verification requests should be sent to RADEX, Box 5284, Oak Lane Station, Philadelphia, Pa. This is the third time that address has been given, so please use it for all contest correspondence!

Up Among the Prizes

After all reports have been checked, the contestant receiving the highest number of points will receive the latest model 23-tube Scott Full Range High Fidelity Receiver. To many fortunate readers, this outstanding custom-built model needs no introduction. Individually assembled in one of the country's finest radio laboratories, the Scott receiver enjoys an enviable reputation among those who insist upon the best.

Since November 1st, one of these receivers has been on test at our radio den and its performance has consistently amazed hard-boiled DXers. Combining a wonderful quality of reproduction with extreme power, sensitivity and selectivity, it leaves nothing to be desired in the way of a radio, regardless of one's individual requirements.

Another prize which will be a welcome award for some contestant is the Sky Buddy model of the Hallcrafters. A five-tube job covering 18 to 555 meters, this receiver incorporates many features found normally in far more elaborate models. A built-in audio beat oscillator makes DXing easy and enables the ham to copy his code stations. An illuminated airplane dial is accurately calibrated over the entire range of frequencies and makes for easy tuning. A built-in headphone jack on the front panel will be appreciated by all DXers. Reports from owners indicate that this is an exceptionally fine little receiver.

Radio Reference Library

The bound study and reference texts of the National Radio Institute is going to be a valuable addi-

tion to the library of the enthusiastic radio fan. These are the same texts used in the famous NRI correspondence courses and as such may be depended upon for accurate coverage of the fascinating subject of radio.

The DXer who likes to fuss with aeri-als will undoubtedly be pleased with another contest prize. This is the well-known RCA Spider Web antenna kit, which is particularly valuable for all-wave reception. Combining its experience in transoceanic communications work with its knowledge of home receiver requirements, the RCA engineers have developed a system which incorporates a series of doublet antennas and an improved transmission line to the receiver. The result of this arrangement is more stations, less noise on the short-wave bands, and an extremely wide frequency range—140 to 70,000 kcs.

Most listeners are familiar with National Union radio tubes, and some lucky contestant will win a replacement kit of as many as 12 of these tubes.

The Trimm Featherweight headphones are acknowledged by radio operators and DXers alike as just about the best in the field, so we are sure that this prize will be welcomed by one of the winners.

The replacement kit of six Arcurus tubes is going to come in mighty handy some morning when the receiver loses its punch. All DXers know the importance of having tubes in good condition, so here is a prize that will help increase the log.

As many readers have been enthusiastic about our Perfect Phone Adapter, we know that this prize will be well received by a winner—and it will help him "well receive" a faint station some morning.

The regular prize list is concluded with one of our World Globes and five yearly subscriptions to RADEX.

In addition, however, there will be
(Please turn to Page 59)

Do You Remember?

● ● ● By James Hall

James L. Hall, 1267 Fennimore St., Fairmont, W. Va., on checking the January issue of RADEX against a list published by the Department of Commerce on June 30, 1924, finds that only five stations, KFI, WGY, WJAG, WLS and WMAQ have retained their 1924 frequencies to the present time. No station has the same power now as in 1924.

Mr. Hall has compiled some of his recollections of early radio in a column he calls "Do You Remember?" which appears on this page. He would be interested in hearing the recollections of others about some of the early entertainers as well as about the stations themselves.

Do you remember when the first broadcasting (not experimental) licenses were issued in September 1921?

When the first neotrodyne receivers appeared?

When in March 1923, KDPM in Cleveland first used shortwaves as a means of repeating programs from KDKA? This process was put into large scale operation by KDKA and KFKX in Hastings, Nebr., about a year and a half later.

When KDKA transmitted the first shortwave program to England? (December 31, 1923). The first American program to be rebroadcast in England was transmitted by the same station on February 5, 1924, and on October 11 of the same year a program was rebroadcast in South Africa.

When the government list showed 22 stations of 1000 watts or over and only KGO and WEAJ used the "super" power of 2000 watts? (February 1925).

When KOP was the station of the Detroit Police Department?

When the Florida boom of 1925

If you are interested in television, you ought to understand radio. Mr. B. Francis Dashiell, the author of the Story of Television running currently in RADEX, has written a book called

The Beginners' Story of Radio

in which the fascinating story of radio is written in plain English so everyone can understand it.

This leatherette-bound book, illustrated with 63 diagrams, explains everything that takes place within a radio receiver.

We will send you a copy for only 35 cents.

The RADEX PRESS
Conneaut, Ohio

brought us our first consistent reception from that state with WMBF, WGBU, WJAX, WIOD and WGHB as new stations?

When PWX, 6KW, 7SR and 2BY were the Cuban standbys?

When CZE and CYJ in Mexico City were the only Mexican stations we could log and they both refused to answer letters?

Local papers report that a construction permit has been granted for a new station for Ashtabula, Ohio. It will be owned by the publisher of the Ashtabula Star-Beacon and the Conneaut News-Herald.

The RADEX Puzzle Corner

When the Call-O-Gram printed in the February RADEX was correctly solved the two middle lines read RADEX WISHES YOU THE BEST OF DX. The calls are:

1. RTA
2. WDAH
3. KGDE
4. XEE
5. W9XBY
6. EDT
7. WSUI
8. KIT
9. WOS
10. WHO
11. KGEF
12. XES
13. DX
14. WAYX
15. KPO or KGO
16. XEU

10. What is the peculiarity of the call letters KYW, KDKA, KQV?
(Answers on Page 34)

- 1.
- 32?
- 4???
- 5???
- 6???
- 7???
- 8???
- ??

Horizontal	Vertical
3 on 1310	1 880 in Calif.
4 in Jackson	2 a poem
5 1310 in Pa.	3 does not verify, in Ala
6 Illinois, not Chi- cago	4 West Lafayette
7 Capital of the State	5 Jacksonville
8 on the MBS	6 Miami
	7 Detroit

Guess Again, DXers!

Compiled by Moe Luff, 2039 Hughes Ave., Bronx, N. Y.

1. What do the call letters KLUF stand for?
2. What call letters when inserted in the center of LACE will give the name of the city in which it is located?
3. The call letters KSAC stand for ...?
4. What west coast stations' call letters, when reversed, will give the call letters of an east coast station?
5. What three U. S. call letters when reversed will give you one each in Canada, Cuba and Mexico?
6. What do the call letters KCKN signify?
7. What do the call letters WNNY signify?
8. What station is not but should be located in Chicago, Ill., and why?
9. The call letters CHWK signify ... ?



Nadine Conner, soprano, who was chosen by Nelson Eddy to accompany him on his nationwide concert and radio tour. She is 27 and sings in seven different languages.

With the Station Hunters

• • • By CARLETON LORD

OF ALL the material published in RADEX during the past year, a story in the May issue, "Five Years of DXing" by S. R. Lewis, has been the subject of the most reader comment. Written by a well-known DXer and the winner of last year's Mystery DX Contest, the article was an interesting treatise on long-distance reception.

The comment-provoking part of the story was the statement that, in June of 1934, Mr. Lewis had verified all but two active stations in the United States. At the time the copy went to press, our only reaction to the claim was that it was a laudable achievement, testifying to the skill which later won an important DX contest.

That some readers were not of the same opinion was soon evident. A few listeners protested that it was impossible to hear that many stations. One of these letters was printed last fall. Other DXers joined in the discussion—some questioning the claim, others citing similar records by equally prominent listeners. In the January issue, a reader suggested that Mr. Lewis must have done a lot of traveling to hear so many stations.

While RADEX will not attempt to decide what can or cannot be done in the way of reception, it will make every effort to give both sides to all questions. In another section of this issue, Mr. Lewis answers his critics with a logical analysis of the problem.

Further support comes from a well-known DXer who prefers to remain anonymous. He writes: "I believe many DXers have logged practically every station in this country. At the present time, I have logged every station which has been

on the air for three years or more, and I'm closing in on those which have opened only recently. Naturally, it would be impossible to do this in a month. It took me over eight years to get as far as I have. However, although my BCB log is getting close to 1300 stations, my list of foreigners is no longer than that of the average DXer with a total of 500 stations."

Counting Verifications

Another mooted point, which has been dormant for some time, concerns how to count verifications. The question is probably one which will never be solved to the satisfaction of everyone, but Stephen G. Spicer, 2030 Lenox St., Harrisburg, Pa., has his ideas on the subject.

"Here is the rule that I go by," he informs. "If the call letters are changed, it is a new station. I support this contention with the reasoning that there is a new call letter listing and a new card or letterhead. If a station changes its frequency, it should be counted again. This is because its old wavelength might produce a better signal than its new, or vice versa. In other words, it may be more difficult or it may be easier to hear.

"As for the power, they all have enough watts to run, or we wouldn't hear them. If a station boosts its power, it may come in easier. If they lower the power, it is interesting to see if you can still hear the signal. So I don't call this a new station when heard a second time."

It seems to us that the questions of power and frequency are pretty much the same. A change in either can affect the ease with which the station is heard in a given location. Thus, if a variance caused by a frequency change justifies the

counting of a new station, why shouldn't a similar variance resulting from a power change receive the same consideration?

Of course, every DXer is going to continue his own methods of counting stations, shaping his policies according to his particular fancy. No amount of written arguments, editorial opinion or club regulation will alter his decision. A listener DXes primarily for his own pleasure and will govern his hobby to give him maximum enjoyment.

The only catch in the system is the difficulty of comparing logs. The conservative listener will consider only the most radical changes in call and location, discount deleted stations, and otherwise check a growing log. Another DXer will take advantage of every change as a justification to add to his total. Although both may have heard the same number of stations over a period of years, the first may show a current log of 600 veries and the second may point with pride to 800.

Perhaps the ultimate solution will be to classify the various systems. When reporting to RADEX, one DXer will claim 450 veries according to the "don't-count-deleted-stations" system, a second will list 500 catches by the "don't-count-a-location-change-unless-moving-to-another-state" system, and a third might take cognizance of the times by reporting 600 veries under the "ICAC" system. This, of course, would be translated as "I count all changes."

Station Schedules

One of the most valuable station lists seen in many a moon appeared in the January 13 edition of National Radio Club bulletin. Tabulated by Arthur Brackbill, Lancaster, Pa., the list gave stations which are on the air early in the day and have a good chance of being widely heard.

On the air at 0600 EST are WAIM, WHIO, WSAZ, WTIC, WMBG, WAWZ, WIBW and WPRO. On the

air at 0630 EST are WLW, WCSC, WSPD, WBNS, WCHS, WHKC, WLS, WMFR, WJEJ, WMMN, WFMD, WKZO and WTAM. Many of the lower power stations in this list are operating with clear channels at these hours and should be excellent DX targets.

Readers may undoubtedly supplement the list by consulting the time schedules in previous issues of RADEX and noting when needed stations sign on for the day.

Schedules from a number of Virginia stations are supplied by James R. Fitzgerald, Jr., RFD 4, Box 87-H, Richmond, Va. From his report we note that WRVA operated from 0700 to 2400 EST daily except Sunday, when they sign on at 1000. WMBG has a week-day schedule from 0700 to 2400 EST, and on Sundays broadcasts from 1330 to 1930 and 2130 to 2400 EST. WPHR operates from 0700 to local sunset. WBBL has a Sunday schedule from 1100 to 1215 and 1945 to 2115 EST.

California News Notes

"The populace out here is standing on its head," observes Roy E. Covert, 3940 24th Street, San Francisco, Calif., "trying to remember which station is served by which network. There now appear to be five major networks in the state--NBC Red, NBC Blue, Columbia, Mutual and the California Radio System. The San Francisco street cars now bear a poster on the dashboard: 'Your favorite Columbia programs are now being presented over KSFO.'

"After tying up with CBS, KSFO has dropped its after-midnight schedule. KROW has cut an hour off of its broadcasting day and now signs off at 0100 PST, KYA, just to be different, added two hours to its schedule and now continues until 0200 PST. KGGC has installed a new transmitter, which is now being tested in the early mornings. KVCV came on the air recently and shows a nice signal around 1800 PST.

KYOS, another new station, is very strong during the day. KHSL and KTRB also show a good daytime signal, but lose out at dusk to KFWB and WSB respectively."

"On December 18th," notes Anthony C. Tarr, 909 W. Lee St., Seattle, Wash., "I heard the inaugural broadcast from KLAH, Carlsbad, N. M. I was tuned to their frequency at 0300 EST when they put their carrier on for the first time, so can claim to be one of the first DXers to hear this new station. So far, the seasons' best reception has been from 4BU, a 100 watt Aussie on 1480 kcys. They were heard on December 21st with a signal ranging from R2 to R5. The most consistent TP has been 4BH, with 600 watts on 1380. They have been heard R7 when no other Aussie could break through the QRM."

"I have been hearing CKCV at Quebec on two different frequencies," announces Allan Ford, Portneuf Station, P. Q. "I have tuned them on approximately 1440 kcys with a good R8 signal, and then go down to 1310 and find them with no more than an R7. This has been carefully checked several times. On December 18th, I heard a mystery station on 1449 kcys. At 9:28 PM, they struck a gong and then announced, 'This is the Canadian Radio Broadcasting Corp.' A heavy hetrodyne from WHOM hung over the signal and they finally signed off at about 10:30. Would appreciate any help as to the identity of this one."

Noise Hurts DX Interest

"In the January issue you say that over-activity of CPCers hurts DXing," reminds Harold Wagner, 328 Hess Ave., Erie, Pa. "I agree with you in part, but contend that heavy interference also is a big factor. A few years ago, we only had to contend with local noises such as those caused by street cars, household appliances and the like. This made DXing difficult but not

impossible. This year the interference seems to be from the power lines and can be heard at great distances. Recently I drove out 20 miles from Erie and turned on the car radio. Although I was two miles from the nearest power line and a mile from a telephone line, the steady buzz could still be heard.

"It seems to me that the government should do something about such a situation. Canada and several foreign countries have a very efficient service for the elimination of interference. I should think that most radio owners in this country would be in favor of laws to control and eliminate radio noises."

Although a poll of listeners would probably show an overwhelming majority in favor of such legislation, it would undoubtedly be difficult to start a concerted action along those lines. The average listener is pretty much an easy-going individual, content to let things pass as they come. If radio interference gets too heavy, he merely shuts off his receiver and turns his attention to something else.

Also, it is possible that much of the noise we hear today is not caused by electrical appliances. A year or so ago, a peculiar wave of interference was reported throughout the East and could hardly have been caused by any one device. It must be remembered that we are in a period of increasing sunspot activity and some of the noise may be coming from these magnetic disturbances. The last similar period was in 1926, when little or no attention was paid to radio noise. Thus, without any real precedence to go by, we cannot say what is the cause of some forms of interference.

"As a result of eight years of DXing," sums up Fred Stone, Kintnersville, Pa., "I now have all but 48 stations in the United States, all in Canada, nearly all in Cuba and Mexico. During this time, the same receiver has averaged 12 hours a day

and I am still using only the second set of tubes. Add that up and you get quite a total."

Foreign Reception

"A year ago I asked you why I had never received any foreign stations," recalls Robert R. Shellard, RFD 5, Brantford, Ont., "although other DXers reported them regularly. I received many letters, all of which suggested that I put up a long aerial. This was done this fall, when I strung up 400 feet of wire. It is working very well.

"I started a new log in September and so far have received 335. My log for the past two seasons was 428, so I feel that this is quite an improvement. The best catches have been TGW, KGU and KHBC. There are 24 in California, about half of which are less than 500 watts in power. But I still have no foreigners!

"Of course, I don't expect to get them all at once. In fact, if I had been told last year that I could get a 250 watt station in Hawaii like KHBC, I would have thought the fellow was imagining things. It may be that foreign reception just isn't so good this year. At any rate, I am still trying and seem to get a little farther each time. I will get there yet!"

That most things come to he who waits is evidenced by a report from Frank Wheeler, 406 Eagle Point, Lakeside, Erie, Pa., who writes:

"At 0245 EST on January 3rd, I received my first trans-Atlantic station. It was Radio Normandie! I had been trying four years for a T.A., and at last I landed one. This season seems to be better for DX than last year. Perhaps it is because I am now using a 12 tube set as compared with a 9-tuber last year. Anyhow, I have received so far 22 new stations and two foreigners, while at this time a year ago I only had 19 new stations and no new foreigners."

"In preparation for the present

DX season," advises Harry V. Adams, Bay View, Digby Co., N. S., "I purchased a new Stewart Warner R-182-X receiver. It is a 6-tube job and I am well pleased with its performance on the broadcast band as well as the short waves. In seven weeks of listening, I have heard over 200 BCB stations and reports are out to LR1, LS2, Lille, Rennes, Belfast and Radio Normandie. Other foreigners heard include 1YA, 4YA, Paris, Bordeaux, LR4, PRC6, LT3 and Lyons. Would appreciate letters from other readers who have this type set."

"I have finally logged two broadcast band stations in South America," proudly proclaims Roy B. Edge, 14 Villa Ave., Buffalo, N. Y. "I have LR1 and LR4, catches which I had begun to think impossible. I had been reading where so many listeners were hearing all this foreign DX and, like many readers, began to think that it was a lot of bunk. However, I finally heard these two and it proves to me that patience is rewarded in the long run.

About Reports

In the opening paragraphs of the December DX article, we commented on an incident which brought no credit to American DXers. We referred to a report published last spring in which a reader listed a number of foreign stations which he claimed to have heard.

The publication of such a report was not in itself unusual. Scores of DXers throughout the country enjoy foreign reception with a fair degree of consistency. Given a clear morning in the right season of the year, the average listener has an excellent chance to span one of the oceans and bring in a station in Europe or Australia.

The trouble with the report in question was the simple fact that, at the time two of the stations were supposed to have been received, both were still in the process of construction. This fact was established by an

Australian listener and was checked with an official government report on broadcasting.

Lately the mail has been heavy with comments on the question of honest DXing. Many letters suggest that we expose listeners guilty of questionable practices. In the minds of the writers, nothing would be too severe for a listener who strayed from the straight and narrow.

While such a policy would undoubtedly drive suspected DXers out in the open, who is to say that they are guilty? We cannot help but feel that many innocent DXers would be drawn into an unfavorable position.

This magazine cannot attempt to decide what reception is possible and what is not. We will publish any interesting reports submitted by DXers of standing, in the belief that 99% of the DXers are honest. But here is the catch . . . if the reports are too obviously exaggerated or false such DXers are pretty apt to lose their standing among honest DXers, because they surely will be recognized.

Old Issues Available

RADEX is now out of print for the years up to and including 1928. For the year 1929 a very few copies of Nos. 29, 33 and 34 remain on hand. For 1930 we have a limited supply of Nos. 41, 42, 43 and 44. We can supply complete files of RADEX from No. 41 through No. 106 inclusive.

Past issues may be secured at the regular rates, that is 25c for single copies, \$1.00 for five and \$1.75 for ten.

"Here is a suggestion for some of the radio clubs. I have heard at least one station in every state but Delaware. As there are but two stations in this state, I should imagine that there are hundreds of other DXers who should appreciate a special from one of them."

Another RADEXer who would

probably like a whack at either WILM or WDEL is Billy Snow, 302 Harrington St., St. Joseph, Mo. "I started DXing in February 1935 and have logged 510 stations since then. LR1 is my most distant catch, although I feel that KHBC is the best catch. Although I have no T. A. or T. P., I have Hawaii complete and that is something. All states but Delaware have been heard at least once."

Orchids to Brinkley

DXers may say what they will about Doctor Brinkley and his border stations, but they do owe him a vote of thanks for having XEAW stand by for the PRF3 special on January 4th. Reports in club bulletins and letters from readers indicate that the Brazilian station was able to get into this country, something that would have been impossible but for the courtesy of Doctor Brinkley.

"Reception on the BCB here has been generally poor," bemoans George M. Curl, 16 School St., Tilton, N. H., "except for a few fine nights when static didn't completely drown out weak signals. PRF3 was heard on their recent special test program but they came in faintly and verification was impossible."

"I started my sixth year of DXing in January," announces Robert W. Botzum, 633 Moss St., Reading, Pa., "and am still using my old reliable 8-tube Atwater Kent. At the time of writing, my log reads 892 stations heard and 800 verified, with several reports still out. Included among my veries are 19 T.A.'s, 15 S.A.'s and 9 T.P.'s. All told, I have tuned 31 different countries on the broadcast band."

"In your December issue, you printed a claim that WWJ and not KDKA was first in the broadcasting field," reminds William Sykes, 3885 Laurel St., Vancouver, B. C. "Three years ago I had a letter from KQW which read as follows: 'This will acknowledge receipt of your communi-

cation regarding listening to KQW's DX program in celebration of our 26th anniversary as a broadcasting station. For your information, KQW is a 500 watt station operating on a frequency of 1010 keys. Our station is "The Pioneer Broadcasting Station of the World" and we have sufficient literature in our files to substantiate this statement. Their letter was signed by F. J. Hart, president; Ralph R. Bryan, announcer, and Dan Williams, operator."

Builds New Set

"The old 6-tube Erla TRF receiver has been retired," informs T. R. Grosvenor, 247 S. Hillside, Wichita, Kans., "after building a log of 880 stations for me. I have built a new all-wave set using a 56, 57, 2-58's, 55, 2A5, 45's in push-pull and 80 rectifier. Yesterday morning, December 27th, was the first time that I really DXed with the set and I was very well pleased with its performance. As I have not listened to the frequency check broadcasts since last spring, there will be dozens of new stations for me to go after. With the new catches heard this past week-end, my log stands at 898 heard and 442 verified."

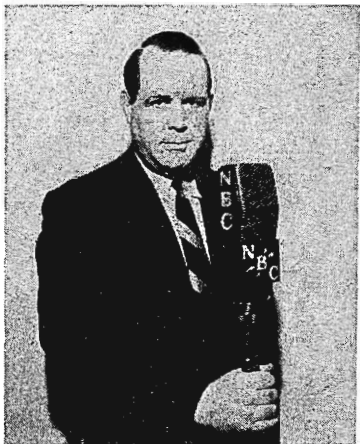
"Although I have been listening to the radio since the early days of 1922," observes Ernest W. Law, 10439 69th Ave., Edmonton, Alta., "I did not start DXing until January 1935. So far we have received 523 stations and have verified 200 of these. It wasn't until last winter that we had any success with foreign stations, and then we logged 10 in Australia and, four in New Zealand. No luck with the South Americans, however, although we believe that most anything is possible in radio if you keep trying."

"This season has brought me 19 new stations," avers Clarence Wakefield, Wiarton, Ont., "to make a grand total of 715 on the broadcast band. I don't count changes in frequency or call, although about 55 on

my log have been deleted since I heard them. So far, I haven't had a whisper from any of the T.A. stations. However, reception in other directions has been pretty good, with stations from coast to coast in the United States and Canada being heard, as well as a few across the Pacific."

Prize Letters

"I'm casting my vote in favor of the BCB prize letter in the January issue," ballots Edgar W. Jones, 1250



"Do You Want to be an Actor?" asks Haven MacQuarrie every Sunday night on the Chase and Sanborn program from Hollywood. In this program he gives movie-struck youth the benefit of expert coaching before they take parts in the final performance of dramatic sketches.

Fifth Ave. S., Lethbridge, Alta. "It was more interesting to me because the accomplishments of the blind are as great, if not greater, than those of us who have our sight. While the short wave tuning experiences are interesting, the feat could have been accomplished by a large majority of radio fans with much the same result. Mr. Lewis said: 'We can learn something of the very special brand of courage possessed by Frank Collins of Reubens, Idaho.'

And we certainly can! The accomplishments of the blind cannot go unrecognized!"

"The National Radio Club was organized in September, 1933," supplies John C. Kalmbach, Jr., 1195 Wehrle Dr., Williamsville, N. Y., "and has grown steadily until we now have members in every state in the Union, in Canada, Mexico and other parts of the world. Our six-page bulletin is issued weekly from September 1st to May 1st and goes to all members. Membership is \$1.25 a year, with no initiation fee. Further information may be obtained from the president of the club, Robert H. Weaver, 603 W. Market St., York, Pa."

Home-Made Booster

"Here is a hook-up which may be of interest to your readers," contributes M. F. Meade, 819 Wyandotte St., Kansas, Mo. "My sons broke into the r. f. circuit of my old Kolster K20, just ahead of the detector, and ran the signals into the aerial of a four-tube Philco midget. In other words, the Kolster was converted into an r.f. amplifier for the Philco. By using a double pole switch, the sets may be used in this manner or they may be operated independently as before. So far, the only drawback has been the broad tuning of the Kolster. We hope to correct this in time. Although we have no R meter, we would judge that careful tuning of the sets will increase signal strength about 200 per cent.

With Mr. Meade's letter was a sample of his new report card. It is just about the nicest one we have seen in a long time, and readers may have a sample by sending postage to Mr. Meade.

"In all my 10 years of DXing," postcards Charles L. Morgan, 800 E. 179th St., New York City, "I have never heard a better DX program than the one CFLC broadcast from 0200 to 0500 EST on December 27th. I gave them a report covering the full three hours. It was worth it!"

Listeners Wanted

The amateur radio stations listed below will be on the air at the times indicated and the operators request all listeners and amateurs overseas to report on their signals. Accurate reports, (from abroad only), will be verified for return postage, which can be sent in the form of International Reply Coupons.

These stations will be recognized by the phrase "Calling CQ DX on schedule." Address all reports to the stations in care of The Radex Press, Conneaut, Ohio, and we will forward them promptly.

The schedules below are effective from April 1 to May 1. Time is given in GMT.

W8BK M, Conneaut, Ohio, 3985 kcs. Every hour on the hour from 2300 Sat. to 1200 Sun.

W8PN F, Conneaut, Ohio, 14206 kcs. Every half hour from 2000 to 2300 on Sat. and Sun.

All radio amateurs who desire to contact far-off countries to complete their requirements for a WAC certificate are invited to use this column. The service is for those who use 'phone (A3) emission only. The requirements are simple: Requests are to be made in writing or via "ham" radio to RADEX. Operators must agree to QSL all correct reports if return postage is forwarded. Schedules printed in this column must be kept, on the frequencies specified.

Complete information about transmissions should be in our hands at least three months in advance to allow time for distribution of magazines throughout the entire world.

As most DXers are aware, there are many types of special broadcasts and one such as Mr. Morgan heard from CFLC is too seldom heard: The NNRC program from WOR on January 18th belonged in this class, and merely illustrated
(Please turn to Page 43)

Unusual Service Problems

In The HOME

• • • By B. FRANCIS DASHIELL

60 Vs 25 Cycles

I live in a district where the electric lighting current operates on 25 cycles instead of 60 as is usually the case. I am using a 60-cycle a.c.-d.c. receiver and it is not satisfactory. What I should like to know is whether a 60-cycle radio will work on a 25-cycle current. I have been told that it will not, but that a 25-cycle radio will work on a 60-cycle current. There are so many conflicting statements that I would be happy if you would advise me correctly.

Of course, any radio will operate on the various lighting current frequencies. But entire satisfaction cannot be expected. In fact, to do so might endanger the set under certain conditions. The power to run the radio is obtained from a transformer, while in a 110-volt a.c.-d.c. set, certain other conditions of current rectification prevail, usually without the aid of a power transformer. It is safer, in your case, to run the set on 25 cycles than it would be if you had a standard transformer operated set. Your question, however, raises an interesting point, which will be of interest to many readers similarly situated.

Transformers are designed to operate on alternating current, and the frequency of that current, together with the size and quantity of wire on the coils, determines the output of the transformer in volts and amperes. The windings or coils are calculated to provide a certain resistance to the flow of current, which, with alternating current is known as impedance. Any change in the frequency of the alternating current flowing through the wires

changes the resistance of the coil, and the lower the frequency the lower the resistance. If the resistance is too low the coil becomes a partial short circuit across the line and may heat to the danger point and burn out.

Therefore, a 60-cycle radio should never be connected to a 25-cycle lighting current. The voltage output of the transformer will not be correct and the set will not function properly. Heating will be noticed even if the transformer primary does not burn out. And the filter chokes and coils will not be of the proper size and capacity. Hum will be noticed. So, if you wish to use a 60-cycle standard radio on a 25-cycle line it will first be necessary to replace the power transformer and then make certain changes in the filtering system to handle the slower alterations which are more difficult to filter out.

Such alterations usually consist of increasing the capacities of the filter condensers by not less than twice the original, or even more, sometimes as much as three times. Replacing the choke coil or coils by larger ones, have greater inductances in henrys, also will tend to eliminate the bad hum that is created.

Now, on the other hand, a 25-cycle radio will operate better on 60-cycle current. The resistances of the transformer coils are naturally greater and there is little or no danger of the primary burning out. However, some hum will be noticed, for the filtering system still is not matched to the current used. The values of the filter condensers (across the choke coils) should be reduced to about half of the

original, and smaller chokes might be used.

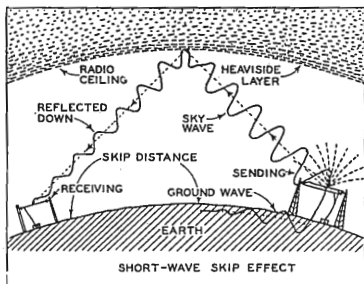
There is only one real solution to the problem that confronts the owner of a 60-cycle set where only 25-cycle current is available, and that is to get a set designed for the current in the home. However, if the set is worth the expense, and a competent mechanic or serviceman is available, the changes suggested should be made, and the parts necessary should be obtained from the manufacturer designing and building the set. The a.c.-d.c. set offers a slightly different problem, but in any case the hum that occurs can be dealt with as above mentioned. We suggest, however, in the case of an inexpensive set of this type, that a new one of 25-cycle design be purchased.

Skip Effect

What is meant by the expression "skip distance" which one sees so often in radio magazines. Does it mean that radio waves skip from point to point?

It is known that radio waves can be reflected, just like light and heat waves. A radio wave, when it is shot away from its sending antenna, will travel outward by two routes—one, the ground wave, and the other, the sky wave. The ground wave soon disappears; this is the reason why we can hear nearby stations with only a ground wire and no antenna. The sky wave is a radiated wave. High above us in the outer air is an electrical region called the Kennelly-Heaviside Layer, or the "radio ceiling." When radio waves reach the outer atmosphere they are reflected back to earth by this ceiling.

When this radio wave is reflected it comes down at an angle, far beyond the limits of the ground wave. Between the vanishing point of the quickly absorbed ground wave and the beginning of the area covered by the sky wave there is a wide area not reached by any radiation from



this particular wave. Signals cannot be heard here for this is within the skip-distance region.

The effect of skip distance is shown in the accompanying illustration.

Coaxial Cable

On page 9 of the November issue of RADEX is a reference to carrying images over a wire. I am interested in procuring information about sending images in this manner, and shall appreciate it if you can tell me where I can get more information on the construction and operation of such apparatus.

The coaxial cable that was mentioned in the article on television in the November issue of RADEX is designed to carry high frequency currents or radio waves without them being broadcast into the air. In this way the wide band of frequencies necessary to transmit visual signals can be sent from place to place by wire.

The coaxial cable idea was developed by the experts of the Bell Telephone Laboratories for carrying many telephone calls at the same time. It was found it could be used to "pipe" television images from one broadcasting station to some point of reception. We suggest that you write the Bell Laboratories, care of the Bell Telephone Company, in New York City, and ask for such publications they may have for distribution regarding this remarkable cable.

Adding Power Tube

Is it possible to add another type 45 power tube to my Midwest A.C. 9-tube receiver? If so, will any change in sound or power be noticed, sufficient to make it worthwhile? I wrote the manufacturers but to date have not had any instructions. I also would like to know what the present output in watts would be.

The Midwest receiver you own already has two type 45 power tubes, and it is not at all practicable to add one more. If any addition should be made, it would be best to add two new tubes, each paralleling one of the old ones. Such additions, however, call for changes in potentials furnished the tubes and speaker windings, and the drain on the rectifier system would not be advisable.

The power from this set is about all that you can expect with good tone. You might try replacing the type 45 tubes with type 47s, using the adapters made by Alden, and which are available at most radio supply houses. These pentode tubes give more true tone and slightly more power than the older types of power output tubes. The type 47 draws a bit more amperage than the 45 but the Midwest 9 should be able to supply this slight overload. The power output of the two 45s is slightly in excess of 2 watts while that of the 47s should be close to 3 watts.

Foreign Broadcast Reception

I wish to construct a receiver solely for DX reception on the broadcast band. What do you recommend? I have thought of three r-f stages, detector, and audio stages; or a superheterodyne with a r-f stage ahead of the first detector. I have been a DX listener since 1923 but never had a set that would bring in foreign broadcast band stations. At present I have a ten-tube set that does not bring in foreign stations on the broadcast band.

First, before you have serious de-

sires to pick up foreign broadcasting stations in the so-called broadcast band, as we here in the United States understand it, stop to consider the distance away such stations are and the power they use. When a broadcast receiver is located on the Atlantic seaboard it is very obvious that consistent reception of the Pacific Coast stations is a rare event. There are so many stations working within the broadcast limits that even if a distant station is within range it might be drowned out or its signal heterodyned in such a way that reception and identification is impossible. To receive stations on the other side of the sea, even from the Atlantic Coast side of this country, requires the spanning of distances far greater than across the United States.

A good broadcast receiver should do this, of course, without much strain on its abilities. Whether a ten-tube set can perform is a question, but it is always exceptional when it does so. The larger sets, such as Scott's 20-odd tube, and others, have the ability to tune to and pick up those weak DX signals. And much DX reception on the broadcast band is being accomplished on smaller sets, when the weather is right, if interference is absent, and the time and patience of the operator perfect.

When you attempt to build a receiver that will do all this you are pitting all your untrained and inexperienced skill against the engineers and manufacturers who have been striving for just this same thing for years. Building simply a three-stage radio-frequency receiver will not give this sort of satisfactory reception, nor will a superheterodyne with a single r-f stage ahead of the detector solve the problem. Most superheterodynes now use a r-f stage ahead of the detector, only they call it a pre-selector. There is nothing new to this idea.

Sets of this kind can be built, and

such work would be highly interesting, using modern tubes of great amplification power: But the problems of shielding, tuning and perfect balance are almost insurmountable for the amateur experimenter. RADEX does not attempt to provide circuits for its readers, because it knows from wide experience that a mere circuit drawn on a piece of paper is not a proper guide to follow in building a set with modern-day tubes and parts. A wiring diagram is the smallest part of the job. There are radio magazines that provide this service, which obviously is beyond the scope of RADEX, and we suggest that you carefully peruse the pages of some of these. We know that, unless we conducted an experimental laboratory, it would be unfair to all concerned if we described a set of great r-f amplifying powers, and did not give measurements, exact specifications, shielding and location of all parts down to the minutest details.

Tubes Burn Out

I have an Atwater Kent model 559 receiver which will not run over a month without burning out a tube. I had this trouble from the first, and three different repair men have been unable to locate the trouble. I should like to hear from you as I feel that you can help me.

When tubes burn out it is natural that an excess voltage on the heater or filament is the cause. Now, just what brings about these surges of high voltage often seems completely hidden, but it is a fact that the trouble exists. There is no cure except to find the cause. An examination with a test meter of the voltages across the heater terminals of all the tube sockets under all conditions of operation is imperative. Such things as cathode resistors and condensers and internal short circuits that might overload the heaters and filaments must be included in the search. The voltage divider that feeds these parts of the

tubes, and the transformer section that provides current to the tubes all must be tested. The possibility of some loose contact causing a short circuit with a filament of a tube must not be overlooked. Try connecting a low-voltage a.c. voltmeter across the terminals of the heater supply from the power transformer and watching for a surge of increased voltage late in the evening when light switches are snapped on and off.

I have a Midwest receiver that uses 18 tubes. It seems to be off balance just now as the short wave stations do not all come in where they are supposed to. London comes in about 15 points off, and then at times it can hardly be heard. I put in a number of new tubes, but it has not helped. Can a good service man work on this set? One tells me that he can. Or will it be best for me to return the set to the factory? I don't wish to do this because of the expense.

All radio sets get something wrong once in a while. Any good service man should be capable of working on any set, for when we come down to it, all sets are fundamentally similar. If you have a good service man available, by all means patronize him. The added expense of sending the set to the factory and the longer loss of time is not justified. However, you might write the Midwest people, and they will advise you whether they wish to make the repairs or not.

We think that all this set needs is a simple lining up of short wave tuning circuits. Any serviceman with certain testing apparatus can do the job. The short wave bands of all-wave sets sometimes get out of alignment and need readjustment. Of course, if there is some error of calibration, the trouble would exist in all sets, and this is not the case you may be sure. It also is possible for the higher frequencies to get off a bit when the oscillator circuits

"drifts." Installing so many new tubes would not help this particular trouble unless the oscillator tube happened to be defective.

"Air-Line" Antenna

What kind of an aerial do you advise for use with my 7-tube all-wave "Air-Line" receiver. I have logged a few foreign stations in Europe, England, France and Germany, but can't seem to get them very clear or with much volume. I now use two wires, one 90 feet and the other 25 feet. I would like to get rid of the noise of on-coming cars on U. S. Route 12. This set seems to be rather noisy on the short waves. Down from 11 to 6 meters it has too much noise for good listening, and this seems to be a "slushing" sound. It has all new tubes. The set works fine on the broadcast band.

We suggest that you try an antenna of the doublet type, a number of which are on the market and may be purchased at most radio stores. They, also have been described in the pages of this magazine. Run the antenna at right angles to any power line and street car line that may be near. The motor car noise is very hard to control, and the antenna may help some if far enough away from the highway. In this case most any length of transmission line lead-in can be used. As to the noise that you encounter on the 11 to 6 meter band, this is not unusual, for the higher frequencies often are noisy, and increasing volume adds to the noise level or background. However, if some of the noise comes from power lines and street cars, a good antenna should be of considerable assistance. As a rule, good reception is not obtained on this 11-6 meter wave band from distances. But better distance comes in over the 11 meter end. When you get close to 5 meters, the range is practically visual—that is, you hear from places that you can see. In this case the higher the antenna the better the reception. All in all, we

are of the firm opinion that you are getting very fine reception on a set having only 7 tubes, and any improvement in antenna will not clear up the weak and indistinct signals now coming in. The new antenna should, however, seem to increase the volume for it cuts out some of the noise and thus reduces the noise background that tends to ruin signals.

Had Two G. E. Sets

I had a new G. E. model E-81 set last October, but it was in a repair shop much of the time, and in two months it was replaced with a different model called the E-91 because I had had so much trouble. Now the new one had to have a tube in a short time, and I notice that the colored tuning light stays green constantly instead of turning red when the set is not properly tuned. Is this second set worth sending to the shop or shall I get rid of it like I did the first one?

This is a well-recognized brand of radio and there is no reason why you should experience similar trouble with two sets. In fact, no unusual amount of trouble should be given by either of the sets. It is possible, however, that you just happened to get a set that had some defect that slipped by the inspector, or it had been damaged or put out of adjustment by some accident. Even with the very best of things, like fine motor cars, there might be one that fails to get perfect assembly and adjustment.

We suggest that you hold on to the set you have and get a good service man to make an estimate of the cost of repairs and submit the estimate to the G. E. agent from which you purchased the set in a distant city, and see what his reaction is. It is almost certain that some slight work on the local service-man's part will correct the trouble and the set will give years of fine service. A tube, of course, is apt to burn out or fail at any time. And

the failure of the color tuning light indicates that the set is off tuning and fails to resonate in the tuning or i.f. circuits. This accounts for the weakened signals, and here your serviceman can quickly fix the trouble and get the set back in tune for all time.

Set Not Selective

I have a set that is not very selective on the broadcast band, yet rather good on the short waves. If I can increase the volume of this set, will you tell me how. Does it make any difference if the lead-in wire is 40 or 60 feet long? Please tell me how to make the set more selective on the broadcast band.

You have not mentioned the name of the set, so it is impossible for us to give more detailed information. If our readers would be more explicit when writing about their troubles and give us full information about the set so we can identify it in our files of circuits, we can be of much more assistance.

However, in most sets, if they are not properly balanced the selectivity will be seriously impaired. We suggest a good serviceman, for the job of aligning is not difficult or costly, and the net result, too, will be that the volume will be increased. If the set and tubes are in good condition, without failing resistors and condensers or leaking tuning units and poor coils, there is not much else that can be done to increase the volume. To do this, it would be necessary, then to add an additional audio amplification stage. If the set is modern, with shielded chassis, the job is quite impracticable. The extra tube and circuit would draw heavily on the power parts and the voltage readings over some of the circuits would change with a loss of signal intensity.

A forty to sixty foot antenna lead-in should not affect reception if it is well insulated and as much in the open or clear as practical. In some cases, the lead-in wire is part of

the antenna, and the 20 feet of additional wire might change the tuning ability of the antenna, but we doubt whether this is noticeable in ordinary radio reception.

Antenna Troubles

I have a Wilcox-Gay 7-tube set with 5 bands from 15 to 2200 meters. Also have a G. E. doublet antenna, but I do not think it keeps out noise. I think that a good "Zep" antenna with tuned feeders would be better. Now, when I hook up the antenna as one straight wire it does better on this particular set. Also have a short wave 5-tube set, and the same effect is noticed.

Your suggestion of a tuned Zep antenna is good, but it would mean naturally that you would have to have an additional tuning control. If the Zep were made for just a narrow band that you wished to receive on at all times there would be some advantage. We suggest, instead that you use the doublet antenna which you have but procure a good antenna coupling condenser such as made by Lynch and others. Your set will not properly connect to an antenna of the doublet or two lead-in style, unless the coupling transformer is used. Otherwise, use a good flat-top antenna of conventional design with a ground wire.

If one wire of a doublet is disconnected it will often act as a "T" type of antenna and in some cases give louder signals than the doublet especially if the doublet was not working very efficiently in the first place due to directional effect, poor matching transformer or lack of one, or failure to respond to all frequencies when not in proper resonance.

Also, the greatest signal does not mean everything; rather it is the signal to noise ratio which is the greatest importance with a sensitive and efficient radio receiver. If the noise level is missing entirely, a very weak signal is entirely intelligible.

New Antenna

I have just purchased a 9-tube all-wave G. E. set, and would like to know what antenna to use. A serviceman told me about a plan he has and says it would work nicely with my set. It is a straight horizontal wire split with an insulator so one section is 18 feet and the other 30 feet. Two leadins run down to the set, one to the short wave terminal and the other to the long wave terminal. Would this give good results? Also, I am told that an antenna must be erected cross-wise of the power lines on the street. Is this so?

We do not see anything special about the antenna you have described. In fact, it happens to be two separate antennas for each terminal. A doublet antenna, such as the General Electric people make for their own sets, is advisable. Or a conventional antenna will give good results. A wire about 40 to 60 feet long, with the leadin off one end will suffice. If there are any power lines close to the aerial it would be an advantage to run the antenna top at right angles, but as far away as possible.

Short Wave Hopes

I purchased a Philco 9-tube set, model 660B, and while I get some German, Italian and South American stations, I feel that I am not getting all the distance I should. As I am very anxious to get distance on the short waves would you suggest that I buy a short wave receiver having about 5 tubes? The stations I get come in strong but do not understand why I can't get more around the world. Is it necessary to get an 18 to 23 tube set in order to get Japan and other stations half way around the world? I can not understand all these DX records others make. Do they have "super" sets that I don't know anything about?

It would be useless for you to purchase a short-wave receiver of five tubes and expect it to get distance from around the world. Surely, when you cannot do this with ease with a 9-tube widely recognized set, it would be just as great a problem with a small, inexpensive receiver.

Short wave reception is something that cannot be pulled in on a moment's notice. Sometimes nine tubes will do it, and again 25 tubes would fail. So there you are. Really, we think you are doing well with a nine tube set to get Europe and South America as loud as you say they are. This, to our mind speaks well of the set you have. As soon as people understand that short waves are not consistent and that while a set is advertised as "short-wave" it may not get all "foreign" short waves, the better satisfied they will be with what they are able to pick up.

While you may not think your all-wave set is made for distance, it is only necessary that a receiver have good sensitivity to bring in distant stations under good conditions. So do not think that this set is not made for distance, because it is. If it lacks sensitivity then this is a matter for a good serviceman who can balance and align the set for maximum results. Also, the tubes may need an examination and replacing here and there. In most cases, when foreign stations come in, as in your case, the set is very sensitive, and under good conditions the elusive stations will finally be located. Possibly more experience will yield better results or possibly you are too anxious. Many atmospheric conditions, as well as locality, play a great part in distant reception on the short waves. The remarkable distant DX records that have been made, have not been accomplished all in one night, one station immediately after another. Frequently they represent months and months of painstaking effort.

Hints for SHORTWAVE Fans

An Explanation of SW Reception—Part II

THESE are hundreds of short-wave stations on the air, and the average receiver will pick up at least a score of overseas broadcasters during a day and evening with very little effort, but, most listeners ask, how does one know who it is if the announcements are made in Serbian or Hindustani? The problem of properly identifying stations is most discouraging to s.w. listeners.

While it is not possible for us to teach the various foreign languages, we do give as much information as possible in our new indices so listeners can identify strange stations by their manner of announcing or by various signals they employ to facilitate their identity. For North American listeners the biggest problem is to conquer the Spanish language. If one masters the alphabet he has made a good start, because call letters are given by the letters of the alphabet.

The Spanish Alphabet

A, Ah	N, En-nyay
B, Bay	O, Oh
C, Say or thay	P, Pay
D, Day	Q, Koo
E, Ay	R, Air-ray
F, Ef-fay	S, Ess-say
G, Hay	T, Tay
H, Ah-chay	U, Oo
I, Ee	V, Vay
J, Ho-tah	W, Doo-ble-vay
K, Kah	X, eckis; ay-kis; ek-key
L, El-lay	Y, Yáy
M, Em-may	Z, Zed.

These pronunciations are given the way they sound on the radio and may not agree with Spanish textbooks. Slightly different accents are heard in different countries, which accounts for the dif-

ference in pronunciation of some of the letters.

The Spanish numerals, also very important, are given below:

One, Oo-no	Six, sase
Two, Dose	Seven, Sate
Three, Trace	Eight, Oh-cho
Four, Koo-ah'trow	Nine, Noo-ay-ve
Five, Theeng-ko	Ten, Diez

Telling Time

The conversion of time from one standard to another is very difficult for some listeners. In RADEX we use the 24-hour clock and it is always Eastern Standard Time unless otherwise specified. The idea of the 24-hour clock is not new, nor is it original, although we believe we are the first radio magazine to practice its use consistently. It pleases us, quite naturally, to know that most

Time Conversion Table

The time given through RADEX, unless otherwise specified, is Eastern Standard by the 24-hour clock.

	EST 24-hr.	GMT
	clock	
Midn't	0000	0500
1 am.	0100	0600
2 am.	0200	0700
3 am.	0300	0800
4 am.	0400	0900
5 am.	0500	1000
6 am.	0600	1100
7 am.	0700	1200
8 am.	0800	1300
9 am.	0900	1400
10 am.	1000	1500
11 am.	1100	1600
Noon	1200	1700
1 pm.	1300	1800
2 pm.	1400	1900
3 pm.	1500	2000
4 pm.	1600	2100
5 pm.	1700	2200
6 pm.	1800	2300
7 pm.	1900	2400
8 pm.	2000	0100
9 pm.	2100	0200
10 pm.	2200	0300
11 pm.	2300	0400

For times throughout the entire world consult the RADEX Time Converter.

of our readers use this time system in all their letters. For the benefit of new readers who may not be familiar with this method of writing time, we have decided to print a little chart each month showing various local times compared with the EST 24-hour clock and GMT. This month our chart shows conventional EST alongside the other two systems.



Believe it or not, here's Popeye! That Hercules of comic-strip characters is brought to life by Floyd Buckley, who qualifies as a he-man in his own right. He has been a cowboy, gold miner and a stunt man in the movies, in addition to playing the banjo for a traveling medicine man and touring with Bufalo Bill.

Ham Lingo

Some of the amateur radio operators use abbreviated forms of many radio terms. We do not consider them as slang expressions, but feel that occasional use of these words, in addition to adding "color" to a radio fan's language, enables us to express a great many ideas by the use of only a few letters.

Perhaps the most frequently-heard expressions are "73" and "CQ." 73

is the amateur's way of saying "best regards," and vy 73 is "very best regards." CQ is a general call to any radio station that might wish to make a two-way contact.

Radio operators are nearly always "old men," (OM) and a feminine operator is a YL (young lady). An operator's wife is an XYL.

The letter "X" saves using a number of other letters, as in xmitter, xmission, xtal, for transmitter, transmission and crystal. Schedule is more often spelled "sked."

A radio operator is an "op"; his typewriter is a "mill"; he proudly refers to his xmitter as "junk" or a "rig," while his aerial is usually a "sky wire" and the pylons supporting the sky wire are "sticks." Instead of typing on his typewriter he "pounds" the mill, and the hand with which he operates his key is his "fist."

The letter "K" means "go ahead." CUL stands for "see you later." The QRA is a station's address. QRM is interference from some other station, while local QRM is interference caused by faulty electrical appliances nearby. QRN is atmospheric or natural static.

To Request Verifications

A large number of stations welcome reports of reception from their listeners and usually acknowledge the reports with a verification. This practice started in the old days when a listener thought he needed a letter or card from a station to prove to his doubting friends that the broadcaster actually was heard. In these modern times a DXer's friend will usually believe him when he mentions reception of a California or Oregon station, but he still collects the cards and letters for his own amusement, just as some of us collect postage stamps or match boxes.

Among radio fans verifications are known by various names, the most common being "veri," "confirma-

tion," "QSL," and "wallpaper." A collection of attractively colored QSL cards pasted up on a wall makes an attractive-looking radio den but only the very best DXers can ever hope to paper an entire room in this manner. Many of them try it, however, and this practice has led many radio stations to believe that this is the primary object of collecting cards.

It should not be necessary to state that DXers should never request a verification from a station until the station is positively identified. A few so-called DXers write for verifications from every new station that is reported without bothering to tune for them, and we have known of some who have written to short-wave stations while they did not even possess a shortwave receiver. This sort of chiseling has caused several prominent stations to adopt the practice of ignoring all reports, so all DXers suffer because of the thoughtlessness of two or three persons.

Complete Reports

At least a half hour of the program should be logged, if this is possible, and this log should be as accurate, truthful and complete as possible. The letter should include the date and time of the reception, the frequency on which the station was heard, the call letters, location and accurate data on the signal strength and quality. Time should be given in EST if the station is located in North or South America, and in GMT if it is located elsewhere.

The names of all musical numbers recognized should be given and unfamiliar musical items can be described, as, a "fox trot," "tenor solo," "stringed instruments," etc. Most of the musical numbers heard from South America are unfamiliar and their tempo is undescribable, but if one pays close attention to the announcer he can usually catch the

name of the dance tune to follow. A list of the names of the various dances is given here; listen for these words when trying to catch announcements:

Bambuco	Marcha
Criolla	Paso-doble
Fox	Tango
Jota	Cancion (song)
Pasillo	Fandango
Son	Joropo
Bolero	Merangue
Danzon	Rumba
Habanera	Valse

Whenever possible, the names of advertisers sponsoring programs should be given; regardless of the language spoken it is oftentimes easy to catch the trade names of various products, such as **Victor**, **Sessions**, **Philco**, **Pepsodent**, etc.

The Signal Data

That the report may be of some value to the station it is necessary that the writer mention, truthfully, how well the station is heard, describing volume by the R Code, quality of the QSA Code, and hazards such as interference, static or fading, by the S, X and N symbols.

R1 indicates the faintest signal that can be heard on headphones.

R2 is a weak headquarters signal.

R3 is 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 Maximum volume.

The QSA Code describes quality as follows:

QSA1 Unintelligible.

QSA2 Signals which can be understood only now and then.

QSA3—Poor signals understood with difficulty.

QSA4 Good signals, easy to understand.

QSA5 Perfectly understandable.

Fading is indicated by the letter

"S". S means slight fading; SS means deep fading, and SSS is a complete fadeout. The letter "R" indicates rapid fading.

Static is indicated by X, rather bad static by XX and very heavy static by XXX.

If no fading or static is present, this fact is indicated by "N".

These symbols are usually written one after the other in this fashion: VPD, R7, QSA4/SS/X.

Always Prepay Postage

When writing to overseas stations it is customary to enclose return postage in the form of International Reply Coupons. These can be procured from any Post Office for nine cents each, and can be exchanged in any country in the Universal Postal Union for postage stamps on a first class letter to this country. Contrary to some published reports, *all countries* are members of the UPU except Laccadive and Maldive Island, the State of Alaouites, Northern Rhodesia, and Tonga. Radio stations in which we are interested do not exist in any of these localities.

Tuning the AMATEURS

● ● ● By B. L. Ahman, Jr.

MARCH should mark the beginning of extreme DX pleasure for 20-meter (14 megacycle) band listeners, and vice versa for those who listen on 40 meters. This winter the Venezuelans, Colombians and Central Americans have been very active on 7 megs. and many new calls were heard, but an overabundance of CW ruined most of the pleasure of listening to them.

On 14 megs. the opposite is true. Contrary to last season, the winter brought in numerous DX stations. One of these, LU8AB, the station of Felix Gunther, Federico Lacroze

2158, Buenos Aires, Argentina, was heard nearly every evening. Early or late, he does a lot of talking. "Don Felix," as he is known by his friends, is president of the South American Radio Association, the *Rueda del Oeste*, of which many Spanish-speaking amateurs are members.

The members of the Rueda del Oeste are required to send QSL cards to other members when their signals are reported, under penalty of expulsion. A regulation multi-colored card showing the flags of all the participating countries in their natural colors is used. The writer was recently made an SWL member of this club.

We would like again to remind shortwave listeners that amateurs are not always prompt in replying, mainly because some of them have extremely heavy mail. SU1CH in Cairo, Egypt had 7000 letters to reply to last spring. Even the ordinary close-by amateurs receive a great many reports, and since they have to answer all their mail personally we sometimes wonder how they ever find time to do it. Needless to say, return postage should always be paid when requesting a confirmation.

Following are four stations that we know anyone can hear with a little persistent tuning, on 14 megs.

HK3JA, Jorge Acevedo F., Apartado 330, Bogota, Colombia. Like PY2CK, Mr. Acevedo has an inferiority complex concerning his English, although he speaks it excellently. Tune for him at the extreme low frequency end of the band. His signal is usually a good R9 in most parts of the USA. Send him some snapshots and he will send you some excellent views of Bogota. The best time is in the evenings after 7:30, although as summer approaches he can be heard earlier.

G2MF, Mr. J. Fife Mortimer,

Hoyleake Road, Moerton, Cheshire, England. This is probably the hardest of this little group to hear but is chosen because he personally salutes those who report reception to him. He notifies the reporters of the date and time to listen in for the aerial greeting. Best heard after 5:30 pm, on the low frequency end of the band.

LU5CZ, Jorge Delcasse, Cuba 1919, Buenos Aires, Argentina. Another Rueda del Oeste member, he replies promptly and sends personal greetings on each card. Uses the low frequency side of the 14 meg. band, coming in best at twilight.

CO2KY, Raul Perez Falcon, Box 945, Havana, Cuba. This is the easiest of this group to hear. Sr. Perez sends a special card to SWL listeners, but since he has a very heavy mail he requires a lot of time to reply. Comes in well on several frequencies, and is heard R9 all over the USA.

All shortwave stations are licensed as amateurs in some South and Central American countries. One should not be surprised to hear a broadcasting station calling CQ on the amateur bands as this is quite a common occurrence. Some of the hard-to-get Dominican stations have been picked up by the writer on the amateur bands. On the other hand some broadcasters call CQ on their regularly assigned frequencies, some of these being PRADO, HJU, HJ1ABP, HJ1ABE and many other Cuban, Colombian, Ecuadorian, Venezuelan and Costa Rican stations.

It would interest us to know how many of our readers would like to read thumb-nail sketches of some of the best-heard foreign amateurs and descriptions of their rigs. Incidentally, we also would like to hear from all SWL's and amateurs. Let us know what you are hearing and what kind of news you want in this column. Address Bernard



Lysbeth Hughes' deft fingers sweep over her harp as she sings during broadcasts by Horace Heidt's Brigadiers on Monday nights. This 23-year old singing harpist comes from San Francisco and made her debut as a harpist at the age of 14.

Ahman, Jr., 3313 Westerwald Ave., Baltimore, Md.

The writer wishes to express his thanks to E. R. Roberts of Indianapolis and Edward Schmeichel of Chicago for help in getting started on these columns. VY 73's and lots of DX!

No doubt in the future a television receiver will be regarded not only for its entertainment value but also for its domestic utility. A washing demonstration was an item in the London television programs recently. Soapsuds and steam filled the screen when Mrs. Daisy Pain showed how washing should be done. She explained how to locate grease spots when the garments are wet, how to wash white clothes, how to remove stains and how to scald colored materials. Finally, she showed how to wash woolens without shrinking them and, what is equally important, how to revive woolens already shrunk.



Into WMIN, St. Paul, during the Joe Louis-Joe Brescia fight last fall, a telegraph ticker brought this message: "Flash . . . urgent . . . New York . . . Joe Louis knocked out . . ." An excited bystander rushed the message to the announcer, who told listeners that "Joe Louis was knocked out."

A few minutes later the announcer received the rest of the message. ". . . Joe Brescia in 2 minutes and 12 seconds of the third round in a fight here tonight. Louis had everything his own way." The bystander was Edward Hoffman, owner of WMIN. Reading the first part of the message and eager to broadcast the news over the station which he had just opened, he clipped it from the ticker and rushed to the announcer in the hope of beating other local stations to the flash.

The story of that fight and the embarrassment of Mr. Hoffman is old stuff now. But how often can we find a counterpart in DXing today, when the dialer jumps at conclusions without making sure of his facts.

To a DXer with a potent imagination, many things are possible during an evening of dialing. A faint burst of Oriental music played by a tired engineer in California is interpreted as being an honest-to-goodness Jap. The announcer down in Texas with an odd accent may be construed as standing before an Australian or New Zealand micro-

phone. Perhaps the only limit to that type of DXing is the extent of the imagination.

Naturally, it is possible for these listeners to compile truly amazing records. Their logs show stations from all over the world. It's grand fun until the arrival of the inevitable showdown—and that is likely to prove embarrassing. The DXer may have acted in perfectly good faith and actually believed that he heard the stations reported, but that won't excuse him in the eyes of those who snicker at his discomfiture.

Moral: it's better to be careful than sorry!

Network Recordings

Some twenty million Americans went to work on the morning of January 20th. At noon of that day, President Roosevelt was inaugurated for his second term. A few thousand saw the formalities in Washington. A few million radio listeners heard the president's address. The twenty million workers went about their jobs, ate their lunches, and went back to work.

At nine o'clock that evening, the Mutual network swiped a page from the books of the British Broadcasting Corp. and presented a recording of the inaugural address. The twenty million workers laid aside their evening papers to hear the transcribed broadcast. Everything was just dandy.

One can't help but recall a previ-

ous transcription of the president's voice which failed to reach the audience for which it was intended. Columbia cut it off before it had really started and NBC refused to touch it with a ten-foot pole. That was the famous Vandenburg "debate."

The networks explained that it was against their policy to broadcast recordings of speech or music. Most everybody agreed that neither NBC or Columbia wanted to risk the displeasure of the FCC. Policies can be established with remarkable rapidity—almost as fast as renewals of licenses can be refused.

It is admitted that Mutual has no connection with NBC or CBS, that its policies are formulated by different executives. It is remembered that several Mutual stations broadcast the Vandenburg "debate" last fall.

However, one salient fact was observed on the inauguration broadcast. Before and after the recording was played, it was announced that "the transcription had been made by *special permission*." Who gave the permission? Was it Mutual executives, the Federal Communications Commission, some other government agency, or perhaps the president himself?

If permission was granted in this instance, it seems logical to assume that it was denied in the Vandenburg incident. And if such is the case, it follows that the "policy" explanation offered by NBC and CBS was without foundation and that the two networks actually were subjected to some manner of censorship, voluntary or otherwise.

Americans have always been rather proud of their freedom from censorship in the press and on the air, so this apparent confirmation of former charges of gagging leaves a bad taste. Before another election rolls around, the FCC would do well to issue a definite statement of policy so we all would know where we stand.

Factors Affecting Reception

Since the first radio listener dialed the most remote station within the range of his receiver, DXers have been interested in the factors which affect long distance reception. He wants to know why he can log an Aussie on one particular morning and fails to hear even a carrier the other six days a week.

During the past year, the Bureau of Standards has been conducting tests on stations in Europe and South America. Measurements of signals have been made under every conceivable condition. We now learn that attention is being given to trans-Pacific reception.

While DXers cannot hope to have at their disposal the equipment and facilities of the Bureau of Standards, they can make careful studies of general conditions at the time they are listening. If accurate logs and notes are kept for each night's dialing, interesting conclusions can be drawn and theories propounded.

In the February issue were noted a few general observations on the apparent effect of atmospheric pressure on long distance reception. A few cases were recalled when a study of the weather map might explain varying DX conditions. As reception tests on the Scott receiver continue, these observations are extended and it is hoped that some definite conclusions may be reached.

In this connection, readers are invited to make their own notes and send in their theories. Weather maps are generally to be found in the larger post offices as well as in many newspapers. By checking localities of high and low pressure, and noting how signals from stations in and beyond these areas behave, theories may be established. When signal behavior under given conditions can be checked a second and a third time, the theories may be confirmed.

Temperature and Reception

Temperature is another factor which appears to exert considerable influence on radio signals, but I often wonder whether we really appreciate the actual effects.

In the late spring and summer, for example, we all know that DXing is difficult, if not impossible. Static frequently blots out all but the most powerful signals and seldom permits reception over a distance. Because static is heard in warm weather, we assume that higher temperatures act against long distance reception.

If this is true, we would expect that cold weather would bring better reception. To a certain extent this is true. However, there appears to be a very definite lower limit, below which reception again falls off.

It has frequently been noted that DX improves until the temperature gets down to about 20° above zero. When the thermometer falls below that, signals appear to get weaker and fading increases. During the record-breaking cold spells of the past two winters, DX was often practically impossible. When the temperature dropped to around 20° below zero, even stations within a 500-mile radius were erratic.

Thus, it would seem that ideal DXing weather occurs somewhere between 20° and 40° above zero. Below that range, signals fall off; above it, we begin to find static on the increase. Apparently the good DXer must follow a relatively-narrow path between the two temperature barriers.

And yet we can only prove that half of this idea is true. We do know that extremely cold weather is bad for reception. We merely assume that high temperatures have an adverse effect, because the accompanying static blots out signals.

As a matter of fact, no one has ever had a chance to observe how far signals would travel in warm

weather. Naturally, you will say, because there is too much static!

Actually, the point isn't as absurd as it may first appear. Not a few engineers are of the opinion that natural as well as man-made static is carried on waves which may eventually be divorced from radio waves, at least insofar as reception is concerned. If that is ever accomplished, static would cease to be a menace to warm-weather reception. In such a case, how would the interference-free signal penetrate the warm air?

Of course we don't know the answer to that question, but it provides food for hungry brain cells!

Answers

(Questions on Page 12)

1. The owner, George R. CLOUGH
2. LaWREnce, Kansas.
3. Kansas State Agricultural College.
4. KROW, Oakland, Calif., becomes WORK, York, Pa.
5. (a) KCRC, Enid, Okla., becomes CRCK, Quebec, P. Q.
(b) KEX, Portland, Ore., becomes XEK, Mexico City.
(c) WMC, Memphis, Tenn., becomes CMW, Havana, Cuba
6. Kansas City Kansan.
7. W-attertow-N, N-ew Y-ork.
8. WIND, Gary, Ind. Chicago is called the "Windy City."
9. A contraction of Chilliwack, B. C.
10. They are the only K calls located in the east coast states. All other K calls, except KFIZ, are located west of the Mississippi River.

A new "West Coast Network" was instituted the first of the year, supplanting the Don Lee System, it was recently announced from CBS headquarters. Programs over this network will be keyed from either Los Angeles or San Francisco.

The SHORTWAVE

LISTENERS Report

• • • The Thrill Bands

TRANSOCEANIC reception paled into insignificance this month. For real radio thrills shortwave fans covered the police bands, the amateurs, airports, coast guards and other emergency services. While flood waters tore through the Ohio and Mississippi valleys radio operators stood by their posts, working day and night, doing everything they could to help relieve the suffering of thousands of stricken persons. Normal operating procedure was set aside and anything was done to get the messages through. Amateurs contacted police stations; police, airports and others contacted broadcasting stations; amateurs set up networks of their own to get messages into isolated areas. One network consisted of a 5-meter station in Pittsburgh, a station on 160 meters and a third on 75. Stations of the Eastern Airlines situated in Washington, Chicago, Jacksonsville, Indianapolis, and Atlanta handled flood traffic. Over 150 field transmitters and receivers were brought into the area and used by government services.

When these lines are read the flood will be over, cities will already be rebuilding and people will be returning to normal lives. The story of the greatest flood this country has ever known will be written into history, but impressed on the memory of radio listeners will be the greatest story of all—one that will not go into history books—the story of faithful devotion to service as exemplified by the radio amateurs.

Verify Daventry

Through the efforts of two good fans, RADEX shortwavers will have

an opportunity to verify reception of the Daventry transmissions. It is well known that the stations of the British Broadcasting Corp. do not verify reception of their transmissions, although they do send attractive little "thank you" cards to show their appreciation for reports. We will not enter into a discussion of this matter again, except to say that we feel they are justified in the position they take. Nevertheless, shortwave fans desire good verifications from all the stations they hear, and now is their opportunity to verify Daventry.

Bernard Ahman and Carroll Weyrich of Baltimore, Md., are the two public-spirited citizens of Radextown. To obtain verifications listeners should tune for the Daventry broadcasts on the three Saturday evenings of March 6, 13 and 20, on Transmission No. 5, which is radiated between 1800 and 2000 EST. Reports should consist of the names of at least two musical selections and one verbatim announcement; the call letters of the station heard should be given, and the reports sent, with five cents, to Carroll Weyrich, 4310 Evans Chapel Road, Baltimore. These reports should be in the mail within 24 hours after the close of the broadcast. The remittance may be sent in coin or in stamps of small denomination. If verifications are desired from more than one station, separate reports should be forwarded for each station reported. The verification cards, attractively printed in large letters, will be sent out as soon as possible after the last monitoring date, March 20.



Billy Jones and Ernie Hare, song and comedy entertainers now in their 15th year of broadcasting, who are heard on Sunday nights on the Original Gillette Community Sing with Wendell Hall and Milton Berle. This pair was the first ever to receive compensation for broadcasting on the radio.

The "Awatea" Verified

"Probably the most important verification I have received so far is the one from ZMBJ," avers J. H. Hyde, Elmwood, Conn. "The card gives the following information: The ship is the T. S. S. 'Awatea,' owned by the Union S. S. Co. The call letters, ZMBJ, and the slogan, 'The Ears and Voice of the Tasman.' The transmitter is crystal controlled on a frequency of 13.2 megs., and employs 300-400 watts power. I heard this ship shortly after 2 am, EST on 13.2 megs. The ship's radio operator was trying to contact Sydney, Australia or Wellington, N. Z. and at the time they were somewhere out in the Atlantic Ocean."

Time Signals

The time signal broadcast schedule from NAA and NSS at Arlington, Va., was revised the first of the year. The new schedule calls for

transmissions every hour, commencing at five minutes before the hour and continuing until the even hour, except at 0855, 1055, 2055 and 2255 EST. The complete schedules and frequencies are given in our s.w. indices. The broadcast band transmissions on 690 kcs. were discontinued last June 1st.

Amateurs

This month Bernard Ahman returns with his amateur column which proved so popular in the November issue. A large number of our readers have been requesting amateur news for some time and we feel that the column prepared by Mr. Ahman just about fills the bill. We are anxious to have comments from our readers on this new service.

A new amateur service presented this month for the first time is a column on 28 megacycle (10 meter) reception. This column, prepared with the help of several enthusiastic listeners and amateurs, at the suggestion of Fred Satterthwaite of 544 Colonial Court, Toledo, Ohio, appears in another section of RADEX. For real DX, 10 meters is highly recommended.

The response to our initial appearance of the "Listeners Wanted" column has not been very gratifying. This stunt is being given a trial in this magazine, and frankly, we think it is a pretty good idea. Amateurs are invited to make use of the space we are devoting to them.

Fred Satterthwaite had an unusual experience on the 14 meg. band. He heard a Toledo station and the signal, he says, traveled 2000 miles air-line to reach his set. The station was W7AO in Toledo, Ore.

Argentina

LSX, 10350 kcs., Transradio Argentina, Buenos Aires, has a new sustaining program originating in their own studios, according to information received from Manuel Barbera of Buenos Aires. The pro-

gram deals with the importance and development of Argentine produce, particularly cattle and agricultural. The broadcast is called "La Voz de la Argentina," and announcements are made in Spanish, English, French and German. These programs can be heard on Mondays and Fridays from 1700 to 1745 EST with Bill Clark, well-known engineer, at the microphone.

LRX on 9660 kcs. is now on daily from 1800 to 2230.

Austria

The Austrian experimental station OER2 is now on 11.800 megs. on weekdays and well received by E. L. Peters of Westport, N. S., Canada.

British Guiana

VP3MR in Georgetown, British Guiana, claims to be on 6010 kcs. but actually has been moving all over between 5975 and 6017. It operates most consistently near 5980 kcs.

Chile

The Santiago station CB615, known as "Radio Service" has been operating experimentally on 12295 kcs., we are told by Manuel Barbera of Buenos Aires. While working on 12 megs they have ceased their 6150 kcs. transmissions. As their transmissions are much better now it is presumed they will adopt the new frequency permanently. They work from 1100 to 1300 and 1600 to 2000 EST.

The schedule of CB960 in Santiago is 1130 to 2130, EST.

CEC at Santiago on 10670 and CED at Antofogasta on 10230 kcs. work with each other nearly every night after 2100 EST.

Colombia

Station HJ1ABP, "Radio Cartagena," 9600 kcs. with 1000 watts power, presents programs for American DXers every Saturday night. The programs, dedicated to the Newark News Radio Club and presented by Sr. Eldon J. Lagonterie, start at 2200. Reports are requested and

should be addressed to P. O. Box 37. HJ1ABP has been reported on various frequencies; 9600, 9616, 9618 and 9620 are some of the reported frequencies. We show them on 9618 in our index. This station has been reported at 0700 in the mornings quite frequently.

HJ1ABE, Cartagena, is heard every night lately around 2000 MST with an R9 signal by Sgt. A. W. Brummond, Box 84, Fort Douglas, Utah. Sgt. Brummond says they hold quite closely to the assigned frequency.

R. B. Oxrieder reports that HJ4ABC, "Ecos de Combeima," Ibague, is back on the air on 6090 kcs., interfering with CRCX, being just a shade higher in frequency than the Canadian station.

HJ4ABH has been reported on 9550 kcs. instead of 9520. This station, situated in Armenia, Colombia, signs off with the "Indian Love Call."

HJ4ABD, Medellin, Colombia, 5760 kcs. They have the 5760 kcs. frequency assigned to them but they haven't been using it for some time. They went up to 6135, stayed there about a week or ten days, then moved to 5930. After a while they moved again, to 6138 kcs. and surprisingly have stayed very close to that frequency since.

Costa Rica

A new Costa Rican station is TIMS, 5905 kcs., at Puntarenas. There is still some question on the identification of this one, as the signals are quite weak. It signs in Spanish and English at 11 pm. EST and I think the call is TIMS, although the last two letters may be wrong.

Czechoslovakia

The Prague station has been reported on as many as six different frequencies, but the most dependable seems to be 11840 kcs. The identification signal consists of a trumpet playing a few bars from Dvorak's "New World Symphony." The pro-

grams can be heard until about 1630 EST.

Dominican Republic

HI1J, San Pedro de Macoris, D. R., is now on 5855 kcs.

HI9B, Santiago de los Caballeros, D. R., moved to 5884 from 6045 and is now quite easy to get.

Ecuador

HC1PM in Quito, Ecuador, is supposed to be on 5725 but is actually on 5735, phoning irregularly and broadcasting on Tuesday nights.

Fiji

Geo. K. Glass of 9284 Boleyn St., Detroit, Mich., says that VPD2 at Suva has been discontinued and a new frequency, VPD3, is now being used. VPD3 works on 8720 kcs. from 0530 to 0700 EST. VPD on 13075 is no longer heard. Anthony Tarr of Seattle, Wash., also reports the new frequency.

Great Britain

The British Broadcasting Corp. has undertaken the publication of a bulletin called "BBC Empire Broadcasting." This is a 12-page weekly journal with full details of coming Empire programs, together with illustrations and notes about the more important items. This publication can be obtained direct from the corporation at 10 shillings per year (about \$2.50).

The Daventry station GSP is to be discontinued on 15310 kcs. and in its place will be used GSB on transmission 5. The reason for the change is that overseas transmissions on 15 megs. have been very poor in England and it is generally found that transmitting conditions are nearly reciprocal, according to information received from Raphael Geller, 1652 Radcliff Ave., Bronx, N. Y.

Guatemala

TGWA is operating on and verifies as 9450 kcs.

Hong Kong

"We have received a verification from ZBW in Hong Kong which

gives their power as 2½ kw, and their schedule as, weekdays from 2330 to 0130 and 0400 to 1000, and Sundays from 0000-0130 and 0300-0930," contribute Carl and Anne Eder, Willmar, Minn.

Japan

"The new 50 kw Japanese stations are now in operation" submits Raphael Geller. "JZI and JZK are now operating on regular schedules on Mondays and Thursdays from 1600 to 1700 EST, and Tuesdays and Fridays from 1400 to 1500. Sometimes JZJ is also used. JZI works on 9535 kcs; JZJ on 11800 and JZK on 15160. Announcements are made in English, although of course the major portion of the program is in Japanese. Reports should be addressed to the Broadcasting Corp. of Japan, Atagoyama, Shiba, Tokyo."

"Station JZG is heard near 6350 kcs from 0330 to 0440 working in parallel with JVT," postcards A. C. Tarr. "At 0400 they sign their call in Morse and switch to inverted speech. JZJ on 11800 broadcasts a daily program to Western USA from midnight to 0100 EST."

Labrador

"I logged VOWQ, Northwest River, Labrador, shortly after 1900 on a frequency estimated to be 8650 kcs. or thereabouts," submits J. Herbert Hyde, Elmwood, Conn. "This station was working duplex with CZ9U."

Martinique

"Radio Fort de France (if it has call letters I have yet to hear them), in Martinique, French West Indies, is heard on 9445 kcs," contributes R. B. Oxrieder. "Announcements are made in French and English."

Mexico

"The information I sent on the Mexican stations last month is already pretty much out of date," explains Anthony Tarr, 909 W. Lee St., Seattle, Wash. "XEBR in Hermosillo, Son. on 11820 relays XEBH,

daytimes only. The address is Apartado 68.

"XEDQ in Guadalajara moved to 9480 and is reported working between 2300 and 0100 EST. XEFT, Veracruz, heard at midnight on 9460. XEPW on 6120 in Mexico City signs off at midnight. This station announces as 'La Voz del Aguila Azteca desde Mexico.' XETU in Guadalajara on 6115 megs. works from 2100 to 2400 EST. XEWI in Mexico City on 11900 kcs also operates sometimes on 6015."

Netherland East Indies

The schedule of the NIROM stations on the island of Java is sent to us by Geo. K. Glass. They broadcast daily from 0530 to 1030 or 1100; 1800-1930 and 2230 to 0200. Saturdays 1030-1130 and 2230-2400. Sundays 0000-0200 and 0530-1030. The stations used are YDA, YDB, PMN, PLP, YDC and PMH, all given in our index.

Nicaragua

YNOP, Managua, Nicaragua, a comparatively new station which varies in frequency somewhat, but announces as 5758 kcs. It is known as "Radio Bayer."

Panama

Carl and Anne Eder report hearing HP5K on 6000 kcs, Colon, Panama, in the mornings at 0700, with a very good signal and announcing in very good English.

"I am hearing a Spanish-speaking station on 11.750 megs. which appears to be in David City, Panama," reports Alfred H. Bacon, 928—13th St., New Westminster, B. C. "Several test programs were heard but they were marred by very bad fading. A new station, YV1RH, in Valencia, Venezuela, is heard nightly at 10:30 pm. PST testing on about 5.810 megs. Announcements are often made in English."

Peru

The strange station on 6164 kcs. has finally been identified as OAX1A, at Ica, Peru. It signs off at 2300

with the Good Night Waltz, according to Capt. R. B. Oxrieder.

Another Ica station is added to our list by Manuel Barbera of Buenos Aires. The new transmitter is OAX5B, "Radio Universal," on 11796 kcs. According to announcements made by the speaker, they broadcast from 1200 to 1600 and 2000 to 2200, EST. The address is Estafeta de Correos.

Another new Peruvian is OAX4A, 9350 kcs, heard on weekdays from 1830 to 2330 and on Sundays from 1930 to 2430 by Ray. W. Sahlbach, 3200a Miami St., St. Louis, Mo. A 3-note chime is heard before the station announcements, and the address is Box 116.

A further report from Mr. Oxrieder, since the above paragraphs were written, tentatively alters some of the information on Peruvian stations. "The stranger on 6164, mentioned in a former letter as OAX1A, moved to 6175 for a couple days, and



Laughing at the world through an NBC microphone is the merry team of Victor Moore and Helen Broderick, two of America's foremost stage comedians, brought together for the first time on the air by the new Twin Stars program on Fridays at 9:30 pm.

then returned to 6164. At first I thought they announced as Ica, but that didn't seem right because Ica is supposed to be in the 5th district. The announcements sounded like Radio Philca so I looked over a map very carefully and the only town that looks right is Quilca, but unless they have their districts arranged in a very peculiar manner, Quilca should not be in the 1st district either. This station signs off in English about 2300 every night, gives his address as Box No. 9, and claims his frequency is 6133 kcs.

"OAX5B is in Ica, on 11804 kcs., but the frequency varies."

Poland

That elusive Polish station SPW works on 13635 kcs. on Mondays, Wednesdays and Fridays from 1230 to 1330. This information also is from R. B. Oxrieder, 122 E. Hamilton Ave., State College, Pa.

Sweden

"For the past few days I have heard a station in Stockholm, Sweden, operating on 11705 kcs. The call letters are SM5SX," writes Robert Bjur. "The best reception is obtained on Wednesday from 1700 to 1800 EST." The complete schedule of this station is Saturday 0700-1700; Sunday 0900-1700; other days 0200-0245; 0630-0700; 1100 to 1700.

U. S. S. R.

At this time the only new s.w. station I am picking up is RAN at Moscow, USSR, on 31.51 meters. This station broadcasts every Sunday from 5 to 6:30 pm. MST with Russian music and speech in English." Ernest Law, 10439—69th St., Edmonton, Alta., is the one reporting.

United States

"On page 22 of the January RA-DEX you state that W9XAA will be off the air during rebuilding. This is not accurate," corrects Mr. Maynard Marquardt, Technical Supervisor of WCFL-W9XAA, Chicago Federation of Labor, 666 Lake Shore Drive. "W9XAA is using its present trans-

mitter and constructing an entirely new one separate from the present one. We have amended our application to the FCC and are now asking for permission to use 20,000 watts in the new W9XAA."

Another letter from Mr. Marquardt tells us that W9XAA signs off in a variety of languages, including English, German, French, Norwegian, Polish, Russian and occasionally Spanish. "Our night time schedule," he writes, "is from 1700 until midnight, CST, on 6080 kcs., and we use a directional antenna aimed at Central Europe. We also have under construction, and will complete within ten days, a new directional aerial on which we will transmit from 0630 until noon CST on 11830 kcs., aiming at the west coast of the United States, Australia and New Zealand."

Two South American stations now rebroadcast the Saturday matinee performances of the Metropolitan Opera Co. in New York, heard in this country over the NBC Networks, under the sponsorship of the Radio Corp. of America.

The two stations are Radio Splendide at Buenos Aires and Radiobras at Rio de Janeiro. The programs are transmitted from New York over W3XAL at Bound Brook, N. J. The new directional-beam antenna for South American broadcasts is used for these transmissions. Transmission problems, which limited NBC's broadcasts to Latin America in the past, are overcome in a large measure by use of this new antenna. Because of its directive quality the aerial will have the equivalent of a six-fold increase in power. This is true on both of W3XAL's frequencies, 17780 and 6100 kcs.

A directive antenna for European broadcasts is now under construction at Bound Brook and is expected to be in operation by March 1.

We wrote: "Will you please advise us what languages are used by

W9XF when the station is signing off?"

W9XF answered: "If verification is desired please send complete details of program heard."

We think 9XF uses French, German, English and Spanish, but not being language experts we would like to confirm this information.

Some new police broadcasters are reported by Charles Gamwell, Jr., 11 Taconic St., Pittsfield, Mass. They are WEVN, Bel Air, Md., 1678 kcs., WPHK, near Wilmington, Ohio, 1682 kcs., and WAKX, York, Pa., on 2442 kcs.

Venezuela

Rex Davis of Cumarebo, Venezuela; Bernard Ahman of Baltimore



The Morin Sisters, heard on the Fitch Jingle Program, are, reading down, Marge and Evelyn, sopranos, and Pauline, contralto. Marge makes the arrangements they sing, Evelyn is the business head and Pauline, the oldest, is the boss of the group.

and the NNRC Venezuelan Director Jesus Ma. Lander Garcia, Caracas, as well as R. B. Oxrieder of State College, Pa., send information on a complete revision of the call signs of Venezuelan stations. This country is now divided into districts, evidently

from 1 to 9, so all the stations in the same district will bear the same numeral. The complete list of changes appears in "The Months Changes in Station Data" on Page 48.

YV1RH, 6360 kcs., Maracaibo, reads letters and reports of reception on Thursdays at 2210 to 2245, EST.

Correspondence Wanted

Kenneth W. Crawford, 5006 Lynsdale Ave., S., Minneapolis, Minn., uses a Majestic 5-tube receiver with a Stewart-Warner s.w. converter, and would like to hear from users of similar equipment.

"Will you please put my name in your list for exchanging SWL cards," requests Francis de Chambeau, 2830 Fifth Ave., Hibbing, Minn. "I have been DXing for 10 months and am interested in 20 meter amateurs as well as s.w. broadcasts."

Manfred C. Johnson, 2318 Third Ave., Hibbing, Minn., also requests exchange of SWL cards. "I am especially interested in hearing from Grunow owners," he states. "I use two inverted L antennas, one 40 feet high and 80 feet long and the other 30 feet high and 100 feet long. I have a total of 50 countries on 20 meter 'phone and have heard all continents several times."

"I would like to ask readers to answer a question for me," invites Herbert Hop, 63 E. 21st St., Holland, Mich. "I have been hearing a station on about 9.490 or 9.5 megs. It comes in very well but I cannot get the call letters or the location. When they announce they make all sorts of sounds, such as a baby crying, a siren blowing, or a person laughing. Many popular recordings are played."

An itinerant aircraft license has been granted Wallace Beery to work on the 3105 kcs. frequency with 10 watts power. The station, for which call letters have not yet been assigned, will be installed in his plane NC-50Y.

Ten For DX

THE 10-meter or 28 megacycle amateur 'phone band is not accessible on most all-wave receivers, but those who have tuned on 28 megs. are enthusiastic about its DX possibilities.

Elmer Rahmes of W8JFC in Sharonville, Ohio, advises us, through W8BKM, of the best time to listen for signals from certain parts of the world. Egypt is heard near 1000, EST. European stations are best between 0330 and 1300. Africans are good all morning. Australia is heard in the evenings from 1800 to 2000 and Japanese amateurs come through between 1800 and 1900. South America is not very active on 10 but a few stations are heard near 1800 EST.

J. F. Satterthwaite, 544 Colonial Court, Toledo, Ohio, submits some sizzling dope on ultra-high frequencies. All this information is his:

ZUGP, W. F. Myer, 58 Sixth Ave., Bezuidenhout Valley, Johannesburg, Union of S. Africa, is on 28189 shortly after noon. This station has had so many reports he is now 500 cards behind.

SUISG, F. H. Pettitt, Catholic Club, Mustapha Barracks, Alexandria, Egypt, usually on CW but occasionally on 'phone.

OEIFH, Fritz Haas, Frankenberg-gasse 12, Wien IV, Austria, just before noon.

A lady operator at G6DH, owned by D. W. Heightman, 59 Burrs Road, Clacton on Sea, Essex, England, on 28100.

G6VX, T. St. G. Leigh Clark, 42 Lynmouth Rd., Stamford Hill, N16, London, on 28120, verified.

G6GO is on 28840.

PAOVX, Netherlands, on 28190 at noon.

EI2L, Irish Free State on 28124 megs.

OA4AK, Peru, will verify on 10 meters but not on 20 meters.

LUSAB, Felix Gunther, F. Lacroze 2158, Buenos Aires, Argentina, on 28140.

LU9AX, Ernesto Guerrini, Figueroa 578, Buenos Aires, on 28125 between 1600 and 1800 EST.

K6MVV, Hawaii, is the loudest signal on 28 megs. here. It is verified.

K7PQ, R. J. Fox, Box 301, Ketchikan, Alaska, 350 watts, on 28500 at 1800 EST.

Other good stations are K7FDE, FB8VX, ZL1CD on 28520. ZS1C is reported on 28100 but I have not heard it.

Direction Finders

One topic which is in the mind of nearly every American today is the subject of safety in air transportation. Recent disasters seem to indicate the necessity for additional safeguards for those who fly.

Ray W. Brown, official of the contest board of the National Aeronautical Association and sales manager of the General Tire & Rubber Co., has been working for nearly two years to bring about the adoption of the radio direction finder by all air line companies. He feels that the present system of radio beams is out of date and should be discarded in favor of the direction finder.

When bad flying conditions prevail it is sometimes impossible for a pilot to ride on a beam and there have been times when a pilot was on the wrong beam, but the direction finder enables one to set his course by any radio station.

Mr. Brown, flying under adverse conditions in the vicinity of Terre Haute, Ind., was able to determine his exact position in respect to Terre Haute by tuning in stations in that city, in Goshen, Ind., and in Cleveland. Then, tuning in WWO at Cleveland as a homing point, he was able to drop to 2500 feet and start to break through the overcast. Near Bucyrus, Ohio, however, the storm started to move in rapidly so

he changed his homing point to broadcast station WADC in Akron and rode home safely.

Station Hunters

(Continued from Page 19)

what can be accomplished by a little planning. If CPCers would spend half of their activity time on arranging details of programs already scheduled, listeners would have a program worthy of attention and the station response would be boosted considerably.

J. Edward Diehm, Jr., 424 Walnut St., Pottstown, Pa. says, "I have been DXing for about seven years and have 539 veries on the BCB to show for the effort. I'm serving on the CPC of the URDXC and am having a fine time. Would be pleased to hear from DXers just starting in the game, as I feel sure I can be of some aid to them."

Foreign Tests

"Recently I visited the Bureau of Standards in Washington, informs J. L. Lippincott, Box 2, Tufts College, Mass., "and had a long talk with Mr. Kirby, who is making some of the measurements of foreign stations during the current tests. He showed me charts of reception from some of the T.A.s and LR1. He would like to receive word from DXers as to how the T.A.'s and T.P.'s come in. He is anxious to know whether or not Europeans come in better when broadcast in the same latitude as the listener. Their tests have shown that the Europeans are much weaker than the South Americans, and they are looking for some explanation of this. Also, DXers who can receive both T.A. and T.P. stations (especially Japs in the same latitude as some of the T.A.'s) might be able to gather interesting data."

"Being an old timer in the DX

hobby," admits Lemuel Cavileer, 1223 Keswick Ave., Haddon Heights, N. J., "you boys tempt me with your contest and I want to sample some of the fun you are sure to offer. When I say 'old timer,' I refer to the radio age—not my own. My boy friend had a radio—or wireless, as it was then called—when we entered World War and he had to dismantle it. I can remember Station WOO in Philadelphia when they came near wearing out the store organ. And how about the week all the stations in the U.S.A. had to sign off from 10 to 11:30 PM just to see how far we could hear on this thing called radio. I got a framed certificate for receiving 2LO, HRB and OAX on one tube. And how about the thrills when the Ekko stamps arrived from 6KW, CNRR and KGBU? But enough of this and on with the Mystery DX Contest!"

Believing that some time they may have two networks, like the NBC Red and Blue, the CBS has, for a long time, tried to obtain a second outlet in New York City. A rather complicated procedure would be necessary; it was planned that the Paulist Fathers, operators of WLWL, would buy WOV for \$300,000, and then junk WOV, transferring its facilities to WPG in Atlantic City. Thus WPG would acquire full time with 1000 watts on 1130 kcs. WLWL would then assume full time on 1100 kcs. in New York, after which the Paulists would sell WLWL to the CBS.

The situation just became a bit more complicated, however. Arde Bulova, the watch maker, bought WOV from John Iraci for \$300,000. This was the key to the whole CBS shift and it is problematical now what the final outcome will be. Mr. Bulova has purchased several radio stations this year and it is believed he plans to start a new network.

The Frequency Checks

THE engineers of the Federal Communications Commission have arranged a schedule of programs for the purpose of checking the frequency of a great number of low-powered stations. Interfering stations are silenced for these tests which continue for twenty minutes with frequent announcements of call and location.

These special programs take place during the second week of each month. The March tests will commence on Monday the 8th and continue through Saturday the 13th. April tests will commence on Thursday the 8th and continue through Wednesday the 14th, exclusive of Sunday; and the May tests will start on Saturday the 8th and carry through Friday the 14th, exclusive of Sunday.

The following schedule has just been received from the FCC and readers should preserve it for future reference.

The Second Monday

2:00-2:20	WLNH	1810	Laconia, N. H.
	WJBO	1420	Baton Rouge, La.
2:10-2:30	WBRB	1210	Red Bank, N. J.
	WHBB	1500	Selma, Ala.
2:20-2:40	WMAS	1420	Springfield, Mass.
	WIOD	1300	Miami, Fla.
2:30-2:50	WVRL	1500	Woodside, N. Y.
	WJBW	1200	New Orleans, La.
2:40-3:00	WOKO	1430	Albany, N. Y.
	WMBR	1370	Jacksonville, Fla.
2:50-3:10	WCAX	1200	Burlington, Vt.
	WOPI	1500	Bristol, Tenn.
3:00-3:20	KTRH	1290	Houston, Texas
	WMBO	1310	Auburn, N. Y.
	WMSO	1420	Sheffield, Ala.
3:10-3:30	WOC	1370	Davenport, Ia.
	WCAD	1220	Canton, N. Y.
	WMFN	1210	Clarksdale, Miss.
3:20-3:40	KWLC	1270	Decorah, Ia.
	WMBQ	1500	Brooklyn, N. Y.
	WNBK	1430	Memphis, Tenn.
3:30-3:50	KFPW	1210	Fort Smith, Ark.
	WMFF	1310	Plattsburg, N. Y.
	WBDO	580	Orlando, Fla.
3:40-4:00	KABC	1420	San Antonio, Texas
	WQDM	1390	St. Albans, Vt.
	WSMB	1320	New Orleans, La.
3:50-4:10	KADA	1200	Ada, Okla.
	WFAS	1210	White Plains, N. Y.
	WHEF	1500	Kosciusko, Miss.
4:00-4:20	KFDM	560	Beaumont, Texas
	WCAP	1280	Asbury Park, N. J.
	KLS	1280	Oakland, Calif.
	WAGF	1370	Dothan, Ala.
4:10-4:30	KCRJ	1310	Jerome, Ariz.
	KMLB	1200	Monroe, La.

4:20-4:40	KLUF	1370	Galveston, Texas
	WDEV	550	Waterbury, Vt.
	KGDM	1100	Stockton, Calif.
4:30-4:50	WDNC	1500	Durham, N. C.
	KROC	1310	Rochester, Minn.
	KGAR	1370	Tucson, Ariz.
	KALB	1420	Alexandria, La.
4:40-5:00	KOVC	1500	Valley City, N. D.
	WBNO	1200	New Orleans, La.
4:50-5:10	KRE	1370	Berkeley, Calif.
	WLAK	1310	Lakeland, Fla.
5:00-5:20	KJEM	1450	Eureka, Calif.
	WGCM	1210	Gulfport, Miss.
5:10-5:30	KDON	1210	Del Monte, Calif.
	WMIN	1370	St. Paul, Minn.
	WTAL	1310	Tallahassee, Fla.
5:20-5:40	KUMA	1420	Yuma, Ariz.
5:30-5:50	KWG	1200	Stockton, Calif.
5:40-6:00	KGMB	1320	Honolulu, T. H.

The Second Tuesday

2:00-2:20	WBAX	1210	Wilkes Barre, Pa.
2:10-2:30	WDAS	1370	Philadelphia, Pa.
2:20-2:40	WBBL	1210	Richmond, Va.
2:30-2:50	WFBG	1310	Altoona, Pa.
2:40-3:00	WMBG	1210	Richmond, Va.
2:50-3:10	WEBR	1310	Buffalo, N. Y.
3:00-3:20	KDAL	1500	Duluth, Minn.
	KFIZ	1420	Fond du Lac, Wisc.
	WLVA	1200	Lynchburg, Va.
3:10-3:30	KPAC	1260	Port Arthur, Texas
	WOMT	1210	Manitowoc, Wisc.
	WBTM	1370	Danville, Va.
3:20-3:40	KCKN	1310	Kansas City, Kans.
	WKRC	550	Cincinnati, Ohio
	WHIEC	1430	Rochester, N. Y.
3:30-3:50	WNAD	1010	Norman, Okla.
	WMBC	1420	Detroit, Mich.
	WRAK	1370	Williamsport, Pa.
3:40-4:00	KFVS	1210	Cape Girardeau, Mo.
	WTAD	900	Quincy, Ill.
	WJAC	1310	Johnstown, Pa.
3:50-4:10	WTAW	1120	College Station, Tex.
	WBNS	1430	Columbus, Ohio
	WBNY	1370	Buffalo, N. Y.
4:00-4:20	WCOL	1210	Columbus, Ohio
	KOOS	1200	Marshfield, Ore.
	WBRE	1310	Wilkes Barre, Pa.
4:10-4:30	KLPM	1240	Minot, N. Dak.
	WPAY	1370	Portsmouth, Ohio
	KPQ	1500	Wenatchee, Wash.
	WPAR	1420	Parkersburg, W. Va.
4:20-4:40	KRMD	1310	Shreveport, La.
	KFIO	1120	Spokane, Wash.
	WCLO	1200	Janescville, Wisc.
4:30-4:50	WSYR	570	Syracuse, N. Y.
	KGCA	1270	Decorah, Iowa
	KORE	1420	Eugene, Ore.
	WJAY	610	Cleveland, Ohio
	WNBK	1500	Binghamton, N. Y.
4:40-5:00	KTEM	1370	Temple, Texas
	KGBU	900	Ketchikan, Alaska
	WGH	1310	Newport News, Va.
	WHBC	1200	Canton, Ohio
4:50-5:10	KGVO	1260	Missoula, Mont.
	KRLH	1420	Midland, Texas
	WHK	1390	Cleveland, Ohio
	WWSV	1500	Pittsburgh, Pa.
5:00-5:20	KGCC	1450	Wolf Point, Mont.
	WSAY	1210	Rochester, N. Y.
	WSPD	1340	Toledo, Ohio
5:10-5:30	KAST	1370	Astoria, Ore.
	KNET	1420	Palestine, Texas
	WAVE	940	Louisville, Ky.
5:20-5:40	KCMO	1370	Kansas City, Mo.
	KFJI	1210	Klamath Falls, Ore.
	WXYZ	1240	Detroit, Mich.
5:30-5:50	KIDW	1420	Lamar, Colo.
	WGAR	1450	Cleveland, Ohio

5:40-6:00 KQV 1380 Pittsburgh, Pa.
WCAT 1200 Rapid City, S. Dak.

The Second Wednesday

2:00-2:20 WMPF 1420 Daytona Beach, Fla.
2:10-2:30 WAIM 1200 Anderson, S. C.
2:20-2:40 KVOL 1310 Lafayette, La.
2:30-2:50 WHBQ 1370 Memphis, Tenn.
2:40-3:00 WKAQ 1240 San Juan, P. R.
2:50-3:10 WSJS 1310 Winston-Salem, N. C.
3:00-3:20 KABR 1420 Aberdeen, S. Dak.
WFAM 1200 South Bend, Ind.
WMPD 1370 Wilmington, N. C.
3:10-3:30 KLCN 1290 Blytheville, Ark.
WPAX 1210 Thomasville, Ga.
3:20-3:40 KFPL 1310 Dublin, Texas
WKBN 570 Youngstown, Ohio
WRDW 1500 Augusta, Ga.
3:30-3:50 KGBX 1230 Springfield, Mo.
WELL 1420 Battle Creek, Mich.
WQBC 1360 Vicksburg, Miss.
3:40-4:00 KFXJ 1200 Grand Junction, Colo.
KPLC 1500 Lake Charles, La.
WADC 1320 Akron, Ohio
3:50-4:10 KARK 890 Little Rock, Ark.
WGFC 1420 Albany, Ga.
WOSU 570 Columbus, Ohio
4:00-4:20 KFJZ 1370 Fort Worth, Texas
WHBU 1210 Anderson, Ind.
WJNO 1200 West Palm Beach, Fla.
4:10-4:30 WBEO 1310 Marquette, Mich.
WCOC 850 Meridian, Miss.
WLB 1250 Minneapolis, Minn.
4:20-4:40 KSO 1430 Des Moines, Iowa
WKEU 1500 Griffin, Ga.
WMPG 1200 Lapeer, Mich.
4:30-4:50 WEXL 1310 Royal Oak, Mich.
WHLB 1370 Virginia, Minn.
4:40-5:00 WJMS 1420 Ironwood, Mich.
WJRD 1200 Tuscaloosa, Ala.
4:50-5:10 KFXR 1310 Oklahoma City, Okla.
WTAX 1210 Springfield, Ill.
WBTG 1440 Greensboro, N. C.
5:00-5:20 KFJB 1200 Marshalltown, Iowa
WEOA 1370 Evansville, Ind.
5:10-5:30 KPDN 1310 Pampa, Texas
WLD 1020 Tuscola, Ill.
5:20-5:40 KELD 1370 Eldorado, Ark.
WAYX 1200 Waycross, Ga.
5:30-5:50 KDLR 1210 Devils Lake, N. Dak.
5:40-6:00 KRBC 1420 Abilene, Texas

The Second Thursday

2:00-2:20 WSVS 1370 Buffalo, N. Y.
2:10-2:30 WKOK 1210 Sunbury, Pa.
2:20-2:40 WRAW 1310 Reading, Pa.
2:30-2:50 WJTN 1210 Jamestown, N. Y.
2:40-3:00 WTEL 1310 Philadelphia, Pa.
2:50-3:10 WHIS 1410 Bluefield, W. Va.
3:00-3:20 KGKO 570 Wichita Falls, Tex.
WCPO 1200 Cincinnati, Ohio
WQAN 850 Scranton, Pa.
3:10-3:30 KFYO 1310 Lubbock, Texas
WGL 1370 Ft. Wayne, Ind.
WLEU 1420 Erie, Pa.
3:20-3:40 KGFI 1500 Corpus Christi, Texas
WIBU 1210 Poynette, Wisc.
3:30-3:50 KGFL 1370 Roswell, N. Mex.
WBCM 1410 Bay City, Mich.
WSAJ 1310 Grove City, Pa.
3:40-4:00 KGGM 1230 Albuquerque, N. Mex.
WJBC 1200 Bloomington, Ill.
3:50-4:10 KGHF 1320 Pueblo, Colo.
WHAT 1310 Philadelphia, Pa.
WLAP 1420 Lexington, Ky.
4:00-4:20 KGH 1400 Little Rock, Ark.
KXO 1500 El Centro, Calif.
WHDL 1400 Olean, N. Y.
WSMK 1350 Dayton, Ohio
4:10-4:30 KGIW 1420 Alamosa, Colo.
KJBS 1070 San Francisco, Calif.
WJIM 1210 Lansing, Mich.

4:20-4:40 KGKB 1500 Tyler, Texas
KGU 750 Honolulu, T. H.
WBOW 1310 Terre Haute, Ind.
4:30-4:50 KGKL 1370 San Angelo, Tex.
KSUN 1200 Lowell, Ariz.
WCBS 1420 Springfield, Ill.
4:40-5:00 KHSL 950 Chico, Calif.
KRRV 1310 Sherman, Texas
WTMV 1500 East St. Louis, Ill.
4:50-5:10 KERN 1370 Bakersfield, Calif.
WHBF 1210 Rock Island, Ill.
5:00-5:20 KHBC 1400 Hiro, T. H.
WTRC 1310 Elkhart, Ind.
5:10-5:30 KTRB 740 Modesto, Calif.
WWAE 1200 Hammond, Ind.
5:20-5:40 WIBM 1370 Jackson, Mich.
5:30-5:50 WALR 1210 Zanesville, Ohio

The Second Friday

2:00-2:20 WGNV 1210 Newburgh, N. Y.
2:10-2:30 WCNW 1500 Brooklyn, N. Y.
2:20-2:40 WGBB 1210 Freeport, N. Y.
2:30-2:50 WABY 1370 Albany, N. Y.
2:40-3:00 WNRI 1200 Newport, R. I.
2:50-3:10 WSYB 1500 Rutland, Vt.
3:00-3:20 KICA 1370 Clovis, N. Mex.
WEBQ 1210 Harrisburg, Ill.
WABI 1200 Bangor, Me.
3:10-3:30 WACO 1420 Waco, Texas
WLBC 1310 Muncie, Ind.
3:20-3:40 WEW 760 St. Louis, Mo.
WIBX 1200 Utica, N. Y.
WKBB 1500 E. Dubuque, Ill.
3:30-3:50 KUOA 1260 Fayetteville, Ark.
WAGM 1420 Plesque Isle, Me.
WHDF 1370 Calumet, Mich.
4:00-4:20 KIUI 1310 Santa Fe, N. Mex.
WJW 1210 Akron, Ohio
WNBZ 1290 Saranac Lake, N. Y.
4:30-4:50 WJBK 1500 Detroit, Mich.
WMBH 1420 Joplin, Mo.
WRDO 1370 Augusta, Me.
4:40-4:60 KIUL 1210 Garden City, Kans.
WCMI 1310 Ashland, Ky.
WTHT 1200 Hartford, Conn.
4:10-4:30 WCAZ 1070 Carthage, Ill.
WNJC 1500 New London, Conn.
4:20-4:40 WMFG 1210 Hibbing, Minn.
WTAQ 1330 Green Bay, Wisc.
4:30-4:50 KIUP 1370 Durango, Colo.
WPAD 1420 Paducah, Ky.
4:40-5:00 KNOW 1500 Austin, Texas
WEMP 1310 Milwaukee, Wisc.
4:50-5:10 KGDE 1200 Fergus Falls, Minn.
WGRG 1370 New Albany, Ind.
5:00-5:20 KIUN 1420 Pecos, Texas
5:10-5:30 KGEK 1200 Sterling, Colo.
5:20-5:40 KMAC 1370 San Antonio, Texas
5:30-5:50 WIL 1200 St. Louis, Mo.
5:40-6:00 KGFG 1370 Oklahoma City, Okla.
5:50-6:10 WHIS 1210 Wichita, Kans.

The Second Saturday

2:00-2:20 WMFR 1200 High Point, N. C.
2:10-2:30 WMFO 1370 Decatur, Ala.
2:20-2:40 WSOC 1210 Charlotte, N. C.
2:30-2:50 WTJS 1310 Jackson, Tenn.
2:40-3:00 WSIX 1210 Nashville, Tenn.
2:50-3:10 WROL 1310 Knoxville, Tenn.
3:00-3:20 KOTN 1500 Pine Bluff, Ark.
WQAM 500 Miami, Fla.
3:10-3:30 KWYO 1370 Sheridan, Wyo.
WCLS 1310 Joliet, Ill.
WPRP 1420 Ponce, P. R.
3:20-3:40 KGCU 1240 Mandan, N. Dak.
WHBY 1200 Green Bay, Wisc.
WNEL 1290 San Juan, P. R.
3:30-3:50 KXYZ 1440 Houston, Texas
WAML 1310 Laurel, Miss.
WKBV 1500 Richmond, Ind.
3:40-4:00 KRGV 1260 Weslaco, Texas
WFOR 1370 Hattiesburg, Miss.
WJBL 1200 Decatur, Ill.

3:50-4:10	KNEL	1500	Brady, Texas
	WEED	1420	Rocky Mount, N. C.
	WGBF	630	Evansville, Ind.
4:00-4:20	KFQD	780	Anchorage, Alaska
	KVSO	1210	Ardmore, Okla.
	WFDF	1310	Flint, Mich.
4:10-4:30	KONO	1370	San Antonio, Texas
	KVOS	1200	Bellingham, Wash.
	WKBZ	1600	Muskegon, Mich.
4:20-4:40	KRLC	1420	Lewiston, Idaho
	KTSM	1310	El Paso, Texas
4:30-4:50	KUJ	1370	Walla Walla, Wash.
4:40-5:00	KCMC	1420	Texarkana, Ark.
	KRNR	1500	Roseburg, Ore.
4:50-5:10	KEEN	1370	Seattle, Wash.
	KWTN	1210	Watertown, S. Dak.
5:00-5:20	KGFF	1420	Shawnee, Okla.
	KIT	1310	Yakima, Wash.
5:10-5:30	KBTM	1200	Paragould, Ark.
	KRKO	1370	Everett, Wash.
5:20-5:40	KFRO	1370	Longview, Texas
	KGEZ	1310	Kalispell, Mont.
5:30-5:50	KBIX	1600	Muskego, Okla.
	KFXD	1200	Nampa, Idaho
5:40-6:00	KFJM	1410	Grand Forks, N. D.
	KXRO	1310	Aberdeen, Wash.
5:50-6:10	KGY	1210	Olympia, Wash.
6:00-6:20	KINY	1310	Juneau, Alaska
6:10-6:30	KMED	1410	Medford, Ore.

Notes

The Japanese Association of America has applied to the FCC for permission to erect a shortwave station at San Francisco for the purpose of supplying Japanese farmers in central and northern California with agricultural and market news in their own language.

* * *

One of the southland's most famous radio stations, KTHS, Hot Springs, Ark., has changed hands and applied for permission to move into Little Rock. KTHS, formerly owned by the local Chamber of Commerce, was sold to Radio Enterprises, Inc. At about the same time an application was filed with the FCC by Associated Arkansas Newspapers, Inc., for a new daytime 100-watt station to operate on the 1310 kc. frequency in Hot Springs.

* * *

It is reported that several persons living in a suburb of Bremen, Germany, were recently convicted of listening to a Moscow broadcast and were sentenced to prison for periods varying from one to two years.

For two years WLWL in New York has tried to obtain permission to operate full time with 5 kw. Their plans were upset, however, when the FCC disposed of the entire proceeding and granted all stations involved in the controversies renewal of their licenses on the same basis accorded them prior to the time WLWL started the cases.

WLWL works about two hours a day on the clear channel of 1100 kcs, and hoped to obtain full time through switching the assignments of eight stations on five frequencies. These stations, which are now restored to their original status, are WWL, New Orleans, WFAA Dallas, WBAP Fort Worth, WCCO Minneapolis, WOV New York, WPG Atlantic City, KWKH Shreveport, WNYC New York and WJJD Chicago.

* * *

Plans are being made for the erection of a new broadcasting center for the Columbia Broadcasting System. The building, which will be completed in about two years, will occupy a tract of land at the southeast corner of Park Ave. and 59th St., in New York, one half mile from Radio City. The European architects who designed the AVRO studios in Hilversum, Netherlands, have been invited to New York to advise in the construction of the new building.

* * *

Since the Affiliated Broadcasting Co. was organized last May about a quarter of a million dollars have been spent in organization, of which about \$75,000 was raised by Samuel Insull and his friends. The company is near collapse and only the strictest economy can hold it together until the looked-for fall and winter business relieves the situation. Mr. Insull was practically the founder of the system, but he lost control of the board and resigned; Mr. H. B. Walker of WEOA and WBOW is in charge of the Board at the present time.

Floods

A tired announcer speaks terse, brief commands into the microphone of a Dixieland radio station. His words, spoken without emotion or feeling, direct the work of all those engaged in the work of relieving the suffering of homeless refugees from the flood-stricken areas of the Ohio River in the vicinity of Louisville. His appeals for help, spoken to workers in his own city, are heard by persons in every part of the country. He does not dramatize. He is faced with stark reality. Muddy waters of an angry river rush through his city, but hour after hour, day after day, he sits there in the cold and damp, sometimes in the dark, relaying his messages until his voice almost fails him. When his own station has to cease his reassuring voice comes through from a friendly station to the south, so his neighbors know that help is coming and his fellow workers know where they are needed.

It was genuine drama that was packed in the broadcasts of the Volunteer Inter-City Network, the chain of stations that grew up over night from Minnesota to Florida, carrying the story of the flood from WHAS in Louisville.

When the high water first became evident at Louisville, WHAS carried flood bulletins exclusive. When it was announced that the power might fail, WSM in Nashville offered the services of its transmitter and WELL at Battle Creek, as well as WCKY at Covington offered their assistance. Near midnight Louisville had to leave the air, but the broadcasts were picked up by land wire by WSM, and this station continued to broadcast the flood bulletins for Louisville for the entire duration of the flood, twenty-four hours a day. In the morning WHAS returned to the air, and the network was formed.

The broadcasts originated in the

WHAS studios and were fed to the network through WSM. Scanning the dials of his receiver, the writer heard fourteen stations rebroadcasting WHAS: WGRC, WCKY, WELL, WSB, WHAM, WFBM, WGR, WCCO, WWJ, WLAC, WJAX, WJR, WCFL and WFBR. There may have been many more that we did not hear.

In their own localities WLW, WSAI and WSAB performed most commendably, and the many broadcasts of the NBC, CBS and MBS cannot go without mention.

Programs

This month we have inserted a few of the Canadian Broadcasting Corporation features in the programs listed under "What's On The Air Tonight?" In addition to these shows which originate in Canada, several of the NBC, CBS and MBS broadcasts are heard on the Canadian Network and these are so indicated. A complete list of the CBC stations is given elsewhere in this issue of RADEX.

We receive from Canada regular weekly program folios listing all their network features, but as many of them are not familiar to us we cannot choose the most popular ones for inclusion in our lists. We will try to include a few of the better programs if our Canadian readers will let us know which they like the best.

We intend to list also the programs of the new coast-to-coast Mutual System, and will do so as soon as Mutual commences to release this information regularly.

DX Convention

With the object of creating greater fellowship among DXers throughout the world, an international DX Convention will be held

in San Francisco during the month of July, 1939. Although originated and sponsored by the International DXers Alliance, all DX Clubs, radio periodicals and other organizations interested in radio are being asked to participate.

The Convention will be replete with all the customary trimmings, including banquets, talks by prom-

inent DXers and radiomen, contests, prizes, visits to radio stations, recreation, etc.

All clubs and organizations wishing to co-operate should write at once to George C. Sholin, Director, Golden Gate International DX Convention, 55 Lapidge St., San Francisco, Calif.

The MONTH'S CHANGES in STATION DATA

This information is compiled just before we go to press, after the forms for most of the other pages are closed. Some very recent changes, received too late to index in this issue, are here included, and will be incorporated next month in our main indices.

Shortwaves

2.500	XEXP	Monterrey, N. L.	1000	XEBI	Aguscalientes, Ags.
5.930	YV1RK	Venezuela	1060	XEXS	Portable in Mexico
6.250	.....	Caracas, Venez.	1080	XEMG	Atzacapotzalco, D. F.
6.720	PME	Bandoeng, Java	1130	.....	College Park, Md.
7.180	YNAM	Managua, Nicaragua	1150	XEC	Guzman, Jal.
8.720	VFD3	Suva, Fiji	1160	XEDW	Mexico City, D. F.
11.796	OAX5B	Ica, Peru	1190	XEBJ	Tijuana, B. Cfa.
			1200	.....	Minatitlan, Ver.
			1210	.....	Merida, Yuc.
4.390	NAA	Arlington, Va. Time signals at 0955 and 2155	1220	XEBL	Visalia, Calif.
6.090	HJ4ABC	Ibague, Colombia	1250	XEDA	Superior, Wis.
26.400	W9XAZ	Milwaukee, Wis.	1370	XEXH	Bridgeton, N. J.
			1500	XELZ	Mazatlan, Sln.
				XELW	Gra. Anaya, D. F.
				KAWM	San Luis Potosi, S.L.P.
5.710	YV2RA	San Cristobal, Venez., from 5.720	.....	KYCA	Mexico City, D. F.
5.855	H11J	San Pedro, D. R., from 5.865	580	.....	Gallup, N. Mex.
5.880	YV3RB	Barquisimeto, Venez., from 5.900	780	.....	Richmond, Va.
5.885	H19B	Santiago, D. R., from 6.045	870	.....	Ashtabula, Ohio
5.950	HJN	Bogota, Colombia, from 6.080	1160	XEBZ	
9.400	XEFT	Veracruz, Ver., from 9.505	550	XELX	Merida, Yuc., 100 from 250
9.480	XEDQ	Guadalajara, Jal., from 9.520	610	XEMX	New York, N. Y., 1000 from 500
12.295	CB615	Santiago, Chile, from 6.150	750	WMCA	Mexico City, D. F., 500
			900	XEXM	Motamoros, Tams., 25 from 7.5
			1060	XEAF	Nagames, Son., 750 from 250
			1210	XEAD	Guadalajara, Jal., 125 from 500
				XEAT	Parral, Chih., 250 from 300
5.710	YV2RA	San Cristobal, Venez., from YV1ORSC	1260	XEE	Durango, Dgo., 50 from 200
5.800	YV5RC	Caracas, Venez., from YV2RC	1280	KUOA	Siloam Springs, Ark., 2500 from 1000
5.850	YV1RB	Maracaibo, Venez., from YV5RMO	1310	KVOA	Tucson, Ariz., 1000 from 500
5.880	YV3RB	Barquisimeto, Venez., from YV5RB	1180	WMFF	Mexico City, D. F., 100 from 12
5.910	YV4RH	Valencia, Venez., from YV15RV	1210	XEFA	Pittsburg, N. Y., 100 from 250
6.070	YV1RD	Maracaibo, Venez., from YV7RMO	810	XEAT	Tacuba, D. F., from Mexico City
6.166	YV5RD	Caracas, Venez., from YV3RC	1060	XEXC	Parral, Chih., from Hidalgo
6.300	YV4RD	Maracaibo, Venez., from YV12RM	1270	XEAD	Aguscalientes, Ags., from XFC
6.380	YV5RF	Caracas, Venez., from YV4RC	1340	XEBP	Guadalajara, Jal., from XEA
6.400	YV5RH	Caracas, Venez., from YV9RC	1370	XEXD	Jalapa, Ver., from XFB
6.520	YV4RB	Valencia, Venez., from YV6RV	1530	KEEN	Jalapa, Ver., from XFD
6.545	YV6RB	Bolovar, Venez., from YV11RB	610	XECZ	Seattle, Wash., from KFL
				WBRY	San Luis Potosi from XEZZ
				XFX	Waterbury, Conn., from W1XB5

Broadcast

NEW		
040	XEBX	Sattillo, Coah.
060	XEAL	Mexico City, D. F.
820	XEBG	Tijuana, B. Cfa.
860	XENC	Mexico City, D. F.
940	XEYO	Mexico City, D. F.
980	XEAC	Tijuana, B. Cfa.

640	XEOX	Saltfio, Conh.	0600-0630	WOOD	1270	Grand Rapids, Mich.
690	NAA	Arlington, Va.			March 3	
710	XEN	Mexico City, D. F.	0300-0330	WHBQ	1370	Memphis, Tenn.
780	XEYZ	Mexico City, D. F.			March 10	
820	XEMZ	Coronado Isle, B. Cfa.	0200-0600	FCC	Frequency Checks	
1000	XEY	Merida, Yuc.			March 31	
1150	XEFL	Tijuana, B. Cfa.	0300-0400	KHBC	1400	Hilo, Hawaii NNRC
	XEWZ	Mexico City, D. F.	0500-0530	WPAD	1420	Paducah, Ky.
1240	XEAI	Mexico City, D. F.			March 17, 24	
	XEME	Merida, Yuc.	0230-0300	WHBQ	1370	Memphis, Tenn.
1270	XEG	Ensenada, B. Cfa.			March 3, 17	
1310	XFA	Aguascalientes, Ags.	0630-0700	KWBG	1420	Hutchinson, Kans.
					March 3, 31	
			0130-0230	WSUI	880	Iowa City, Ia
1210	WMBG	Richmond, Va., to 1350			March 3, 10, 17, 24, 31	
1420	WJBO	Baton Rouge, La., to 1120	0600-0630	WOOD	1270	Grand Rapids, Mich.
					Thursday mornings	
880	WPHR	Petersburg, Va., to Richmond			February 25	
					March 4	
					March 11	
1210	WJTN	Jamestown, N. Y., to 100	0245-0315	KADA	1200	Ada, Okla.
	WMBG	Richmond, Va., to 500	0500-0530	WFLA	620	Clearwater, Fla.
1420	WJBO	Baton Rouge, La. to 500			March 4, April 1	
1440	WBIG	Greensboro, N. C., to 1000	0200-0500	CMHJ	1160	Cienfuegos, Cuba
					March 11	
			0200-0550	KADA	1200	Ada, Okla.
					March 18, April 15	
			0445-0550	CMHJ	1160	Cienfuegos, Cuba
					Friday mornings	
					March 5	
			0145-0215	KNOW	1500	Austin, Texas
				WACO	1420	Waco, Texas
					March 12	
			-0130-0200	WJAG	1060	Norfolk, Neb.
			0200-0600	FCC	Frequency Checks	
			0215-0245	KPOF	880	Denver, Colo.
					Saturday mornings	
					February 20	
			0200-0600	RADEX	MYSTERY DX CONTEST	
			0600-0700	WTRC	1310	Elkhart, Ind.
					February 28	
			0300-0400	KFRO	1370	Longview, Texas NNRC
					March 6	
			0330-0350	KASA	1210	Elk City, Okla.
					March 13	
			0200-0630	FCC	Frequency Checks	
					March 27	
			0300-0400	KFRO	1370	Longview, Texas NNRC

The DX Calendar

Special programs arranged by the stations for the benefit of distant listeners. The regular frequency check broadcasts are given in another section of this issue. All times are Eastern Standard.

		Sunday mornings			
		February 21			
0100-0300	WHAZ	1300 Troy, N. Y.			
0200-0600	RADEX	MYSTERY DX CONTEST			
		February 28			
0200-0500	CFLC	930 Prescott, Ont. GCDXC			
		March 21			
0300-0500	WHAZ	1300 Troy, N. Y.			
		February 21, 28 and March 7, 14, 21, 28			
0000-0500	TGW	1210 Guatemala City			
0200 0500	CMCU	1280 Havana, Cuba			
0230-0400	CKWX	1010 Vancouver, B. C.			
0300-0500	CFCF	1450 Victoria, B. C.			
	XEP	1160 Juarez, Chih.			
		Monday Mornings			
		February 22			
0200-0600	RADEX	MYSTERY DX CONTEST			
		March 1			
0100-0115	KTSA	550 San Antonio, Texas			
0530-0600	WRAW	1310 Reading, Pa.			
		March 8			
0100-0200	WHEF	1500 Kosciusko, Miss.			
0200-0600	FCC	Frequency Checks			
		March 15, 29			
0600-0630	KGFW	1310 Kearney, Neb.			
		Tuesday mornings			
		February 23			
0300-0330	KIUL	1210 Garden City, Kans.			
0530-0545	WHEC	1430 Rochester, N. Y.			
0530-0600	KBIX	1500 Muskogee, Okla.			
	KMAC	1370 San Antonio, Texas NNRC			
		March 9			
0200-0600	FCC	Frequency Checks			
		March 23			
0530-0600	KBIX	1500 Muskogee, Okla.			
		March 2, 16			
0100-0115	WRR	1280 Dallas, Texas			
		March 2, 16, 23			
0300-0330	KIUL	1210 Garden City, Kans.			
		March 2, 9, 16, 23, 30			
0530-0545	WHEC	1430 Rochester, N. Y.			
		Wednesday mornings			
		February 24			
0300-0400	KHBC	1400 Hilo, Hawaii NNRC			
0500-0530	WPAD	1420 Paducah, Ky.			

The CBC Network

The Canadian Broadcasting Corporation, with offices in the National Research Building at Ottawa Ont., advise us that the following stations use Corporation programs.

CFAC	930	Calgary, Alta.
CFCF	600	Montreal, P. Q.
CFCB	930	North Bay, Ont.
CFCO	630	Chatham, Ont.
CFCY	630	Charlottetown, P.E.I.
CFJC	880	Kamloops, B. C.
CFNB	550	Fredericton, N. B.
CFPL	730	London, Ont.
CFQC	840	Saskatoon, Sask.
CFRC	1510	Kingston, Ont.
CFRN	960	Edmonton, Alta.
CHAB	1200	Moose Jaw, Sask.
CHLP	1120	Montreal, P. Q.
CHML	1010	Hamilton, Ont.
CHNC	960	New Carlisle, P. Q.
CHNS	930	Halifax, N. S.
CHSJ	1120	St. John, N. B.
CHWK	780	Chilliwack, B. C.
CJAT	910	Trill, B. C.
CJCA	730	Edmonton, Alta.
CJCB	1240	Sydney, N. S.
CJCY	600	Calgary, Alta.

CJGX	1300	Yorkton, Sask.
CJKL	1310	Kirkland Lake, Ont.
CJOC	950	Lethbridge, Alta.
CJRC	630	Winnipeg, Man.
CJRM	640	Moose Jaw, Sask.
CJRO	6160	Winnipeg, Man.
CJRX	11720	Winnipeg, Man.
CKBI	1210	Prince Albert, Sask.
CKCH	1210	Hull, P. Q.
CKCK	1010	Regina, Sask.
CKCO	1010	Ottawa, Ont.
CKCV	1310	Quebec, P. Q.
CKCW	1370	Moncton, N. B.
CKGB	1420	Timmins, Ont.
CKMO	1410	Vancouver, B. C.
CKOC	1120	Hamilton, Ont.
CKOV	630	Kelowna, B. C.
CKPC	930	Brantford, Ont.
CKPR	730	Fort William, Ont.
CKSO	780	Sudbury, Ont.
CKTB	1200	St. Catharines, Ont.
CKWX	1010	Vancouver, B. C.
CKX	1120	Brandon, Man.
CKY	910	Winnipeg, Man.
CRCK	1050	Quebec, P. Q.
CRCM	910	Montreal, P. Q.
CRCO	880	Ottawa, Ont.
CRCS	950	Chicoutimi, P. Q.
CRCT	840	Toronto, Ont.
CRCV	1100	Vancouver, B. C.
CRCW	600	Windsor, Ont.
CRCX	6000	Toronto, Ont.
CRCY	1420	Toronto, Ont.

Boake Carter, the Philco commentator who broadcasts five nights a week on the CBS, made his' screen debut as the narrator in the new film "The Dead March," which is now showing in theaters throughout the country.

"The Dead March" is a bold screen revelation of the horrors and atrocities of war, dealing in events in Spain, China, Ethiopia and the World War and composed of pictures taken on the scenes of action.

* * *

The Boston local, WMEX, has become a high-powered regional station. Their application for 1470 kcs with 5 kw power was granted by the FCC without a hearing. When construction of the new transmitter is completed their 1500 kilocycle assignment will be relinquished.

* * *

Nathaniel Shilkret once made a gold recording for the Emperor of Japan. He was asked to autograph it, and inscribed it "To His Highness, the Emperor, from Nathaniel Shilkret." The record was returned to him, however, with the request that the dedication be changed; none save the Emperor him-

self is permitted to write the imperial name.

* * *

On June 1, there were, in the United States, 6111 radio stations exclusive of amateurs and government classes. There were 46,598 amateurs. These stations are divided into 34 different classes. The class having the greatest number of stations is the Ship Telegraph, with 1973. This is followed by the Municipal Police, with 1125. There are 630 stations on the broadcast band (550-1500 kcs.); 325 point-to-point telegraph stations; 32 "apex"; 79 State Police, and 186 relay broadcasters.

* * *

According to World-Radio, the weekly journal of the British Broadcasting Corporation, a number of new stations will be erected throughout India, at Trichinopoli, Dacca, Lahore, Madras and Peshawar, and, in the United Provinces, at Lucknow or some other suitable place. Expenditures on the new stations and for remodeling the existing ones at Bombay and Calcutta, are estimated to be about \$1,350,000.

* * *

There are no shortwave stations in Turkey at present, but it is understood that the Turkish government will soon let contracts for construction of two new radio stations. One of these will be on the high frequencies with 10 kw. It is believed it will be located at Ankara.

* * *

Station WTFI, of Athens, Ga., which has a permit to move into Atlanta, has been acquired by the Atlanta Journal, owners of WSB in Atlanta. On removal to Atlanta the call letters no doubt will be changed, perhaps to WAGA. It is expected that WSB, now an NBC outlet, will carry Red Network programs and the new station the programs of the Blue Net.

WHAT'S ON THE AIR TONIGHT

Fill in the calls and frequencies of the stations through which you best receive the network programs. You can then turn quickly to the one that has the feature you want.

Network	Stations
Canadian (CBC)	
Columbia (C)	
Mutual (M)	
National Red (R)	
National Blue (B)	

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-6:15 p.m., C-5:15, M-4:15, P-3:15

C — News of Youth
KMOX WABC WADC WBBM WBNS
WCAO WCAU WDRG WEEI WFBL
WHK WHX WKBN WLBZ WMAS
WOKO WORC WFRD WVVV

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

C — Renfrow of the Mounted
KFAB KFH KLRA KMBC KMOX
KOMA KRLL KRNT KSCJ KTUL
KWKH WABC WADC WBBM WBNS
WCCO WDRG WFBM WGR WHCC
WHK WIBX WICC WISN WJR
WJSV WKBN WMAS WMBG WNAC
WNBH WOC WREC WSMK WSPD
WVVV

B — Lowell Thomas

CRCT KDKA WBAL WBZ WBZA
WFLA WIOD WJAX WJZ WLW
WMAL WOOD WRVA WSYR WTAM
WXYZ

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

C — Poetic Melodies; Jack Fulton
WABC WADC WBT WCAO WCAU
WDRG WEAN WEEI WFBL WGR
WHCC WHK WJAS WJR WJSV
WKRC WOKO WSPD WTOP WVVV

R — Amos 'n' Andy

KY WBEN WCAE WCSH WEAF
WEEI WFBZ WGY WJAR WLW
WRC WTAG WTIC

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

C — Popeye the Sailor
KFAB KLZ KMBC KMOX KRNT
KSL WABC WADC WBBM WBNS
WCAO WCAU WDRG WEAN WFBL
WFBM WGR WHAS WHCC WHK
WIBX WICC WJAS WJSV WKRC
WNAC WOK WOKO WORC WSMK

R — Uncle Ezra's Radio Station

KPRC KTBS KTHS KVOO KYW
WBAF WBEN WCAE WCKY WCSH
WDAF WEAF WEEI WFBZ WGY
WIRE WJAR WKY WMAQ WOAI
WOC WOV WRC WTAG WTAM
WTIC

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

B — Lum and Abner
WBZ WBZA WENR WJZ WLW
WMC WSM WSYR

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

C — Boake Carter
KMBC KMOX KOMA KRLL WABC
WBBM WBT WCAO WCAU WCCO
WDRG WEAN WFBL WGR WHAS
WHK WJAS WJR WJSV WKRC
WVAC

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

C — Horace Heidt and Orchestra
KDB KERN KFAB KFBE KFH
KFPY KPRC KGB KHJ KLRA KLZ
KMBC KMJ KMOX KOIN KOL
KRLL KRNT KSL KTRH KTSB
KTUL KVI KWG WABC WBBM
WBRG WBT WCAO WCAU WCCO
WDRG WFBL WFBM WGR WGST
WHAS WHK WJAS WJR WJSV
WKRC WLAC WMBR WNAC WNAV
WOKO WREC WWL

R — Fibber McGee and Molly

KSD KYW WBEN WCAE WCKY
WCSH WDAF WEAF WEEI WFBZ
WGY WHO WIRE WJAR WMAQ
WOOD WOW WRC WTAG WTAM
WTIC WWJ

B — Helen Hayes, Drama

KDKA KOIL KSO KWK WABY
WBAL WBZ WBZA WEBR WFBZ
WFIL WGAR WHAM WJZ WLS
WMAL WMT WREN WSAI WSYR
WXYZ

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

C — Pick and Pat
KFAB KMBC WABC WADC WBBM
WBT WCAO WCAU WDRG WEAN
WFBL WGR WGST WHCC WHK
WHX WICC WJAS WJR WJSV
WKRC WLBZ WMAS WNAC WOKO
WORC WSPD

R — Voice of Firestone

CFCF CRCT KFYR KPRC KSD
KSTP KTBS KVOO KYW WAVE
WBEN WCAE WCSC WCSH WDAF
WDAY WEAF WECB WEEI WFAA
WFCB WFBZ WFLA WGY WHO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WKY WMAQ WMO
WOAI WOW WPTF WRC WRVA
WSB WSM WSMB WSOC WTAG
WTAM WTAR WTIC WTMJ WWJ
WVNC

R — Frank Munn; Abe Lyman

KDKA KOIL KSO KWK WBAL WBZ

WBZA WCKY WEAN WEBR WFIL
WGAR WHAM WICC WJZ WLS
WMAL WMT WREN WSYR WXYZ

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

C — Lux Radio Theatre
CFRB CKAC KDB KERN KFAB
KFBE KFPY KPRC KGB KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLL KRNT
KSL KTRH KTSB KTUL KVI KWG
WABC WADC WBBM WBNS WBRG
WBT WCAO WCAU WCCO WDAE
WDBJ WDRG WEAN WFBL WFBM
WGST WHAS WHCC WHK WICC
WISN WJAS WJR WJSV WKBW
WKRC WLAC WNAC WNAV WOKO
WORC WQAM WREC WWL

R — Warden Lawes, Prison Drama

KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD KYW WBEN
WCAE WCKY WCSH WDAF WEAF
WGY WHO WIRE WJAR WMAQ
WNAC WOW WRC WTAM WTIC
WWJ

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

R — Richard Himber and Orchestra
KFYR KPRC KED KSTP KTBS
KVOO KYW WBEN WCAE WCSH
WDAF WDAY WEAF WECB WFAA
WFBZ WGY WHO WIBA WJAR
WKY WLW WMAQ WOAI WOW
WRC WTAG WTAM WTIC WTMJ
WWJ

B — Jack Pearl; Morton Bowe

KDKA KECA KFSD KGA KGO KJR
KLO KOIL KSO KWK WABY WAVE
WBAL WBZ WBZA WCKY WCOW
WEAN WEBR WENR WFIL WFLA
WGAR WHAM WICC WIOD WIS
WJAX WJDX WJZ WMAL WMC
WMT WOOD WPTF WREN WRVA
WSB WSM WSMB WSOC WSWN
WSYR WTAR WWNC WXYZ

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

R — Contented Program
CFCF CRCT KDYL KFI KGW
KHQ KOA KOMO KPO KPRC KSD
KYW WBEN WCAE WCSH WDAF
WEAF WEEI WFBZ WFLA WGY
WHO WIOD WIS WJAR WJAX
WKY WMAQ WMC WOAI WOW
WPTF WRC WRVA WSB WSM

MONDAY (Continued)

WTAG WTAM WTAR WVIC WWJ
WVNC

C — Wayne King and Orchestra
KDB KERN KFAB KFBK KFPY
KFRC KGB KHJ KLZ KMBC
KMJ KMX KOKN KOL KRNT
KSL KVI KWG WAAB WABC
WADC WBBM WBNS WBT WCAO
WCAU WCCO WDCR WEAN WFBL
WFBM WHAS WHK WIBW WJAZ
WJR WJSV WKBW WKRC WOKO
WSPD WWL

E-10:30 p.m., C-9:30, M-8:30, P-7:30
R — Krueger Musical Tost
WCSC WGSB WEAF WFBC WFLA
WGY WIOD WIS WJAR WJAX
WNAC WPTF WSB WSOC WSUN
WTAG WTAR WVIC WWNC

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Poetic Melodies; Jack Fulton
KERN KFAB KFBK KFPY KFRC
KGB KHJ KLRA KLZ KMBC KMOX
KOKN KOL KOMA KRLD KRNT
KSL KTRH KTSa KVI WBBM
WBRC WCCO WFBM WGST WLAC
WREC WWL

R — Amos 'n' Andy
KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD WBAP WDAF
WHO WKY WLW WMC WQAI WOW
WSB WSM WSMB WTAM WWJ

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Renfrew of the Mounted
KDB KERN KFBK KFPY KFRC
KGB KHJ KMJ KOKN KOL KSL
KVI KWG

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Pick and Pat
KDB KERN KFBK KFPY KFRC
KFB KGKO KHJ KLRA KLZ KMJ
KMOX KOKN KOL KOMA KRLD
KRNT KSCJ KSL KTUL KVI KWG
KWKH WACO WBRC WCCO WFBM
WHAS WLAC WREC

TUESDAY

E-6:45 p.m., C-5:45, M-4:45, P-3:45
B — Lowell Thomas, See Monday
C — Renfrew, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Poetic Melodies, See Monday
R — Amos 'n' Andy, See Monday

B — Easy Aces
KDKA KDYL KFI KGW KHQ KOA
KOIL KOMO KPO KSO KWK WBAL
WBZ WBOA WCKY WENR WFL
WGAR WHAM WHIO WIRE WJZ
WMAL WMT WSYR WXYZ

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — "Ma and Pa", Sketch
WABC WADC WABC WBNS WBRC
WBT WCAO WCAU WDBJ WDCR
WEEL WFBL WGR WHEC WHK
WHP WIBX WJAS WMAS WMBG
WNBF WORC WPRO WSJS WVVV

B — Tastyest Jesters
KDKA KOIL KSO KWK WABY
WBAL WBZ WBA WBR WENR
WFL WGAR WHAM WJZ WMAL
WMT WSAI WSYR WXYZ

E-7:30 p.m., C-6:30, M-5:30, P-4:30
B — Lum and Abner, See Monday

C — Alexander Woolcott
KFAB KFH KLRA KMOX KRLD

KTRH KTSa KWKH WABC WADC
WALA WBBM WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBO
WDCR WEEL WFBL WFBM WGR
WGST WHAS WHEC WHIO WHK
WIBM WISN WJAS WJR WJSV
WKRC WLAC WLWB WMAS WMBG
WMBR WOKO WORC WPRO WQAM
WREC WTOC WWL WVVV

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Hammerstein Music Hall
KFAB KMOX KRNT WABC WADC
WBBM WBNS WCAO WCAU WDCR
WEAN WFBL WFBM WGR WHAS
WHK WJAS WJR WJSV WKRC
WMAS WNAC WOKO WSPD

R — Leo Reisman and Orchestra
KFYR KPRC KSD KSTP KTBS
KVOO KYW WBAF WBEN WCAE
WCSH WDAF WDAY WEAF WEEI
WFBF WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX
WKY WLW WMAQ WOW WPTF
WRC WRVA WSOC WTAG WTAM
WTAR WVIC WTMJ WWJ WWNC

B — Log Cabin Dude Ranch
KDKA KOIL KSO KWK WBAL
WBZ WBJZ WFIL WGAR WHAM
WIRE WJZ WLS WMAL WMT
WREN WSYR WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Al Jolson; Sid Silvers

CFRB KFAB KFH KLRA KMBC
KMOX KOMA KRLD KRNT KTRH
KTSa KTUL WABC WADC WBBM
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDCR
WEEL WFBL WFBM WGR WGST
WHAS WHEC WHIO WHK WIBX
WJAS WJR WJSV WKRC WLAC
WMAS WMBD WMBG WNAX
WOKO WORC WPRO WQAM WREC
WWL

R — Wayne King and Orchestra
KFYR KPRC KSD KSTP KTBS
KVOO KYW WAVE WBAP WBEN
WCAE WCKY WCSH WDAF WDAY
WEAF WEEC WEEL WFBF WGY
WHO WHIO WIBA WIRE WJAR
WJDX WKY WMAQ WMC WQAI
WOW WRC WSB WSM WSMB WTAG
WTAM WVIC WTMJ WWJ

B — Edgar Guest, Welcome Valley
KDKA KOIL KSO KWK WBAL WBZ
WBJZ WFIL WGAR WHAM WJZ
WLS WLW WMAL WMT WREN
WVNR WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Al Pearce and Gang

CFRB KCAC KFAB KFH KGKO
KLRA KMBC KMOX KOMA KRLD
KRNT KSCJ KTRH KTSa KTUL
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDNC WDDO WDCR WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WHP WIBX WJAS
WICC WISN WJAS WJR WJSV
WKBH WKBN WKBW WKRC
WLAC WLWB WMAS WMBD WMBG
WMBR WMMN WNAC WNAX
WNBF WNOX WOC WOKO WORC
WOWO WPG WQAM WREC WSBT
WSFA WSJS WSPD WTOC WWL

R — Vox Pop; Sidwalk Interviews
KSD KYW WBEN WCAE WCKY

WCSS WDAF WEAF WEEI WFBR
WGY WHO WIRE WJAR WMAQ
WOW WRC WTAG WTAM WVIC
WWJ

B — Ben Bernie and Orchestra
KDKA KDYL KFI KFSD KFYR
KGW KHQ KOA KOIL KOMO KPO
KPRC KSO KSTP KTRAR KTBS
KVOO KWK WAVE WBAL WBAP
WBZ WBZA WDAY WEBC WFIL
WFLA WGAR WHAM WIBA WIOD
WIS WJAX WJDX WJZ WKY WLS
WLW WMAL WMC WMT WOA
WPTF WREN WRVA WSB WSM
WSMB WSOC WSYR WTAR WTMJ
WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Jack Oakie's College

KFAB KFH KFPY KGKO KLRA
KLZ KMBC KMOX KNX KOKN
KOL KOMA KRLD KRNT KSCJ
KSFO KSL KTRH KTSa KTUL
KVI KVOR KWKH WABC WACO
WADC WALA WBBM WBIG WBNS
WBRC WBT WCAO WCAU WCCO
WDAE WDBJ WDBO WDNC WDDO
WDCR WEEL WFBL WFBM WGST
WHAS WHEC WHIO WHK WHP
WIBW WIBX WISN WJAS WJR
WJSV WKBN WKBW WKRC WLAC
WLWB WMAS WMBD WMBG
WMBR WNAX WNBFB WNOX WOC
WOKO WORC WOWO WPG WPRO
WQAM WREC WSBT WSFA WSJS
WTOC WWL

R — Fred Astaire; Johnny Green
CRCT KDYL KFI KFYR KGW
KHQ KOA KOMO KPO KFRC KSD
KSTP KTBS KTBS KVOO KYW
WAVE WBAP WBEN WCAE WCKY
WCSH WDAF WDAY WEAF WEEC
WEEI WFBF WFLA WGY WHO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WKY WMAQ WMC
WQAI WOW WPTF WRC WRVA
WSM WSMB WSOC WTAG WTAM
WTAR WVIC WTMJ WWJ WWNC

B — Husbands and Wives
KECA KEX KFSD KGA KGO KJR
KLO KOIL KSO KWK WBAL WBZ
WBZA WEBR WENR WHAM WJZ
WMAL WMT WREN WSAI WSYR
WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
B — Arnoce Concert Band

KDKA KECA KFSD KGA KGO
KJR KLO KOIL KSO KVOD WBAL
WBZ WBZA WEBR WENR WFIL
WGAR WHAM WJZ WLW WMAL
WMT WREN WSYR WXYZ

E-10:30 p.m., C-9:30, M-8:30, P-7:30
R — Jimmy Fidler Hollywood Gossip

KDYL KFI KGW KHQ KOA KOMO
KPO KSD KTRAR KYW WBEN
WCAE WCSH WDAF WEAF WFBF
WGY WHO WJAR WLW WMAQ
WNAC WOOD WOW WRC WTAG
WTAM WVIC WWJ

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Poetic Melodies, See Monday
R — Amos 'n' Andy, See Monday

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Renfrew of Mounted, See Monday

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Al Jolson; Sid Silvers
KFYR KGMB KLZ KNX KOKN
KOL KSFO KSL KVI

TUESDAY (Continued)

R — Leo Reisman and Orchestra
KDYL KFI KFSD KGH KGR
KGW KHQ KOA KOMO KPO KTAR

WEDNESDAY

E-6:15 p.m., C-5:15, M-4:15, P-3:15
C — News of Youth, See Mon.

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Renfrew of Mounted, See Mon.
B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Poetic Melodies, See Monday
R — Amos 'n' Andy, See Monday
B — Easy Aces, See Tuesday

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Popeye, See Monday
R — Uncle Ezra, See Monday
B — Tastyest, See Tuesday

E-7:30 p.m., C-6:30, M-5:30, P-4:30
B — Lum and Abner, See Monday

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Cavalcade of America
KDB KERN KFAB KFBB KFFY
KFRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KRNT
KSL KVI KWG WABC WBBM
WBNS WCAO WCAU WCCO WDRB
WEAN WFBL WFBM WGR WHAS
WHBC WHK WJAS WJR WJSV
WKRC WLAC WMBG WNAC WQOW
WTOC WWL

R — One Man's Family
KDYL KFI KFYR KGW KHD KOA
KOMO KPO KPRC KSD KSTP
KTAR KTBS KTHS KVOO KYW
WAPI WAVE WBAP WBEN WCAE
WCBS WDAF WDAY WFAE WFCB
WEEI WFAA WFRB WFLA WGY
WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WQAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOB
WSUN WTAG WTAM WTAR WTC
WTMJ WWJ WWCN

B — Broadway Merry-go-Round
KDKA KOIL KSO KWK WBAL
WBZ WBZA WCKY WEAN WEBR
WFIL WGAR WHAM WICC WJZ
WLS WMAL WMT WREN WSYR
WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Burns and Allen

CKAC KFAB KFH KLRA KMBC
KMOX KOMA KRLD KRNT KSCJ
KTRH KTHS KTUL KWKH WABC
WADC WBBM WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDRB WEAN WFBL WFBM
WFEA WGR WGST WHAS WHBC
WHK WHP WIBW WIBX WICC
WJAS WJR WJSV WKRC WLAC
WLBZ WMAS WMBD WMBG
WMBR WNAC WNAX WNOX WQOW
WORC WPG WQAM WREC WSPD
WWL

R — Wayne King, See Tuesday
B — Ethel Barrymore, Drama
KDKA KOIL KSO KWK WBAL WBZ
WJAZ WENR WFIL WGAR WHAM
WJZ WMAL WMT WREN WSAI
WSYR WXYZ

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

KDB KERN KFAB KFBB KFH
KFFY KFRC KGB KGKO KGMB
KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTHS KTUL KVI KFOR KWG
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WCOA WDAE
WDBG WDBO WDRB WDRS WDRS
WEAN WFBL WFBM WFEA WGST
WHAS WHBC WHK WHP WIBW
WIBX WICC WISN WJAS WJR
WJSV WKBB WKBW WKRC WLAC
WLBZ WMAS WMBD WMBG
WMBR WNAC WNAX WNOX WQOW
WQAM WREC WSFA WSJS WSPD
WTOC WWL

R — Town Hall Tonight
KFYR KFRC KSD KSTP KTBS
KTHS KVOO KYW WAVE WBEN
WCAE WDCB WDAF WDAY WFAE
WFCB WEEI WFAA WFRB WFLA
WGY WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WQAI WOW WPTF WRC WSB
WSM WSMB WSOB WTAG WTAM
WTAR WTC WTMJ WWJ WWCN

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

C — Jessica Dragonette
KDB KERN KFAB KFBB KFH
KFFY KFRC KGB KGMB KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLD KRNT
KSL KTRH KTHS KTUL KVI KWG
KWKH WABC WBBM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDRB WEAN WFBL
WFBM WGST WHAS WHBC WHK
WICC WISN WJAS WJR WJSV
WKBW WKRC WLAC WLBZ WMBG
WMBR WNAC WQOW WORC WQOW
WQAM WREC WTOC WWL

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Crime Crusade; Phil Lord

KDB KERN KFAB KFBB KFH
KFFY KFRC KGB KHJ KLRA KLZ
KMBC KMJ KMOX KOIN KOL
KOM A KRLD KRNT KSL KTRH
KTHS KTUL KVI KWG KWKH
WABC WACO WBBM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDRB WEAN WFBL
WFBM WGST WHAS WHBC WHK
WICC WISN WJAS WJR WJSV
WKBW WKRC WLAC WLBZ WMBG
WMBR WNAC WQOW WORC WQOW
WQAM WREC WTOC WWL

R — Your Hit Parade

KDYL KEX KFI KFYR KGH
KGR KGU KGW KHQ KOA KOMO
KPO KPRC KSD KSTP KTAR
KTBS KTHS KVOO KYW WAVE
WCAE WCBS WCHS WDAF WDAY
WFAE WFCB WFAA WFRB WFLA
WGY WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WNAC WQAI WOW WPTF
WRC WRVA WSB WSM WSMB
WSOC WSUN WSYR WTAG WTAM
WTAR WTC WTMJ WWJ WWCN

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Poetic Melodies, See Monday

R — Amos 'n' Andy, See Monday

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Renfrew of Mounted, See Monday

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Burns and Allen
KDB KERN KFBB KFFY KFRC
KGB KHJ KLZ KMJ KOIN KOL
KSL KVI KFOR KWG

THURSDAY

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Renfrew of Mounted, See Mon.
B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Poetic Melodies, See Monday
R — Amos 'n' Andy, See Monday
B — Easy Aces, See Tuesday

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — "Ma and Pa"; See Tuesday
B — Tastyest, See Tuesday

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Alexander Woolcott, See Tues.
B — Lum and Abner, See Monday

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — A & P Bandwagon

KFAB KMBC KMOX KRLD KRNT
KTRH WABC WADC WBBM WBIG
WBNS WDAE WBT WCAO WCAU
WCCO WDAE WDBJ WDRB WEAN
WFBL WFBM WGR-WGST WHAS
WHBC WHK WHP WIBX WJAS
WJR WJSV WKBW WKRC WLAC
WMAS WMBG WMBR WOC WQOW
WORC WPRO WQAM WTOC WWL
WVVA

R — Rudy Vallee's Variety Hour
CFRC CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KSD
KSTP KTAR KYW WBEN WCAE
WCBS WDAF WDAY WFAE WFCB
WEEI WFRB WGY WHO WJAR
WLW WMAQ WOW WRC WTAM
WTC WTMJ WWJ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Major Bowes' Amateurs

CFRB CKAC KDB KERN KFAB
KFBB KFH KFFY KFRC KGB
KGKO KLRA KLZ KMBC WMJ
KMOX KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTHS
KTUL KVI KFOR KWG KWKH
WABC WACO WADC WALA WBBM
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDRB WDRS WDRS WDRS
WEAN WFBL WFBM WFEA WGST
WHAS WHBC WHK WHP WIBW
WIBX WICC WISN WJAS WJR
WJSV WKBW WKRC WLAC WLBZ
WMBG WMAS WMBD WMBG WMBR
WMNN WNAC WNAX WOC WQOW
WORC WQOW WPG WQAM WREC
WSFA WSJS WSPD WTOC WWL

R — Maxwell House Show Boat
KDYL KFI KFSD KFYR KGH
KGR KSW KHQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KYW WAPI WAVE WBAP WBEN
WCAE WCBS WDAF WDAY WFAE
WFCB WEEI WFRB WFLA WGY
WHO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WQAI WOW WPTF WRC
WRVA WSAI WSB WSM WSMB
WSOC WTAG WTAM WTAR WTC
WTMJ WWJ WWCN

THURSDAY (Continued)

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Your True Adventures
 KFAB KFH KFFY KLRA KLZ
 KMBC KMOX KNX KOIN KOL
 KOMA KRLD KRNT KSFO KSL
 KTRH KTSa KTUL KVI KWKH
 WABC WBBM WBNS WBRC WBT
 WCAO WCAU WCCO WDAE WDBJ
 WDBO WDRC WEEI WFBL WFBM
 WGST WHAS WHEC WHIO WHK
 WJNS WJAS WJR WJSV WKBW
 WKRC WLAC WLZ WMBG|WMBR
 WOKO WORC WPRO WQAM WREC
 WTOC WWL

R — Bing Crosby; Bob Burns
 CFCF CRCT KDYL KFI KFJR
 KGW KHQ KOA KOMO KPO KPRC
 KSD KSTP KTRT KTBS KTHS
 KV00 KYW WAVE WBAP WBEN
 WCAE WCHS WDAF WDAY WFAF
 WIBC WEEI WFBF WFLA WGY
 WHO WIBA WIOD WIS WJAR
 WJAX WJDX WKY WLW WMAQ
 WMC WOAI WOW WPTF WRC
 WRVA WSB WSM WSMB WSOC
 WTAG WTAM WTAR WTIC WTMJ
 WWJ WWNC

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — March of Time
 KDB KERN KFAB KFBK KFPY
 KFRC KGB KHJ KLZ KMJ KMOX
 KOIN KOL KOMA KRNT KSL KVI
 KWG WABC WBBM WBNS WCAO
 WCAU WCCO WDRC WEAN WEEI
 WFBL WFBM WGST WHAS WHEC
 WHK WJAS WJR WJSV WKBW
 WKRC WOKO WWL

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Poetic Melodies, See Monday
R — Amos 'n' Andy, See Monday

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Renfrew of Mounted, See Monday

FRIDAY

E-6:15 p.m., C-5:15, M-4:15, P-3:15
C — News of Youth, See Mon.

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Renfrew of Mounted, See Tues.
B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Mortimer Gooch, Sketch
 WABC WADC WBT WCAO WCAU
 WDRC WEAN WEEI WFBL WGR
 WHEC WHK WJAS WJR WJSV
 WKRC WOKO WSPD WTOC WWVA
R — Amos 'n' Andy, See Monday

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Popeye, See Monday
R — Uncle Ezra, See Monday
B — Stainless Show; Mario Cozzi
 KDKA KECA KEX KFSD KGA
 KGO KJR KLO KOIL KSO KVOD
 KWK WBAL WBZ WBZA WEBR
 WENR WFLL WGAR WHAM WJZ
 WMAL WMT WSAI WSyr WXYZ

E-7:30 p.m., C-6:30, M-5:30, P-4:30
B — Lum and Abner, See Monday

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Broadway Varieties
 KDB KERN KFAB KFBK KFPY
 KFRC KGB KHJ KLZ KMBC KMJ

KMOX KOIN KOL KOMA KRNT
 KSL KVI KWG WABC WBBM
 WBNS WDRC WBT WCAO WCAU
 WCCO WDRC WEAN WFBL WFBM
 WGR WGST WHAS WHK WJAS
 WJR WJSV WKRC WMAS WMBG
 WNAC WOKO WWL

R — Cities Service Concert
 CRCT KFJR KOA KPRC KSD
 KSTP KTBS KTHS KV00 KYW
 WBAP WBEN WCAE WCHS WDAF
 WDAY WFAF WIBC WEEI WFAA
 WFBR WGY WHO WIBA WIOD
 WJAR WKY WMAQ WOAI WOW
 WRC WRVA WSAI WTAG WTAM
 WTIC WTMJ WWJ

B — Irene Rich; Drama
 KDKA KDYL KFI KGW KHQ KOIL
 KOMO KPO KSO KTRT KWK WAVE
 WBAL WBZ WBZA WCKY WFIL
 WGAR WHAM WIRE WJZ WLS
 WMAL WMC WMT WREN WSB
 WSM WSyr WXYZ

E-8:15 p.m., C-7:15, M-6:15, P-5:15
B — Singin' Sam
 KDKA KOIL KSO KWK WBAL
 WBZ WBZA WFIL WGAR WHAM
 WJZ WLS WMAL WMT WREN
 WSyr WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Hal Kemp; Kay Thompson

KFAB KFH KGKO KLRA KMBC
 KMOX KOMA KRLD KRNT KSCJ
 KTRH KTSa KTUL KWKH WABC
 WACO WADC WALA WBBM WBIG
 WBNS WDRC WBT WCAO WCAU
 WCCO WCOA WDAE WDBJ WDBO
 WDNC WDOO WDRC WEEI WFBL
 WFBM WFEA WGR WGST WHAS
 WHEC WHIO WHK WHP WIBW
 WIBX WISN WJAS WJR WJSV
 WKBN WKRC WLAC WLZ WMAS
 WMBD WMBG WMBR WMMN
 WNAX WNBW WNOX WOC WOKO
 WORC WOWO WPG WPRO WQAM
 WREC WSFA WSJS WSPD WTOC
 WWL

B — Death Valley Days
 KDKA KDYL KFI KGW KHQ
 KOIL KOMO KPO KSO KWK WBAL
 WBZ WBZA WFIL WGAR WHAM
 WJZ WLS WLW WMAL WMT
 WREN WSyr WXYZ

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

CFRB CKAC KDB KERN KFAB
 KFBK KFH KFPY KFRC KGB KHJ
 KLRA KLZ KMBC KMJ KMOX
 KOIN KOL KOMA KRLD KRNT
 KSCJ KSL KTRH KTSa KTUL KVI
 KVOR KWG KWKH WABC WADC
 WBBM WBNS WDRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDRC WEAN WFBL WFBM WFEA
 WGST WHAS WHEC WHK WHP
 WIBW WIBX WICC WJAS WJR
 WJSV WKBW WKRC WLAC WLZ
 WMAS WMBD WMBG WMBR
 WNAC WNAX WNOX WOKO WORC
 WPG WQAM WREC WSPD WWL

R — Frank Munn; Bernice Claire
 KSD KYW WBEN WCAE WCHS
 WDAF WFAF WEEI WFBF WGY
 WJAR WLW WMAQ WOW WRC
 WTAG WTAM WWJ

B — Universal Rhythm; Rex Chandler
 KARK KDKA KFJR KGBX KGNC

KOIL KPRC KSO KSTP KTBS
 KTHS KWK WABY WAPI WAVE
 WBAL WCSG WDAY WEAN WECB
 WEBR WFAA WFCB WFIL WFLA
 WGAR WGL WHAM WIBA WICC
 WIOD WIS WJAX WJDX WKY
 WLS WLW WLW WMC WMT
 WOAI WOOD WPTF WREN WRVA
 WSB WSM WSMB WSOC WSUN
 WSyr WTAM WTMJ WWNC WXYZ

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

R — True Story Court
 KSD KYW WBEN WCAE WCHS
 WFAF WEEI WFBF WGY WHO
 WHIO WJAR WMAQ WOW WRC
 WTAG WTAM WTIC WWJ

B — Buddy Rogers; Helen Broderick
 KDKA KECA KFSD KFJR KGA
 KGHl KGIR KGO KJR KLO KOIL
 KPRC KSO KSTP KTRT KTBS
 KTHS KWK WABY WAPI WAVE
 WBAL WBZ WBZA WCKY WCHS
 WDAY WIBC WEBR WENR WFAA
 WFCB WFIL WFLA WGAR WHAM
 WIBA WIOD WIRE WIS WJAX
 WJDX WJZ WKY WMAL WMC
 WMT WOAI WOOD WPTF WREN
 WRVA WSB WSM WSMB WSOC
 WSUN WSyr WTAM WTMJ WWNC
 WXYZ

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

R — First Nighter; Drama
 KDYL KFI KFJR KGW KHQ KOA
 KOMO KPO KPRC KSD KSTP
 KTBS KTHS KYW WAVE WBEN
 WCAE WCHS WDAF WDAY WFAF
 WIBC WEEI WFAA WFBF WFLA
 WGY WHO WIBA WIOD WIS WJAR
 WJAX WJDX WKY WLW WMAQ
 WMC WPTF WRC WRVA WSB
 WSM WSMB WSOC WTAG WTAM
 WTAR WTIC WTMJ WWJ WWNC

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

R — Pontiac Varsity Show
 KARK KDYL KFBK KFI KFJR
 KGBX KGHl KGIR KGAC KGW
 KHQ KMJ KOA KOMO KPO KPRC
 KSD KSTP KTRT KTBS KTHS
 KV00 KWG KYW WAPI WAVE
 WBEN WCAE WCOC WCHS WCHS
 WDAF WFAF WFCB WFAA WFCB
 WFBF WFLA WGL WGY WHO
 WIBA WIOD WIRE WIS WJAR
 WJAX WJDX WKY WLW WMAQ
 WMC WNAC WOAI WOOD WOW
 WPTF WRVA WSB WSM WSMB
 WSOC|WSUN WTAG WTAM WTAR
 WTIC WTMJ WWJ WWNC

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

C — Mortimer Gooch, Sketch
 KERN KFAB KFBK KFPY KFRC
 KGB KHJ KLRA KLZ KMBC|KMOX
 KOIN KOL KOMA KRLD KRNT
 KSL KTRH KTSa KVI WBBM
 WBRC WCCO WFBM WGST WLAC
 WREC WWL

R — Amos 'n' Andy, See Monday

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Renfrew of Mounted, See Mon.

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

C — Hal Kemp; Kay Thompson
 KFBK KFPY KGMB KGVO KLZ
 KNX KOH KOIN KOL KSFO KSL
 KVI KVOR

SATURDAY

E-2:00 p.m., C-1:00, M-Noon; P-11:00 a.m.

B — Metropolitan Opera Co.

CFCE CRCT KDKA KDYL KECA
KEX KFSD KFYR KGA KGBX
EGHL KGIR KGO KGU KJR KLO
KOA KOIL KPRC KSO KSTP KTAR
KTBS KTHS KVVO KWK WABY
WAPI WAVE WBAL WBAP WBZ
WBZA WCKY WCOL WCSC WDAY
WBCB WEBR WFAA WFBC WFIL
WFLA WGAR WHAM WIBA WIOD
WIS WJAX WJDX WJZ WKY WLW
WMAI WMAQ WMC WMT WOT
WODE WPTF WREN WRVA WSB
WSM WSMB WSOE WSUN WSYR
WTAR WTMJ WVNC WXYZ

To Canadian Network Also

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

C — Saturday Swing Club

CFRB CKAC KFBB KFH KGB KLZ
KMBC KNOW KOH KRLD KSL
KTRH KTSa KFOR KWKH WABC
WACO WADC WALA WBNS WCAO
WDAE WDBJ WDBO WDNC WDRC
WEEI WFBL WFBM WFEA WHAS
WHEC WHK WIBX WICW WJAS
WLBZ WMBG WMBR WMMN WOC
WOKO WORC WQAM WSBT WSJS
WSPD

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

C — "Ma and Pa," See Tues.

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

C — Carborundum Band

KFAB KMBC KNOX WABC WBBM
WBT WCAU WCCO WEAN WEEI
WFBL WGR WHAS WHK WJAS
WJR WKRC

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

C — Columbia Concert Hall

CKAC KFH KFPY KGKO KGOV
KLRA KLZ KNOW KNX KOH KOIN
KOL KOMA KRLD KSFO KTSa
KTUL KVI KFOR KWKH WABC
WACO WADC WALA WBIG WBNS
WBRC WBT WCAO WCAU WCOA
WDAE WDBJ WDBO WDNC WDOE
WDRG WEEI WFBL WFBM WFEA
WGR WHAC WHIO WHK WHP
WIBX WISN WJAS WJNO WJR
WJSV WKRC WLAC WLBZ WMAS
WMBG WMBR WNBZ WNOX
WOKO WORC WPG WPRO WQAM
WREC WSBT WSFA WSJS WSPD
WTOC WWL

R — Saturday Night Party

KSD KYW WAPI WAVE WBEN
WCAE WCSC WDSH WDAF WFAF
WFBR WFLA WGY WIO WIOD
WIS WJAR WJAX WJDX WMAQ
WMC WNAC WOV WPTF WRC
WSB WSMB WSOC WSUN WTAG
WTAM WTAR WTIC WWJ WVNC

B — Ed Wynn; Don Voorhees

KDKA KFYR KOIL KPRC KSO
KSTP KTBS KWK WABY WBAL
WBAP WBZ WBZA WCKY WDAY
WBCB WEBR WFIL WGAR WHAM
WIBA WIRE WJZ WKY WLS WMAI
WMT WOAI WREN WSYR WTMJ
WXYZ

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

C — Floyd Gibbons; Vincent Lopez

KDB KERN KFAB KFBC KFPY
KFRC KGB KHJ KLRA KLZ KMBC

KMJ KMOX KOIN KOL KOMA
KRLD KRNT KSL KTRH KTSa
KVI KWG WABC WBBM WBNS
WBT WCAO WCAU WCCO WDAE
WDBO WDRG WEAN WFBL WFBM
WGST WHAS WHK WISN WJAS
WJR WJSV WKWB WKRC WMBR
WOKO WQAM WREC WSPD WWL

R — Snow Village Sketches

KSD KYW WBEN WCAE WCSC
WDAF WFAF WFBR WGY WJAR
WMAQ WNAC WOV WRC WTAG
WTAM WTIC WWJ

B — National Barn Dance

KDKA KOIL KPRC KSO KTBS
KTHS KWK WABY WAPI WAVE
WBAL WBAP WBZ WBZA WFIL
WFLA WGAR WHAM WIOD WIRE
WIS WJAX WJDX WJZ WKY WLS
WMAI WMC WMT WOI WOOD
WPTF WREN WRVA WSB WSMB
WSOC WSUN WSYR WTAR WVNC
WXYZ

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

C — Mary Eastman; Gus Haenschon

KDB KERN KFAB KFBC KFH
KFPY KFRC KGB KGKO KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLD KTRH
KTSa KTUL KVI KWG KWKH
WALA WBBM WBIG WBNS WBRC
WBT WCAO WCOA WDAE WDBO
WDDO WEAN WFBL WFBM WGST
WHAS WHAC WHK WJAS WJR
WJSV WKWB WLAC WMBD WMBR
WNOX WOC WQAM WREC WSFA
WSPD WTOC WWL WWVA

R — Shell Chateau

KDYL KFI KFSD KFYR KGHL
KGIR KGW KHQ KOA KOMO KPO
KSD KSTP KTAR KYW WBEN
WCAE WCSC WDAF WDAY WFAF
WFBM WEEI WFBR WGY WIBA
WJAR WLW WMAQ WOV WRC
WTAG WTAM WTIC WTMJ WWJ

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

C — Your Hit Parade

KERN KFAB KFBC KFH KFPY
KFRC KGB KGKO KGMB KHJ
KLRA KLZ KMBC KMJ KMOX
KOH KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSa
KTUL KVI KFOR KWG KWKH
WABC WACO WADC WALA WBBM
WBG WBNS WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDDO WDRG WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WHP WIBX WICW
WICC WISN WJAS WJR WJSV
WKWB WKRC WLAC WLBZ WMAS
WMBD WMBG WMBR WNAC
WNAX WNOX WOC WOKO WORC
WPG WQAM WREC WSBT WSFA
WSJS WSPD WTOC WWL WWVA

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

C — Fiesta; Lud Gluskin

CFRB CKAC KERN KFBB KFBC
KFH KFPY KGB KGKO KLZ KMBC
KNOW KOH KOL KRLD KTRH
KTSa KVI KFOR KWG KWKH
WABC WACO WADC WALA WBNS
WCAO WDAE WDBJ WDBO WDNC
WDDO WDRG WEEI WFBL WFBM
WFEA WGR WHAS WHAC WHK
WIBX WJAS WJR WKRC WLBZ
WMBD WMBG WMBR WMMN
WOKO WORC WPG WQAM WSBT
WSJS WSPD

R — Ervin S. Cobb

KDYL KFI KFYR KGHL KGIR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KTBS KTHS
KVVO KYW WAVE WBAP WBAF
WCAE WCSC WDAF WDAY WFAF
WBCB WEBR WFLA WGY WIBA
WIOD WIS WJAR WJAX WJDX
WKY WMAQ WMC WNAC WOOD
WOW WPTF WRC WRVA WSB
WSMB WSOC WSUN WTAG WTAM
WTAR WTIC WTMJ WWJ WVNC

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

CBC — The Northern Messenger

CFAC CFCH CFDO CFJC CFPL
CFQC CHWK CJAT CJCA CJGK
CJCL CJOC CJRM CJRO CJRX
CKBI CKCK CKGB CKOC CKOV
CKRP CKSO CKTB CKX CKY
CRCK CRCM CRCO CRCS CRCT
CRCV CRGW CRXC

B — National Barn Dance

KDYL KFI KFSD KFYR KGHL
KGIR KGU KGW KHQ KOA KOMO
KPO KSTP KTAR WDAY WBCB
WIBA WLW WTMJ

SUNDAY

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

C — Major Bowes' "Family"

CFRB KERN KFAB KFBB KFBC
KFH KFPY KFRC KGB KGVO
KMBC KOH KOL KRLD KSL KTRH
KTSa KVI KFOR KWG KWKH
WABC WACO WADC WALA WBNS
WBRC WCAO WCCO WDAE WDBJ
WDBO WDNC WESG WFBL WFEA
WHAS WHK WIBX WJAS WJR
WKRC WLBZ WMBD WMBR
WMMN WOC WOKO WORC WPG
WQAM WSBT WSJS WSPD WTOC

B — Morton Bove, Tenor

KOIL KPRC KSO KSTP KWK
WAPI WAVE WBAL WBZ WBZA
WFIL WIBA WJDX WJZ WLW
WMAI WMAQ WMC WMT WREN
WSB WSM WSMB WXYZ

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

C — Salt Lake Tabernacle Choir

CFRB KFAB KFBB KFBC KFH
KFPY KFRC KGB KLZ KOH KOL
KRLD KSL KTRH KTSa KVI
KFOR KWG WABC WACO WADC
WALA WDAE WBNS WBRC WCAO
WCCO WDAE WDBJ WDBO WESG
WFBL WFEA WGR WHAS WICC
WJAS WJR WKRC WLBZ WMBR
WMMN WOC WOKO WORC WQAM
WSBT WSJS WSPD WTOC

B — Radio City Music Hall

CFCE CRCT KDKA KDYL KFI
KFYR KGO KGW KHQ KOIL KOMO
KPRC KSO KVVO WAPI WBAL
WGBZ WBZA WCKY WDAY WBCB
WGAR WHAM WIS WJDX WJZ
WKY WMAL WOAI WREN WSMB
WSYR WVNC

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

C — Trans-Atlantic Broadcast

CFRB CKAC KFH KGKO KLRA
KLZ KMBC KRLD KSCJ KTRH
KTSa KFOR WABC WACO WADC
WALA WBIG WBBR WCAO WCAU
WCCO WDAE WDBJ WDBO WDRG
WEAN WESG WFBL WFBM WFEA
WGR WHAS WIBX WJAS WJSV

SUNDAY (Continued)

WKBN WLAC WLBZ WMBD WMBR
WNAC WOC WOK WORC WPG
WQAM WREC WSJS WSMK WSPD
WTOC WWL

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

C — Church of the Air
KFBC KFH KFPY KFRC KGB
KHJ KMOX KOH KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSK
KVI KVOR KWG WABC WALA
WBNS WBT WCAO WCCO WDAE
WDBJ WDBO WDRC WESG WFBL
WFBM WGR WHAS WHP WIBX
WJAS WJSV WKBN WKRC WLAC
WLBZ WMBR WNNB WOC WOK
WORC WPG WQAM WREC WSBT
WSJS WSPD WTOC WWVA

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

R—Muriel Dickson; Morton Bove
KDYL KFI KFJR KGW KHQ KOA
KOMO KPO KSD KSTP KYW WBN
WCAE WCKY WCSH WDAF WDAY
WEAF WEBC WFBR WGY WIBA
WJAS WJR WMAQ WNAO WOW
WRC WTAG WTAM WTC WTMJ
WWJ

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

C — Pittsburgh Symphony
KFAB KLRA KLZ KMBC KMOX
KOMA KRLD KRNT KTRH KTSK
KTUL KWKH WABC WADC WBBM
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDRC
WEAN WFBL WFBM WGST WHAS
WHEC WHK WIBX WISN WJAS
WJR WJSV WKBN WKRC WLAC
WMBG WMBR WMMN WNAC
WNOX WOC WOKO WQAM WREC
WTOC WWL

B — Magic Key of RCA

CFCF CRCT KDEA KDYL KFI
KFJR KGU KGW KHQ KOA KOIL
KOMO KPO KPRC KSO KSTP
KTBS KTHS KVOO KWK WAPI
WAVE WBAL WBZ WBZA WCKY
WDAY WEBC WENR WFAP WFBL
WFLA WGAR WHAM WHIO WHW
WIOD WIRE WIS WJAX WJDX
WJZ WKY WMAL WMC WMT
WOAI WPTF WREN WRVA WSB
WSM WSBM WSOC WSYP WTAR
WTMJ WWNC WXYZ

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

a.m.

C — Cook's Travelogue

CKAC WABC WBBM WBRC WBT
WCAO WCAU WEEI WGST WJAS
WJSV WLAC WREC WWL

E-3:00 p.m., C-2:00, M-1:00, P-12:00

C — New York Philharmonic

CFRB CKAC KERN KFAB KFBK
KFBC KFH KFPY KFRC KGB
KGVO KLRA KLZ KMBC KNOW
KOH KOL KRLD KSL KTRH KTSK
KVI KVOR KWKH WABC WACO
WADC WALA WBIG WBNS WBRC
WCAO WCCO WDAE WDBJ WDBO
WDNC WDDO WDRC WEAN WEEI
WESG WFBL WFBM WFEA WHAS
WHEC WHIO WHK WIBX WIC
WJAS WJR WKBN WKRC WLBZ
WMBD WMBG WMBR WMMN
WOC WOKO WORC WQAM WSBT
WSJS WSPD WTOC

Also On Canadian Network

R — Metropolitan Auditions

CFCF KDYL KFI KFJR KGW KHQ
KOA KOMO KPO KSD KSTP KTRH

KYW WAPI WAVE WBN WCAE
WCKY WCSH WDAF WDAY WEAF
WEBC WFBR WGY WHO WIBA
WJAS WJR WJDX WMAQ WMC
WNAO WOV WRC WSB WSM WSMB
WTAG WTAM WTC WTMJ WWJ

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

R — Grand Hotel; Drama

KDYL KFI KFJR KGW KHQ KOA
KOMO KPO KSD KSTP KYW
WBN WCAE WCSH WDAF WDAY
WEAF WEBC WFBR WGY WHO
WIBA WJR WMAQ WNAO WOV
WRC WSAI WTAG WTAM WTC
WWJ

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

R—Musical Camera; Willie Morris

KDYL KFI KGW KHQ KOA KOMO
KPO KYW WBN WCAE WCSH
WEAF WGY WJR WLW WMAQ
WOW WRC WSB WSMB WTAM
WTC WWJ

E-5:00 p.m., C-4:00, M-3:00, P-2:00

C — Your Unseen Friend; Drama

KFAB KLZ KMOX KSL KWKH
WABC WADC WBBM WBNS WCAO
WCAU WCOA WDAE WDBJ WDDO
WDRC WEAN WEEI WESG WFBL
WHAS WHEC WHK WHP WIBX
WJAS WJR WKBN WKRC WLAC
WLBZ WMAS WMBG WMMN
WNOX WOKO WORC WQAM WQAM
WREC WSMK WSPD WWL WWVA

R — Marion Talley, Soprano

KDYL KFI KFJR KGW KHQ KOA
KOMO KPO KSTP KYW WBN
WCAE WCKY WCSH WDAF WDAY
WEAF WEBC WFBR WGY WIBA
WJAS WJR WMAQ WNAO WOV
WRC WTAG WTAM WTC WTMJ
WWJ

B — We, The People; Phil Lord

KDKA KECA KEX KFSD KGA
KGHL KGR KGO KJR KLO KOIL
KPRC KSO KTBS KTHS KVOO
KWK WABY WAPI WAVE WBAL
WBAP WBZ WBZA WBR WENR
WFIL WFLA WGAR WHAM WIOD
WIS WJAX WJDX WJZ WKY WLW
WMAL WMC WMT WOAI WPTF
WREN WRVA WSB WSM WSBM
WSOC WSUN WSYP WTAR WWNC
WXYZ

M — Ray Knight and his Cuckoos

Station list unobtainable.

E-5:30 p.m., C-4:30, M-3:30, P-2:30

C — Guy Lombardo and Orchestra

KFH KMBC KMOX KOMA KTUL
WAAB WABC WBNS WCAO WCAU
WDRC WEAN WFBL WFBM WGR
WHAS WHEC WHK WIBX WICC
WJR WJSV WMAS WOKO WORC
WSPD WWVA

R — Smiling Ed McConnell

KDYL KFI KFJR KGIR KGW KHQ
KOMO KPO KSTP KYW WBN
WCAE WCSH WDAF WDAY WEAF
WEBC WFBR WGY WHO WIBA
WJR WLW WMAQ WNAO WOV
WRC WTAG WTAM WTC WTMJ
WWJ

B — Stoopnagle and Budd

KDKA KECA KEX KFSD KGA
KGO KJR KLO KOIL KSO KWK
WBAL WBZ WBZA WCKY WENR
WFIL WGAR WHAM WHIO WIRE
WJZ WMAL WMT WREN WSYP
WXYZ

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

C — Joe Penner; Jimmy Grier

KDB KERN KFAB KFBK KFPY
KFRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KOMA KRLD
KSL KTRH KTSK KVI KWG WABC
WBBM WBNS WBT WCAO WCAU
WCCO WDAE WDRC WEAN WFBL
WFBM WGST WHAS WHEC WHK
WJAS WJR WJSV WKBN WKRC
WMBG WMBR WOKO WQAM WWL

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

C — Rubinoff and His Violin

KDB KERN KFAB KFBK KFBK
KFH KFPY KFRC KGB KGKO KHJ
KLRA KLZ KMJ KMOX KHG KOIN
KOL KOMA KRLD KRNT KSCJ
KSL KTRH KTSK KTUL KVI KVOR
KWG KWKH WABC WACO WADC
WALA WBBM WBIG WBNS WBRC
WBT WCAO WCAU WCCO WCOA
WDAE WDBJ WDBO WDNC WDDO
WDRC WEEI WFBL WFBM WFEA
WGST WHAS WHEC WHK WHP
WIBX WJAS WISN WJAS WJR
WJSV WKBN WKBN WKRC WLAC
WLBZ WMAS WMBD WMBG
WMBR WNAX WNOX WOC WOKO
WORC WPG WQAM WREC WSBT
WSFA WSJS WSMK WSPD WTOC
WWL WWVA

R — A Tale of Today

WBN WEAF WGY WJR WMAQ
WOW WRC WTAM

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

C — Professor Quiz

KFAB KFBK KFH KFPY KGKO
KGVOKNOWKOHKOLKOLKOMA
KRLD KRNT KSCJ KSPF KTRH
KTSK KTUL KVOR KWKH WABC
WACO WADC WALA WBBM WBNS
WBRC WBT WCAO WCOA WDAE
WDBO WDNC WFBL WFBM WGR
WGST WHEC WHIO WHK WHP
WIBX WJAS WJNO WLBZ WMAS
WMBD WMBG WMMN WNOX
WOKO WORC WPG WREC WSBT
WSFA WSJS WSPD WTOC

Also On Canadian Network

R — Jack Benny; Mary Livingstone

KSD KYA KYW WBN WCAE
WCSH WDAF WEAF WFBR WGY
WHO WJAR WLW WMAQ WNAO
WOW WRC WTAG WTAM WTC
WWJ

E-7:30 p.m., C-6:30, M-5:20, P-4:30

C — Phil Baker; Oscar Bradley

KLRA KLZ KRLD KTRH KTSK
KTUL KWKH WABC WACO WADC
WALA WBIG WBNS WBRC WBT
WCAO WCAU WCOA WDAE WDBJ
WDBO WDNC WDDO WDRC WEAN
WFBL WFBM WFEA WGR WGST
WHAS WHEC WHK WHP WIBX
WICC WJAS WJR WJSV WKBN
WKRC WLAC WLBZ WMAS WMBR
WNAO WNOX WOKO WORC WQAM
WREC WSBT WSFA WSJS WSMK
WSPD WTOC WWL WWVA

R — Fireside Recitals

KSD KYW WBN WCAE WCSH
WDAF WEAF WFBR WGY WIRE
WJAR WMAQ WOV WRC WSAI
WTAG WTAM WTC WWJ

B — Ozzie Nelson; Bob Ripley

KDKA KOIL KPRC KSO KTBS
KTHS KVOO KWK WAPI WAVE
WBAL WBAP WBZ WBZA WCKY
WFIL WGAR WHAM WHIO WIRE

SUNDAY (Continued)

WJDX WJZ WKY WLS WMAL WMC
WMT WOAI WREN WSB WSM
WSMB WSYR WXYZ

E-7:45 p.m., C-6:45, M-5:45, P-4:45
R — Sunset Dreams; Morin Sisters
CFCF CRCT KSD KYW WBNB
WCAE WCSH WDAF WFAF WFRB
WGY WHO WIRE WJAR WLW
WMAQ WOAI WOOD WOW WRC
WTAG WTAM WTMJ WWJ

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Nelson Eddy; Nadine Conner
KDB KERN KFAB KFBB KFH
KFPY KPRC KGB KHJ KLRA KLZ
KMBC KMJ KMOX KOIN KOL
KOMA KRLD KRNT KSCJ KSL
KTRH KTSa KTUL KWKH WABC
WADC WAlA WBBM WBlG WBNB
WBRC WBT WCAO WCAU WCCO
WDAE WDBJ WDBO WDOD WDRC
WEAN WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WIBX WICC WISN WJAS
WJR WJSV WKBN WKRC WLAC
WLBZ WMAS WMBD WMBR
WNAX WNOX WOC WOKO WORC
WQAM WREC WSBT WSFA WSMK
WTOC WWL WWVA

R — Want to be an Actor?
CFCF CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KTBS KVoo
KYW WAVE WBNB WCAE WCSH
WDAF WDAY WFAF WFCB WFAA
WFRB WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX
WKY WLW WMAQ WMC WNAC
WOAI WOV WPTF WRC WRVA
WSB WSM WSMB WSOc WSUN
WTAG WTAM WTMJ WTMJ
WWJ WWNC

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Eddie Cantor; Bobby Breen
KFAB KPH KGKO KLRA KMBC
KMOX KOMA KRLD KRNT KSCJ
KTRH KTSa KTUL KWKH WABC
WACO WADC WAlA WBBM WBlG
WBNB WBRC WBT WCAO WCAU
WCCO WCOA WDAE WDBJ WDBO
WDNC WDOD WDRC WEAN
WFBL WFBM WFEA WGR WGST
WHAS WHEC WHK WHP WIBW
WIBX WICC WISN WJAS WJR
WJSV WKBN WKRC WLAC WLBZ
WMAS WMBD WMBR WMN
WNAX WNOX WOC WOKO WORC
WQAM WREC WSBT WSFA WJSJ
WSMK WSPD WTOC WWL WWVA

E-9:00 p.m., C-8:00, M-7:00, P-6:00
R — Manhattan Merry-Go-Round
CFCF KDYL KFI KFYR KGW
KHQ KOA KOMO KPO KPRC KSD

KSTP KTBS KTHS KYW WAVE
WBNB WCAE WKY WCSH WDAF
WDAY WFAF WFCB WFEI WFAA
WFRB WFLA WGY WHO WIBA
WIOD WIRE WIS WJAR WJAX
WJDX WKY WMAQ WMC WOAI
WOW WPTF WRC WRVA WSB
WSM WSMB WSOc WTAG WTAM
WTAR WTMJ WTMJ WWJ WWNC

C — Ford Sunday Evening Hour
CFRB CKAC KDB KERN KFAB
KFBB KFH KFPY KPRC KGB
KGKO KHJ KLRA KLZ KMBC
KMJ KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTSa KTUL KVI KVOR KWG
KWKH WABC WACO WADC WAlA
WBBM WBlG WBNB WBRC WBT
WCAO WCAU WCCO WCOA WDAE
WDBJ WDBO WDNC WDOD WDRC
WEAN WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WIBX WICC WISN WJAS
WJR WJSV WKBN WKRC WLAC
WLBZ WMAS WMBD WMBR
WNAX WNOX WOC WOKO WORC
WQAM WREC WSBT WSFA WJSJ
WSPD WTOC WWL WWVA

B — Walter Winchell
KDKA KECA KEX KFSd KGA
KGHL KGIR KGO KJR KLO KOIL
KSO KTAR KWK WBAI WBZ WBZA
WENR WFIL WGAR WHAM WJZ
WLW WMAL WMT WREN WSYR
WXYZ

E-9:15 p.m., C-8:15, M-7:15, P-6:15
B — Frank Parker; Shep Fields
KDKA KECA KFSd KGA KGHL
KGIR KGO KJR KLO KOIL KSO
KTAR KWK WBAI WBZ WBZA
WFCB WFRB WENR WFIL WGAR
WHAM WICC WJZ WLW WMAL
WMT WREN WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Album of Familiar Music
CFCF CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTBS KYW WAPI
WAVE WBNB WCAE WCSH WDAF
WDAY WFAF WFCB WFEI WFAA
WFRB WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX
WKY WMAQ WMC WOAI WOW
WPTF WRC WRVA WSAI WSB
WSM WSMB WSOc WTAG WTAM
WTAR WTMJ WWJ WWNC

E-9:45 p.m., C-8:45, M-7:45, P-6:45
B — Edwin C. Hill
KDKA KECA KFSd KGA KGO
KJR KLO KVOD WBAI WBZ WBZA
WENR WFIL WGAR WHAM WJZ
WLW WMAL WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Gillette Community Sing
CFRB CKAC KDB KERN KFAB
KFBB KFBB KFH KFPY KPRC
KGB KGKO KGMB KGVO KHJ
KLRA KLZ KMBC KMJ KMOX
KOH KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSa
KTUL KVI KVOR KWG KWKH
WABC WACO WADC WAlA WBBM
WBlG WBNB WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDOD WDRc WFEA
WFBM WFEA WGST WHAS
WHEC WHK WHP WIBW WIBX
WICC WISN WJAS WJR WJSV
WKBN WKBN WKRC WLAC WLBZ
WMAS WMBD WMBG WMBR
WMN WNAc WNAX WNOX WOC
WOKO WORC WOWO WPG WQAM
WREC WSBT WSFA WJSJ WSMK
WSPD WTOC WWL

R — General Motors Concert
CFCF CRCT KDYL KFI KFYR
KGHL KGIR KGW KHQ KOA
KOMO KPO KPRC KSTP KTAR
KTBS KTHS KYW WAPI WAVE
WBNB WCAE WKY WCSH WDAF
WDAY WFAF WFCB WFEA WFRB
WFLA WGY WHO WIBA WIOD
WIRE WIS WJAR WJAX WJDX
WKY WMAQ WMC WNAC WOAI
WOOD WOW WPTF WRO WRVA
WSB WSM WSMB WSOc WSUN
WTAG WTAM WTMJ WTMJ
WWJ WWNC

B — Edwin C. Hill
KDKA KECA KFSd KGA KGO
KJR KLO KOIL KSO KWK WBAI
WBZ WBZA WENR WFIL WGAR
WHAM WJZ WLW WMAL WMT
WREN WSYR WXYZ

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Eddie Cantor; Bobby Breen
KERN KFBB KFBB KFPY KPRC
KGB KGVO KHJ KLZ KMJ KOH
KOIN KOL KSL KVI KVOR

R — Sunset Dreams; Morin Sisters
KDYL KFI KFSd KGW KHQ KOA
KOMO KPO KPRC KTAR KTBS
KTHS WBAF WDAF WKY

E-11:15 p.m., C-10:15, M-9:15, P-8:15
B — Walter Winchell
KDYL KFI KFSd KGHL KGIR
KGW KHQ KOA KOMO KPO KPRC
KTAR KTBS KTHS WAPI WAVE
WBAF WJDX WKY WMC WOAI
WSB WSM WSMB

E-11:30 p.m., C-10:30, M-9:30, P-8:30
B — Frank Parker; Shep Fields
KPRC KTBS KTHS KVOD WAPI
WAVE WBAF WJDX WKY WMC
WOAI WSB WSM WSMB

CLASSIFIED INDEX TO CHAIN PROGRAMS*Time in Eastern Standard*

C—Columbia; R—National (Red); B—National (Blue); M—Mutual

CONCERTS

Frank Black, 2 p.m. Sun., B
Rosario Bourdon, 8 p.m. Fri., R
Ford Concert, 9 p.m. Sun., C
Metropolitan Auditions, 3 p.m. Sun., R
Metropolitan Opera, 2 p.m. Sat., B
General Motors Concert, 10 p.m. Sun., R

New York Philharmonic, 3 p.m. Sun., C
Pittsburgh Symphony, 2 p.m. Sun., C
Radio City Music Hall, 12:30 p.m. Sun., B
Don Voorhees, 8 p.m. Wed., C

DANCE BANDS

Victor Arden, 8 p.m. Fri., C; 1:30 p.m. Sun., R

Ben Bernie, 9:30 p.m. Tues., B
 Bunny Brigan, 6:45 p.m. Sat., C
 Ray Block, 10:30 p.m. Mon., R
 Oscar Bradley, 7:30 p.m. Sun., C
 Jimmie Dorsey, 10 p.m. Thurs., R
 Tommy Dorsey, 9:30 Mon., B
 Shep Fields, 9:15 and 11:30 p.m. Sun., B
 Lud Gluskin, 10:30 Sat., C
 Al Goodman, 9 and 11:15 p.m. Thurs., R
 Benny Goodman, 9:30 and 11:30 p.m. Tues., C
 Johnny Green, 9:30 p.m. Tues., R
 Jimmy Grier, 6 p.m. Sun., C
 Gus Haenschen, 9:30 p.m. Sat., C
 Horace Heldt, 8 p.m. Mon., C
 Richard Himber, 9:30 p.m. Mon., R
 Arnold Johnson, 5 p.m. Sun., M
 Hal Kemp, 8:30 and 11:30 p.m. Fri., C
 Henry King, 8:30 and 11:30 p.m. Wed., C
 Wayne King, 8:30 p.m. Tues. and Wed., R. 10 p.m. Mon., C
 Andre Kostelanetz, 9 p.m. Wed., C
 Benny Krueger, 8:30 and 11:30 p.m. Mon., C
 Guy Lombardo, 5:30 Sun., C
 Vincent Lopez, 9 p.m. Sat., C
 Abe Lyman, 8:30 p.m. Mon., B. 9 p.m. Fri., R
 Ozzie Nelson, 7:30 Sun., B
 Raymond Paige, 9 p.m. Fri., C
 Leo Reisman, 8 and 11:30 p.m. Tues., R
 Jacques Renard, 8:30 and 11 p.m. Sun., C
 Joe Rines, 11:30 a.m. Sun., B
 Buddy Rogers, 9:30 p.m. Fri., B
 Harry Salter, 10 p.m. Sat., C
 Andy Sanelia, 9 p.m. Sun., R
 Harry Sosnik, 10 p.m. Wed., R; 10 p.m. Sun., B
 Rudy Vallee, 8 p.m. Thurs., R
 Peter Van Steeden, 9 p.m. Wed., R
 Don Voorhees, 5:30 p.m. Sun., and 8 p.m. Sat., B
 Victor Young, 8:30 and 11:30 p.m. Tues., C

DIALOG

Fred Allen, 9:00 Wed., R
 Amos 'n' Andy, 7 and 11 p.m. daily except Sat. and Sun., R
 Phil Baker, 7:30 p.m. Sun., C
 Jack Benny, 7 and 11:30 p.m. Sun., R
 Milton Berle, 10 p.m. Sun., C
 Bob Burns, 10:00 Thurs., R
 Burns and Allen, 8:30 and 11:30 p.m. Wed., C
 Charles Butterworth, 9:30 Tues., R
 Eddie Cantor, 8:30 and 11 p.m. Sun., C
 Irvin S. Cobb, 10:30 p.m. Sat., R
 Easy Aces, 7 p.m. Tues., Wed., Thurs., B
 Ray Knight, 5 p.m. Sun., M
 Beatrice Lillie, 8 p.m. Wed., B
 Fibber McGee and Molly, 8 p.m. Mon., R
 Lum and Abner, 7:30 p.m. daily except Sat. and Sun., B
 Jack Oakie, 9:30 p.m. Tues., C
 Jack Pearl, 9:30 p.m. Mon., B
 Joe Penner, 6 p.m. Sun., C
 Piek and Pat, 8:30 and 11:30 p.m. Mon., C
 Popeye the Sailor, 7:15 Mon., Wed., Fri., C
 Sid Silvers, 8:30 and 11:30 p.m. Tues., C
 Stoopnagle and Budd, 5:30 p.m. Sun., B
 Uncle Ezra's Radio Station, 7:15 Mon., Wed., Fri., R
 Ed Wynne, 8 p.m. Sat., B

DRAMA

Ethel Barrymore, 8:30 p.m., Wed., B
 Death Valley Days, 8:30 p.m. Fri., B
 First Nighter, 10 p.m. Fri., R
 Gang Busters, 10 p.m. Wed., C
 Grand Hotel, 3:30 p.m. Sun., R
 Helen Hayes, 8:00 Mon., B
 Hollywood Hotel, 9 p.m. Fri., C
 Warden Lawes, 9 p.m. Mon., R
 Log Cabin Ranch, 8 p.m. Tues., B
 Phillips Lord, 10 p.m. Wed., C
 Lux Radio Theater, 9 p.m. Mon., C
 Ma and Pa, 7:15 p.m. Tues. Thurs., Sat., C
 News of Youth, 6:15 p.m. Mon., Wed., Fri., C
 One Man's Family, 8 p.m. Wed., R
 Renfrew of the Mounted, 6:45 and 11:15 p.m. Mon. thru Fri., C

Irene Rich, 8 p.m. Fri., B
 Snow Village Sketches, 9 p.m. Sat., R
 Tale of Today, 6:30 p.m., Sun., R
 True Story Court, 9:30 p.m. Fri., R
 Welcome Valley, 8:30 p.m. Tues., B
 Your Unseen Friend, 5 p.m. Sun., C

POPULAR PROGRAMS

A & P Bandwagon, 8 p.m. Thurs., C
 Album of Familiar Music, 9:30 p.m. Sun., R
 Armo Band, 10 p.m. Tues., B
 Major Bowes, 11:30 a.m. Sun. and 9 p.m. Thurs., C
 Broadway Merry-go-Round, 8 p.m. Wed., B
 Broadway Varieties, 8:00 p.m. Fri., C
 Carborundum Band, 7:30 p.m. Sat., C
 Cavalcade of America, 8 p.m. Wed., C
 Chesterfield Program, 9 p.m. Wed., C
 Cities Service Concert, 8 p.m. Fri., R
 Contented Program, 10 p.m. Mon., R
 Cook's Travelogues, 2:45 p.m. Sun., C
 Do You Want to be an Actor? 8 p.m. Sun., R
 Community Sing, 10 p.m. Sun., C
 Fireside Recitals, 7:30 p.m. Sun., R
 Fleischmann Variety Hour, 8 p.m. Thurs., R
 Hammersten's Music Hall, 8 p.m. Tues., C
 Hit Parade, 10 p.m. Red Wednesday; 10 p.m. Sat., C
 Hollywood Hotel, 9 p.m. Fri., C
 Husbands and Wives, 9:30 p.m. Tues., B
 Krueger Musical Toast, 10:30 p.m. Mon., R
 Magic Key of RCA, 2 p.m. Sun., B
 Manhattan Merry-Go-Round, 9 p.m. Sun., R
 March of Time, 10:30 p.m. Thurs., C
 Maxwell House Show Boat, 9 p.m. Thurs., R
 Melody Matinee, 1:30 p.m. Sun., R
 National Barn Dance, 9:00 and 11:30 p.m. Sat., B
 Packard Hour, 9:30 p.m. Tues., R
 Sears, Then and Now, 10 p.m. Thurs., C
 True Adventures, 10 p.m. Thurs., C
 Vick's Open House, 8 p.m. Sun., C
 Voice of Firestone, 8:30 p.m. Mon., R
 Vox Pop, 9 p.m. Tues., R
 Waltz Time, 9 p.m. Fri., R
 We, The People, 5 p.m. Sun., B

SINGERS

Fred Astaire, 9:30 p.m. Tues., R
 Gene Austin, 6 p.m. Sun., C
 Kenny Baker, 7 and 11:30 p.m., Sun., R
 Natalie Bodanya, 8:30 p.m. Mon., B
 Morton Lowe, 1:30 p.m. Sun., R; 11:30 a.m. Sun., B;
 9:30 p.m. Mon., B
 Bobby Breen, 8:30 and 11 p.m. Sun., C
 Rachel Cariay, 9 p.m. Sun., R
 Bernice Claire, 9 p.m. Fri., R
 Nadine Conner, 8 p.m. Sun., C
 Jerry Cooper, 10:30 p.m. Mon., R
 Mario Cozzi, 7:15 p.m. Fri., B
 Vivian Della Chiesa, 10 p.m. Mon., R
 Edith Dick, 10 p.m. Sat., C
 Muriel Dickson, 1:30 p.m. Sun., R
 Jessica Dragonette, 8 p.m. Fri., R; 9:30 p.m. Wed., C
 Phil Duesy, 8 and 11:30 p.m. Tues., R; 8:30 Sat., C
 Deanna Durbin, 8:30 and 11 p.m. Sun., C
 Nelson Eddy, 8 p.m. Sun., C
 Jack Fulton, 7 and 11 p.m. Mon. through Thurs., C
 Wendell Hall, 10 p.m. Sun., C
 Harriet Hillard, 7:30 Sun., B
 Helen Jepson, 9 and 11:15 p.m. Thurs., R
 Al Jolson, 8:30 and 11:30 p.m. Tues., C
 Elizabeth Lennox, 8:00 p.m. Fri., C
 Helen Marshall, 7:30 p.m. Sun., R
 Tony Martin, 8:30 and 11:30 p.m. Wed., C
 Ed McConnell, 5:30 p.m. Sun., R
 Lucy Monroe, 9:30 p.m. Sun., R
 Morin Sisters, 7:45 and 11 p.m. Sun., R
 Willie Morris, 4:30 p.m. Sun., R
 Frank Munn, 9:30 p.m. Sun. and 9 p.m. Fri., R; 8:30 Mon., B
 Frank Parker, 9:15 and 11:30 p.m. Sun., B
 Jan Peerce, 6:30 p.m. Sun., C
 Carmella Ponselle, 8:00 p.m. Fri., C

Virginia Rea, 6:30 p.m. Sun., C
 Martha Raye, 8:30 and 11:30 p.m. Tues., C
 Lanny Ross, 9 p.m. Thurs., R
 Singin' Sam, 8:15 Fri., B
 Sally Singer, 10:30 p.m. Mon., R
 Kate Smith, 8 p.m. Thurs., C
 Margaret Speaks, 8:30 and 11:30 p.m. Mon., R
 Marlon Talley, 10 p.m. Fri., R
 Tastyest Jesters, 7:15 Tues., Wed., Thurs., B
 Conrad Thibault, 9:30 p.m. Tues., R
 Kay Thompson, 8:30 and 11:30 Fri., C
 Trudy Woods, 9:30 p.m. Tues., R

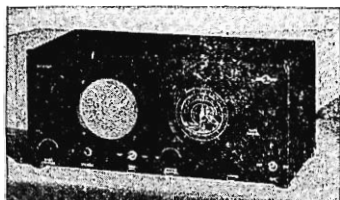
TALKS

Boake Carter, 7:45 p.m. Mon. thru Fri., C
 Jimmy Fidler, 10:30 p.m. Tues., R
 Floyd Gibbons, 9 p.m. Sat., C; 10 p.m. Thurs., C
 Eddie Guest, 8:30 p.m. Tues., B
 Edwin C. Hill, 10 p.m. Sun., B
 Bob Ripley, 7:30 Sun., B
 Sidewalk Interviews, 9 p.m. Tues.; R
 Lowell Thomas, 6:45 p.m. Mon., thru Fri., B
 Trans-Atlantic Broadcast, 12:45 p.m. Sun., C
 Walter Winchell, 9 and 11:15 p.m. Sun., B
 Alexander Woolcott, 7:30 p.m. Tues. and Thurs., C

Mystery Contest

(Continued from Page 10)

place prizes of more RADEX subscriptions to the contestants who finish 50, 100, 150, etc., in the final standings. It may just happen that the DXer who winds up in last place will get one of these prizes, so we can really say that everyone has a chance to win an award.



The Sky Buddy model of the Hallcrafters receiver, a 5-tube set tuning from 540 to 16,000 kcs. This very efficient all-wave set will go to some lucky contestant in our Mystery competition.

We appreciate the comments and suggestions from readers which enabled us to smooth out the rough spots of the previous contest. We can't say enough in appreciation for the co-operation of the stations and the manufacturers who have made the contest possible.

We've had a lot of fun planning this year's contest and making the necessary preparations. We have seen our work bring in definite results and we are sure that the outcome is going to appeal to those who take part in the big event.

SHORT WAVE STATIONS BY FREQUENCIES

Part II (6.000 megas. to 400.000 megas.)

Frequencies are given in megacycles per second. Power is given in parentheses in kilowatts and decimals thereof. In our indices we show assigned frequencies. Actual frequencies on which stations are heard, when differing from those assigned, are shown in parentheses in kilocycles.

Abbreviations:

Ann: Announces
 Add: Address
 Int: Interval signal
 s/o: Sign on and sign off
 (*): Will not verify
 Tr: Transmitter

NA: North America
 SA: South America
 CA: Central America
 NYC: New York City
 Aptdo: Apartado (Box No.)

- | | | | |
|-------|---|-------|--|
| 6.000 | XEBT, Mexico City, D. F. (1.) Add: Aptdo 79-44. | 6.012 | HJ3ABH, Bogota, Colombia. (1.2) "La Voz de la Victor." Same call on BCB. s/o: "Russian Lullaby." Add: Aptdo 565 |
| 6.005 | CFCX, Montreal, P. Q. (.075). Relays CFCF. Add: Canadian Marconi Co., Ltd., Box 1690. | 6.015 | H13U, Santiago de los Caballeros, D. R. (.025) (6017) "La Voz del Comercio." Add: Sr. F. Bertran. |
| | HP5K, Colon, Panama. "La Voz de la Victor." Add: Aptdo 33. | | XEWI, Mexico City, D. F. (.4). |
| | VE9DN, Montreal, P. Q. Relays CFCF Irreg. See CFCX 6005 kcs. | 6.018 | ZHI, Singapore, Straits Settlements. (.09). Add: 2 and 4 Orchard Road. |
| 6.010 | CJCX, Sydney, N. S. (1.) Relays CJCB. Add: N. Nathanson | 6.020 | DJC, Berlin, Germany. (8.) Tr: Zeesen. Int: Music box tune. s/o: Two national anthems. Add: Reichs-Rundfunk-Gesellschaft, Haus des Rundfunk, |
| | COCO, Havana, Cuba. (.3) Add: Box 98. | | |
| | VP3MR, Georgetown, British Guiana. (5980; 5975; 6017) | | |

SHORT WAVE STATIONS BY FREQUENCIES

- Masurenallee, Berlin-Charlottenburg 9.
- XEUW, Veracruz, Ver. (.02). "El Eco de Sotavento desde Veracruz." Int: "Las Golondrinas." Three cents USA postage for verl. Add: Independencia 98.
- 6.025 HJ1ABJ, Santa Marta, Colombia. (.05) "La Voz de Santa Marta."
- 6.030 HJ4ABP, Medellin, Colombia. (1.) (6033) "Radio Philco".
- HP5B, Panama City, Panama. (.1) Add: Aptdo 310.
- 6.040 PRAS, Pernambuco, Brazil. (3.) "A Vox do Norte." Add: Av. Cruz Cabuga 394.
- W1XAL, Boston, Mass. (10.) "Dedicated to Enlightenment." Add: University Club.
- W4XB, Miami, Fla. (5.). Relays WIOD. Add: Isle of Dreams Erdstg. Corp.
- YDA, Tandjong Priok, Java, N.E.I. (10.) s/o: "End of a Perfect Day." This is the Key Station for the NIROM Network.
- 6.042 HJ1ABG, Barranquilla, Colombia. (.15) "Emisora Atlantico". Same call on BCE. Add: Aptdo 445.
- 6.045 XETW, Mexico City, D. F. "La Voz del Aguila Azteca desde Mexico." Add: Aptdo 8403.
- 6.050 GSA, London, Gt. Britain. (20.). "A for Aerial." Tr: Daventry. Int: Bow Bells; time signal on even hours; Big Ben strikes hours irreg. preceded by Westminster Chimes. s/o: God Save the King. Add: British Broadcasting Corp., London W1.
- XEXF, Mexico City, D. F. (.6). Secretaria de Economia."
- 6.055 HJ3ABD, Bogota, Colombia (.05). "Colombia Broadcasting." Add: Aptdo 509.
- 6.060 VQ7LO, Nairobi, Kenya. Cable and Wireless, Ltd., Box 777.
- W3XAU, Philadelphia, Pa. (10.) Relays CBS-WCAU. Add: 1622 Chestnut St.
- W8XAL, Cincinnati, Ohio. (10.) Tr. Mason. Relays WLW-NBC. Add: Crosley Radio Corp., 1329 Arlington St.
- 6.070 CFRX, Toronto, Ont. (1.). Relays CFRB. Add: Rogers-Majestic Corp.
- HJ3ABF, Bogota, Colombia. (.05) (6068; 6073). "La Voz de Bogota". Ann: Estacion HKF. s/o: "Song of the Islands."
- VE9CS, Vancouver, B. C. (.01) Relays CKFC. Add: 1001 Stock Exchange Bldg.
- YV1RD, Maracaibo, Venez. (6075). "Radiodifusora Maracaibo." Relays YVIRE.
- 6.075 XEBW, Guadalajara, Jal. (.045). Ramon Loreto.
- 6.080 DJM, Berlin, Germany. See DJC 6.020 mags.
- HP5F, Colon, Panama. (6074; 6078)
- W9XAA, Chicago, Ill. (20.) "The Voice of Labor." Tr: York Township. Relays NBC-WCFL. s/o: English, French, German, Norwegian, Polish, Russian, Spanish. This transmitter uses aerial directed to Central Europe. Add: Chicago Federation of Labor, 666 Lake Shore Drive.
- ZHJ, Penang, Straits Settlements. (.049). "J for Jubilee".
- 6.085 HJ5ABD, Cali, Colombia. "La Voz del Valle." Aptdo 270.
- 6.090 CRCX, Toronto, Ont. (1.) Relays CRC-CRCT HJ4ABC, Ibague, Colombia, "Ecos de Combelma."
- VE9BJ, St. John, N. B. (.05) Admiral Beatty Hotel.
- ZBW2, Hong Kong. (2.4). Add: Box 200.
- 6.095 JZH, Nazaki, Japan.
- 6.097 HJ4ABE, Medellin, Colombia. (1.) "La Voz de Antioquia." Relays HJ4ABK. Int: 3 chimes precede ann. Add: Emisora 4ABE.
- 6.100 W3XAL, New York, N. Y. (20.) Tr: Bound Brook, N. J. Relays NBC-WJZ. Ann: Eng., French, German, Italian and Spanish. s/o: "The Star Spangled Banner." Add: NBC, Rockefeller Plaza, NYC.
- W9XF, Chicago, Ill. (5.) Tr: Downers Grove. Relays NBC-WENR. Add: NBC, Inc., Merchandise Mart.
- Belgrade, Yugo-Slavia. (1.) "Radio Beograd".
- 6.108 HJ4ABB, Manizales, Colombia. "Radio Manizales."
- 6.110 GSL, London, Gt. Britain. "L for Liberty." See GSA 6.050 mags.
- 6.115 HJ1ABB, Barranquilla, Colombia. (.3) (6447). "La Voz de Barranquilla." Relays HJ1ABA. Int: 3 chimes. Add: Aptdo 715.
- XECU, Guadalajara, Jal.
- Prague, Czechoslovakia. (35.) See 15.230 mags.
- 6.120 W2XE, New York, N. Y. (10.). Tr: Wayne. N. J. Relays CBS-WABC s/o: "The Star Spangled Banner."
- XEFT, Veracruz, Ver. (.012). Jose Rodriguez Lopez.
- XETW, Mexico City, D. F.
- YDA5, Bandoeng, Java, N.E.I. (1.5). Add: NIROM (N. V. Nederlandsche Indische Radio Omroep Moatschappij), Tegalegah 0.23, Bandoeng.
- 6.122 HJ3ABX, Bogota, Colombia. "La Voz de Colombia." Same call on BCE.
- 6.125 CXA4, Montevideo, Uruguay. (1.) Add: Martin Fierro 2603.
- 6.130 COCD, Havana, Cuba. (.35). "La Voz del Aire." Int: 4 chimes. Relays CMCD. s/o: "Good Night Waltz." Add: Calle 25 y "G", Vedado.
- VE9HX, Halifax, N. S. Add: Box 998.
- VP3BG, Georgetown, British Guiana.
- 6.138 HJ4ABD, Medellin, Colombia. "La Voz de Catia." Also works on 5.760 and 5.930 mags.
- 6.140 W8XK, Pittsburgh, Pa. (40.). Tr: Saxenburg. "The World's Pioneer Radio Station." Relays NBC-KDKA. Add: Grant Bldg.
- 6.145 HJ4ABU, Pereira, Colombia. "La Voz de Pereira."
- 6.150 CB615, Santiago de Chile. "Radiodifusora Pilot." s/o: "Rhapsody in Blue." Add: Cia Internacional de Radio, Casilla 16-D.

SHORT WAVE STATIONS BY FREQUENCIES

- CJRO, Winnipeg, Man. (2.). James Richardson & Sons, 157 Royal Alexandra Hotel.
- 6.153 HISN, Santiago, D. R. (.2). Sr. M. Smester.
- 6.156 YVSRD, Caracas, Venez. "Radiodifusora Venez." Relays YVSRB.
- 6.160 VPB, Colombo, Ceylon, (.3). Add: Central Telegraph Office.
- 6.182 XEXA, Mexico City, D. F. (6174). Relays XEXM. S/o: "March of the Toys." Add: Secretaria de Educacion Publica.
- 6.190 HI1A, Santiago de los Caballeros, D. R. (.05). "La Voz del Yaque."
- 6.200 COKG, Santiago de Cuba, (.05). "Ask for Bacardi." Relays CMKG. Add: Sres. Grau y Caminero, Apto 137. XEXS, Portable and Mobile in Mexico. (.12). Departamento de Salubridad Publica.
- 6.235 HRD, La Ceiba, Honduras. (.25). "La Voz de Atlantida."
- 6.243 HIN, Trujillo, D. R. (.75). s/o: National anthem. Add: Apto 604.
- 6.250 YVSRJ, Caracas, Venezuela. "La Voz de la Esfera." Relays YVSR1.
- 6.260 OAX4G, Lima, Peru. Relays OAX4B. Add: R. Grellaud y Cia.
- 6.270 YVSRP, Caracas, Venez. "La Voz de Philco." Relays YVSRQ.
- 6.280 COHB, Sancti-Spiritus, Cuba. (.15) (6281). Relays CMHB. Add: Apto. 85.
- HIG, Trujillo, D. R. (.05). Int: a bawling calf. Add: A. Cordero P.
- 6.300 YV4RD, Maracay, Venezuela. "La Voz de Aragua." Relays YV4RG.
- 6.315 HIZ, Trujillo, D. R. (.1). "La Voz de los Muchachos." Add: Calle Duarte No. 68.
- 6.340 HIX, Trujillo, D. R. (.5).
- 6.345 YV1RG, Valera, Venezuela. "Radio Valera."
- 6.358 HKP1, San Pedro Sula, Honduras.
- 6.360 YV1RH, Maracaibo, Venezuela. "Ondas del Lago, Emisora Philco." Relays YV1RF.
- 6.380 YV5RF, Caracas, Venezuela. "Ecos del Caribe." Relays YV5RE.
- 6.385 W09, Mitchell Field, L. I., N. Y. Army airport.
- 6.400 YV5RH, Caracas, Venezuela. "Ondas Populares." Relays YV5RG. Add: Apto 1931.
- 6.410 TIPG, San Jose, Costa Rica. (1). "La Voz de la Victor." Add: Apto 224.
- 6.420 HI1S, Santiago de los Caballeros, D. R. (.02).
- 6.425 W2XGB, Hicksville, N. Y. (5.). Press Wireless, Inc.
- W3XL, New York, N. Y. (100.). Tr: Bound Brook, N. J. NBC control station and cue station for nearly all special broadcasts. Add: NBC, 30 Rockefeller Plaza, NYC.
- W9XBS, Chicago, Ill.
- W9XF, Chicago, Ill. (2.5). Tr: Downers Grove. Cue station. Add: NBC, Merchandise Mart.
- 6.440 KUP, San Francisco, Calif. Press at 0300 GMT.
- 6.477 HI4V, San Francisco de Macoris, D. R. (.025). "La Voz de la Marina".
- 6.479 HISA, Trujillo, D. R.
- 6.490 Aeronautical point-to-point stations, Purple Chain: See 2.644 megs.
- 6.500 HIL, Trujillo, D. R. (.05). YV1RM, Maracaibo, Venezuela. "Radio-difusora Maracaibo." Relays YV1RN.
- 6.510 Aeronautical point-to-point, Blue Chain: See 2.720 megs.
- 6.520 YV4RB, Valencia, Venez. "La Voz de Carabobo." Relays YV4RA. Add: Sres. Hermann y Williams Degwitz. Aeronautical point-to-point, Blue Chain: See 2.720 megs.
- 6.530 Aero. point-to-point, Blue Chain: See 2.720 megs.
- 6.534 EDR4, Palma, Majorca, Balearic Islands. (6565; 6583).
- 6.540 YN1GG, Managua, Nicaragua. Aero. point-to-point, Brown Chain: See 2.612 megs.
- 6.545 YV6RB, Bolivar, Venezuela. "La Voz de Ciudad." Relays YV6RA.
- 6.550 Aeronautical point-to-point, Brown Chain: See 2.612 megs.
- 6.555 HI4D, Trujillo, D. R. (.025). "La Voz de Quisqueya."
- 6.560 Aero. point-to-point, Brown Chain. See 2.612 megs.
- 6.570 Aircraft, Orange Chain. See 2.648 and 2.870 megs.
- 6.580 Aero. point-to-point, Orange Chain. See 2.648 megs.
- 6.590 Aeronautical Green Chain. See 2.608 and 2.854 megs.
- 6.600 Aero, point-to-point, Green Chain. See 2.608 megs.
- 6.615 Aeronautical: See 2.930 megs.
- 6.620 PRADO, Rio Bamba, Ecuador. (6618; 6625). "Estacion El Prado." Ann: Sometimes by a lady, Srta. Judy. Add: Apto 98.
- 6.630 HIT, Trujillo, D. R. (.2). "La Voz de la RCA-Victor." Add: Apto 1105.
- 6.635 HC2RL, Guayaquil, Ecuador. (6650; 6667). "Quinta Piedad." Add: Apto 759.
- 6.672 YVQ, Maracay, Venez.
- 6.688 TIEP, San Jose, Costa Rica. "La Voz de los Isthmo." Add: Apto 257.
- 6.720 CFU, Rossland, B. C. Consolidated Mining & Smelting Co. of Canada, Ltd.
- PMH, Bandoeng, Java, N.E.I. (1.5). See YDA5 5.120 megs.
- 6.730 HI3C, La Romana, D. R. "La Voz de la Feria."
- 6.750 JVT, Nazaki, Japan. (20.) Works U.S.A.
- 6.755 W0A, Lawrenceville, N. J. (*) Works London nights.
- 6.762 TDA, Shinkio, Manchukuo. (20.). Works San Francisco. Add: Manchukuo Telegraph and Telephone Co., Ltd.
- 6.775 HIH, San Pedro de Macoris, D. R. (.15). "La Voz de Higuamo."
- 6.785 WFD, New Orleans, La. Press in winter.
- 6.800 HI7P, Trujillo, D. R. (frequency drifts).
- 6.820 XGOX, Nanking, China. (.5).
- 6.860 KEL, Bolinas, Calif. (*). Works Manila.
- 6.905 GDS, Rugby, Gt. Britain. (15.) Works NYC nights. See GBW 14.400 megs.
- 6.950 GBY, Rugby, Gt. Britain. Works NYC irreg. See GBW 14.400 megs.
- 7.000 PZH, Paramaribo, Surinam.
- 7.000 to 7.300 megs. Amateurs. United States and Canada use code only in this band. Most other countries use voice.
- 7.080 VP3MR, Georgetown, British Guiana. "The Voice of Guiana."
- 7.100 F08AA, Papeete, Tahiti (.2). Radio Club Oceanien.

SHORT WAVE STATIONS BY FREQUENCIES

- 7.180 YNAM, Managua, Nicaragua. "La Voz del Pacifico."
- 7.380 XECR, Mexico City, D. F. (20.). Ann: English and Spanish. Add: Departamento de Publicidad de la Secretaria de Relaciones Exteriores.
- 7.520 HCK, Quito, Ecuador.
- 7.555 KKH, Kahuku, Hawaii. (*). Phones Bollnas. Lawrenceville, N. J. (20.) (*). Works London.
- 7.565 KWY, Dixon, Calif. (*). Lawrenceville, N. J. (20.) (*). Works London and Paris.
- 7.570 TDG, Shinkio, Manchukuo. Works Berlin. Manchukuo Telegraph & Telephone Co., Ltd.
- 7.610 KWX, Dixon, Calif. (40.) (*).
- 7.620 IUB, Addis Ababa, Ethiopia.
- 7.700 Aeronautical point-to-point, daytime operation only, Brown Chain. See 2.612 megs.
- 7.715 KEE, Bollnas, Calif. (40.) (*).
- 7.797 HBP, Geneva, Switzerland. (20.) "Radio Nations." Tr: Prangins. Add: M. G. Gallarati, Information Section, League of Nations.
- 7.850 HC2J5B, Guayaquil, Ecuador. "Ecuador Radio." Int: one gong. Add: Juan S. Behr.
- 7.920 GDP, Rugby, Gt. Britain. Works Australia. See GBW 14.440 megs.
- 7.968 HSJ, Bangkok, Siam. Post & Telegraph Dept. XGL, Shanghai, China.
- 8.015 Aeronautical point-to-point, daytime operation only, Blue Chain: See 2.730 megs.
- 8.050 WXA, Juneau, Alaska. Works WVD at 2400 EST.
- 8.070 Aero. point-to-point, Yellow Chain. See 2.640 megs.
- 8.075 WEZ, Rocky Point, N. Y. (W2XBJ) (*). Works Paris.
- 8.095 VLK, Sydney, Australia.
- 8.130 Aero. point-to-point, daytime operation only: Green Chain, see 2.608 megs. Purple Chain, see 2.644 megs.
- 8.220 Aircraft, Orange Chain. See 2.648 and 2.870 megs. Clipper Service, see 2.986 megs.
- 8.360 WHD, New York, N. Y. Press at 0600 GMT.
- 8.370 KFS, Palo Alto, Calif. Press at 0600 GMT.
- 8.430 WSC, Tuckerton, N. J. Press at 0415 GMT.
- 8.500 YNLG, Managua, Nicaragua. (.5). "Nicaragua Patria de Dario."
- 8.560 WOO, Ocean Gate, N. J. (20.) (*). Phones Ships. "Cast" frequency.
- 8.600 HPF4, Panama City, Panama. Works Hialeah nights.
- 8.620 WVD, Seattle, Wash. Works Alaska at 2400 EST. Alaskan Telephone Co., 517 Federal Office Bldg.
- 8.630 VOWQ, Northwest River, Labrador.
- 8.665 COBJQ, Camaguey, Cuba. (2.4). Add: Calle Gnrl. Gomez 4.
- 8.680 GBC, Rugby, Gt. Britain. Works Ships Days. See GBW 14.440 megs.
- 8.690 VWZ, Kirkee, Poona, India. (10.). Assigned 8691, 8693, 8700 and 8708 kcs. also, Phones London. Add: Indian Radio & Cable Communication Co., Poona 6.
- 8.710 KBB, Manila, Philippine Isl. (*).
- 8.720 VPD3, Suva, Fiji. "Radio Suva." s/o: "God Save the King." Add: Amalgamated Wireless (A/sia) Ltd.
- 8.740 WXV, Fairbanks, Alaska.
- 8.770 ICEJ, S. S. Rex. Works IAC and WOO. Add: Italian Lines, 1 State St., NYC.
- 8.798 HKV, Bogota, Colombia. Add: Ministerio de Guerra.
- 8.810 FNSK, S. S. Normandie. Works Paris nights. Add: French Lines, Pier 88, North River, Foot of W. 48th St., NYC.
- IBLI, S. S. Conte di Savoia. Works IAC and WOO. See ICEJ 8.770 megs.
- 8.830 British Ships. Work GBC and WOO. Add: International Marine Radio, Connaught House, 63 Aldwych, London WC2.
- GBTT, R. M. S. Queen Mary.
- GBZW, S. S. Berengaria.
- GDJL, S. S. Homeric.
- GFVV, S. S. Majestic.
- GLRZ, S. S. Aquitania.
- French Ships. For address see FNSK 8.810 megs.
- FNSK, S. S. Normandie. Works WOO nights.
- FNSM, S. S. Paris.
- FNTQ, S. S. Ile de France.
- Furness-Bermuda Lines. Work ZFA-B and WOO. (*).
- VQJM, S. S. Monarch of Bermuda.
- VQJP, S. S. Queen of Bermuda.
- German Ships. See 4.413 megs.
- DBBR, S. S. Berlin.
- DDCP, S. S. Cap Polonia.
- DDFF, S. S. Reliance.
- DDFT, S. S. Oceana.
- DHAO, S. S. Hansa.
- DHDL, S. S. Cap Arcona.
- DHEY, S. S. Deutschland.
- DHJZ, S. S. Hamburg.
- DHRL, S. S. New York.
- DOAH, S. S. Bremen.
- DOAI, S. S. Europa.
- 8.840 ZMBJ, M. V. Amatea. Phones Australia and New Zealand. Add: United S.S. Co., Auckland, N. Z.
- 8.948 HCJB, Quito, Ecuador. (.15) "La Voz de los Andes." Int: 4 strokes on gong. Add: Casilla 691.
- 9.010 KEJ, Bolinas, Calif. (*).
- 9.020 GCS, Rugby, Gt. Britain. (15.). Phones NYC nights. See GBW 14.440 megs.
- 9.040 TYA2, Pontoise, Franco. (10.). Works Algeria and ships. Add: Service de la T.S.F., 5 Rue Froideveaux, Paris XIV.
- 9.045 VWY, Kirkee, Poona, India. Add: See VWZ 8.690 megs.
- 9.050 NPO, Cavite, Philippine Isl. Time signals at 1255 GMT.
- 9.125 HAT4, Budapest, Hungary. (20.). "Justice for Hungary." Tr: Szekesfehervar. Ann: English, French, Hungarian, usually by lady. s/o: National anthem. Add: Radiolabor, Kiserletl Alfomasa, Budapest IX, Gyalui-ut 22.
- 9.168 YVR, Maracay, Venezuela.
- 9.250 NAA/NSS, Arlington, Va. Time signals at 0955 and 2155 EST.
- 9.280 GCB, Rugby, Gt. Britain. (15.). Works Canada nights. See GBW 14.440.
- 9.310 Aircraft, Orange Chain: See 2.648 megs.
- 9.332 CGA4, Drummondville, P. Q. Phones London. See CFCX. 6.005 megs.
- 9.350 HS8PJ, Bangkok, Siam. Ann: "Happiness Siam Eight Progress Jubilee." Int: 3 chimes. Add: Post and Telegraph Dept.
- 9.415 PLV, Bandoeng, Java, N.E.I. (80.). Governments Radio-Dienst.
- 9.425 NAA/NSS, Arlington, Va. Time signals at 0055, 0155, 0255, 0355, 0755, 1155, 1355, 1555, 1755, 1855, 2355 EST.
- 9.428 COCH, Havana, Cuba. (.15). General Electric Co. of Cuba, No. 2 "B" St., Vedado.
- 9.448 WES, Rocky Point, N. Y. (*).
- 9.450 TGWA, Guatemala City, Guat. (.2). "Radio Nacional". Relays TGW. Add: Ministerio de Fomento.

SHORT WAVE STATIONS BY FREQUENCIES

- 9.460 **ICK**, Tripoli. (2.).
WKJ, New Brunswick, N. J. (*).
XEFT, Veracruz, Ver. (.02). "La Voz de Veracruz," Add: Av. Independencia 28.
XGOX, Nanking, Kian-su, China. (.5).
- 9.470 **WET**, Rocky Point, N. Y. (*). Works SA irreg.
- 9.475 **EAH**, Madrid, Spain. Ann: UGT1. (UGT for Union General de Trabajadores Network).
- 9.480 **KES**, Bolinas, Calif. (*)
XEDQ, Guadalajara, Jal. Int: 4 chimes in descending scale. Relays **XED**.
 Add: Aptdo 197.
- 9.490 **OXY**, Copenhagen, Denmark.
XTV, Canton, China.
- 9.500 **VK3ME**, Melbourne, Australia (5.). Tr: Braybank. Add: Amalgamated Wireless (A/sia) Ltd., Box 1272L, Elizabeth St. P. O.
HJ1ABE, Cartagena, Colombia. (.18). "La Voz de los Laboratorios Fuentes." Add: Aptdo 31.
PRF5, Rio de Janeiro, Brazil. (60.). "A Vox do Brasil." Add: Cia. Internacional do Brasil, Box 709.
- 9.510 **GSB**, London, Gt. Britain. (20.). "B for Broadcasting." See GSA 6.050 megs.
HJU, Buenaventura, Colombia. National Railroads of Colombia.
- 9.520 **HJ4ABH**, Armenia, Colombia. "La Voz de Armenia." Relays **HJ4ABN**.
XEME, Merida, Yuc. (.015). Fernando Ponce Camera.
- 9.525 **ZBW3**, Hong Kong. (2.4). Add: Box 200.
- 9.530 **W2XAF**, Schenectady, N. Y. (40.). Relays **NBC-WGY**. Programs commence with electrical discharge of 10,000,000 volts. Add: The General Electric Co.
- 9.535 **JZI**, Tokyo, Japan.
- 9.540 **DJN**, Berlin, Germany. See **DJB**, 15.200 megs.
LKJ1, Jeloy, Norway. (1.).
VPD2, Suva, Fiji. "Radio Suva." s/o: "God Save the King".
- 9.560 **DJA**, Berlin, Germany. (8.). See **DJB** 15.200 megs.
HJ1ABB, Barranquilla, Colombia. (.3) (Daytime only). "La Voz de Barranquilla." Relays **HJ1ABA**. Add: Aptdo 715.
- 9.565 **VUB**, Bombay, India. (4.5). Add: All India Radio, Irwin House, Sprott Road, Ballard Estate.
YV3RB, Venezuela. "La Voz de Lara."
- 9.570 **W1XK**, Boston, Mass. (10.) (*) Tr: Millis. Relays **NBC-WBZ-WBA**.
- 9.575 **HJ2ABC**, Cuzco, Colombia. (.25). "La Voz de Cuzco."
- 9.580 **GSC**, London, Gt. Britain. (20.). "C for Corporation." See GSA 6.050 megs.
3LR, Melbourne, Australia. Tr: Lyndhurst.
- 9.585 **VK2ME**, Sydney, Australia. (20.). "The Voice of Aust." Tr: Pennant Hills. Int: Laughing notes of kookaburra. Add: Amalgamated Wireless, (A/sia) Ltd., 47 York St.
- 9.590 **PCJ**, Hilversum, Netherlands. "The Happy Station." Ann: Dutch, English, French, German, Malay, Portuguese, Spanish. s/o: National anthem. Add: N. V. Philips Radio, Emma-singel 29, Eindhoven.
VK6ME, Perth, W. A., Australia. (.3). Amalgamated Wireless, (A/sia), Ltd.
W3XAU, Philadelphia, Pa. (10.). Relays **CBS-WCAU**. Add: 1622 Chestnut St.
- Cincinnati, Ohio (under construction.)
- 9.595 **HBL**, Geneva, Switzerland. (18.). "Radio Nations." Tr: Prangins. Add: M. G. Gallarati, Information Section, League of Nations.
RAN, Moscow, USSR.
- 9.600 **CB960**, Santiago de Chile. "Radiodifusora Pilot." s/o: "Rhapsody in Blue." Add: Cia. Internacional de Radio, Casilla 16-D.
- 9.605 **HP5J**, Panama City, Panama. (1.). "La Voz de Panama." Add: Aptdo 867.
- 9.610 **YDB**, Sourabaya, Java, N.E.I. (1.).
- 9.618 **HJ1ABP**, Cartagena, Colombia. (.75). "Radio Cartagena." Add: Aptdo 37.
- 9.635 **I2RO**, Rome, Italy. Ann: "Radio Roma-Napoli," usually by a lady. Add: **EIAR**, Via Montello 5, Rome.
- 9.640 **CQN**, Macau, Portuguese China.
- 9.645 **HH3W**, Port-au-Prince, Haiti. (.03). Add: Box A-117.
- 9.660 **LRX**, Buenos Aires, Argentina. (5.). "Radio El Mundo." Relays **LR1**. Add: Calle Maipu 555.
- 9.665 **CT1AA**, Lisbon, Portugal. (2.) (9650; 9693; 9770). "Radio Colomiale." Int: 3 cuckoos. Add: Senhor Abilio Nunes dos Santos Jr., Av. Antonio Augusto d'Aguilar 144.
- 9.670 **TI4NRH**, Heredia, Costa Rica. (9695). Amando Cespedes Marin, Aptdo 40.
- 9.675 **DZA**, Berlin, Germany. See **DJB** 15.200 megs.
- 9.750 **COCCQ**, Havana, Cuba. "de la RCA-Vector." Relays **CMQ**. s/o: "Siboney." Add: Calle 25 No. 445, Vedado.
WOF, Lawrenceville, N. J. (*). Phones Paris.
- 9.860 **EAQ**, Madrid, Spain. (20.) (varies to 10060). "La Voz de Espana." Tr: Aranjuez. Ann: English and Spanish. Broadcasts **IBC** programs from London. s/o: National anthem "Himno del Reigo." **IBC** programs s/o "Good Night Waltz." Add: Transradio Espanola, Aptdo 951.
- 9.870 **WON**, Lawrenceville, N. J. (20.) (*).
- 9.890 **LSN2**, Buenos Aires, Argentina.
- 9.895 **LSN**, Buenos Aires, Argentina. Works NYC.
- 9.940 **CSW**, Lisbon, Portugal.
 San Juan, Puerto Rico. (.4). Works Hialahio. Radio Corp. of Puerto Rico.
- 9.950 **GCU**, Rugby, Gt. Britain. (15.). Works NYC nights. See **GBW** 14.440 megs.
- 9.990 **KAZ**, Manila, Philippine Isl. (40.) (*).
- 10.000 **WWV**, Beltsville, Md. (1.). Standard frequency transmissions Wednesdays 1315-1415 EST.
- 10.042 **DZB**, Berlin, Germany. See **DJB** 15.200 megs.
- 10.055 **SUV**, Cairo, Egypt. (10.). Tr: Abu Zabal.
ZFB, Hamilton, Bermuda. (1.5). (*) Tr: St. George. Works NYC days.
- 10.065 **TDE**, Shinkio, Manchukuo. Works Tokyo. Manchukuo Telegraph and Telephone Co., Ltd.
- 10.080 **RIR**, Tiflis, USSR.
- 10.105 **TDB**, Shinkio, Manchukuo. (20.). Works San Francisco. See **TDE** 10.065 megs.
- 10.125 Aeronautical point-to-point, Blue Chain. Daytime operation only. See 2.720 megs.
- 10.135 **OPM**, Leopoldville, Belgian Congo. Works **ORK**.

SHORT WAVE STATIONS BY FREQUENCIES

- 10.190 Aeronautical point-to-point, daytime only. Brown Chain. See 2.612 megs.
- 10.220 PSH, Rio de Janeiro, Brazil. (12.). Works LSX. Cia Radiotelegrafica Brasileira, Caixa Postal 500.
- 10.230 CED, Antofagasta, Chile.
- 10.250 LSK3, Buenos Aires, Argentina (5.). Tr: Hurlingham.
- 10.260 PMN, Bandoeng, Java, N.E.I. (1.5). Works VLJ. Gouvernements Radio-Dienst.
- 10.290 DZC, Berlin, Germany. See DJB 15.200 megs.
- 10.330 ORK, Brussels, Belgium. (11.). Works Leopoldville and broadcasts. Tr: Ruyselede.
- 10.335 ZFD, Hamilton, Bermuda. (1.5) (*). Tr: St. George.
- 10.350 LSX, Buenos Aires, Argentina. (20.). Tr: Monte Grande. Add: Cia. Radiotelegrafica Arg. S. A., San Martin 329.
- 10.400 KEZ, Bolinas, Calif. (*).
- 10.420 XGW, Shanghai, China.
- 10.460 WFD, New Orleans, La. Press in summer time.
- 10.535 JIB, Taihoku, Taiwan. (6.). Tr: Chureki. Works Tokyo. Add: Kokusai Denwa Kaisha, Chureki Station, Chureki Gai, Shlnchiku, Taiwan.
- 10.578 FYB, Pontoise, France. Time signals 1955 to 2000 GMT.
- 10.610 WEA, Rocky Point, N. Y. (40.) (*).
- 10.660 JVN, Tokyo, Japan. Tr: Nazaki.
- 10.670 CEC, Santiago de Chile. (4.). Tr: La Granja. Add: Cia. Internacional de Radio, Casilla 16-D.
- 10.740 JVM, Tokyo, Japan. (20.). Tr: Nazaki.
- 10.770 GCP, Rugby, Gt. Britain. (15.). Works Sydney. See GBW 14.440 megs.
- 10.840 KWV, Dixon, Calif. (20.) (*). Works Asia.
- 10.955 HSSPJ, Bangkok, Siam. (5.). Tr: Sala Daeng. Add: Radio Service, Post & Telegraph Dept.
- 10.990 ZLT, Wellington, New Zealand. Works Australia. Add: Post & Telegraph Dept.
- 11.000 PLP, Bandoeng, Java, N.E.I. (1.5). Gouvernements Radio-Dienst.
- ZLT4, Wellington, New Zealand. See ZLT 10.990 megs.
- 11.018 GBTT, S. S. Queen Mary. See 8.830 megs.
- 11.280 HIN, Trujillo, D. R. (.75). s/o: National anthem. Add: Apto 604.
- 11.435 COCX, Havana, Cuba. "La Casa Lavin." (frequency varies widely). Relays the 9 o'clock curfew cannon shot. Add: Box 32.
- 11.500 PMK, Bandoeng, Java, N.E.I.
- 11.540 XGR, Shanghai, China. Works England.
- 11.595 VRR4, Stony Hill, Jamaica. Works Hialeah.
- 11.660 JVL, Tokyo, Japan. Tr: Nazaki.
- 11.670 PPQ, Rio de Janeiro, Brazil. Tr: Santa Cruz. Works Europe, SA, Rocky Point irreg. Add: Cia. Radiotelegrafica Brasileira, Caixa Postal 500.
- 11.680 KIO, Kahuku, Hawaii. (*).
- 11.715 TPA4, Paris, France. Tr: Pontoise. "Radio Coloniale." Add: Ministere des Postes, Telegraphes et Telephones, 98 bis, Blvd. Haussmann.
- 11.720 CJRX, Winnipeg, Man. (2.). Add: James Richardson & Sons, 157 Royal Alexandra Hotel.
- 11.730 PHI, Hilversum, Netherlands. (23.6) (Winter frequency). PHOH. See: PCJ 9.590 megs.
- 11.740 HP5L, David, Chiriqui, Panama. (.35). "Las Ondas del Baru." Add: Apto 129.
- 11.750 GSD, London, Gt. Britain. (20.). "D for Davenport." Tr: Davenport. Int: Bow Bells; time signal on even hours; Big Ben strikes hours irreg. preceded by Westminster chimes. s/o: God Save the King. Add: British Broadcasting Corp., London W1.
- 11.770 DJD, Berlin, Germany. (8.). See DJB 15.200 megs.
- 11.790 WIXAL, Boston, Mass. (10.). "Dedicated to Enlightenment." Add: Educational Director, University Club.
- 11.795 DJO, Berlin, Germany. See DJB 15.200 megs.
- 11.800 JZJ, Tokyo, Japan. Tr: Nazaki.
- 11.810 I2R04, Rome, Italy. (25.). "Radio Roma-Napoli." Add: usually by a lady. Int: chirping of a bird. s/o: two national anthems, "Giovinezza" and "Marcia Reale." Add: Ente Italiano per le Audizioni Radiofoniche, Via Montello 5.
- 11.820 GSN, London, Gt. Britain. See GSD, 11.750 megs.
- 11.830 W2XE, New York, N. Y. (10.). Tr: Wayne, N. J. Relays CBS-WABC. s/o: "Star Spangled Banner." Add: Columbia Broadcasting System, 485 Madison Ave., NYC.
- W9XAA, Chicago, Ill. (20.). This transmitter uses aerial directed to the Antipodes. For details see 6.080 megs.
- 11.840 Prague, Czechoslovakia. (35.) (11750; 11875). See 15.230 megs.
- 11.855 DJP, Berlin, Germany. See DJB, 15.200 megs.
- 11.860 GSE, London, Gt. Britain. (20.). "E for Empire." See GSD 11.750 megs.
- YDB, Sourabaya, Java, N.E.I. (1.).
- 11.870 W8XK, Pittsburgh, Pa. See W8XK 15.210 megs.
- 11.880 TPA3, Paris, France. See TPA4 11.715 megs.
- 11.880 XEXA, Mexico City, D. F. (.1). Add: Secretaria de Educacion Publica.
- 11.900 XEWI, Mexico City, D. F. "My Voice to the World from Mexico." Add: Apto 2874.
- 11.950 KKQ, Bolinas, Calif. (*) Relays programs to Hawaii.
- 11.955 IUC, Addis Ababa, Ethiopia.
- 12.000 RNE, Moscow, USSR. (20.). Programs in English, Czech, Dutch, French, German, Hungarian, Russian, Spanish and Swedish. Int: Kremlin chimes on the hour. s/o: "Internationale." Add: Mme. Inna Marr, Solianka 12.
- 12.150 GBS, Rugby, Gt. Britain. (15.). Works NYC afternoons. See GBW 14.440 megs.
- 12.235 TFFJ, Reykjavik, Iceland. (7.5). Icelandic State Brdcastg. Service, Box 547.
- 12.290 GBU, Rugby, Gt. Britain. Works NYC nights. See GBW 14.440 megs.
- 12.330 Aircraft and aero., Orange Chain. See 2.870 megs. Clipper Service, see 2.986 megs.
- 12.630 NAA/NSS, Arlington, Va. Time signals at 0955 EST.

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- 12.830 **CNR**, Rabat, Morocco. (12.). Direction de l'Office des Postes, des Telegraphes et des Telephones.
- 12.840 **WOO**, Ocean Gate, N. J. (20.) (*). Works ships. "Boy" frequency.
- 12.885 **NPG**, San Francisco, Calif. Time signals at 1655 GMT.
- 13.040 German ships. See 4.413 mags.
DDBR, S. S. Berlin.
DDCP, S. S. Cap Polonio.
DDFF, S. S. Reliance.
DDFT, S. S. Oceana.
DHAO, S. S. Hansa.
DHDL, S. S. Cap Arcona.
DHEY, S. S. Deutschland.
DHJZ, S. S. Hamburg.
DHRL, S. S. New York.
DOAH, S. S. Bremen.
- 13.050 Italian ships: see 4.280 mags.
IBEJ, S. S. Conte Rosso.
IBGI, S. S. Conte Verde.
IBLI, S. S. Conte di Savoia.
ICEJ, S. S. Rex.
- 13.075 **VPD**, Suva, Fiji. s/o: "God Save the King." Add: Amalgamated Wireless, (A/sia) Ltd., Suva.
- 13.190 **FNSK**, S. S. Normandie. Works Paris afternoons. See FNSK 13.210 mags.
- 13.210 **DOAI**, S. S. Europa. (.07). See 4.413 mags.
FNSK, S. S. Normandie. Works WOO afternoons. Add: French Lines, Pier 88, North River, Foot of W. 48th St., NYC.
- 13.320 British Ships, see 8.830 mags.
GBZW, S. S. Berengaria.
GDLJ, S. S. Homeric.
GFVW, S. S. Majestic.
GLRZ, S. S. Aquitania.
- 13.337 **YVQ**, Maracay, Venezuela. Works WNC days.
- 13.380 **IDU**, Asmara, Eritrea. Works Rome.
- 13.410 **WCT**, San Juan, Puerto Rico. (.4). Works WNC. Add: Radio Corp. of Puerto Rico.
- 13.530 **TDH**, Shinkio, Manchukuo. Works Berlin.
- 13.585 **GBB**, Rugby, Gt. Britain. Works Canada and Egypt. See GBW 14.440 mags.
- 13.635 **SPW**, Warsaw, Poland. Tr: Babice.
- 13.690 **KKZ**, Bolinas, Calif. (*). Works Asia.
- 13.745 **CGA2**, Drummondville, P. Q. Works Ships.
- 13.780 **KKW**, Bolinas, Calif. (*).
- 13.820 **SUZ**, Cairo, Egypt. Tr: Abu Zabal. Phones Germany, England.
- 13.880 **VJZ**, Raboul, New Guinea.
- 13.900 **WQP**, Rocky Point, N. Y. (*). Works Europe.
- 13.980 **TDC**, Shinkio, Manchukuo. Works San Francisco.
- 13.990 **GBA2**, Rugby, Gt. Britain. Works SA. See GBW 14.440 mags.
- 14.000 to
 14.400 **Amateurs**. Amateur 'phones are heard between 14.150 and 14.250 mags. Foreign amateurs usually work on the upper and lower edges of the band.
- 14.440 **GBW**, Rugby, Gt. Britain. (15.). Works WMA, WMF. Uses Inverted Speech and sometimes a "wobulated carrier" as well. Add: G. P. O., Armour House, St. Martin's le Grande, London EC1.
- 14.460 **DZH**, Berlin, Germany. See DJB, 15.200 mags.
- 14.470 **WMF**, Lawrenceville, N. J. (*). Works Rugby.
- 14.480 **LSN**, Buenos Aires, Argentina.
YNA, Managua, Nicaragua. Works WNC daily.
- 14.485 **YSJ**, San Salvador, El Salvador. Works WNC daily. Add: Telegrafos, Telefonos y Radio Nacionales.
HRL5, La Lima, Honduras. Works WNC daily.
HRM, Tegucigalpa, Honduras. Works WNC daily.
- 14.545 **HPF**, Panama City, Panama. Works WNC daily.
TGF, Guatemala City, Guat. Works WNC daily.
TIU, Cartago, Costa Rica. Works WNC daily. Add: Cia. Radiografica Int. de C. R.
- 14.590 **WMN**, Lawrenceville, N. J. (20.) (*). Works Rugby.
- 14.635 **GBL**, Rugby, Gt. Britain. Works Japan. See GBW 14.440 mags.
- 14.640 **JVH**, Tokyo, Japan. (20.) Tr: Nazaki.
- 14.800 **WQV**, Rocky Point, N. Y. (*).
- 14.845 **OCJ2**, Lima, Peru. Phones SA.
- 14.910 **JVG**, Tokyo, Japan.
- 14.915 **LZA**, Sofia, Bulgaria. s/o: national anthem.
- 14.930 **HJB**, Bogota, Colombia. Works WNC and SA daily.
- 14.940 **HIR**, Trujillo, D. R. Works WNC daily.
HJA3, Barranquilla, Colombia. Works WNC.
- 14.960 **ROU**, USSR.
YSL, San Salvador, El Salvador. Add: Telegrafos, Telefonos y Radio Nacionales.
- 14.970 **LZA**, Sofia, Bulgaria. "Radio Sofia."
- 14.98 **KAY**, Manila, Philippine Isl. (*). Works Germany, England mornings; KWU nights.
- 15.000 **WWV**, Beltsville, Md. Standard frequency transmissions.
- 15.040 **RKI**, Moscow, USSR.
- 15.055 **WNC**, Miami, Fla. (.4) (*). Tr: Hialeah. Works CA, SA and West Indies daily.
- 15.080 **RKI**, Moscow, USSR.
RV96, Moscow, USSR.
- 15.110 **DJL**, Berlin, Germany. See DJB 15.200 mags.
- 15.120 **HJV**, Vatican City. (10.). Int: ticking of clock. Ann: "Laudatur Jesus Christus." Add: Pontificia Accademia Della Scienze, Roma-Castina Pio IV.
- 15.140 **GSF**, London, Gt. Britain. (15.). "F for Fortune." See GSD 11.750 mags.
- 15.150 **YDC**, Bandoeng, Java, N.E.I. (3.).
- 15.160 **JZK**, Tokyo, Japan.
- 15.175 **RV96**, Moscow, USSR.
- 15.180 **GSO**, London, Gt. Britain. See GSD 11.750 mags.
- 15.190 **ZBW4**, Hong Kong. (2.4). Add: Box 200.
- 15.200 **DJB**, Berlin, Germany. (8.). Tr: Zeesen. Int: Music box tune. s/o: Two national anthems. Add: Reichs-Rundfunk-Gesellschaft, Haus des Rundfunk, Masurenallee, Berlin-Charlottenburg 9.
- 15.210 **W8XK**, Pittsburgh, Pa. (*). Tr: Saxonburg. Relays NBC-KDKA.
- 15.220 **PCJ**, Hilversum, Netherlands. See PCJ 9.590 mags.

SHORT WAVE STATIONS BY FREQUENCIES

- 15.230 Prague, Czechoslovakia. (35.) "Radio Podesbrady." Tr: Podesbrady. Int: trumpet tune from New World Symphony. Add: Praha XII, Fochova Tr. 16.
- 15.245 TPA2, Paris, France. See TPA4 11.715 megs.
- 15.250 W1XAL, Boston, Mass. (10.). "Dedicated to Enlightenment." Add: University Club.
- 15.260 GSI, London, Gt. Britain. "I for Island." See GSD 11.750 megs.
- 15.270 W2XE, New York, N. Y. See 11.830 megs.
- 15.280 DJQ, Berlin, Germany. See DJB 15.200 megs.
- LRU, Buenos Aires, Argentina. "Radio El Mundo." Relays LR1. Add: Calle Malpu 555.
- 15.300 XEBM, Mazatlan, Sin. (.05). Ignacio L. Saiz.
- 15.310 GSP, London, Gt. Britain. "P for Progress." See GSD 11.750 megs.
- 15.330 W2XAD, Schenectady, N. Y. (20.). Relays NBC-WGY. See W2XAF 9.530 megs.
- 15.340 DJR, Berlin, Germany. See DJE 17.760 megs.
- 15.355 KWU, Dixon, Calif. (15.). Works Hawaii, Philippines, Japan. Add: Transpacific Communication Co., 140 New Montgomery St., San Francisco.
- 15.360 DZG, Berlin, Germany. See DJE, 17.760 megs.
- 15.370 HAS3, Budapest, Hungary (20.). See HAT4 9.125 megs.
- 15.415 KWO, Dixon, Calif. (20.). Works N.E.I. and Japan nights. See KWU 15.355 megs.
- 15.905 TDI, Shinkio, Manchukuo. Works Berlin.
- 16.140 GBX, Rugby, Gt. Britain. Works SA. Uses inverted speech. Add: G.P.O., Armour House, St. Martins le Grand, London, EC1.
- 16.440 Aircraft and aeronautical, Orange Chalm: See 2.870 megs. Clipper Service, see 2.986 megs.
- 16.460 DHEY, S. S. Deutschland. Works DAF, WOO. Add: North German Lloyd, Pier 4, Foot of 58th St., Brooklyn.
- 16.600 DOAI, S. S. Europa. See DHEY 16.460 megs.
- 16.765 DHTY, S. S. Resolute.
- 16.820 NAA, Arlington, Va. Time signals at 0955 EST.
- 17.080 GBC, Rugby, Gt. Britain. (5.). Works ships. See GBX 16.140 megs.
- 17.120 WOO, Ocean Gate, N. J. (20.) (*) Works ships.
- 17.225 ICEJ, S. S. Rex.
- 17.310 W3XL, New York, N. Y. (20.). See W3XAL 6.100 megs.
- 17.450 VVY2, Kirkee, Poona, India. Works GAU mornings. Indian Radio and Cable Communications Co., Ltd., Poona 6.
- 17.755 ZBWS, Hong Kong. (2.4). Add: Box 200.
- 17.760 DJE, Berlin, Germany. Tr: Zeesen. Int: music box tune. s/o: two national anthems. Add: Reichs-Rundfunk-Gesellschaft, Haus des Rundfunks, Masurenallee, Berlin-Charlottenburg 9.
- W2XE, New York, N. Y. See 11.830 megs.
- 17.775 PHI, Hilversum, Netherlands. (23.6). Summer frequency. See PCJ 9.590 megs.
- 17.780 W3XAL, New York, N. Y. (15.). See 6.100 megs.
- 17.785 JZL, Tokyo, Japan.
- 17.790 GSG, London, Gt. Britain. (15.). "G for Greeting." Tr: Daventry. Int: Bow Bells; time signal on even hours; Big Ben strikes hours irreg. preceded by Westminster Chimes. s/o: "God Save the King." Add: British Brdcastg. Corp., London W1.
- 18.270 IUD, Addis Ababa, Ethiopia.
- 18.310 GAS, Rugby, Gt. Britain. Works NYC mornings. See GBX 16.140 megs.
- 18.350 WLA, Lawrenceville, N. J. (*). Works London mornings
- 18.620 GAU, Rugby, Gt. Britain. (15.). Works India, NYC and Capetown. See GBX 16.140 megs.
- 18.830 PLE, Bandoeng, Java, N.E.I. (40.). Works Dixon nights and Tokyo mornings. Governments Radio-Dienst.
- 19.480 GAD, Rugby, Gt. Britain. Works Kenya Colony. See GBX 16.140 megs.
- 19.630 VQG, Nairobi, Kenya Colony. Works London. Cable & Wireless, Ltd. Box 777
- 20.380 GAA, Rugby, Gt. Britain. (15.). See GBX 16.140 megs.
- 21.470 GSH, London, Gt. Britain. "H for Home." See GSG 17.790 megs.
- 21.520 JZM, Tokyo, Japan.
- W2XE, New York, N. Y. See 11.830 megs.
- 21.530 GSJ, London, Gt. Britain. "J for Justice." See GSG 17.790 megs.
- 21.540 W8XK, Pittsburgh, Pa. (*). Tr: Saxonburg. Relays NBC-KDKA. Westinghouse Electric & Mfg. Co.
- 26.100 GSK, London, Gt. Britain. "K for King." See GSG 17.790 megs.
- 28.000 to
30.000 Amateurs. Amateur 'phones are used between 28 and 29 megs.
- 30.604 IAG, Golfo Aranci, Sardinia. (5.).
- 31.600 W1XER, Boston, Mass. (.5). Add: Shepard Brdcastg. Service.
- W2XJI, Newark, N. J. (1.). Bamberger Brdcastg. Service, Inc.
- W3XEY, Baltimore, Md. (.1). Add: WFBR, 7 St. Paul St.
- W6XAS, San Francisco, Calif. (.01).
- W6XKG, Los Angeles, Calif. (1.). Ben S. McGlashan.
- W8XAI, Rochester, N. Y. (1.). Stromberg-Carlson.
- W8XKA, Pittsburgh, Pa. (.15). Add: KDKA, Grant Bldg.
- W8XWJ, Detroit, Mich. (.1). Add: WWJ, the Detroit News.
- W9XAZ, Milwaukee, Wis. (.5). The Journal Co.
- W9XER, Kansas City, Mo. (.05).
- W9XPD, St. Louis, Mo. (.1).
- 55.500 W8XKA, Pittsburgh, Pa. (.15). KDKA, Grant Bldg.
- 56.000 to
60.000 Amateurs. Amateur 'phones are heard in the entire band.
- 60.500 W8XKA, Pittsburgh, Pa. (.15). KDKA, Grant Bldg.
- 110.000 megs to infinity. Amateurs.
- 401.000 W1XEG, Storrs, Conn. (.5). Connecticut State College.
- W9XHW, Minneapolis, Minn. (.05).

All the shortwave stations will be listed in the April RADEX by locations and by call letters.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

540 keys. (555.2)

CJRM ak 1000 F Moose Jaw, Sask.

550 keys. (545.1)

CFNB mk 500 F (1) Fredericton, N. B.
 KFUD ae 500 2 (1) St. Louis, Mo.
 KFVR ae 1000 N (5) Bismarck, N. D.
 EOAC ak 1000 Corvallis, Ore.
 KSD ak 1000 2R (5) St. Louis, Mo.
 KTSA ak 1000 C (5) San Antonio, Tex.
 WDEV ae 500 D Waterbury, Vt.
 WGR ae 1000 C Buffalo, N. Y.
 WKRC ak 1000 CX Cincinnati, Ohio
 XSWA ak 500 D Harrisonburg, Va.
 XEFC ak 100 Merida, Yuc.

560 keys. (535.4)

KFDM ak 500 (1) Beaumont, Tex.
 KLZ ae 1000 C (5) Denver, Colo.
 KSFO ak 1000 San Francisco, Cal.
 KWTO ak 5000 D Springfield, Mo.
 WFIL ak 1000 BM Philadelphia, Pa.
 WIND ak 1000 (5) Gary, Ind.
 WIS ae 1000 N (5) Columbia, S. C.
 WOAM ak 1000 C Miami, Fla.
 XEAO ak 250 Mexicali, L. C.

570 keys. (526.0)

CMCX z 150 Havana, Cuba
 KGKO ak 250 C(1)Y Wichita Falls, Tex.
 KMTR ak 1000 Hollywood, Calif.
 KVI ak 1000 C(5) Tacoma, Wash.
 WKBN ae 500 1C Youngstown, Ohio
 WMCA ak 1000 New York, N. Y.
 WNAX ak 1000 C (5) Yankton, S. D.
 WOSU ak 750 1 (1) Columbus, Ohio
 WSYR ak 1000 B Syracuse, N. Y.
 WWNC ak 1000 N Asheville, N. C.

580 keys. (516.9)

CFPR ak 50 Prince Rupert, B.C.
 CHRC ak 100 F Quebec, Que.
 CKCL ng 100 F Toronto, Ont.
 CKUA ak 500 Edmonton, Alta.
 KMJ nk 500 C (1) Fresno, Calif.
 KSAC ak 500 2 (1) Manhattan, Kans.
 WCHS ak 500 (1) Charleston, W. Va.
 WDBO ak 1000 C Orlando, Fla.
 WIBW nk 1000 C2 (5) Topeka, Kans.
 WILL ak 1000 D Urbana, Ill.
 WTAG ne 500 RX Worcester, Mass.
 XELO ak 50000 Piedras Negras, Coah

590 keys. (508.2)

KIIO ak 1000 R (2.5) Spokane, Wash.
 WEI ak 1000 CX Boston, Mass.
 WKZO ak 1000 D Kalamazoo, Mich.
 WOW ne 5000 R Omaha, Nebr.

600 keys. (499.7)

CFCF ae 400 FN Montreal, Que.
 CJOR ak 500 Vancouver, B. C.
 CMW nk 1400 Havana, Cuba
 CRCW ak 500 F (1) Windsor, Ont.

KFSD ae 1000 B San Diego, Calif.
 WCAO ae 500 C (1) Baltimore, Md.
 WICC ak 500 M (1) Bridgeport, Conn.
 WMT ak 1000 BM (5) Cedar Rapids, Ia.
 WREC c 1000 C (5) Memphis, Tenn.

610 keys. (491.5)

KFRC ck 1000 M (5) San Francisco, Cal.
 WDAF ak 1000 R (5) Kansas City, Mo.
 WIP ak 1000 Philadelphia, Pa.
 WJAY ae 500 D Cleveland, Ohio
 XEXM ak 500 Mexico City, D. F.

620 keys. (483.6)

KGW ae 1000 R (5) Portland, Ore.
 KTAR ae 1000 N Phoenix, Ariz.
 WFLA ae 1000 Na (5) Clearwater, Fla.
 WHJB ak 250 D C Greensburg, Pa.
 WLBZ ak 500 C (1) Bangor, Maine
 WSUN ae 1000 Na (5) St. Petersburg, Fla.
 WTMJ ak 1000 N (5) Milwaukee, Wis.

630 keys. (475.9)

CFCO ae 100 F Chatham, Ont.
 CFCY ae 1000 F Charlottetown, P.E.I.
 CJRC ak 1000 F Winnipeg, Man.
 CKOV ak 100 F Kelowna, B. C.
 KFRU ak 500 1 (1) Columbia, Mo.
 KGFX ak 200 D Pierre, S. D.
 WGBF ak 500 1 Evansville, Ind.
 WMAL ak 250 B (5) Washington, D. C.
 WPRO ak 500 C(1) Providence, R. I.
 XEZ z 500 Merida, Yuc.
 WGAN ck 500 P Portland, Me.

640 keys. (468.5)

CMCB ak 150 Havana, Cuba
 KFI ak 50000 R Los Angeles, Calif.
 WHKC ak 500 Columbus, Ohio
 WOI ae 5000 D Ames, Iowa
 XEBX z 250 Saltillo, Coah.

650 keys. (461.3)

WSM ak 50000 NM Nashville, Tenn.

660 keys. (454.3)

WAAW ae 500 D Omaha, Neb.
 WEAJ ak 50000 R New York, N. Y.
 XEAL z 1000 Mexico City, D. F.

670 keys. (447.5)

WMAQ ak 50000 N Chicago, Ill.

680 keys. (440.9)

CMCG ak 1000 Havana, Cuba
 KFEQ ak 2500 D St. Joseph, Mo.
 KPO nk 50000 R San Francisco, Cal.
 VAS akn 2000 685 Glace Bay, N. S.
 VOWR ck 500 681 St. John's, Nfld.
 WPTF ak 1000 N (5) Raleigh, N. C.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

690 keys. (434.5)

CFRB ae 10000 C Toronto, Ont.
 CJGJ ak 100 F Calgary, Alta.
 XET ak 500 Monterrey, N. L.

700 keys. (428.3)

WLW ak 500000 NM Cincinnati, Ohio

710 keys. (422.3)

KIRO ak 1000 Seattle, Wash.
 KMPC ak 500 M Beverly Hills, Cal.
 WOR ak 50000 M Newark, N. J.

720 keys. (416.4)

WGN ak 50000 M Chicago, Ill.
 XEH ak 250 Monterrey, N. L.

730 keys. (410.7)

CFPL ak 100 F London, Ont.
 CJCA ak 1000 F Edmonton, Alta.
 CKAC ak 5000 CF Montreal, Que.
 CKPR ak 100 F Fort William, Ont.
 CMK ae 3000 Havana, Cuba
 XEBC ak 5000 Agua Caliente, L.C.
 XEPN ak 100000 Piedras Negras, Ch.

740 keys. (405.2)

KMMJ ae 1000 D Clay Center, Neb.
 KTRB ak 250 D Modesto, Calif.
 WHEB ak 250 D Portsmouth, N. H.
 WSB ae 50000 N Atlanta, Ga.

750 keys. (399.8)

CMCW dk 150 Havana, Cuba
 KGU aj 2500 N Honolulu, T. H.
 WJR ak 5000 C Detroit, Mich.
 XEAM ak 25 Matamoros, Tams.

760 keys. (394.5)

CMHX ak 200 Cienfuegos, Cuba
 KXA ae 250 (5) Seattle, Wash.
 WBAL ak 2500 BMSy Baltimore, Md.
 WEW ae 1000 D St. Louis, Mo.
 WJZ ak 50000 BSy New York, N. Y.
 XEOK ak 2500 Tijuana, B. Cfa.

770 keys. (389.4)

CMBS ak 150 Havana, Cuba
 KFAB ak 10000 CSy Lincoln, Neb.
 WBBM ae 50000 CSy Chicago, Ill.

780 keys. (384.4)

CHWK dk 100 F Chilliwack, B. C.
 CKSO ak 1000 F Sudbury, Ont.
 CMJK ak 250 Camaguey, Cuba
 KEHE ak 1000 (5) Los Angeles, Calif.
 KFDY ae 1000 D Brookings, S. D.
 KFQD ck 250 Anchorage, Alaska
 KGHL ak 1000 N(5) Billings, Mont.
 WEAN ak 1000 M Providence, R. I.

WMC ak 1000 N(5) Memphis, Tenn.
 WTAR ae 500 NX(1) Norfolk, Va.
 XEL z 1000 Mexico City, D. F.

790 keys. (379.5)

CMGH ak 500 Matanzas, Cuba
 KGO ak 7500 B San Francisco, Cal.
 KOAM z 1000 DP Pittsburg, Kans.
 WGY ak 50000 R Schenectady, N. Y.

800 keys. (374.8)

HIX ak 800 Trujillo, D. R.
 WBAP ak 50000 Na Fort Worth, Tex.
 WFAA ak 50000 Na Dallas, Tex.
 WTBO ak 250 D Cumberland, Md.

810 keys. (370.2)

CMCF ak 600 Havana, Cuba
 WCCO ak 50000 C Minneapolis, Minn.
 WNYC ak 1000 D New York, N. Y.
 XEXC z 350 Aguascalientes, Ags.

820 keys. (365.6)

CMHW ak 100 Cienfuegos, Cuba
 WHAS aj 50000 C Louisville, Ky.
 XEBG z 1000 Tijuana, B. Cfa.

830 keys. (361.2)

CMJX ae 500 Camaguey, Cuba
 KOA ak 50000 N Denver, Colo.
 WEUU ak 1000 D Reading, Pa.
 WHDH ae 1000 Dn Boston, Mass.
 WRUF ae 5000 Dn Gainesville, Fla.

840 keys. (356.9)

CFQC ak 1000 F Saskatoon, Sask.
 CRCT ak 5000 FN Toronto, Ont.
 VOGY ak 400 St. John's, Nfld.
 XERA ck 350000 Villa Acuna, Coah.

850 keys. (352.7)

CMBN z 150 Havana, Cuba
 KIEV ak 250 D Glendale, Calif.
 TIEP z 500 San Jose, C. R.
 WESG ak 1000 C Elmira, N. Y.
 WKAR ae 1000 D East Lansing, Mich.
 WWL ae 10000 C New Orleans, La.

860 keys. (348.6)

WABC ae 50000 C New York, N. Y.
 WHB ak 1000 DM Kansas City, Mo.
 XEMO ak 5000 Tijuana, L. C.
 XENC z 50 Mexico City

870 keys. (344.6)

WENR ak 50000 Na Chicago, Ill.
 WLS ae 50000 Na Chicago, Ill.
 XEFB ak 200 Monterrey, N. L.

880 keys. (340.7)

CFJC ak 100 F Kamloops, B. C.
 CMO ak 500 Havana, Cuba
 CRCO ak 1000 F Ottawa, Ont.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KFKA	ak	500	2 (1)	Greeley, Colo.
KLX	ae	1000	....	Oakland, Calif.
KPOF	ae	500	2	Denver, Colo.
WCOG	ae	500	(1)	Meridian, Miss.
WGBI	ak	500	1	Scranton, Pa.
WPHR	ak	500	DY	Petersburg, Va.
WQAN	ae	250	1	Scranton, Pa.
WSUI	ae	500	(1)	Iowa City, Iowa

890 kcys. (336.9)

KARK	ak	500	(1) N	Little Rock, Ark.
KFPN	ak	500	2 (1)	Shenandoah, Iowa
KFPY	ak	1000	C (5)	Spokane, Wash.
KUSD	ae	500	2	Vermillion, S. D.
WBAA	ak	500	(1)	W. Lafayette, Ind.
WGST	ak	1000	C	Atlanta, Ga.
WJAR	ae	1000	R	Providence, R. I.
WMMN	ak	500	C (1)	Fairmont, W. Va.
XEW	ak	50000	....	Mexico City, D. F.

900 kcys. (333.1)

KGBU	ak	500	X	Ketchikan, Alaska
KHJ	ak	1000	M (5)	Los Angeles, Calif.
KSEI	ae	250	(.5)	Pocatello, Idaho
WBEN	ak	1000	R (5)	Buffalo, N. Y.
WELI	ak	500	D	New Haven, Conn.
WFMD	ak	500	D	Frederick, Md.
WJAX	ak	1000	N (5)	Jacksonville, Fla.
WKY	ae	1000	N (5)	Oklahoma City, Okla.
WLBL	ak	2500	DX	Stevens Point, Wis.
WTAD	ak	1000	D	Quincy, Ill.

910 kcys. (329.6)

GJAT	ak	1000	F	Trail, B. C.
CKY	ak	15000	F	Winnipeg, Man.
CRCM	ak	5000	F	Montreal, Que.
XENT	ak	150000	....	Nuevo Laredo, Tams.

920 kcys. (325.9)

CMX	ae	1000	....	Havana, Cuba
HHK	ae	1000	....	Port-au-Prince, Haiti
KFEL	ak	500	aM	Denver, Colo.
KPOMO	ak	1000	R (5)	Seattle, Wash.
KPRC	ak	1000	N (5)	Houston, Texas
KVOD	ak	500	aB	Denver, Colo.
WAAF	ak	1000	D	Chicago, Ill.
WORL	ae	500	D	Boston, Mass.
WPEN	ak	250	(.5) 1	Philadelphia, Pa.
WRAX	ak	250	1 (.5)	Philadelphia, Pa.
WSPA	ae	1000	D	Spartanburg, S. C.
WWJ	ak	1000	R (5)	Detroit, Mich.
XEAA	ak	200	....	Mexicali, L. C.

930 kcys. (322.4)

CFAC	ak	100	F	Calgary, Alta.
CFCH	ak	100	F	North Bay, Ont.
CFLC	ae	100	F	Prescott, Ont.
CHNS	ae	1000	F	Halifax, N. S.
CKPC	ae	100	F	Brantford, Ont.
KMA	ak	1000	(5)	Shenandoah, Iowa
KROW	ak	1000	C	Oakland, Calif.
WBRC	ak	1000	C	Birmingham, Ala.
WDBJ	ae	1000	C (5)	Roanoke, Va.
XEBH	ak	500	....	Hermosillo, Sonora

940 kcys. (319.0)

KOIN	ak	1000	C (5)	Portland, Ore.
VOAS	ak	100	....	St. John's, Nfld.
WAAT	ak	500	D	Jersey City, N. J.
WAVE	ak	1000	N	Louisville, Ky.
WCSH	ak	1000	R (2.5)	Portland, Maine
WDAY	ae	1000	N (5)	Fargo, N. D.
WHA	ak	5000	D	Madison, Wis.
XEFO	ak	5000	(XFO)	Mexico City, D. F.
XEYO	z	500	....	Mexico City, D. F.

950 kcys. (315.6)

CJOC	ak	100	F	Lethbridge, Alta.
CMGD	ak	250	....	Havana, Cuba
CRCS	ak	100	F	Chicoutimi, Que.
KFWB	ak	1000	(5)	Hollywood, Calif.
KHSL	ak	250	D	Chico, Calif.
KMBC	ae	1000	C (5)	Kansas City, Mo.
WRC	ak	500	R (1)	Washington, D. C.

960 kcys. (312.3)

CFRN	ak	100	F	Edmonton, Alta.
CHNC	ak	1000	F	New Carlisle, Que.
XEAW	ck	50000	....	Reynosa, Tams.

970 kcys. (309.1)

CMBY	z	150	....	Havana, Cuba
KJR	ak	5000	B	Seattle, Wash.
WCFL	ae	5000	B	Chicago, Ill.
WIBG	ak	100	D	Glenside, Pa.

980 kcys. (306.0)

KDKA	c	50000	B	Pittsburgh, Pa.
XEAC	ak	250	....	Tijuana, B. Cfa.

990 kcys. (302.8)

WBZ	c	50000	BSy	Boston, Mass.
WBZA	c	1000	BSy	Springfield, Mass.
XEAF	ak	750	....	Nogales, Sonora
XEK	ak	100	....	Mexico City, D. F.
XES	dk	250	....	Tampico, Tams.

1000 kcys. (299.8)

CMBZ	ak	500	(1)	Havana, Cuba
KFVD	ae	250	DnX	Los Angeles, Calif.
WHO	ak	50000	R	Des Moines, Iowa
XEBI	ak	25	....	Agascalientes, Ags.
XEBK	ak	100	....	Nuevo Laredo, Tams.
XEXS	z	100	....	Portable in Mexico

1010 kcys. (296.9)

CHML	ak	100	F	Hamilton, Ont.
CKGD	ak	100	F	Vancouver, B. C.
CKCK	ak	500	F	Regina, Sask.
CKCO	ak	100	F	Ottawa, Ont.
CKIC	ak	50	....	Wolfville, N. S.
CKWX	ak	100	F 1	Vancouver, B. C.
CMJA	ak	300	....	Camaguey, Cuba
KGGF	ak	1000	2	Coffeyville, Kans.
KOW	ae	1000	....	San Jose, Calif.
WHN	ae	1000	(5)	New York, N. Y.
WNAD	ae	1000	2	Norman, Okla.
WNOX	ak	1000	C (2)	Knoxville, Tenn.
XEU	ak	250	....	Veracruz, Ver.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1020 keys. (293.9)

KYW ak 10000 R Philadelphia, Pa.
 WDZ nk 250 D Tuscola, Ill.
 XEJ ak 1000 Juarez, Chih.

1030 keys. (291.1)

CFCN ak 10000 Calgary, Alta.
 CKLW ak 5000 M Windsor, Ont.
 CMCY ak 5000 Havana, Cuba
 XEB ak 10000 Mexico City, D. F.

1040 keys. (288.3)

KRLD ak 10000 C Dallas, Texas
 KWJJ ak 500 Portland, Ore.
 KYOS z 250 D Merced, Calif.
 WTIC ah 50000 R Hartford, Conn.

1050 keys. (285.5)

CMKD ak 250 Santiago, Cuba
 CRCK ak 1000 F Quebec, Que.
 KFBI ak 5000 Dn Abilene, Kans.
 KNX ak 50000 C Hollywood, Calif.
 WEAU z 1000 DP Eau Claire, Wis.

1060 keys. (282.8)

KTHS ak 10000 N Hot Springs, Ark.
 VOAC z 40 1065 St. John's, Nfld.
 WBAL ak 10000 B (25) Baltimore, Md.
 WJAG ak 1000 D Norfolk, Neb.
 XEAD ak 125 Guadalajara, Jal.
 XEMG z 100 Atzacotalco, D.F.
 z 100 P College Park, Md.

1070 keys. (280.2)

CMBX ak 500 Havana, Cuba
 CMHA z 50 Sagua la Grande, C.
 KJBS ak 5000 Dn San Francisco, Cal.
 WCAZ ak 100 DX Carthage, Ill.
 WTAM ak 50000 R Cleveland, Ohio

1080 keys. (277.6)

WBT ak 50000 C Charlotte, N. C.
 WCBD ak 5000 1Dn Chicago, Ill.
 WBMI ak 5000 1Dn Chicago, Ill.
 XEBI z 20 Guzman, Jal.

1090 keys. (275.1)

KMOX ak 50000 C St. Louis, Mo.
 XEAQ ak 1000 Rosarito, L. C.

1100 keys. (272.6)

CMGJ ak 500 Havana, Cuba
 CRCV ak 1000 FX Vancouver, B. C.
 KGDH ak 1000 DM Stockton, Calif.
 KWKM ae 10000 C Shreveport, La.
 WLWL ae 5000 I New York, N. Y.
 WPG ak 5000 IC Atlantic City, N. J.

1110 keys. (270.1)

KSOO ak 2500 Dn Sioux Falls, S. D.
 WRVA ak 5000 CM Richmond, Va.

1120 keys. (267.7)

CHLP ak 100 F Montreal, Que.
 CHSJ ak 500 F (1) St. John, N. B.
 CKOC ae 500 F (1) Hamilton, Ont.
 CKX ak 100 F Brandon, Man.
 CMGF dk 150 Matanzas, Cuba
 CMKM ak 200 Manzanillo, Cuba
 KFIO ae 100 D Spokane, Wash.
 KFSG ag 500 a (2.5) Los Angeles, Calif.
 KRKD ak 500 a (2.5) Los Angeles, Calif.
 KRSC ak 100 DX Seattle, Wash.
 WCOP ak 500 D Boston, Mass.
 WDEL ak 250 (5) Wilmington, Del.
 WISN ak 250 (1) C Milwaukee, Wis.
 WTAW ae 500 College Station, Tex.

1130 keys. (265.3)

CMJI ak 150 Ciego de Avila, Cuba
 KSL ak 50000 C Salt Lake City, Utah
 WJJD ak 20000 Dn Chicago, Ill.
 WOV ag 1000 D New York, N. Y.
 XEJP z 100 Mexico City, D. F.

1140 keys. (263.0)

CMBG z 200 Havana, Cuba
 KVOO ak 25000 1N Tulsa, Okla.
 WAPI ak 5000 1N Birmingham, Ala.
 WSPR ak 500 DM Springfield, Mass.

1150 keys. (260.7)

CMJF z 200 Camaguey, Cuba
 WHAM ae 50000 B Rochester, N. Y.
 XEC ak 100 Tijuana, B. Cfa.
 XEDW z 20 Minatitlan, Ver.

1160 keys. (258.5)

CMHJ ak 175 Cienfuegos, Cuba
 WOWO c 10000 1C Fort Wayne, Ind.
 WVVV ak 5000 1C Wheeling, W. Va.
 XEAS ak 50 Saultillo, Coah.
 XEBJ z 20 Merida, Yuc.
 XEBZ ad 100 Mexico City, D. F.
 XED ak 2500 Guadalajara, Jal.
 XEP ak 500 Juarez, Chih.

1170 keys. (256.3)

CMBD ae 500 Havana, Cuba
 WCAU ak 50000 C Philadelphia, Pa.

1180 keys. (254.1)

CMJO ak 50 Ciego de Avila, Cuba
 KEX ak 5000 2B Portland, Ore.
 KOB ak 10000 2 Albuquerque, N.M.
 VEYEK ak 10 1185 Montmagny, Que.
 WDGY ak 1000 Dn (5) Minneapolis, Minn
 WINS ak 1000 New York, N. Y.
 WMAZ ak 1000 Macon, Ga.
 XEFA z 500 Tacuba, D. F.

1190 keys. (252.0)

VONF ak 500 1195 St. John's, Nfld.
 WATR ak 100 D Waterbury, Conn.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

WOAI ak 50000 C San Antonio, Tex.
 WSAZ ak 1000 Huntington, W. Va.
 z 250 DP Visalia, Calif.

KLAH ak 100 Carlsbad, N. Mex.
 KOCA z 100 P Kilgore, Texas
 KPCC ak 100 9 Pasadena, Calif.
 KVSQ ak 100 Ardmore, Okla.
 KWTN ak 100 Watertown, S. D.
 TGW ak 10000 Guatemala City
 WALR ak 100 Zanesville, Ohio
 WBAX ae 100 Wilkes Barre, Pa.
 WBBL ak 100 S Richmond, Va.
 WBLV ak 100 D Lima, Ohio
 WBRB ak 100 3 Red Bank, N. J.
 WCOL ak 100 N Columbus, Ohio
 WCRW ae 100 4 Chicago, Ill.
 WEBQ ae 100 6(.25) Harrisburg, Ill.
 WEDC ae 100 4 Chicago, Ill.
 WFAS ak 100 3 White Plains, N. Y.
 WFOY z 100 P St. Augustine, Fla.
 WGBB ae 100 3 Freeport, N. Y.
 WGCM ae 100 (.25) Gulfport, Miss.
 WGNV ak 100 3 Newburgh, N. Y.
 WHBF ak 100 (.25) Rock Island, Ill.
 WHBU ak 100 (.25) Anderson, Ind.
 WIBU ak 100 (.25) Poynette, Wis.
 WJBY ak 100 Gadsden, Ala.
 WJJE ae 100 D Hagerstown, Md.
 WJIM z 100 (.25) Lansing, Mich.
 WJTN ak 50 X Jamestown, N. Y.
 WJW ae 100 (.25) Akron, Ohio
 WKOK ak 100 Sunbury, Pa.
 WLMU z 100 P Middleboro, Ky.
 WMBG ak 100 CXZ Richmond, Va.
 WMFG ak 100 X Hibbing, Minn.
 WMFN ak 100 Y Clarksdale, Miss.
 WOMT ak 100 Manitowoc, Wis.
 WPAX ak 100 D Thomasville, Ga.
 WSA Y 100 D Rochester, N. Y.
 WSBC ae 100 4 Chicago, Ill.
 WSIX ak 100 Y Springfield, Tenn.
 WSOC ak 100 N(.25) Charlotte, N. C.
 WTAX ak 100 Springfield, Ill.
 XEAT ak 250 Parral, Chih.
 XEE ak 50 Durango, Dgo.
 XEFV ak 100 Juarez, Chih.
 XETH ak 100 Puebla, Pue.
 z 100 DP Bridgeton, N. J.

1200 keys. (249.9)

CHAB ak 100 F Moose Jaw, Sask.
 CKNX ak 50 Wingham, Ont.
 CKTB ag 100 F St. Catharines, Ont.
 CMCO ad 250 Havana, Cuba
 KADA ak 100 D Ada, Okla.
 KBTM ak 100 D Jonesboro, Ark.
 KDNC z 100 P(.25) Lewistown, Mont.
 KELO z 100 P Sloux Falls, S. Dak.
 KFJB ak 100 (.25) Marshalltown, Iowa
 KFSD ae 100 (.25) Nampa, Idaho
 KFJX ak 100 (.25) Grand Junction, Colo.
 KGDE ak 100 (.25) Fergus Falls, Minn.
 KGEG ak 100 Sterling, Colo.
 KGJF ae 100 Los Angeles, Calif.
 KGIH ak 100 (.25) Little Rock, Ark.
 KMLB ak 100 (.25) Monroe, La.
 KOOS ae 250 D Marshfield, Ore.
 KSUN c 100 (.25) Lowell, Ariz.
 KVCV z 100 Redding, Calif.
 KVEC z 250 DP San Luis Obispo, Cal.
 KVOS dk 100 N Bellingham, Wash.
 KWG ak 100 (.25) Stockton, Calif.
 WABI ak 100 (.25) Bangor, Maine
 WAIM ak 100 XZ Anderson, S. C.
 WAYX ak 100 Waycross, Ga.
 WBBZ ak 100 Ponca City, Okla.
 WBHP z 100 P Huntsville, Ala.
 WBNO ak 100 1 New Orleans, La.
 WCAT ak 100 D Rapid City, S. D.
 WCAX ak 100 Burlington, Vt.
 WCLO ak 100 (.25) Janesville, Wis.
 WCPO ak 100 (.25) Cincinnati, Ohio
 WEST ae 100 3 (.25) Easton, Pa.
 WFAM ak 100 8 South Bend, Ind.
 WFTC z 100 (.25)P Kingston, N. C.
 WHBC ak 100 (.25) Canton, Ohio
 WHBY ak 100 (.25) Green Bay, Wis.
 WIBX ak 100 (.3) C Utica, N. Y.
 WIL ak 100 (.25) St. Louis, Mo.
 WJBC ak 100 6(.25) Bloomington, Ill.
 WJBL ak 100 6 Decatur, Ill.
 WJBW ak 100 1 New Orleans, La.
 WJNO ak 100 C W. Palm Beach, Fla.
 WJRD c 100 D Tuscaloosa, Ala.
 WKBO ak 100 3 (.25) Harrisburg, Pa.
 WLVA ak 100 (.25) Lynchburg, Va.
 WMFR ae 100 D High Point, N. C.
 WMPC ak 100 (.25) Lapeer, Mich.
 WNRI ak 100 (.25) Newport, R. I.
 WRBL ak 100 Columbus, Ga.
 WTHT ak 100 DM Hartford, Conn.
 WWAE ae 100 8 Hammond, Ind.
 z 100 P Superior, Wis.

CMJE z 50 Camaguey, Cuba
 KFKU ak 1000 a (5) Lawrence, Kans.
 KTW ak 1000 S2 Seattle, Wash.
 KWSC ae 1000 2 (5) Pullman, Wash.
 WCAD ak 500 D Canton, N. Y.
 WCAE ak 1000 MR(5) Pittsburgh, Pa.
 WDAE ae 1000 C (5) Tampa, Fla.
 WREN ak 1000 Ba(5) Lawrence, Kas.
 XEEL z 50 Mazatlan, Sin.
 XEDA z 200 Gra. Anaya, D. F.
 XETF ak 30 Veracruz, Ver.

1220 keys. (245.8)

CMJE z 50 Camaguey, Cuba
 KFKU ak 1000 a (5) Lawrence, Kans.
 KTW ak 1000 S2 Seattle, Wash.
 KWSC ae 1000 2 (5) Pullman, Wash.
 WCAD ak 500 D Canton, N. Y.
 WCAE ak 1000 MR(5) Pittsburgh, Pa.
 WDAE ae 1000 C (5) Tampa, Fla.
 WREN ak 1000 Ba(5) Lawrence, Kas.
 XEEL z 50 Mazatlan, Sin.
 XEDA z 200 Gra. Anaya, D. F.
 XETF ak 30 Veracruz, Ver.

1210 keys. (247.8)

CJCS ak 50 Stratford, Ont.
 CJCU z 50 Aklavik, N. W. T.
 CKBI ak 100 F Prince Albert, Sask.
 CKCH ak 100 F Hull, Que.
 CKMC ak 50 Cobalt, Ont.
 CMHI ak 150 Santa Clara, Cuba
 KANS ak 100 Wichita, Kans.
 KASA ck 100 Elk City, Okla.
 KDRL ak 100 Devils Lake, N. D.
 KDON z 100 M Del Monte, Calif.
 KFJI ak 100 Klamath Falls, Ore.
 KFOR ak 100 CM(.25) Lincoln, Neb.
 KFPW ak 100 Fort Smith, Ark.
 KFVS ak 100 6(.25) Cape Girardeau, Mo.
 KFXM ak 100 M9 San Bernardino, Calif.
 KGLO z 100 P Mason City, Iowa
 KGY ak 100 Olympia, Wash.
 KIUL ak 100 Garden City, Kans.

1230 keys. (243.8)

KGBX ak 500 Springfield, Mo.
 KGGM ak 250 (.5)X Albuquerque, N. M.
 KYA ak 1000 N San Francisco, Calif.
 WFBM ae 1000 C(5) Indianapolis, Ind.
 WNAC ak 1000 R (5) Boston, Mass.
 XEFJ ak 100 Monterrey, N. L.

1240 keys. (241.8)

CJCB ak 1000 F Sydney, N. S.
 CMHB z 50 Sancti Spiritus, Cuba
 KGCU ak 250 i Mandan, N. D.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KLPM	ak	250	1	Minot, N. D.
KTAT	ak	1000	....	Fort Worth, Texas
KTFI	ak	1000	....	Twin Falls, Idaho
WKAQ	ae	1000	....	San Juan, P. R.
WXYZ	ak	1000	B	Detroit, Mich.
XEKL	z	500	....	Leon, Guan.
XELA	z	50	....	Saltillo, Coah.

1250 kcys. (239.9)

CMKC	ak	150	....	Santiago, Cuba
KFOX	ae	1000	....	Long Beach, Calif.
WAIR	z	250	DP	Winston-Salem
WCAL	ah	1000	2(2.5)	Northfield, Minn.
WDSU	ak	1000	....	New Orleans, La.
WHBI	ak	1000	1(2.5)	Newark, N. J.
WLB	ak	1000	2	Minneapolis, Minn.
WNEW	ak	1000	1(2.5)	New York, N. Y.
WTCN	ak	1000	B(5)	Minneapolis, Minn.
XEXH	z	250	....	San Luis Potosi, S.L.P.

1260 kcys. (238.0)

KGVO	ak	1000	C	Missoula, Mont.
KOIL	ak	1000	MB(2.5)	Omaha, Nebr.
KPAC	ak	500	D	Port Arthur, Texas
KRGV	ae	500	X	Weslaco, Texas
KUOA	ak	2500	D	Siloam Spgs., Ark.
KVOA	ak	1000	....	Tucson, Ariz.
WHIO	ak	1000	C(5)	Dayton, Ohio
WNBX	ak	1000	....	Springfield, Vt.
WTOC	ae	1000	C	Savannah, Ga.

1270 kcys. (236.1)

CMHD	dk	250	....	Caibarien, Cuba
KGCA	ak	100	2D	Decorah, Iowa
KOL	ae	1000	C(5)	Seattle, Wash.
KVOR	ae	1000	C	Colorado Sp'gs, Colo.
KWLC	ak	100	2D	Decorah, Iowa
WASH	ak	500	aN	Grand Rapids, Mich.
WFBF	ae	500	R(1)	Baltimore, Md.
WJDX	ae	1000	N(2.5)	Jackson, Miss.
WOOD	ak	500	aN	Grand Rapids, Mich.
XEXB	ak	50	....	Jalapa, Ver.

1280 kcys. (234.2)

CMCU	acd	500	....	Havana, Cuba
KFBB	ae	1000	C(2.5)	Great Falls, Mont.
KLS	ak	250	....	Oakland, Calif.
WCAM	ae	500	1	Camden, N. J.
WCAP	ae	500	1	Asbury Park, N. J.
WDOD	ak	1000	C(5)	Chattanooga, Tenn.
WIBA	ae	1000	N(5)	Madison, Wis.
WORC	ak	500	C	Worcester, Mass.
WRR	ak	500	....	Dallas, Texas
WTNJ	ak	500	1	Trenton, N. J.
XEMX	z	100	....	Mexico City, D. F.

1290 kcys. (232.4)

KDYL	ak	1000	RX	Salt Lake City, Utah
KLCN	ak	100	D	Blytheville, Ark.
KTRH	ak	1000	C(5)	Houston, Texas
WEBC	ak	1000	N(5)	Duluth, Minn.
WJAS	ak	1000	C(5)	Pittsburgh, Pa.
WNBZ	ak	100	D	Saranac Lake, N. Y.
WNEL	ak	1000	(2.5)	San Juan, P. R.

1300 kcys. (230.6)

KALE	ak	500	3C	Portland, Ore.
KFAC	ak	1000	....	Los Angeles, Calif.
KFH	ak	1000	C	Wichita, Kans.
KFJR	ag	500	3	Portland, Ore.
WBBR	ak	1000	1	Brooklyn, N. Y.
WEVD	ak	1000	1	New York, N. Y.
WFAB	ae	1000	1	New York, N. Y.
WFBC	ak	1000	(5)N	Greenville, S. C.
WHAZ	ae	500	1X	Troy, N. Y.
WHBL	ae	250	....	Sheboygan, Wis.
WIOD	ak	1000	N	Miami, Fla.

1310 kcys. (228.9)

CHCK	ak	50	....	Charlottetown, P.E.I.
CJKL	ak	100	F	Kirkland Lake, Ont.
CJLS	ak	100	....	Yarmouth, N. S.
CKCV	ak	100	F	Quebec, Que.
KAND	z	100	DP	Corsicana, Texas
KCKN	ak	100	....	Kansas City, Kans.
KCRJ	ak	100	D	Jerome, Ariz.
KFPL	dk	100	(25)	Dublin, Texas
KPXR	ak	150	(2)	Oklahoma City, Okla.
KFYO	ak	100	(25)	Lubbock, Texas
KGEZ	ae	100	....	KallsPELL, Mont.
KGFV	ak	100	....	Kearney, Neb.
KHUB	z	250	DP	Watsonville, Calif.
KINY	ak	100	....	Juneau, Alaska
KIT	ak	100	(25)	Yakima, Wash.
KMED	ck	100	XZ(25)	Medford, Ore.
KPDN	ak	100	D	Pampa, Texas
KRMC	z	100	1P	Jamestown, N. D.
KRMD	ak	100	....	Shreveport, La.
KROC	ak	100	....	Rochester, Minn.
KROY	z	100	DP	Sacramento, Calif.
KROA	ak	100	....	Santa Fe, N. Mex.
KRRV	z	100	DX	Sherman, Texas
KSRO	z	250	DP	Santa Rosa, Calif.
KSUB	z	100	P	Cedar City, Utah
KTSM	ak	100	....	El Paso, Texas
KVOL	ak	100	....	Lafayette, La.
KVOX	z	100	1P	Moorhead, Minn.
KWOS	z	100	DP	Jefferson City, Mo.
KXRO	ak	100	....	Aberdeen, Wash.
WAML	ak	100	....	Laurel, Miss.
WBEO	ae	100	....	Marquette, Mich.
WBOW	ak	100	(25)	Terre Haute, Ind.
WBRE	ak	100	....	Wilkes Barre, Pa.
WCLS	ak	100	....	Joliet, Ill.
WCMI	ak	100	(25)	Ashland, Ky.
WDAH	ak	100	S	El Paso, Texas
WEBR	ak	100	B(25)	Buffalo, N. Y.
WEMP	ak	100	D	Milwaukee, Wis.
WEXL	ak	50	....	Royal Oak, Mich.
WFBG	ae	100	3	Altoona, Pa.
WFDF	ak	100	....	Flint, Mich.
WGH	ak	100	(25)	Newport News, Va.
WHAT	ak	100	4	Philadelphia, Pa.
WJAC	ae	100	3	Johnstown, Pa.
WLAK	z	100	....	Lakeland, Fla.
WLBC	ak	100	6(25)	Muncie, Ind.
WLNH	ak	100	....	Laconia, N. H.
WMBO	ak	100	....	Auburn, N. Y.
WMFF	ak	100	(25)	Plattsburg, N. Y.
WNBH	ak	100	M(25)	New Bedford, Mass.
WOL	ae	100	XZ	Washington, D. C.
WRAW	ak	100	....	Reading, Pa.
WROL	ak	100	(25)	Knoxville, Tenn.
WSAJ	ae	100	....	Grove City, Pa.
WSGN	ak	100	(25)	Birmingham, Ala.
WSJS	ak	100	C	Winston-Salem, N.C.
WTAL	ak	100	....	Tallahassee, Fla.
WTEL	ce	100	4	Philadelphia, Pa.
WTJS	ak	100	(25)	Jackson, Tenn.
WTRC	ak	100	6(25)	Elkhart, Ind.
XEAG	z	10	....	Cordoba, Ver.
XECW	ak	10	....	Mexico City, D. F.
XEFW	ak	250	....	Tampico, Tams.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

XETB ak 125 Torreón, Coah.
 XEX ak 125 Monterrey, N. L.

1320 keys. (227.1)

CMOX ak 200 Havana, Cuba
 KGHF am 500 B Pueblo, Colo.
 KGMB ak 1000 C Honolulu, T. H.
 KID ae 500 (1) Idaho Falls, Idaho
 KRNT ak 500 C(1)X Des Moines, Iowa
 WADC ae 1000 C(5) Akron, Ohio
 WORK ak 1000 York, Pa.
 WSMB ak 1000 N New Orleans, La.

1330 keys. (225.4)

CMHK z 250 Cruces, Cuba
 CMKW z Santiago, Cuba
 KGB ak 1000 M San Diego, Calif.
 KMO ak 250 X Tacoma, Wash.
 KSCJ ak 1000 C(5) Sioux City, Iowa
 WDRG ae 1000 C(5) Hartford, Conn.
 WSAI ak 1000 MR(2.5) Cincinnati, Ohio
 WTAQ ae 1000 Green Bay, Wis.

1340 keys. (223.7)

CMAB z Pinar del Rio, Cuba
 CMJL z 75 Camaguey, Cuba
 KGDY ak 250 D Huron, S. D.
 KGIR ak 1000 N(2.5) Butte, Mont.
 KGNO ak 250 Dodge City, Kans.
 WCOA ak 500 C Pensacola, Fla.
 WFEA ak 500 NM(1) Manchester, N. H.
 WSPD ae 1000 C(5) Toledo, Ohio
 XEFE z 250 Nueve Laredo, Tams.
 XEXD z 350 Jalapa, Ver.

1350 keys. (222.1)

CMCA ak 450 Havana, Cuba
 KIDO ak 1000 (2.5) Boise, Idaho
 KWK ak 1000 M(5) St. Louis, Mo.
 WAWZ ae 500 1(1) Zarephath, N. J.
 WBNX ae 1000 1 New York, N. Y.

1360 keys. (220.4)

CMJH dk 50 Ciego de Avila, Cuba
 KCRC ak 250 Enid, Okla.
 KGER ak 1000 Long Beach, Calif.
 WCSC ak 500 (1)N Charleston, S. C.
 WFBL ak 1000 C(5) Syracuse, N. Y.
 WGES ae 500 1 Chicago, Ill.
 WQBC ak 1000 D Vicksburg, Miss.
 WSBT ak 500 1 South Bend, Ind.

1370 keys. (218.8)

CKCW ak 100 F Moncton, N. B.
 CMGE ak 150 Cardenas, Cuba
 KAST ak 100 D Astoria, Ore.
 KCMO ak 100 Kansas City, Mo.
 KEN ak 100 1 Seattle, Wash.
 KELD z 100 El Dorado, Ark.
 KERN ak 100 Bakersfield, Calif.
 KFGO ak 100 Boone, Iowa
 KFJZ ae 100 (2.5) Fort Worth, Texas
 KFRO ak 100 D Longview, Texas
 KGAR ae 100 (2.5) Tucson, Ariz.

KGFG bk 100 Oklahoma City, Okla
 KGFL ak 100 4 Roswell, N. M.
 KGKL ak 100 (2.5) San Angelo, Texas
 KICA ak 100 4 Clovis, N. M.
 KIUP ak 100 Durango, Colo.
 KLUF ak 100 (2.5) Galveston, Texas
 KMAC ak 100 5 San Antonio, Tex.
 KOBH ak 100 Rapid City, S. Dak.
 KONO ak 100 5 San Antonio, Tex.
 KRE ak 100 (2.5) Berkeley, Calif.
 KRKO ak 50 1 Everett, Wash.
 KSLM ak 100 Salem, Ore.
 KTEM z 100 D Temple, Texas
 KUJ ak 100 Walla Walla, Wash.
 KVGZ z 100 P Great Bend, Kans.
 KWYO ak 100 (2.5) Sheridan, Wyo.
 WABY ak 100 B Albany, N. Y.
 WAGF ak 250 D Dothan, Ala.
 WATL ak 100 (2.5) Atlanta, Ga.
 WBLK z 100 DP Clarksburg, W. Va.
 WBNY ak 100 2(2.5) Buffalo, N. Y.
 WBTM ak 100 (2.5) Danville, Va.
 WCBM ae 100 (2.5) Baltimore, Md.
 WDAS ag 100 (2.5) Philadelphia, Pa.
 WDWs ak 100 DP Champaign, Ill.
 WEOA z 100 Evansville, Ind.
 WFOR ak 100 Hattiesburg, Miss.
 WFLR ck 100 C Fort Wayne, Ind.
 WGRG ak 250 D New Albany, Ind.
 WHBQ ak 100 Memphis, Tenn.
 WHDF ak 100 (2.5) Calumet, Mich.
 WHLB ak 100 Virginia, Minn.
 WIBM ak 100 (2.5) Jackson, Mich.
 WLLH ak 100 M(2.5) Lowell, Mass.
 WMBR ak 100 C(2.5) Jacksonville, Fla.
 WMFD ak 100 D Wilmington, N. C.
 WMFO ak 100 D Decatur, Ala.
 WMIN ak 100 (2.5) St. Paul, Minn.
 WOC ak 100 C(2.5) Davenport, Iowa
 WPAY ak 100 Portsmouth, Ohio
 WPRa z 100 (2.5)P Mayaguez, P. R.
 WRAK ak 100 (2.5) Williamsport, Pa.
 WRDO ae 100 Augusta, Maine
 WRJN ak 100 (2.5) Racine, Wis.
 WSAU z 100 DP Wausau, Wis.
 WSVS ak 50 D2 Buffalo, N. Y.
 XECZ z 100 San Luis Potosi, S.L.P.
 XEI ak 125 Morelia, Mich.
 XELZ z * 100 Mexico City, D. F.

1380 keys. (217.3)

CMCR z 150 Havana, Cuba
 KOH ak 500 C Reno, Nev.
 KQV ae 500 1C Pittsburgh, Pa.
 WALA af 500 C(1) Mobile, Ala.
 WKBH ae 1000 LaCrosse, Wis.
 WNBC ak 250 D New Britain, Conn.
 WSMK ak 200 1C Dayton, Ohio

1390 keys. (215.7)

CJGX ak 100 Yorkton, Sask.
 CMJC z 150 Camaguey, Cuba
 KLRA ae 1000 C(2.5) Little Rock, Ark.
 KOY ae 500 (1) Phoenix, Ariz.
 WHK ae 1000 C(2.5) Cleveland, Ohio
 WQDM d 1000 D St. Albans, Vt.

1400 keys. (214.2)

CMGC ad 150 Matanzas, Cuba
 CMKR z 100 Santiago, Cuba
 KHBC z 250 Hilo, T. H.
 KLO ak 500 B Ogden, Utah
 KTUL ak 500 C(1) Tulsa, Okla.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

WARD	ak	500	2	Brooklyn, N. Y.
WBBC	ae	500	2(1)	Brooklyn, N. Y.
WGL	z	500	P	Brooklyn, N. Y.
WHDL	ak	250	D	Olean, N. Y.
WIRE	ak	1000	MR(5)	Indianapolis, Ind.
WLTH	ak	500	2	Brooklyn, N. Y.
WVFW	ak	500	2	Brooklyn, N. Y.

1410 keys. (212.6)

CKFC	ak	50	5	Vancouver, B. C.
CKMO	ag	100	5F	Vancouver, B. C.
CMCQ	ak	250	...	Havana, Cuba
KFJM	ak	500	(1)	Grand Forks, N. D.
KGNC	ak	1000	N(2.5)	Amarillo, Texas
WAAB	ak	500	M	Boston, Mass.
WBCM	ae	500	...	Bay City, Mich.
WHIS	ak	500	(1)	Bluefield, W. Va.
WROK	ak	500	...	Rockford, Ill.
WSPA	ak	500	C(1)	Montgomery, Ala.

1420 keys. (211.1)

CKGB	ak	100	F	Timmins, Ont.
CRCY	ak	100	...	Toronto, Ont.
KABC	ak	100	(.25)	San Antonio, Texas
KABR	ak	100	...	Aberdeen, S. Dak.
KALB	z	100	D	Alexandria, La.
KBPS	ak	100	4	Portland, Ore.
KCMC	ak	100	Y	Texarkana, Ark.
KEUB	z	100	...	Price, Utah
KFIZ	ak	100	...	Fond du Lac, Wis.
KGFF	ak	100	(.25)	Shawnee, Okla.
KGGG	ak	100	...	San Francisco, Cal.
KGIW	ak	100	1	Alamosa, Colo.
KIDW	ak	100	1	Lamar, Colo.
KIUN	ak	100	...	Pecos, Texas
KNET	z	100	D	Palestine, Texas
KORE	ae	100	...	Eugene, Ore.
KRBC	ak	100	(.25)	Abilene, Tex.
KRLC	ak	100	XZ	Lewiston, Idaho
KRLH	z	100	D	Midland, Tex.
KUMA	ak	100	...	Yuma, Ariz.
KWBG	ak	100	...	Hutchinson, Kans.
KXL	ak	100	4(.25)	Portland, Ore.
WAGO	ak	100	C	Waco, Texas
WAGM	ae	100	...	Presque Isle, Maine
WAPO	ak	100	D	Chattanooga, Tenn.
WAZL	ak	100	2	Hazleton, Pa.
WCBS	ak	100	...	Springfield, Ill.
WCHV	ak	100	3(.25)	Charlottesville, Va.
WEED	ak	100	3(.25)	Rocky Mt., N. C.
WELL	ak	100	...	Battle Creek, Mich.
WGPC	ak	100	...	Albany, Ga.
WHFC	ak	100	(.25)	Cicero, Ill.
WILM	aj	100	2	Wilmington, Del.
WJBO	ak	100	XZ	Baton Rouge, La.
WJBR	z	100	P	Gastonia, N. C.
WJMS	ak	100	...	Ironwood, Mich.
WLAP	ak	100	(.25)	Lexington, Ky.
WLEU	ak	100	(.25)	Erie, Pa.
WMAS	ak	100	C(.25)	Springfield, Mass.
WMBG	ae	100	(.25)	Detroit, Mich.
WMBH	ak	100	(.25)	Joplin, Mo.
WYMFJ	ak	100	...	Daytona Beach, Fla.
WMSD	ak	100	...	Sheffield, Ala.
WNNY	z	100	(.25)P	Watertown, N. Y.
WPAD	ak	100	(.25)	Paducah, Ky.
WPAR	ak	100	...	Parkersburg, W. Va.
WPRP	z	100	P(.25)	Ponce, P. R.

1430 keys. (209.7)

CMJP	ak	75	...	Moron, Cuba
KECA	ak	1000	(5) B	Los Angeles, Calif.
KGNF	ak	1000	D	North Platte, Neb.
KSO	ak	500	BM(1)	Des Moines, Iowa
WBNS	ak	500	C(1)	Columbus, Ohio
WHEC	ak	500	C(1)	Rochester, N. Y.
WHP	ak	500	C(1)	Harrisburg, Pa.
WNBR	ae	500	(1)	Memphis, Tenn.
WOKO	ae	500	C(1)	Albany, N. Y.

1440 keys. (208.2)

CMOA	z	150	...	Havana, Cuba
KDFN	ak	500	...	Casper, Wyo.
KXYZ	ak	1000	...	Houston, Texas
WBIG	ak	500	C(1)X	Greensboro, N. C.
WCBA	aj	500	a	Allentown, Pa.
WMBD	ak	500	C(1)	Peoria, Ill.
WSAN	aj	500	a	Allentown, Pa.
XEFI	ae	250	...	Chihuahua, Chih.

1450 keys. (206.8)

CFCT	ae	75	(.05)	Victoria, B. C.
CHGS	ae	50	F	Summerside, P.E.I.
CMHM	z	...	...	Cienfuegos, Cuba
KGCG	ak	1000	...	Wolf Point, Mont.
KIEM	ak	500	...	Eureka, Calif.
KTBS	ak	1000	N	Shreveport, La.
WGAR	ak	500	MB(1)	Cleveland, Ohio
WHOM	ae	250	...	Jersey City, N. J.
WSAR	ak	1000	M	Fall River, Mass.
WTFI	ak	500	Y	Athens, Ga.
XEF	ak	100	...	Juarez, Chih.

1460 keys. (205.4)

CMKF	z	50	...	Holguin, Cuba
CMOK	z	150	...	Havana, Cuba
KSTP	ak	10000	R(25)	St. Paul, Minn.
WJSV	ak	10000	C	Washington, D. C.

1470 keys. (204.0)

KGA	ak	5000	B	Spokane, Wash.
WLAC	ak	5000	C	Nashville, Tenn.

1480 keys. (202.6)

KOMA	ak	5000	C	Oklahoma City, Okla.
WKBW	ae	5000	C	Buffalo, N. Y.

1490 keys. (201.2)

KFBK	ak	5000	C	Sacramento, Calif.
WCKY	ae	5000	N	Covington, Ky.

1500 keys. (199.9)

CJJC	ak	100	...	Sault Ste. Marie, Ont.
CMCN	z	...	...	Havana, Cuba
KAWM	z	100	P	Gallup, N. Mex.
KBIX	z	100	...	Muskogee, Okla.
KBST	z	100	...	Big Spring, Tex.
KDAL	ak	100	...	Duluth, Minn.
KDB	ak	100	M(.25)	Santa Barbara, Cal.
KGFI	ak	100	(.25)	Corpus Christi, Tex.
KGKB	ak	100	...	Tyler, Texas
KGKY	ak	100	(.25)	Scottsbluff, Neb.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KNEL	ak	100	D	Brady, Texas	WOPI	ae	100	....	Bristol, Tenn.
KNOW	ak	100	C	Austin, Texas	WRDW	ak	100	....	Augusta, Ga.
KOTN	ak	100	D	Pine Bluff, Ark.	WRGA	ak	100	(.25)	Rome, Ga.
KOVC	ak	100	....	Valley City, N. Dak.	WSYB	ak	100	....	Rutland, Vt.
KPLC	ak	100	....	Lake Charles, La.	WTMV	ak	100	....	East St. Louis, Ill.
KPLT	z	100	D	Paris, Texas	WWRL	ak	100	1 (.25)	Woodside, N. Y.
KPO	ak	100	(.25)	Wenatchee, Wash.	WWSW	ae	100	(.25)	Pittsburgh, Pa.
KRNR	ak	100	(.25)	Roseburg, Ore.	.....	z	100	P	Richmond, Va.
KROD	z	100	P	El Paso, Texas					
KSJS	z	100	P	Salina, Kans.					
KTEP	z	100	P	El Paso, Texas					
KUTA	z	100	P	Salt Lake City, Utah					
KVOE	ak	100	....	Santa Ana, Calif.					
KXO	ak	100	....	El Centro, Calif.					
KYCA	z	100	(.25)P	Prescott, Ariz.					
WCNW	ak	100	1 (.25)	Brooklyn, N. Y.	CFRC	ak	100	F	Kingston, Ont.
WDNC	ae	100	C	Durham, N. C.	CKCR	ak	100	....	Waterloo, Ont.
WGAL	ae	100	(.25)	Lancaster, Pa.					
WHBB	ak	100	D	Selma, Ala.					
WHEF	ak	100	(.25)	Kosciusko, Miss.					
WJBK	ak	100	(.25)	Detroit, Mich.	WBRY	ak	1000	M	Waterbury, Conn.
WKBB	ak	100	(.25)	E. Dubuque, Ill.	KXBY	ak	1000	....	Kansas City, Mo.
WKBV	ak	100	(.25)	Richmond, Ind.					
WKBZ	ak	100	(.25)	Muskegon, Mich.					
WKEU	ak	100	D	Griffin, Ga.					
WMBQ	ae	100	1	Brooklyn, N. Y.					
WMEX	ak	100	(.25)	Boston, Mass.					
WNBf	ae	100	C	Binghamton, N. Y.	KPMC	ak	1000	....	Bakersfield, Calif.
WNLC	ak	100	D	New London, Conn.	WQXR	ak	1000	....	New York, N. Y.

1510 kcys. (198.6)

1530 kcys. (196.0)

1550 kcys. (193.4)

KEY TO SYMBOLS

As shown in the Index by
Frequencies and Dial Numbers

Frequency is given in kilocycles; wave lengths 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.

Second Column Symbols	n Weather or time only.	w networks.
a Verifies reception for return postage.	z No information available.	P Has construction permit only.
b Verifies only occasionally.		R National "Red" network.
c Does not verify.	Fourth Column Symbols	S Sunday only.
d Verification 10c; letter 25c.	B National "Blue" network.	Sy Synchronized.
e Sends own station stamp for 10c.	C Columbia network.	X Has permit to increase power.
f Sends own station stamp for 5c.	Dn Day time only.	Y Has permit to change location.
j Sends own station stamp for postage.	Dd Day time with occasional evening hours.	Z Has permit to change frequency.
k Has no stamps.	F Canadian Brdcastg. Corp.	a-b-c. Small letters show stations using same transmitter.
m Verifies for 5c.	M Mutual Brdcastg. Sys.	1-2-3. Figures denote stations sharing time.
	N National "Red" and "Blue"	.... No information.

Television

(Continued from Page 7)

these photographs was made by a camera, one at a time, but only a fraction of a second apart. They are then projected by throwing the shadows on a screen by means of a powerful light.

This rapidly changing series of pictures gives the illusion of continuous action. The eye cannot follow each individual picture, or observe the brief intervals between while the next view is being moved

up in place and projected on the screen. Each picture shows the action that occurs a brief moment after that in each preceding picture. It appears that we "see" motion, but in order to get action the pictures or "frames" must be changed not less than 17 times a second. About 25 frames a second provide smoother action with no appreciable flicker.

(Next month we shall discuss further the operation of scanning the subjects or views to be transmitted, as well as motion by television).

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Frequency in kilocycles in second column. Night power in watts in third column. Net work affiliations in fourth column: C Columbia, R National Red, B National Blue, N National Red and Blue, F Canadian, M Mutual.

ALABAMA	CALIFORNIA	Santa Rosa	Gainesville
Birmingham WAPI 1140 5000 N WBRC 930 1000 C WSGN 1310 100	Bakersfield KERN 1370 100 C KPMC 1550 1000	KSRO 1310 250	WRUF 830 5000
Decatur WMFO 1370 100	Berkeley KRE 1370 100	Stockton KGDM 1100 1000 M KWG 1200 100 N	Jacksonville WJAX 900 1000 N WMBR 1370 100 C
Dothan WAGF 1370 250	Beverly Hills KMPC 710 500 M	Visalia 1190 250	Lakeland WLAK 1310 100
Gadsden WJBY 1210 100	Chico KHSL 950 250	Watsonville KHUB 1310 250	Miami WIOD 1300 1000 N WQAM 560 1000 C
Huntsville WBHP 1200 100	Del Monte KDON 1210 100 M	COLORADO	Orlando WDBO 580 1000 C
Mobile WALA 1380 500 C	El Centro KXO 1500 100	Alamosa KGIW 1420 100	Pensacola WCOA 1340 500 C
Montgomery WSFA 1410 500 C	Eureka KIEM 1450 500	Colorado Springs KVOR 1270 1000 C	St. Augustine WFOY 1210 100
Selma WHBB 1500 100	Fresno KMJ 580 500 C	Denver KFEL 920 500 M KLZ 560 1000 C KOA 830 50000 N KPOF 880 500 KVOD 920 500 B	St. Petersburg WSUN 620 1000 N
Sheffield WMSD 1420 100	Glendale KIEV 850 250	Durango KIUP 1370 100	Tallahassee WTAL 1310 100
Tuscaloosa WJRD 1200 100	Hollywood KFWB 950 1000 KMTR 570 1000 KNX 1050 50000 C	Grand Junction KFXJ 1200 100	Tampa WDAA 1220 1000 C
ALASKA	Long Beach KFOX 1250 1000 KGER 1360 1000	Greeley KFKA 880 500	West Palm Beach WJNO 1200 100 C
Anchorage KFQD 780 250	Los Angeles KECA 1430 1000 B KEHE 780 1000 KFAC 1300 1000 KFI 640 50000 R KFSG 1120 500 KFVD 1000 250 KFJF 1200 100 KHJ 900 1000 M KRKD 1120 500	Lamar KIDW 1420 100	GEORGIA
Juneau KINY 1310 100	Merced KYOS 1040 250	Pueblo KGHF 1320 500 B	Albany WGNY 1420 100
Ketchikan KGBU 900 500	Modesto KTRB 740 250	Sterling KGEK 1200 100	Athens WTFI 1450 500
ARIZONA	Oakland KLS 1280 250 KLX 880 1000 KROW 930 1000	CONNECTICUT	Atlanta WATL 1370 100 WGST 890 1000 C WSB 740 50000 N
Jerome KCRJ 1310 100	Pasadena KPPC 1210 100	Bridgeport WICC 600 500 M	Augusta WRDW 1500 100
Lowell KSUN 1200 100	Redding KVCV 1200 100	Hartford WDRG 1330 1000 C WTIC 1040 50000 R WTHT 1200 100 M	Columbus WRBL 1200 100
Phoenix KOY 1390 500 KTAR 620 1000 N	Sacramento KFBK 1490 5000 C KROY 1310 100	New Britain WNBC 1380 250	Griffin WKEU 1500 100
Prescott KYCA 1500 100	San Bernardino KFXM 1210 100 M	New Haven WELI 900 500	Macon WMAZ 1180 1000
Tucson KGAR 1370 100 KVOA 1260 1000	San Diego KFSD 600 1000 B KGB 1330 1000 M	New London WNLG 1500 100	Rome WRGA 1500 100
Yuma KUMA 1420 100	San Francisco KFRC 610 1000 M KGGC 1420 100 KGO 790 7500 B KJBS 1070 500 KPO 680 50000 R KSFQ 560 1000 KYA 1230 1000 N	Waterbury WATR 1190 100 WBRY 1530 1000 M	Savannah WTOC 1260 1000 C
ARKANSAS	San Jose KQW 1010 1000	DELAWARE	Thomasville WPAX 1210 100
Blytheville KLCN 1290 100	San Luis Obispo KVEC 1200 250	Wilmington WDEL 1120 250 WILM 1420 100	Waycross WAYX 1200 100
El Dorado KELD 1370 100	Santa Ana KVOE 1500 100	DISTRICT OF COLUMBIA	HAWAII
Fort Smith KFPW 1210 100	Santa Barbara KDB 1500 100 M	Washington WJSV 1460 10000 C WMAL 630 250 B WOL 1310 100 WRC 950 500 R	Hilo KHBC 1400 250
Hot Springs KTHS 1060 10000 N			Honolulu KGMB 1320 1000 C KGU 750 2500 N
Jonesboro KBTM 1200 100			IDAHO
Little Rock KARK 890 500 N KQHI 1200 100 KLRA 1390 1000 C			Boise KIDO 1350 1000
Pine Bluff KOTN 1500 100			Idaho Falls KID 1320 500
Siloam Springs KSOA 1260 2500			Lewiston KRLC 1420 100
Texarkana KCMC 1420 100			Nampa KFXD 1200 100
			Pocatello KSEI 900 250
			Twin Falls KTFI 1240 1000

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

ILLINOIS	Muncie	Covington	Fall River
Bloomington	WLBC 1310 100	WCKY 1490 5000 N	WSAR 1450 1000M
WJBC 1200 100	New Albany	Lexington	Lowell
Carthage	WGRG 1370 250	WLAP 1420 100	WLLH 1370 100M
WCAZ 1070 100	Richmond	Louisville	New Bedford
Champaign	WKBY 1500 100	WAVE 940 1000N	WNBH 1310 100M
WDWS 1370 100	South Bend	WHAS 820 5000C	Springfield
Chicago	WFAM 1200 100	Middlesboro	WBZA 990 1000 B
WAAF 920 1000	WSBT 1360 500 C	WLMU 1210 100	WMAS 1420 100 C
WBBM 770 50000 C	Terre Haute	Paducah	WSPR 1140 500M
WCBD 1080 5000	WBOW 1310 100	WPAD 1420 100	Worcester
WCFL 970 5000 B	West Lafayette		WORC 1280 500 C
WCRW 1210 100	WBAA 890 500		WTAG 580 500 R
WEDC 1210 100		LOUISIANA	MICHIGAN
WENR 870 50000N	IOWA	Alexandria	Battle Creek
WGES 1360 500	Ames	KALB 1420 100	WELL 1420 100
WGN 720 50000M	WOI 640 5000	Baton Rouge	Bay City
WJJD 1130 20000	Boone	WJBO 1420 100	WBCM 1410 500
WLS 870 50000 N	KFGQ 1370 100	Lafayette	Calumet
WMAO 670 50000 N	Cedar Rapids	KVOL 1310 100	WHDF 1370 100
WMBI 1080 5000	WMT 600 1000 B	Lake Charles	Detroit
WBCB 1210 100	Davenport	KPLC 1500 100	WJBK 1500 100
Cicero	WOC 1370 100 C	Monroe	WJR 750 50000 C
WHFC 1420 100	Decorah	KMLB 1200 100	WMBC 1420 100
Decatur	KGCA 1270 100	New Orleans	WWJ 920 1000 R
WJBL 1200 100	KWLC 1270 100	WBNO 1200 100	WXYZ 1240 1000 B
East Dubuque	Des Moines	WDSU 1250 1000	East Lansing
WKBB 1500 100	KRNT 1320 500 C	WJBW 1200 100	WKAR 850 1000
East St. Louis	KSO 1430 500 B	WSMB 1320 1000 N	Flint
WTMV 1500 100	WHO 1000 50000 R	WWL 850 10000 C	WFDF 1310 100
Harrisburg	Iowa City	Shreveport	Grand Rapids
WEBQ 1210 100	WSUI 880 500	KRMD 1310 100	WASH 1270 500 N
Joliet	Marshalltown	KTBS 1450 1000 N	WOOD 1270 500 N
WCLS 1310 100	KFJB 1200 100	KWKH 1100 1000 C	Ironwood
Peoria	Mason City		WJMS 1420 100
WMBD 1440 500 C	KGLO 1210 100	MAINE	Jackson
Quincy	Shenandoah	Augusta	WIBM 1370 100
WTAD 900 1000	KFNF 890 500	WRDO 1370 100	Kalamazoo
Rockford	KMA 930 1000	Bangor	WKZO 590 1000 B
WROK 1410 500	Sioux City	WABI 1200 100	Lansing
Rock Island	KSCJ 1330 1000 C	WLBZ 620 500 C	WJIM 1210 100
WHBF 1210 100	KANSAS	Portland	Lapeer
Springfield	Ablene	WCSH 940 1000 R	WMPC 1200 100
WCBS 1420 100	KFBI 1050 5000	WGAN 640 500	Marquette
WTAX 1210 100	Coffeyville	Presque Isle	WBEO 1310 100
Tuscola	KGGF 1010 1000	WAGM 1420 100	Muskegon
WDZ 1020 250	Dodge City		WKBZ 1500 100
Urbana	KGNO 1340 250	MARYLAND	Royal Oak
WILL 580 250	Garden City	Baltimore	WEXL 1310 50
	KIUL 1210 100	WBAL 760 2500 B	MINNESOTA
INDIANA	Great Bend	WBAL 1060 10000 B	Duluth
Anderson	KVGB 1370 100	WCAO 600 500 C	KDAL 1500 100
WBHU 1210 100	Hutchinson	WCBM 1370 100	WEBC 1290 1000 N
Elkhart	KWBG 1420 100	WFBR 1270 500 R	Fergus Falls
WTRC 1310 100	Kansas City	Collego Park	KGDE 1200 100
Evansville	KCKN 1310 100	.....	Hibbing
WEOA 1370 100	Lawrence	1060 100	WMFG 1210 100
WGBF 630 500	KFKP 1220 1000	Cumberland	Minneapolis
Fort Wayne	WREN 1220 1000 B	WTBO 800 250	WCCO 810 50000 C
WGL 1370 100 C	Manhattan	Frederick	WDGY 1180 1000
WOWO 1160 10000 C	KSAC 580 500	WFMJ 900 500	WLB 1250 1000
Gary	Pittsburg	Hagerstown	WTGN 1250 1000 B
WIND 560 1000	KOAM 790 1000	WJBJ 1210 100	Moorhead
Hammond	Salina	MASSACHUSETTS	KVOX 1310 100
WWAE 1200 100	KSJS 1500 100	Boston	Northfield
Indianapolis	Topeka	WAAB 1410 500M	WCAL 1250 1000
WFBM 1230 1000 C	WIBW 580 1000 C	WBZ 990 50000 C	Rochester
WIRP 1400 1000 R	Wichita	WCOP 1120 500	KROC 1310 100
	KANS 1210 100	WEEL 590 1000 C	St. Paul
	KFII 1300 1000 C	WIHD 830 1000	KSTP 1460 10000 R
	KENTUCKY	WMEX 1500 100	WMIN 1370 100
	Ashland	WNAC 1230 1000 R	Virginia
	WGLM 1310 100	WORL 920 500	WHLB 1370 100

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p>Enid KCRC 1360 250</p> <p>Muskogee KBIX 1500 100</p> <p>Norman WNAD 1010 1000</p> <p>Oklahoma City KFXR 1310 150 KGFG 1370 100 KOMA 1480 5000 C WKY 900 1000 N</p> <p>Ponca City WBBZ 1200 100</p> <p>Shawnee KGFF 1420 100</p> <p>Tulsa KTUL 1400 500 C KVOO 1140 25000 N</p> <hr/> <p style="text-align: center;">OREGON</p> <hr/> <p>Astoria KAST 1370 100</p> <p>Corvallis KOAC 550 1000</p> <p>Eugene KORE 1420 100</p> <p>Klamath Falls KFJI 1210 100</p> <p>Marshfield KOOS 1200 250</p> <p>Medford KMED 1310 100</p> <p>Portland KALE 1300 500 C KBPS 1420 100 KEX 1180 5000 N KFJR 1300 500 KGW 620 1000 R KGIN 940 1000 C KWJJ 1040 500 KXL 1420 100</p> <p>Roseburg KRNR 1500 100</p> <p>Salem KSLM 1370 100</p> <hr/> <p style="text-align: center;">PENNSYLVANIA</p> <hr/> <p>Allentown WCBA 1440 500 WSAN 1440 500</p> <p>Altoona WFBG 1310 100</p> <p>Easton WEST 1200 100</p> <p>Erie WLEU 1420 100</p> <p>Glenside WIBG 970 100</p> <p>Greensburg WIIJB 620 250 C</p> <p>Grove City WSAJ 1310 100</p> <p>Harrisburg WHIP 1430 500 C WKBO 1200 100</p> <p>Hazleton WAZL 1420 100</p> <p>Johnstown WJAC 1310 100</p> <p>Lancaster WGAL 1500 100</p>	<p>Philadelphia KYW 1020 10000 R WCAU 1170 50000 C WDAS 1370 100 WFIL 560 1000 B WHAT 1310 100 WIP 610 1000 WPN 920 250 WRAX 920 250 WTEL 1310 100</p> <p>Pittsburgh KDKA 980 50000 B KQV 1380 500 C WCAG 1220 1000 R WJAS 1290 1000 C WWSW 1500 100</p> <p>Reading WEEU 830 1000 WRAW 1310 100</p> <p>Scranton WGBI 880 500 WQAN 880 250</p> <p>Sunbury WKOK 1210 100</p> <p>Wilkes-Barre WBAX 1210 100 WBRE 1310 100</p> <p>Williamsport WRAK 1370 100</p> <p>York WORK 1320 1000</p> <hr/> <p style="text-align: center;">PUERTO RICO</p> <hr/> <p>Mayaguez WPRA 1370 100</p> <p>Ponce WPRP 1420 100</p> <p>San Juan WKAQ 1240 1000 WNEL 1290 1000</p> <hr/> <p style="text-align: center;">RHODE ISLAND</p> <hr/> <p>Newport WNRI 1200 100</p> <p>Providence WEAN 780 1000 M WJAR 890 1000 R WPRO 630 500 C</p> <hr/> <p style="text-align: center;">SOUTH CAROLINA</p> <hr/> <p>Anderson WAIM 1200 100</p> <p>Charleston WCSC 1360 500 N</p> <p>Columbia WIS 560 1000 N</p> <p>Greenville WFBC 1300 1000 N</p> <p>Spartanburg WSPA 920 1000</p> <hr/> <p style="text-align: center;">SOUTH DAKOTA</p> <hr/> <p>Aberdeen KABR 1420 100</p> <p>Brookings KFDY 780 1000</p>	<p>Huron KGDY 1340 250</p> <p>Pierre KGFX 630 200</p> <p>Rapid City KOBH 1370 100 WCAT 1200 100</p> <p>Sioux Falls KELO 1200 100 KSOO 1110 2500</p> <p>Vermillion KUSD 890 500</p> <p>Watertown KWTN 1210 100</p> <p>Yankton WNAX 570 1000 C</p> <hr/> <p style="text-align: center;">TENNESSEE</p> <hr/> <p>Bristol WTOI 1500 100</p> <p>Chattanooga WAO 1420 100 WDOD 1280 1000 C</p> <p>Jackson WTJS 1310 100</p> <p>Knoxville WNOX 1010 1000 C WROL 1310 100</p> <p>Memphis WHBQ 1370 100 WMC 780 1000 N WNBR 1430 500 WREC 600 1000 C</p> <p>Nashville WLAC 1470 5000 C WSM 650 50000 N</p> <p>Springfield WSIX 1210 100</p> <hr/> <p style="text-align: center;">TEXAS</p> <hr/> <p>Abilene KRBC 1420 100</p> <p>Amarillo KGNC 1410 1000 N</p> <p>Austin KNOW 1500 100 C</p> <p>Beaumont KFD 560 500</p> <p>Big Spring KBST 1500 100</p> <p>Brady KNEL 1500 100</p> <p>College Station WTAW 1120 500</p> <p>Corpus Christi KGFI 1500 100</p> <p>Coriscana KAND 1310 100</p> <p>Dallas KRLD 1040 10000 C WFAA 800 50000 N WRR 1280 500</p> <p>Dublin KFPL 1310 100</p> <p>El Paso KROD 1500 100 KTSM 1310 100 WDAH 1310 100 1500 100</p> <p>Fort Worth KFJZ 1370 100 KTAT 1240 1000 WBAP 800 50000 N</p> <p>Galveston KLUF 1370 100</p>	<p>Houston KPRC 920 1000 N KTRH 1290 1000 C KXYZ 1440 1000</p> <p>Kilgore KOCA 1210 100</p> <p>Longview KFRO 1370 100</p> <p>Lubbock KFYO 1310 100</p> <p>Midland KRLH 1420 100</p> <p>Palestine KNET 1420 100</p> <p>Pampa KPDN 1310 100</p> <p>Paris KPLT 1500 100</p> <p>Pecos KIUN 1420 100</p> <p>Port Arthur KPAC 1260 500</p> <p>San Angelo KGKL 1370 100</p> <p>San Antonio KABC 1420 100 KMAC 1370 100 KONO 1370 100 KTTA 550 1000 C WQAI 1190 50000 C</p> <p>Sherman KRRV 1310 100</p> <p>Temple KTEM 1370 100</p> <p>Tyler KGKB 1500 100</p> <p>Waco WACO 1420 100 C</p> <p>Weslaco KRGV 1260 500</p> <p>Wichita Falls KGKO 570 250 C</p> <hr/> <p style="text-align: center;">UTAH</p> <hr/> <p>Cedar City KSUB 1310 100</p> <p>Ogden KLO 1400 500 B</p> <p>Price KEUB 1420 100</p> <p>Salt Lake City KDYL 1290 1000 R KSL 1130 50000 C KUTA 1500 100</p> <hr/> <p style="text-align: center;">VERMONT</p> <hr/> <p>Burlington WCAX 1200 100</p> <p>Rutland WSYB 1500 100</p> <p>St. Albans WQDM 1390 1000</p> <p>Springfield WNBX 1260 1000</p> <p>Waterbury WDEV 550 500</p> <hr/> <p style="text-align: center;">VIRGINIA</p> <hr/> <p>Charlottesville WCHV 1420 100</p>
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p>Danville WBTM 1370 100</p> <p>Harrisonburg WSVA 550 500</p> <p>Lynchburg WLVA 1200 100</p> <p>Newport News WGH 1310 100</p> <p>Norfolk WTAR 780 500 N</p> <p>Petersburg WPHR 880 500</p> <p>Richmond WBBL 1210 100 WMBG 1210 100 C WRVA 1110 5000 C</p> <p>Roanoke WDBJ 930 1000 C</p> <hr/> <p style="text-align: center;">WASHINGTON</p> <hr/> <p>Aberdeen KXRO 1310 100</p> <p>Bellingham KVOS 1200 100</p> <p>Everett KRKO 1370 50</p> <p>Olympia KGY 1210 100</p> <p>Pullman KWSC 1220 1000</p> <p>Seattle KEEN 1370 100 KIRO 710 1000 KJR 970 5000 B KOL 1270 1000 C KOMO 920 1000 R KRSC 1120 100 KTW 1220 100 KXA 760 250</p> <p>Spokane KFIO 1120 100 KFPY 890 1000 C KGA 1470 5000 B KHQ 590 1000 R</p> <p>Tacoma KMO 1330 250 KVI 570 1000 C</p> <p>Walla Walla KIJ 1370 100</p> <p>Wenatchee KPO 1500 100</p> <p>Yakima KIT 1310 100</p> <hr/> <p style="text-align: center;">WEST VIRGINIA</p> <hr/> <p>Bluefield WHIS 1410 500</p> <p>Charleston WCHS 580 500</p> <p>Clarksburg WBLK 1370 100</p> <p>Fairmont WMMN 890 500 C</p> <p>Huntington WSAZ 1190 1000</p> <p>Parkersburg WPAR 1420 100</p> <p>Wheeling WVVA 1160 5000 C</p>	<p style="text-align: center;">WISCONSIN</p> <hr/> <p>Eau Claire WEAU 1050 1000</p> <p>Fond du Lac KFJZ 1420 100</p> <p>Green Bay WBHY 1200 100 WTAQ 1330 1000</p> <p>Janesville WCLO 1200 100</p> <p>LaCrosse WKBH 1380 1000</p> <p>Madison WHA 940 500 WIBA 1280 1000 N</p> <p>Manitowoc WOMT 1210 100</p> <p>Milwaukee WEMP 1310 100 WISN 1120 250 C WTMJ 620 1000 N</p> <p>Poyonette WIBU 1210 100</p> <p>Racine WRJN 1370 100</p> <p>Sheboygan WHBL 1300 250</p> <p>Stevens Point WLBL 900 2500</p> <p>Superior 1200 100</p> <p>Wausau WSAU 1370 100</p> <hr/> <p style="text-align: center;">WYOMING</p> <hr/> <p>Casper KDFN 1440 500</p> <p>Sheridan KWYO 1370 100</p> <hr/> <p style="text-align: center;">CANADA</p> <hr/> <p style="text-align: center;">ALBERTA</p> <hr/> <p>Calgary CFAC 930 100 F CFCN 1030 10000 CJGJ 690 100 F</p> <p>Edmonton CFRN 960 100 F CJCA 730 1000 F CKUA 580 500</p> <p>Lethbridge CJOC 950 100 F</p> <hr/> <p style="text-align: center;">BRITISH COLUMBIA</p> <hr/> <p>Chilliwack CHWK 780 100 F</p> <p>Kamloops CFJC 880 100 F</p> <p>Kelowna CKOV 630 100 F</p> <p>Prince Rupert CFPR 580 50</p> <p>Trail CJAT 910 1000 F</p> <p>Vancouver CJOR 600 500 CKGD 1010 100 CKFC 1410 50 CKMO 1410 100 F CKWX 1010 100 F CRCV 1100 1000 F</p> <p>Victoria CFCT 1450 75</p>	<p style="text-align: center;">MANITOBA</p> <hr/> <p>Brandon CKX 1120 100 F</p> <p>Winnipeg CJRC 630 1000 F CKY 910 15000 F</p> <hr/> <p style="text-align: center;">NEW BRUNSWICK</p> <hr/> <p>Fredericton CFNB 550 500 F</p> <p>Moncton CKCW 1370 100 F</p> <p>St. John CHSJ 1120 500 F</p> <hr/> <p style="text-align: center;">N. W. TERRITORY</p> <hr/> <p>Aklavik CJCU 1210 50</p> <hr/> <p style="text-align: center;">NOVA SCOTIA</p> <hr/> <p>Glace Bay VAS 685 2000</p> <p>Halifax CHNS 930 1000 F</p> <p>Sydney CJCB 1240 1000 F</p> <p>Wolfville CKIC 1010 50</p> <p>Yarmouth CJLS 1310 100</p> <hr/> <p style="text-align: center;">ONTARIO</p> <hr/> <p>Brantford CKPC 930 100 F</p> <p>Chatham CFCO 630 100 F</p> <p>Cobalt CKMC 1210 50</p> <p>Fort William CKPR 730 100 F</p> <p>Hamilton CHML 1010 100 F CKOC 1120 500 F</p> <p>Kingston CFRC 1510 100 F</p> <p>Kirkland Lake CJKL 1310 100 F</p> <p>London CFPL 730 100 F</p> <p>North Bay CFCH 930 100 F</p> <p>Ottawa CKCO 1010 100 F CRCO 880 1000 F</p> <p>Prescott CFLC 930 100</p> <p>St. Catharines CKTB 1200 100 F</p> <p>Sault Ste. Marie CJIC 1500 100</p> <p>Stratford CJCS 1210 50</p> <p>Sudbury CKSO 780 1000 F</p> <p>Timmins CKGB 1420 100 F</p>	<p>Toronto CFRB 690 10000 C CKCL 580 100 F CRCT 840 5000 N CRGY 1420 100</p> <p>Waterloo CKCR 1510 100</p> <p>Windsor CKLW 1030 5000 M CRCW 600 500 F</p> <p>Wingham CKNX 1200 50</p> <hr/> <p style="text-align: center;">PRINCE EDWARD ISLAND</p> <hr/> <p>Charlottetown CFCY 630 1000 F CHCK 1310 50</p> <p>Summerside CHGS 1450 50 F</p> <hr/> <p style="text-align: center;">QUEBEC</p> <hr/> <p>Chicoutimi CRCS 950 100 F</p> <p>Hull CKCH 1210 100 F</p> <p>Montmagny VE9EK 1185 10</p> <p>Montreal CFCE 600 400 N CHLP 1120 100 F CKAC 730 5000 C CRCM 910 5000 F</p> <p>New Carlisle CHNC 960 1000 F</p> <p>Quebec CHRC 580 100 CKCV 1310 100 F CRCK 1050 1000 F</p> <hr/> <p style="text-align: center;">SASKATCHEWAN</p> <hr/> <p>Moose Jaw CHAB 1200 100 F CJRM 540 1000 F</p> <p>Prince Albert CKBI 1210 100 F</p> <p>Regina CKCK 1010 500 F</p> <p>Saskatoon CFQC 840 1000 F</p> <p>Yorkton CJGJ 1390 100</p> <hr/> <p style="text-align: center;">NEWFOUNDLAND</p> <hr/> <p>St. John's VOAC 1065 40 VOAS 940 100 VOGY 840 400 VONF 1195 500 VOWR 681 500</p>
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

COSTA RICA

San Jose
TIEP 850 500

GUATEMALA

Guatemala City
TGW 1210 10000

MEXICO

AGUASCALIENTES

Aguascalientes
XEBI 1000 25
XEXC 810 350

CHIHUAHUA

Chihuahua
XEFI 1440 250

Juarez
XEJV 1210 100
XEF 1450 100
XEJ 1020 1000
XEP 1160 500

Parral
XEAT 1210 250

COAHUILA

Piedras Negras
XELO 580 50000
XEPN 730 100000

Saltillo
XEAS 1160 50
XEBX 640 250
XELA 1240 50

Torreón

XETB 1310 125

Villa Acuna

XERA 840 350000

D. F.

Atzacapotzalco

XEMG 1060 100

Gra. Anaya

XEDA 1220 200

Mexico City

XEAL 660 1000
XEB 1030 10000
XEBZ 1160 100
XECW 1310 10
XEFO 940 5000
XEJP 1130 100
XEK 990 100

XEL 780 1000
XELZ 1370 100
XEMX 1280 100
XENC 860 50
XEW 890 50000
XEXM 610 500
XEYO 940 500

Tacuba
XEFA 1180 500

DURANGO

Durango
XEE 1210 50

GUANAJUATO

Leon
XEKL 1240 500

JALISCO

Guadalajara
XEAD 1060 125
XED 1160 2500

Guzman
XEBA 1080 20

LOWER CALIFORNIA

Agua Caliente
XEBC 730 5000

Mexicali
XEA 920 200
XEAO 560 250

Rosarito
XEAQ 1090 1000

Tijuana
XEAC 980 250
XEBG 820 1000
XEC 1150 100
XEMO 860 5000
XEOK 760 2500

MICHOACAN

Morelia
XEI 1370 125

NUEVO LEON

Monterrey
XEFB 870 200
XEFJ 1230 100
XEH 720 250
XET 690 500
XEX 1310 125

PUEBLA

Puebla
XETH 1210 100

SAN LUIS POTOSI

San Luis Potosi
XECZ 1370 100
XEXH 1250 250

SINALOA

Mazatlan
XEBL 1220 50

SONORA

Hermosillo
XEBH 930 500

Nogales
XEAF 990 750

TAMAULIPAS

Matamoros
XEAM 750 25

Nuevo Laredo
XEBK 1000 100
XEFE 1340 250
XENT 910 150000

Reynosa
XEAW 960 50000

Tampico
XEFW 1310 250
XES 990 250

VERACRUZ

Cordoba
XEAG 1310 10

Jalapa
XEXB 1270 250
XEXD 1340 350

Minatitlan
XEDW 1150 20

Veracruz
XETF 1220 30
XEU 1010 250

YUCATAN

Merida
XEBJ 1160 20
XEFC 550 100
XEZ 630 500

CUBA

Caibarien
CMHD 1270 250

Camaguey
CMJA 1010 300
CMJC 1390 150
CMJE 1220 50
CMJF 1150 200
CMJK 780 250
CMJL 1340 100
CMJX 830 500

Cardenas
CMGE 1370 150

Ciego de Avila
CMJI 1360 100
CMJJ 1130 150
CMJO 1180 50

Cienfuegos
CMHJ 1160 175
CMHM 1450
CMHW 820 100
CMHX 760 200

Cruces
CMHK 1330 250

Havana

CMBD 1170 500
CMBG 1140 200
CMBN 850 150
CMBS 770 150
CMBX 1070 500
CMBY 970 150
CMBZ 1000 500
CMCA 1350 450
CMCB 640 150
CMCD 950 250
CMCF 810 600
CMCG 680 1000
CMCJ 1100 500
CMCN 1450

CMCO 1200 250
CMCQ 1410 250
CMCR 1380 150
CMCU 1280 500
CMCW 750 150
CMCX 570 150
CMCY 1030 5000
CMK 730 3000
CMOA 1440 150
CMOK 1460 150
CMOX 1320 200
CMQ 880 500
CMW 600 1400
CMX 920 1000

Holguin
CMKF 1460 250

Manzanillo
CMKM 1120 200

Matanzas
CMGC 1400 150
CMGF 1120 150
CMGH 790 500

Moron
CMJP 1430 75

Pinar del Rio
CMAB 1340

Sagua la Grande
CMHA 1070 50

Sancti Spiritus
CMHB 1240 50

Santa Clara
CMHI 1210 150

Santiago
CMKC 1250 150
CMKD 1050 250
CMKR 1400 100
CMKW 1330

DOMINICAN REPUBLIC

Trujillo
HIX 800 800

HAITI

Port-au-Prince
HHK 920 1000

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930	100	CJIC 1500	100	CMAB 1340	....
Calgary, Alta.		S. Ste. Marie, Ont.		Pinar del Rio, Cuba	
CFCF 600	400	CJKL 1310	100	CMBD 1170	500
Montreal, Que.		Kirkland Lake, Ont.		Havana, Cuba	
CFCH 930	100	CJLS 1310	100	CMBG 1140	200
North Bay, Ont.		Yarmouth, N. S.		Havana, Cuba	
CFCN 1030	10000	CJOC 950	100	CMBN 850	150
Calgary, Alta.		Lethbridge, Alta.		Havana, Cuba	
CFCO 630	100	CJOR 600	500	CMBS 770	150
Chatham, Ont.		Vancouver, B. C.		Havana, Cuba	
CFCT 1450	75	CJRC 630	1000	CMBX 1070	500
Victoria, B. C.		Winnipeg, Man.		Havana, Cuba	
CFCY 630	1000	CJRM 540	1000	CMBY 970	150
Charlottetown, P.E.I.		Moose Jaw, Sask.		Havana, Cuba	
CFJC 880	100	CKAC 730	5000	CMBZ 1000	500
Kamloops, B. C.		Montreal, Que.		Havana, Cuba	
CFLC 930	100	CKBF 1210	100	CMCA 1350	450
Prescott, Ont.		Prince Albert, Sask.		Havana, Cuba	
CFNB 550	500	CKCD 1010	100	CMCB 640	150
Fredericton, N. B.		Vancouver, B. C.		Havana, Cuba	
CFPL 730	100	CKCH 1210	100	CMCD 950	250
London, Ont.		Hull, Que.		Havana, Cuba	
CFPR 580	50	CKCK 1010	500	CMCF 810	600
Prince Rupert, B. C.		Regina, Sask.		Havana, Cuba	
CFQC 840	1000	CKCL 580	100	CMCG 680	1000
Saskatoon, Sask.		Toronto, Ont.		Havana, Cuba	
CFRB 690	10000	CKCO 1010	100	CMCJ 1100	500
Toronto, Ont.		Ottawa, Ont.		Havana, Cuba	
CFRC 1510	100	CKCR 1510	100	CMCN 1500	....
Klingston, Ont.		Waterloo, Ont.		Havana, Cuba	
CFRN 960	100	CKCV 1310	100	CMCO 1200	250
Edmonton, Alta.		Quebec, Que.		Havana, Cuba	
CHAB 1200	100	CKCW 1370	100	CMCQ 1410	250
Moose Jaw, Sask.		Moncton, N. B.		Havana, Cuba	
CHCK 1310	50	CKFC 1410	50	CMCR 1380	150
Charlottetown, P. E. I.		Vancouver, B. C.		Havana, Cuba	
CHGS 1450	50	CKGB 1420	100	CMCU 1280	500
Summerside, P. E. I.		Timmins, Ont.		Havana, Cuba	
CHLP 1120	100	CKIC 1010	50	CMCW 750	150
Montreal, Que.		Wolfville, N. S.		Havana, Cuba	
CHML 1010	100	CKLW 1030	5000	CMCX 570	150
Hamilton, Ont.		Windsor, Ont.		Havana, Cuba	
CHNC 960	1000	CKMC 1210	50	CMCY 1030	5000
New Carlisle, Que.		Cobalt, Ont.		Havana, Cuba	
CHNS 930	1000	CKMO 1410	100	CMGC 1400	150
Hallifax, N. S.		Vancouver, B. C.		Matanzas, Cuba	
CHRC 580	100	CKNX 1200	50	CMGE 1370	150
Quebec, Que.		Wingham, Ont.		Cardenas, Cuba	
CHSJ 1120	500	CKOC 1120	500	CMGF 1120	150
St. John, N. B.		Hamilton, Ont.		Matanzas, Cuba	
CHWK 780	100	CKOV 630	100	CMGH 790	500
Chilliwack, B. C.		Kelowna, B. C.		Matanzas, Cuba	
CJAT 910	1000	CKPC 930	100	CMHA 1070	50
Trall, B. C.		Brantford, Ont.		Sagua la Grande, Cu.	
CJCA 730	1000	CKPR 730	100	CMHB 1240	50
Edmonton, Alta.		Fort William, Ont.		Sancti Spiritus, Cuba	
CJCB 1240	1000	CKSO 780	1000	CMHD 1270	250
Sydney, N. S.		Sudbury, Ont.		Calbarien, Cuba	
CJCJ 690	100	CKTB 1200	100	CMHI 1210	150
Calgary, Alta.		St. Catharines, Ont.		Santa Clara, Cuba	
CJCS 1210	50	CKUA 580	500	CMHJ 1160	175
Stratford, Ont.		Edmonton, Alta.		Cienfuegos, Cuba	
CJCU 1210	50	CKWX 1010	100	CMHK 1330	250
Aklavik, N. W. T.		Vancouver, B. C.		Cruces, Cuba	
CJGX 1390	100	CKX 1120	100	CMHM 1450	....
Yorkton, Sask.		Brandon, Man.		Cienfuegos, Cuba	
		CKY 910	15000	CMHW 820	100
		Winnipeg, Man.		Cienfuegos, Cuba	
				CMHX 760	200
				Cienfuegos, Cuba	

NORTH AMERICAN B. C. STATIONS BY CALLS

CMJA 1010	300	HIX 800	800	KERN 1370	100
Camaguey, Cuba		Trujillo, D. R.		Bakersfield, Calif.	
CMJC 1390	150	KABC 1420	100	KEUB 1420	100
Camaguey, Cuba		San Antonio, Texas		Price, Utah	
CMJE 1220	50	KABR 1420	100	KEX 1180	5000
Camaguey, Cuba		Aberdeen, S. Dak.		Portland, Ore.	
CMJF 1150	200	KADA 1200	100	KFAB 770	10000
Camaguey, Cuba		Ada, Okla.		Lincoln, Neb.	
CMJH 1360	100	KALB 1420	100	KFAC 1300	1000
Ciego de Avila, Cuba		Alexandria, La.		Los Angeles, Calif.	
CMJI 1130	150	KALE 1300	500	KFBB 1280	1000
Ciego de Avila, Cuba		Portland, Ore.		Great Falls, Mont.	
CMJK 780	250	KAND 1310	100	KFBT 1050	5000
Camaguey, Cuba		Corseana, Texas		Ablene, Kans.	
CMJL 1340	100	KANS 1210	100	KFBK 1490	5000
Camaguey, Cuba		Wichita, Kans.		Sacramento, Calif.	
CMJO 1180	50	KARK 890	500	KFDM 560	500
Ciego de Avila, Cuba		Little Rock, Ark.		Beaumont, Texas	
CMJP 1430	75	KASA 1210	100	KFDY 780	1000
Camaguey, Cuba		Elk City, Okla.		Brookings, S. D.	
CMJX 830	500	KAST 1370	100	KFEL 920	500
Camaguey, Cuba		Astoria, Ore.		Denver, Colo.	
CMK 730	3000	KAWM 1500	100	KFEQ 680	2500
Havana, Cuba		Gallup, N. Mex.		St. Joseph, Mo.	
CMKC 1250	150	KBIX 1500	100	KFGQ 1370	100
Santiago, Cuba		Muskogee, Okla.		Boone, Iowa	
CMKD 1050	250	KBPS 1420	100	KFH 1300	1000
Santiago, Cuba		Portland, Ore.		Wichita, Kans.	
CMKF 1460	250	KBST 1500	100	KFI 640	50000
Holguln, Cuba		Blg Spring, Texas		Los Angeles, Calif.	
CMKM 1120	200	KBTM 1200	100	KFIO 1120	100
Manzanillo, Cuba		Jonesboro, Ark.		Spokane, Wash.	
CMKR 1400	100	KCKN 1310	100	KFIZ 1420	100
Santiago, Cuba		Kansas City, Kans.		Fond du Lac, Wis.	
CMKW 1330	....	KCMC 1420	100	KFJB 1200	100
Santiago, Cuba		Texarkana, Ark.		Marshalltown, Iowa	
CMOA 1440	150	KCMO 1370	100	KFJI 1210	100
Havana, Cuba		Kansas City, Mo.		Klamath Falls, Ore.	
CMOK 1460	150	KCRC 1360	250	KFJM 1410	500
Havana, Cuba		Enid, Okla.		Grand Forks, N. D.	
CMOX 1320	200	KCRJ 1310	100	KFJR 1300	500
Havana, Cuba		Jerome, Ariz.		Portland, Ore.	
CMQ 880	500	KDAL 1500	100	KFJZ 1370	1000
Havana, Cuba		Duluth, Minn.		Fort Worth, Texas	
CMW 600	1400	KDB 1500	100	KFKA 880	500
Havana, Cuba		Santa Barbara, Calif.		Greeley, Colo.	
CMX 920	1000	KDFN 1440	500	KFKU 1220	1000
Havana, Cuba		Casper, Wyo.		Lawrence, Kans.	
CRCK 1050	1000	KDKA 980	50000	KFNF 890	500
Quebec, Que.		Pittsburgh, Pa.		Shenandoah, Iowa	
CRCM 910	5000	KDLR 1210	100	KFOR 1210	1000
Montreal, Que.		Devils Lake, N. D.		Lincoln, Neb.	
CRCO 880	1000	KDNC 1200	250	KFOX 1250	1000
Ottawa, Ont.		Lewistown, Mont.		Long Beach, Calif.	
CRCS 950	100	KDON 1210	100	KFPL 1310	1000
Chicoutimi, Que.		Del Monte, Calif.		Dublin, Texas	
CRCT 840	5000	KDYL 1290	1000	KFPW 1210	1000
Toronto, Ont.		Salt Lake City, Utah		Fort Smith, Ark.	
CRCV 1100	1000	KECA 1430	1000	KFPY 890	1000
Vancouver, B. C.		Los Angeles, Calif.		Spokane, Wash.	
CRCW 600	500	KEEN 1370	100	KFQD 780	250
Windsor, Ont.		Seattle, Wash.		Anchorage, Alaska	
CRCY 1420	100	KEHE 780	1000	KFRC 610	1000
Toronto, Ont.		Los Angeles, Calif.		San Francisco, Calif.	
HHK 920	1000	KELD 1370	100	KFRO 1370	1000
Port-au-Prince, Haiti		El Dorado, Ark.		Longview, Texas	
		KELO 1200	100	KFRU 630	500
		Sloux Falls, S. Dak.		Columbia, Mo.	
				KFSD 600	1000
				San Diego, Calif.	

NORTH AMERICAN B. C. STATIONS BY CALLS

KFSG 1120 Los Angeles, Calif.	500	KGGM 1230 Albuquerque, N. M.	250	KIUL 1210 Garden City, Kans.	100
KFUO 550 St. Louis, Mo.	500	KGHF 1320 Pueblo, Colo.	500	KIUN 1420 Pecos, Texas	100
KFVD 1000 Los Angeles, Calif.	250	KGHI 1200 Little Rock, Ark.	100	KIUP 1370 Durango, Colo.	100
KFVS 1210 Cape Girardeau, Mo.	100	KGHL 780 Billings, Mont.	1000	KJBS 1070 San Francisco, Calif.	500
KFWB 950 Hollywood, Calif.	1000	KGIR 1340 Butte, Mont.	1000	KJR 970 Seattle, Wash.	5000
KFXD 1200 Nampa, Idaho	100	KGIW 1420 Alamosa, Colo.	100	KLAH 1210 Carlsbad, N. Mex.	100
KFXJ 1200 Grand Junction, Colo.	100	KGKB 1500 Tyler, Texas	100	KLCN 1290 Blytheville, Ark.	100
KFXM 1210 San Bernardino, Calif.	100	KGKL 1370 San Angelo, Texas	100	KLO 1400 Ogden, Utah	500
KFXR 1310 Oklahoma City, Okla.	100	KGKO 570 Wichita Falls, Texas	250	KLPM 1240 Minot, N. D.	250
KFYO 1310 Lubbock, Texas	100	KGKY 1500 Scottsbluff, Neb.	100	KLRA 1390 Little Rock, Ark.	1000
KFYR 550 Bismarek, N. D.	1000	KGLO 1210 Mason City, Iowa	100	KLS 1280 Oakland, Calif.	250
KGA 1470 Spokane, Wash.	5000	KGMB 1320 Honolulu, T. H.	1000	KLUF 1370 Galveston, Texas	100
KGAR 1370 Tucson, Ariz.	100	KGNC 1410 Amarillo, Texas	1000	KLX 880 Oakland, Calif.	1000
KGB 1330 San Diego, Calif.	1000	KGNF 1430 North Platte, Neb.	1000	KLZ 560 Denver, Colo.	1000
KGBU 900 Ketchikan, Alaska	500	KGNO 1346 Dodge City, Kans	250	KMA 930 Shenendoah, Iowa	1000
KGBX 1230 Springfield, Mo.	500	KGO 790 San Francisco, Calif.	7500	KMAC 1370 San Antonio, Texas	100
KGCA 1270 Decorah, Iowa	100	KGU 750 Honolulu, T. H.	2500	KMBC 950 Kansas City, Mo.	1000
KGCU 1240 Mandan, N. D.	250	KGVO 1260 Missoula, Mont.	1000	KMED 1310 Medford, Ore.	100
KGCX 1450 Wolf Point, Mont.	1000	KGW 620 Portland, Ore.	1000	KMJ 580 Fresno, Calif.	500
KGDE 1200 Fergus Falls, Minn.	100	KGY 1210 Olympia, Wash.	100	KMLB 1200 Monroe, La.	100
KGDM 1100 Stockton, Calif.	1000	KHBC 1400 Hilo, T. H.	250	KMMJ 740 Klamy Center, Neb.	1000
KGDY 1340 Huron, S. D.	250	KHJ 900 Los Angeles, Calif.	1000	KMO 1330 Tacoma, Wash.	250
KGER 1360 Long Beach, Calif.	1000	KHQ 590 Spokane, Wash.	1000	KMOX 1090 St. Louis, Mo.	50000
KGEZ 1310 Kallispell, Mont.	100	KHSL 950 Chico, Calif.	250	KMPC 710 Beverly Hills, Calif.	500
KGFF 1420 Shawnee, Okla.	100	KHUB 1310 Watsonville, Calif.	250	KMTR 570 Hollywood, Calif.	1000
KGFG 1370 Oklahoma City, Okla.	100	KICA 1370 Clovis, N. M.	100	KNEL 1500 Brady, Texas	100
KGFI 1500 Corpus Christi, Texas	100	KID 1320 Idaho Falls, Idaho	500	KNET 1420 Palestine, Texas	100
KGfJ 1200 Los Angeles, Calif.	100	KIDO 1350 Boise, Idaho	1000	KNOW 1500 Austin, Texas	100
KGFL 1370 Roswell, N. M.	100	KIDW 1420 Lamar, Colo.	100	KNX 1050 Hollywood, Calif.	50000
KGFW 1310 Kearney, Neb.	100	KIEM 1450 Eureka, Calif.	500	KOA 830 Denver, Colo.	50000
KGFX 630 Pierre, S. D.	200	KIEV 850 Glendale, Calif.	250	KOAC 550 Corvallis, Ore.	1000
KGGC 1420 San Francisco, Calif.	100	KINY 1310 Juneau, Alaska	100	KOAM 790 Pittsburg, Kans.	1000
KGGF 1010 Coffeyville, Kans.	1000	KIRO 710 Seattle, Wash.	1000	KOB 1180 Albuquerque, N. M.	10000
		KIT 1310 Yakima, Wash.	100	KOBH 1370 Rapid City, S. Dak.	100
				KOCA 1210 Kilgore, Texas	100
				KOH 1380 Reno, Nev.	500

NORTH AMERICAN B. C. STATIONS BY CALLS

KOIL 1260 Omaha, Nebr.	1000	KROD 1500 El Paso, Texas	100	KUTA 1500 Salt Lake City, Utah	100
KOIN 940 Portland, Ore.	1000	KROW 930 Oakland, Calif.	1000	KVCV 1200 Redding, Calif.	100
KOL 1270 Seattle, Wash.	1000	KROY 1310 Sacramento, Calif.	100	KVEC 1200 San Luis Obispo, Calif.	250
KOMA 1480 Oklahoma City, Okla.	5000	KRQA 1310 Santa Fe, N. Mex.	100	KVGB 1370 Great Bend, Kans.	100
KOMO 920 Seattle, Wash.	1000	KRRV 1310 Sherman, Texas	100	KVI 570 Tacoma, Wash.	1000
KONO 1370 San Antonio, Texas	100	KRSC 1120 Seattle, Wash.	100	KVOA 1260 Tucson, Ariz.	1000
KOOS 1200 Marshfield, Ore.	250	KSAC 580 Manhattan, Kans.	500	KVOD 920 Denver, Colo.	500
KORE 1420 Eugene, Ore.	100	KSCJ 1330 Sioux City, Iowa	1000	KVOE 1500 Santa Ana, Calif.	100
KOTN 1500 Pine Bluffs, Ark.	100	KSD 550 St. Louis, Mo.	1000	KVOL 1310 Lafayette, La.	100
KOVC 1500 Valley City, N. Dak.	100	KSEI 900 Pocatello, Idaho	250	KVOO 1140 Tulsa, Okla.	25000
KOY 1390 Phoenix, Ariz.	500	KSFO 560 San Francisco, Calif.	1000	KVOR 1270 Colorado Spgs., Colo.	1000
KPAC 1260 Port Arthur, Texas	500	KSJS 1500 Salina, Kans.	100	KVOS 1200 Bellingham, Wash.	100
KPDN 1310 Pampa, Texas	100	KSL 1130 Salt Lake City, Utah	50000	KVOX 1310 Moorhead, Minn.	100
KPLC 1500 Lake Charles, La.	100	KSLM 1370 Salem, Ore.	100	KVSO 1210 Ardmore, Okla.	100
KPLT 1500 Paris, Texas	100	KSO 1430 Des Moines, Iowa	500	KWBG 1420 Hutchinson, Kans.	100
KPMC 1550 Bakersfield, Calif.	1000	KSOO 1110 Sioux Falls, S. D.	2500	KWG 1200 Stockton, Calif.	100
KPO 680 San Francisco, Calif.	50000	KSRO 1310 Santa Rosa, Calif.	250	KWJJ 1040 Portland, Ore.	500
KPOF 880 Denver, Colo.	500	KSTP 1460 St. Paul, Minn.	10000	KWK 1350 St. Louis, Mo.	1000
KPPC 1210 Pasadena, Calif.	100	KSUB 1310 Cedar City, Utah	100	KWKH 1100 Shreveport, La.	10000
KPQ 1500 Wenatchee, Wash.	100	KSUN 1200 Lowell, Ariz.	100	KWLC 1270 Decorah, Iowa	100
KPRC 920 Houston, Texas	1000	KTAR 620 Phoenix, Ariz.	1000	KWOS 1310 Jefferson City, Mo.	100
KQV 1380 Pittsburgh, Pa.	500	KTAT 1240 Fort Worth, Texas	1000	KWSC 1220 Pullman, Wash.	1000
KQW 1010 San Jose, Calif.	1000	KTBS 1450 Shreveport, La.	1000	KWTN 1210 Watertown, S. D.	100
KRBC 1420 Ablene, Texas	100	KTEM 1370 Temple, Texas	100	KWTO 560 Springfield, Mo.	5000
KRE 1370 Berkeley, Calif.	100	KTFI 1240 Twin Falls, Idaho	1000	KWYO 1370 Sheridan, Wyo.	100
KRGV 1260 Westaco, Texas	500	KTHS 1060 Hot Springs, Ark.	10000	KXA 760 Seattle, Wash.	250
KRKD 1120 Los Angeles, Calif.	500	KTRB 740 Modesto, Calif.	250	KXBY 1530 Kansas City, Mo.	1000
KRKO 1370 Everett, Wash.	50	KTRH 1290 Houston, Texas	1000	KXL 1420 Portland, Ore.	100
KRLC 1420 Lewiston, Idaho	100	KTSA 550 San Antonio, Texas	1000	KXO 1500 El Centro, Calif.	100
KRLD 1040 Dallas, Texas	10000	KTSM 1310 El Paso, Texas	100	KXRO 1310 Aberdeen, Wash.	100
KRLH 1420 Midland, Texas	100	KTUL 1400 Tulsa, Okla.	500	KXYZ 1440 Houston, Texas	1000
KRMC 1310 Jamestown, N. Dak.	100	KTW 1220 Seattle, Wash.	1000	KYA 1230 San Francisco, Calif.	1000
KRMD 1310 Shreveport, La.	100	KUJ 1370 Walla Walla, Wash.	100	KYCA 1500 Prescott, Ariz.	100
KRNR 1500 Roseburg, Ore.	100	KUMA 1420 Yuma, Ariz.	100	KYOS 1040 Merced, Calif.	250
KRNT 1320 Des Moines, Iowa	500	KUOA 1260 Sioux Springs, Ark.	2500	KYW 1020 Philadelphia, Pa.	10000
KROC 1160 Rochester, Minn.	100	KUSD 890 Vermillion, S. D.	500		

NORTH AMERICAN B. C. STATIONS BY CALLS

TGW 1210	10000	WAWZ 1350	500	WBZ 990	50000
Guatemala, Gua.		Zarephath, N. J.		Boston, Mass.	
TIEP 850	500	WAYX 1200	100	WBZA 990	1000
San Jose, C. R.		Waycross, Ga.		Springfield, Mass.	
VAS 685	2000	WAZL 1420	100	WCAD 1220	500
Glace Bay, N. S.		Hazleton, Pa.		Canton, N. Y.	
VE9EK 1185	10	WBBA 890	500	WCAE 1220	1000
Montmaguy, Que.		West Lafayette, Ind.		Pittsburgh, Pa.	
VOAC 1065	40	WBAL 760	2500	WCAL 1250	100
St. John's, Nfld.		Baltimore, Md.		Northfield, Minn.	
VOAS 940	100	WBAL 1060	10000	WCAM 1280	500
St. John's, Nfld.		Baltimore, Md.		Camden, N. J.	
VOGY 840	400	WBAP 800	50000	WCAO 600	500
St. John's, Nfld.		Fort Worth, Texas		Baltimore, Md.	
VONF 1195	500	WBAX 1210	100	WCAP 1280	500
St. John's, Nfld.		Wilkes-Barre, Pa.		Asbury Park, N. J.	
VOWR 681	500	WBBC 1400	500	WCAT 1200	100
St. John's, Nfld.		Brooklyn, N. Y.		Rapid City, S. D.	
WAAB 1410	500	WBBL 1210	100	WCAU 1170	50000
Boston, Mass.		Richmond, Va.		Philadelphia, Pa.	
WAAF 920	1000	WBBM 770	50000	WCAX 1200	100
Chicago, Ill.		Chicago, Ill.		Burlington, Vt.	
WAAT 940	500	WBBR 1300	1000	WCZA 1070	100
Jersey City, N. J.		Brooklyn, N. Y.		Carthage, Ill.	
WAAW 660	500	WBBZ 1200	100	WCBA 1440	500
Omaha, Neb.		Ponca City, Okla.		Allentown, Pa.	
WABC 860	50000	WBCM 1410	500	WCBD 1080	5000
New York, N. Y.		Bay City, Mich.		Chicago, Ill.	
WABI 1200	100	WBEN 900	1000	WCBM 1370	100
Bangor, Maine		Buffalo, N. Y.		Baltimore, Md.	
WABY 1370	100	WBEO 1310	100	WCBS 1420	100
Albany, N. Y.		Marquette, Mich.		Springfield, Ill.	
WACO 1420	100	WBHP 1200	100	WCCO 810	50000
Waco, Texas		Huntsville, Ala.		Minneapolis, Minn.	
WADC 1320	1000	WBIG 1440	500	WCFL 970	5000
Akron, Ohio		Greensboro, N. C.		Chicago, Ill.	
WAGF 1370	250	WBLK 1370	100	WCHS 580	500
Dothan, Ala.		Clarksburg, W. Va.		Charleston, W. Va.	
WAGM 1420	100	WBLY 1210	100	WCHV 1420	100
Presque Isle, Me.		Lima, Ohio		Charlottesville, Va.	
WAIM 1200	100	WBNO 1200	100	WCKY 1490	5000
Anderson, S. C.		New Orleans, La.		Covington, Ky.	
WAIR 1250	250	WBNS 1430	500	WCLO 1200	100
Winston-Salem, N. C.		Columbus, Ohio		Janesville, Wis.	
WALA 1380	500	WBNX 1350	1000	WCLS 1310	100
Mobile, Ala.		New York, N. Y.		Joliet, Ill.	
WALR 1210	100	WBNY 1370	100	WCMI 1310	100
Zanesville, Ohio		Buffalo, N. Y.		Ashland, Ky.	
WAML 1310	100	WBOQ 860	50000	WCNW 1500	100
Laurel, Miss.		New York, N. Y.		Brooklyn, N. Y.	
WAPI 1140	5000	WBOW 1310	100	WCOA 1340	500
Birmingham, Ala.		Terre Haute, Ind.		Pensacola, Fla.	
WAPO 1420	100	WBRB 1210	100	WCOC 880	500
Chattanooga, Tenn.		Red Bank, N. J.		Meridian, Miss.	
WARD 1400	500	WBRC 930	1000	WCOL 1210	100
Brooklyn, N. Y.		Birmingham, Ala.		Columbus, Ohio	
WASH 1270	500	WBRE 1310	100	WCOP 1120	500
Grand Rapids, Mich.		Wilkes-Barre, Pa.		Boston, Mass.	
WATL 1370	100	WBRY 1530	1000	WCPO 1200	100
Atlanta, Ga.		Waterbury, Conn.		Cincinnati, Ohio	
WATR 1190	100	WBT 1080	50000	WCRW 1210	100
Waterbury, Conn.		Charlotte, N. C.		Chicago, Ill.	
WAVE 940	1000	WBTM 1370	100	WCSC 1360	500
Louisville, Ky.		Danville, Va.		Charleston, S. C.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WCSH 940 Portland, Me.	1000	WEVD 1300 New York, N. Y.	1000	WGST 890 Atlanta, Ga.	1000
WDAE 1220 Tampa, Fla.	1000	WEW 760 St. Louis, Mo.	1000	WGY 790 Schenectady, N. Y.	50000
WDAF 610 Kansas City, Mo.	1000	WEXL 1310 Royal Oak, Mich.	50	WHA 940 Madison, Wis.	5000
WDAH 1310 El Paso, Texas	100	WFAA 800 Dallas, Texas	50000	WHAM 1150 Rochester, N. Y.	50000
WDAS 1370 Philadelphia, Pa.	100	WFAB 1300 New York, N. Y.	1000	WHAS 820 Louisville, Ky.	50000
WDAY 940 Fargo, N. D.	1000	WFAM 1200 South Bend, Ind.	100	WHAT 1310 Philadelphia, Pa.	100
WDBJ 930 Roanoke, Va.	1000	WFAS 1210 White Plains, N. Y.	100	WHAZ 1300 Troy, N. Y.	500
WDBO 580 Orlando, Fla.	1000	WFBC 1300 Greenville, S. C.	1000	WHB 860 Kansas City, Mo.	1000
WDEL 1120 Wilmington, Del.	250	WFBG 1310 Altoona, Pa.	100	WHBB 1500 Selma, Alabama	100
WDEV 550 Waterbury, Vt.	500	WFBL 1360 Syracuse, N. Y.	1000	WHBC 1200 Canton, Ohio	100
WDGY 1180 Minneapolis, Minn.	1000	WFBM 1230 Indianapolis, Ind.	1000	WHBF 1210 Rock Island, Ill.	100
WDNC 1500 Durham, N. C.	100	WFBR 1270 Baltimore, Md.	500	WHBI 1250 Newark, N. J.	1000
WDD 1280 Chattanooga, Tenn.	1000	WFDF 1310 Flint, Mich.	100	WHBL 1300 Sheboygan, Wis.	250
WDRC 1330 Hartford, Conn.	1000	WFEA 1340 Manchester, N. H.	500	WHBQ 1370 Memphis, Tenn.	100
WDSU 1250 New Orleans, La.	1000	WFIL 560 Philadelphia, Pa.	1000	WHBU 1210 Anderson, Ind.	100
WDWS 1370 Champaign, Ill.	100	WFLA 620 Clearwater, Fla.	1000	WHBY 1200 Green Bay, Wis.	100
WDZ 1020 Tuscola, Ill.	250	WFMD 900 Frederick, Md.	500	WHDF 1370 Calumet, Mich.	100
WEAF 660 New York, N. Y.	50000	WFOR 1370 Hattiesburg, Miss.	100	WHDH 830 Boston, Mass.	1000
WEAN 780 Providence, R. I.	1000	WFOY 1210 St. Augustine, Fla.	100	WHDL 1400 Olean, N. Y.	250
WEAU 1050 Eau Claire, Wis.	1000	WFTC 1200 Kinston, N. C.	100	WHEB 740 Portsmouth, N. H.	250
WEBC 1290 Duluth, Minn.	1000	WGAL 1500 Lancaster, Pa.	100	WHEC 1430 Rochester, N. Y.	500
WEBQ 1210 Harrisburg, Ill.	100	WGAN 640 Portland, Me.	500	WHEF 1500 Kosciusko, Miss.	100
WEER 1310 Buffalo, N. Y.	100	WGAR 1450 Cleveland, Ohio	500	WHFC 1420 Cleora, Ill.	100
WEDC 1210 Chicago, Ill.	100	WGBB 1210 Freeport, N. Y.	100	WHIO 1260 Dayton, Ohio	1000
WEED 1420 Rocky Mount, N. C.	100	WGBF 630 Evansville, Ind.	500	WHIS 1410 Bluefield, W. Va.	500
WEEL 590 Boston, Mass.	1000	WGBI 880 Scranton, Pa.	500	WHJB 620 Greensburg, Pa.	250
WEUU 830 Reading, Pa.	1000	WGCM 1210 Gulfport, Miss.	100	WHK 1390 Cleveland, Ohio	1000
WEGL 1400 Brooklyn, N. Y.	500	WGES 1360 Chicago, Ill.	500	WHKC 640 Columbus, Ohio	500
WELI 900 New Haven, Conn.	500	WGH 1310 Newport News, Va.	100	WHLB 1370 Virginia, Minn.	100
WELL 1420 Battle Creek, Mich.	100	WGL 1370 Fort Wayne, Ind.	100	WHN 1010 New York, N. Y.	1000
WEMP 1310 Milwaukee, Wis.	100	WGN 720 Chicago, Ill.	50000	WHO 1000 Des Moines, Iowa	50000
WENR 870 Chicago, Ill.	50000	WGNV 1210 Newburgh, N. Y.	100	WHOM 1450 Jersey City, N. J.	250
WEOA 1370 Evansville, Ind.	100	WCPC 1420 Albany, Ga.	100	WHP 1430 Harrisburg, Pa.	500
WESG 850 Elmira, N. Y.	1000	WGR 550 Buffalo, N. Y.	1000	WIBA 1280 Madison, Wis.	1000
WEST 1200 Easton, Pa.	100	WGRC 1370 New Albany, Ind.	250	WIBG 970 Glenside, Pa.	100

NORTH AMERICAN B. C. STATIONS BY CALLS

WIBM 1370 Jackson, Mich.	100	WJRD 1200 Tuscaloosa, Ala.	100	WMAL 630 Washington, D. C.	250
WIBU 1210 Poynette, Wis.	100	WJSV 1460 Washington, D. C.	10000	WMAQ 670 Chicago, Ill.	5000
WIBW 580 Topeka, Kans.	1000	WJTN 1210 Jamestown, N. Y.	50	WMAS 1420 Springfield, Mass.	100
WIBX 1290 Utica, N. Y.	100	WJW 1210 Akron, Ohio	100	WMAZ 1180 Macon, Ga.	1000
WICC 600 Bridgeport, Conn.	500	WJZ 760 New York, N. Y.	50000	WMBC 1420 Detroit, Mich.	100
WIL 1200 St. Louis, Mo.	100	WKAQ 1240 San Juan, P. R.	1000	WMBD 1440 Peoria, Ill.	500
WILL 560 Urbana, Ill.	250	WKAR 850 East Lansing, Mich.	1000	WMBG 1210 Richmond, Va.	100
WILM 1420 Wilmington, Del.	100	WKBB 1500 East Dubuque, Ill.	100	WMBH 1420 Joplin, Mo.	100
WIND 560 Gary, Ind.	1000	WKBH 1380 LaCrosse, Wis.	1000	WMBI 1080 Chicago, Ill.	5000
WINS 1180 New York, N. Y.	1000	WKBN 570 Youngstown, Ohio	500	WMBO 1310 Auburn, N. Y.	100
WIOD 1300 Miami, Fla.	1000	WKBO 1200 Harrisburg, Pa.	100	WMBQ 1500 Brooklyn, N. Y.	100
WIP 610 Philadelphia, Pa.	1000	WKBV 1500 Richmond, Ind.	100	WMBN 1370 Jacksonville, Fla.	100
WIRE 1400 Indianapolis, Ind.	1000	WKBW 1480 Buffalo, N. Y.	5000	WMC 780 Memphis, Tenn.	1000
WIS 560 Columbia, S. C.	1000	WKBZ 1500 Muskegon, Mich.	100	WMCB 570 New York, N. Y.	1000
WISN 1120 Milwaukee, Wis.	250	WKEL 1500 Griffin, Ga.	100	WMEX 1500 Boston, Mass.	100
WJAC 1310 Johnstown, Pa.	100	WKOK 1210 Sunbury, Pa.	100	WMFD 1370 Wilmington, N. C.	100
WJAG 1060 Norfolk, Neb.	1000	WKRC 550 Cincinnati, Ohio	1000	WMFF 1310 Plattsburg, N. Y.	250
WJAR 890 Providence, R. I.	1000	WKY 900 Oklahoma City, Okla.	1000	WMFG 1210 Hibbing, Minn.	100
WJAS 1290 Pittsburgh, Pa.	1000	WKZO 590 Kalamazoo, Mich.	1000	WMFJ 1420 Daytona Beach, Fla.	100
WJAX 900 Jacksonville, Fla.	1000	WLAC 1470 Nashville, Tenn.	5000	WMFN 1210 Clarksdale, Miss.	100
WJAY 610 Cleveland, Ohio	500	WLAK 1310 Lakeland, Fla.	100	WMFO 1370 Decatur, Ala.	100
WJBC 1200 Bloomington, Ill.	100	WLAP 1420 Lexington, Ky.	100	WMFR 1200 High Point, N. C.	100
WJBK 1500 Detroit, Mich.	100	WLB 1250 Minneapolis, Minn.	1000	WMIN 1370 St. Paul, Minn.	100
WJBL 1200 Decatur, Ill.	100	WLBC 1310 Muncie, Ind.	100	WMMN 890 Fairmont, W. Va.	500
WJBO 1420 Baton Rouge, La.	100	WLBL 900 Stevens Point, Wis.	2500	WMPC 1200 Lapeer, Mich.	100
WJBR 1420 Gastonia, N. C.	100	WLBZ 620 Bangor, Me.	500	WMSD 1420 Sheffield, Ala.	100
WJBW 1200 New Orleans, La.	100	WLEU 1420 Erie, Pa.	100	WMT 600 Cedar Rapids, Iowa	1000
WJBY 1210 Gadsden, Ala.	100	WLLH 1370 Lowell, Mass.	100	WNAC 1230 Boston, Mass.	1000
WJDX 1270 Jackson, Miss.	1000	WLMU 1210 Middlesboro, Ky.	100	WNAD 1010 Norman, Okla.	1000
WJEJ 1210 Hagerstown, Md.	100	WLNH 1310 Laconia, N. H.	100	WNAX 570 Yankton, S. D.	1000
WJIM 1210 Lansing, Mich.	100	WLS 870 Chicago, Ill.	50000	WNBC 1380 New Britain, Conn.	250
WJJD 1130 Chicago, Ill.	20000	WLTH 1400 Brooklyn, N. Y.	500	WNBF 1500 Binghamton, N. Y.	100
WJMS 1420 Ironwood, Mich.	100	WLVA 1200 Lynchburg, Va.	100	WNBH 1310 New Bedford, Mass.	100
WJNO 1200 W. Palm Beach, Fla.	100	WLW 700 Cincinnati, Ohio	500000	WNBR 1430 Memphis, Tenn.	500
WJR 750 Detroit, Mich.	50000	WLWL 1100 New York, N. Y.	5000		

NORTH AMERICAN B. C. STATIONS BY CALLS

WNEX 1260	1000	WPRO 630	500	WSGN 1310	100
Springfield, Vt.		Providence, R. I.		Birmingham, Ala.	
WNBZ 1290	100	WPRP 1420	100	WSIX 1210	100
Saranac Lake, N. Y.		Ponce, P. R.		Springfield, Tenn.	
WNEL 1290	1000	WPTF 680	1000	WSJS 1310	100
San Juan, P. R.		Raleigh, N. C.		Winston-Salem, N. C.	
WNEW 1250	1000	WQAM 560	1000	WSM 650	50000
New York, N. Y.		Miami, Fla.		Nashville, Tenn.	
WNLC 1500	100	WQAN 880	250	WSMB 1320	1000
New London, Conn.		Scranton, Pa.		New Orleans, La.	
WNNY 1420	180	WQBC 1360	1000	WSMK 1380	200
Watertown, N. Y.		Vicksburg, Miss.		Dayton, Ohio	
WNOX 1010	1000	WQDM 1390	1000	WSOC 1210	100
Knoxville, Tenn.		St. Albans, Vt.		Charlotte, N. C.	
WNRI 1200	100	WQXR 1550	1000	WSPA 920	1000
Newport, R. I.		New York, N. Y.		Spartanburg, S. C.	
WNYC 810	1000	WRAC 1370	100	WSPD 1340	1000
New York, N. Y.		Williamsport, Pa.		Toledo, Ohio	
WOAI 1190	50000	WRAW 1310	100	WSPR 1140	500
San Antonio, Texas		Reading, Pa.		Springfield, Mass.	
WOC 1370	100	WRAX 920	250	WSUI 880	500
Davenport, Iowa		Philadelphia, Pa.		Iowa City, Iowa	
WOI 640	5000	WRBL 1200	100	WSUN 620	1000
Ames, Iowa		Columbus, Ga.		St. Petersburg, Fla.	
WOKO 1430	500	WRC 950	500	WSVA 550	500
Albany, N. Y.		Washington, D. C.		Harrisonburg, Va.	
WOL 1310	100	WRDO 1370	100	WSVS 1370	50
Washington, D. C.		Augusta, Me.		Buffalo, N. Y.	
WOMT 1210	100	WRDW 1500	100	WSYB 1500	100
Manitowoc, Wis.		Augusta, Ga.		Rutland, Vt.	
WOOD 1270	500	WREC 600	1000	WSYR 570	1000
Grand Rapids, Mich.		Memphis, Tenn.		Syracuse, N. Y.	
WOPI 1500	100	WREN 1220	1000	WTAD 900	1000
Bristol, Tenn.		Lawrence, Kans.		Quincy, Ill.	
WOR 710	50000	WRGA 1500	100	WTAG 580	500
Newark, N. J.		Rome, Ga.		Worcester, Mass.	
WORC 1280	500	WRJN 1370	100	WTAL 1310	100
Worcester, Mass.		Racine, Wis.		Tallahassee, Fla.	
WORK 1320	1000	WROK 1410	500	WTAM 1070	50000
York, Pa.		Rockford, Ill.		Cleveland, Ohio	
WORL 920	500	WROL 1310	100	WTAQ 1330	1000
Boston, Mass.		Knoxville, Tenn.		Green Bay, Wis.	
WOSU 570	750	WRR 1280	500	WTAR 780	500
Columbus, Ohio		Dallas, Texas		Norfolk, Va.	
WOV 1130	1000	WRUF 830	5000	WTAW 1120	500
New York, N. Y.		Gainesville, Fla.		College Station, Tex.	
WOW 590	5000	WRVA 1110	5000	WTAX 1210	100
Omaha, Neb.		Richmond, Va.		Springfield, Ill.	
WOWO 1160	10000	WSAI 1330	1000	WTBO 800	250
Fort Wayne, Ind.		Cincinnati, Ohio		Cumberland, Md.	
WPAD 1420	100	WSAJ 1310	100	WTCN 1250	1000
Paducah, Ky.		Grove City, Pa.		Minneapolis, Minn.	
WPAR 1420	100	WSAN 1448	500	WTEL 1310	100
Parkersburg, W. Va.		Allentown, Pa.		Philadelphia, Pa.	
WPAX 1210	100	WSAR 1450	1000	WTFI 1450	500
Thomasville, Ga.		Fall River, Mass.		Athens, Ga.	
WPAY 1370	100	WSAU 1370	100	WTHT 1200	100
Portsmouth, Ohio		Wausau, Wis.		Hartford, Conn.	
WPEN 920	250	WSAY 1210	100	WTIC 1040	50000
Philadelphia, Pa.		Rochester, N. Y.		Hartford, Conn.	
WPG 1100	5000	WSAZ 1190	1000	WTJS 1310	100
Atlantic City, N. J.		Huntington, W. Va.		Jackson, Tenn.	
WPHR 880	500	WSB 740	50000	WTMJ 620	1000
Petersburg, Va.		Atlanta, Ga.		Milwaukee, Wis.	
WPRA 1370	100	WSBC 1210	100	WTMW 1500	100
Mayaguez, P. R.		Chicago, Ill.		East St. Louis, Ill.	
		WSBT 1360	500		
		South Bend, Ind.			
		WSFA 1410	500		
		Montgomery, Ala.			

NORTH AMERICAN B. C. STATIONS BY CALLS

WTNJ 1280	500	XCW 1310	10	XEPN 730	100000
Trenton, N. J.		Mexico City, D. F.		Piedras Negras, Coah.	
WTOC 1260	1000	XECZ 1370	100	XERA 840	350000
Savannah, Ga.		San Luis Potosi, S.L.P.		Villa Acuna, Coah.	
WTRC 1310	100	XED 1160	2500	XES 990	250
Elkhart, Ind.		Guadalajara, Jal.		Tampico, Tams.	
WVFW 1400	500	XEDA 1220	200	XET 690	500
Brooklyn, N. Y.		Gra. Anaya, D. F.		Monterrey, N. L.	
WWAE 1200	100	XEDW 1150	20	XETB 1310	125
Hammond, Ind.		Minatitlan, Ver.		Torreón, Coah.	
WWJ 920	1000	XEE 1210	50	XETF 1220	30
Detroit, Mich.		Durango, Dgo.		Veracruz, Ver.	
WWL 850	10000	XEF 1450	100	XETH 1210	100
New Orleans, La.		Juarez, Chih.		Puebla, Pue.	
WWNC 570	1000	XEFA 1180	500	XEU 1010	250
Asheville, N. C.		Tacuba, D. F.		Veracruz, Ver.	
WWRL 1500	100	XEFB 870	200	XEW 890	50000
Woodside, N. Y.		Monterrey, N. L.		Mexico City, D. F.	
WWSW 1500	100	XEFC 550	250	XEX 1310	125
Pittsburgh, Pa.		Merida, Yuc.		Monterrey, N. L.	
WWVA 1160	5000	XEFE 1340	250	XEXB 1270	50
Wheeling, W. Va.		Laredo, Tams.		Jalapa, Ver.	
WXYZ 1240	1000	XEFI 1440	250	XEXC 810	350
Detroit, Mich.		Chihuahua, Chih.		Aguascalientes, Aga.	
XEAA 920	200	XEFJ 1230	100	XEXD 1340	350
Mexico, B. C.		Monterrey, N. L.		Jalapa, Ver.	
XEAC 980	250	XEFO 940	5000	XEXH 1250	500
Tijuana, L. C.		Mexico City, D. F.		San Luis Potosi, S.L.P.	
XEAD 1060	125	XEFV 1210	100	XEXM 610	500
Guadalajara, Jal.		Juarez, Chih.		Mexico City, D. F.	
XEAF 990	250	XEFW 1310	250	XEXS 1000	100
Nogales, Son.		Tampico, Tams.		Portable in Mexico	
XEAG 1310	10	XEH 720	250	XEYO 940	500
Cordoba, Ver.		Monterrey, N. L.		Mexico City, D. F.	
XEAL 660	1000	XEI 1370	125	XEZ 630	500
Mexico City, D. F.		Morelia, Mich.		Merida, Yuc.	
XEAM 750	25	XEJ 1020	1000		
Matamoros, Tams.		Juarez, Chih.			
XEAO 560	250	XEJP 1130	100		
Mexico, B. C.		Mexico City, D. F.			
XEAQ 1090	1000	XEK 990	100		
Rosario, L. C.		Mexico City, D. F.			
XEAS 1160	50	XEKL 1240	500		
Saltillo, Coah.		Leon, Guan.			
XEAT 1210	250	XEL 780	1000		
Parral, Chih.		Mexico City, D. F.			
XEAW 960	50000	XELA 1240	50		
Reynosa, Tams.		Saltillo, Coah.			
XEB 1030	10000	XELO 580	50000		
Mexico City, D. F.		Piedras Negras, Coah.			
XEBA 1080	20	XELZ 1370	100		
Guzman, Jal.		Mexico City, D. F.			
XEBC 730	5000	XEMG 1060	100		
Agua Caliente, L. C.		Atzacapotzalco, D. F.			
XEBG 820	1000	XEMO 860	5000		
Tijuana, B. Cfa.		Tijuana, L. C.			
XEBH 930	500	XEMX 1280	100		
Hermosillo, Sonora		Mexico City, D. F.			
XEBJ 1160	20	XENC 860	50		
Merida, Yuc.		Mexico City, D. F.			
XEBK 1000	100	XENT 910	150000		
Nuevo Laredo, Tams.		Nuevo Laredo, Tams.			
XEBX 640	250	XEOK 760	2500		
Saltillo, Coah.		Tijuana, L. C.			
XEBZ 1160	100	XEOX 640	500		
Mexico City, D. F.		Saltillo, Coah.			
XEC 1150	100	XEP 1160	500		
Tijuana, L. C.		Juarez, Chih.			

Eastern Time P. M.	Eastern Time						
	12:00	12:15	12:30	12:45	13:00	13:15	13:30
H11ABG, Bar'q'lin, 9.580							
H11ABJ, Str'M'ca, 0.025							
H12ABD, Bucar'ca, 5.980							
H13ABF, Bogota, 6.170							
H13ABH, Bogota, 6.012							
H13ABH, Bogota, 6.012							
H14ABA, Medellin, 11.720							
H14ABD, Medellin, 5.760							
H14ABE, Medellin, 6.930							
H14ABP, Medellin, 0.135							
H15ABD, Cali, 6.490							
HP5B, Panama Cy., 6.030							
HP5J, Panama Cy., 9.690							
HRN, Tegucigalpa, 5.875							
I2RO, Rome, 9.635							
I2RO, Rome, 11.810							
OAXX4D, Lima, 5.780							
OAXX4G, Lima, 6.230							
ORX, Brussels, 10.330							
Prado, Rlophanba, 6.630							
PRF5, Rio de Jan., 9.500							
RAN, Moscow, 9.530							
TCGVA, Gima, Cy., 6.000							
TCIX, Gima, Cy., 9.430							
TCZX, Gima, Cy., 5.940							
TIER, San Jose, 6.710							
TIGPE, San Jose, 5.820							
TIPG, San Jose, 6.385							
TIROC, San Jose, 6.550							
TI5HH, San Ramon, 5.520							
T18WS, Punt'rias, 7.550							
VE3LR, Meib'rne, 9.580							
W1XAL, Boston, 6.040							
W1XAL, Boston, 11.790							
W1XK, Mills, 9.570							
W2XAD, Sat'day, 15.330							
W2XAD, Sat'day, 15.330							

Sunday

Daily

Sunday

Sunday

M., Tu., Th.

Friday

Daily

Weekdays

Su., Th.

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Weekdays

Wkds.

Weekdays

Weekdays

Weekdays

Weekdays

Thursday

Thursday

Thursday

Wednesday, Saturday

Wednesday, Saturday

Wednesday, Saturday

Monday, Wednesday, Friday

Monday, Wednesday, Friday

Monday, Wednesday, Friday

Th., Sa., Su.

Th., Sa., Su.

Th., Sa., Su.

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

Weekdays

THE INTERNATIONAL CLOCK

An accurate timepiece that tells not only your own time but the time in every other locality in the world as well. Attractively designed, in a brushed brass case, it makes a pleasing addition to the radio room.

Actual size 5¼ inches high and 4¼ inches wide. 40 hour movement. Winds and sets just like any ordinary clock.

Has a.m. and p.m. divided dial as well as 24-hour dial. Indicates minutes and quarter hours.

JUST WHAT DXERS NEED

Ohio residents add 3% sales tax.

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The Radex Press
Conneaut, Ohio:

Enclosed find \$..... for which send me postpaid my choice of your offers as checked below:

- Program "slates" 1 for 10c 2 for 15c 4 for 25c
- One Radio World Map and Time Converter 25c
- One copy of the next RADEX 25c
- One year's subscription to RADEX, 10 issues \$1.75
- Two years.....\$3.25 Three years..... \$4.75
- Beginner's Story of Radio35
(If you live in Ohio, add 3% for State Sales Tax. No tax on subscriptions.)

Write Name Plainly.....

Street and Number.....

City and State.....

*I sometimes think there should be a law requiring everyone to spend some of his spare time training for the future. I once thought all the cards were stacked against me. Now I'm making good money. My-
be my experience will show you the way to better pay too.*



I THOUGHT RADIO WAS A PLAYTHING But Now My Eyes Are Opened--I'm Making Over \$30 a Week!

\$30 a week. Man alive, I used to think anyone making that much was just plain lucky.

A short time ago I was just barely getting by. It was the same old story—a little job; a salary as small as the job.

If you had told me that I would soon be making \$30 and more a week in my own Radio business—I'd thought you were crazy. To me, Radio was a plaything. Now I know it's a big business where specialized training pays rich rewards.

But I am getting ahead of my story—let me tell you how it all started. I was hard up because I had been kidding myself—that's all—not because I had to be. I thought a fellow either had to be lucky or have a string of college degrees to make good money.

One day I picked up a magazine and an ad attracted me because it seemed to fit my case. It said, "I will train you to start a spare time or full time Radio service business of your own WITHOUT CAPITAL."

"They're trying to kid somebody," I thought, "but I'll find out what it's all about."

I wrote in, and within a few days received a 64-page book, telling about the opportunities in Radio; how I could prepare right at home in my spare time, and how they would show me how to start making money in my neighborhood selling and repairing Radio sets. It would have sounded too good to be true if it had not been backed up by nearly 100 letters from fellows who had taken their course and were very enthusiastic about it.

What has happened since seems almost like a dream. I started to take their course, and soon I was ready to start making money in my neighborhood—as much as \$5 and \$15 a week. It wasn't long until I had saved enough money to start a full time business of my own.

That business in a surprisingly short time grew to the point where I am clearing over \$30 a week. All this took place under the watchful guidance of my friends at the National Radio Institute. They also offered to train me for jobs in Broadcasting Stations, Radio Factories, Radio Jobbers and Dealers, Aviation Radio, Television, Short Wave Stations, Automobile, Police Radio, Loud Speaker Systems, and other branches of Radio.

THINK IT OVER

Friend—you may not be as bad off as I was—but think it over—are you satisfied? Are you making as much money as you need? Would you sign a contract to stay where you are for the next

ten years at the same salary? Those are the things you have to think about—because no one is going to make it his business to push you ahead—you must make it your own business.

TAKE MY TIP

Write for their book, "Rich Rewards in Radio." It won't cost you anything except a postage stamp. It shows you a lot of things which I don't believe you know now about Radio—a lot of facts and figures on the opportunities in this new, fast-growing field—where the jobs are, what they pay, how to get ready for them. Beginners as well as experienced men are making as much as \$500 to \$1,500 a year more as a result of N. R. I. Training. And at the same time they send the book, "Rich Rewards in Radio." **They'll send you, without any cost or obligation, a Free Lesson, to prove that their training is easy, practical, fascinating.** The lesson they send, "Radio Receiver Troubles—Their Cause and Remedy," is valuable. And when you read this lesson, you'll know why so many fellows have mastered N. R. I. Training and are now making good money as Radio Experts.

You are not placing yourself under any obligation by writing for this material as they will gladly send it to anyone who is ambitious and wants to get ahead. Mail the coupon in an envelope or paste it on a 1c postcard. **Just address Mr. J. E. Smith, President, National Radio Institute, Dept. 7CO, Washington, D. C.**

J. E. Smith, President,
National Radio Institute
Dept. 7CO, Washington, D. C.

MAIL THIS
COUPON

Dear Mr. Smith:

Without obligation, send me the sample lesson and your book about spare time and full time Radio opportunities, and how I can train for them at home in spare time. (Please print plainly.)

Name Age

Address

City State

14X1

A Timely Suggestion

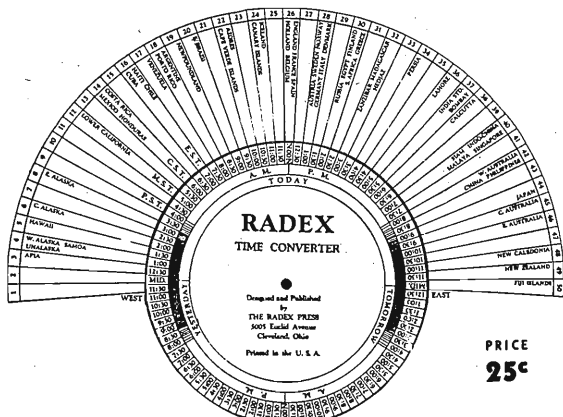
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No calculation is necessary to find out when it is midnight in London or sunrise in Japan—just turn the dial to your own time zone and it shows the time in every other place in the world.

No adding; no subtracting; no trying to figure which is yesterday, today or tomorrow. The dial does it all.

RADEX RADIO MAP of the WORLD

Showing all Countries and their Principal Cities
with Call Letters and Time Zones of each Country



PRICE
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DIRECTIONS—Turn the desired hour, either A.M. or P.M., in the outer marked "TODAY" opposite your own zone and the correct time in all other zones in the world will be shown. It will also be indicated which of the other zones are "Yesterday" and which are "Tomorrow." The position of twilight, darkness and dawn is graphically shown. Oh, if you desire to tune in a New Zealand program, turn the hour of the program (say 9:00 a.m.) in the New Zealand sector and you will find that it is 4:30 A.M. some day in London Standard Time or 11 P.M. yesterday in Hawaii.

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