E. Birger Halvarson

N.S.E.

THE MARCH 1936

RADIO INDEX

The All-wave DX Log of the World

25c

Where and When to Tune
for the Day's News

All the Broadcasting Stations
of the Whole World

Hour by Hour Schedule
of Special Programs

No. 97

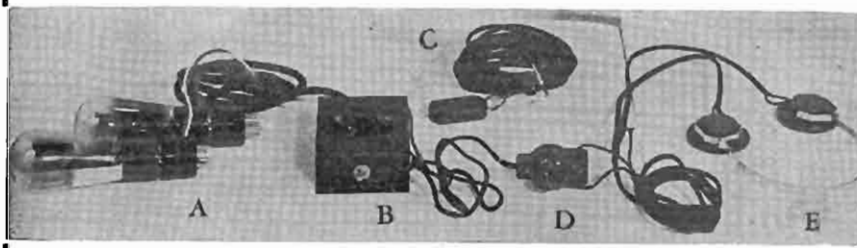
Get Ready for "Old Man Static"

Equip Your Receiver With

The "Perfect" Phone Adapter

Enjoy your radio when the rest of the family are asleep or ill. Use the phones to shut out room noises and identify those faint, far-off signals you can't quite hear on the speaker.

The Adapter positively cannot harm the set or change load or balance. While we can fit any set, a variety of models is necessary. For this reason the Adapter is not sold through dealers.



To Install

Simply remove the power tube or tubes and place the small adapters (shown at A) in the sockets. Now put the tubes in the adapters and leave them there.

To Operate

Insert the tips of phone cords in the small jacks in box (shown at B). The signals will now be picked up by the phones. The speaker may be silenced or not by small toggle-switch.

PRICES

Perfect Phone Adapter	$ 3.95
Adapter with 2000-ohm phones	6.70
Adapter with the very best "Featherweight" 24,000-ohm phones	12.00

All prices postpaid

If you live in Ohio, add 3% for State sales tax.

The 2,000-ohm phones will give excellent service. The 24,000-ohm phones are perhaps the very finest made being especially light and extremely sensitive. They were developed especially for the hard of hearing, airplane pilots, short wave work, etc.

Write for Circular

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

The Radex Press, Inc. Conneaut, Ohio

OUTDISTANCING *All* RIVALS!-

Only once in four long years this breathless climax!—blast of trumpets—thunder of drums—nerve-cracking seconds—a hundred thousand voices proclaiming new champions. National anthems flung to the breeze where float the banners of a hundred nations strong!

Make sure you hear it all at its best—direct from Reich Sport Field—with the magnificent new 23-tube SCOTT Full Range Hi-Fidelity AllWave.

Travel on—if you're a dyed-in-the wool DXer burning the midnight oil of Aladdin's Lamp! Cross the hemispheres — at a turn of the dial! Australia — Argentine — Indo-China — Japan — Russia — dozens upon dozens of foreign stations! Remote stations you've never heard before — leaping into bright reality with a volume, a cleavage through adjacent stations, a quartz-brilliant clarity not even approached by any other radio in the world!

RADIO'S GLOBE-TROTTER

If you're a dyed-in-the-wool DXer—compare your log with W. F. Stitzinger's—1651 foreign programs in a short seven months—not merely logged but VERIFIED!

If you're a dyed-in-the-wool DXer—you'll understand the pride SCOTT owners take in the receiver which carries an unqualified guarantee to outperform any other radio anywhere in the world at any price.

Less than 1 Microvolt Sensitivity—necessary for clear reception on DX stations.

Bullet Direct Variable Selectivity 2 to 16 K. C. — three times the ability of the average receiver to cut away powerful adjacent wave length stations.

Split Point Dial Calibration—on all wave bands, for the first time in radio history.

Foreign Station Locator—tunes in short wave stations instantly.

35 Watts Output—5 times the undistorted output of average receiver.

30 to 16,000 Cycle Hi-Fidelity — twice the overtone range of any other high fidelity receiver—provable in any comparative test.

More Features Vital to Performance than any other receiver—including True Bass Control—True Separate Treble Control—23 Tubes, New High Efficiency Type — Laboratory developments impossible to include in mass production type receivers.

COMPARE—IN YOUR HOME

Thousands upon thousands of SCOTT owners ask us how such astounding superiority is possible. The answer is that the SCOTT is strictly custombuilt to the highest precision standards known, and fully aged and proved. Nationwide installation service. Five-Year Guarantee of perfect performance. 30-day trial anywhere in U. S. A.

FACTS—YOUR GUARANTEE

Is it worth a stamp and an envelope to hear the most thrilling record of worldwide performance? Send for the fascinating book "PROOF." Clip the coupon below NOW—and mail it.

Send it before another day passes.

When in New York City visit our new permanent Salon at 630 Fifth Ave., Rockefeller Center.

FREE

SEND THIS COUPON *TODAY*-DETAILS FREE

E. H. SCOTT RADIO LABORATORIES, INC.
4424 Ravenswood Avenue,
Dept. 15C6, Chicago, Ill.

Send "94 PROOFS" of the SCOTT'S superior tone and DX performance, and particulars of 30-day home trial anywhere in U. S. A.

Name .....

Address .....

City ..... *State* .....

March 1, 1936

RADIO INDEX

Reg. U. S. Patent Office

FRED CLAYTON BUTLER
Editor and Publisher

B. FRANCIS DASHIELL
Technical Editor

CARLTON LORD
DX Editor

PAGE TAYLOR
Short Wave Editor

TWELFTH YEAR

NUMBER 97

CONTENTS

$2.00 Per Year *25c Per Copy*

Outside of the U. S. A. and Canada $2.50 Per Year

See Subscription Blank on Page 112

Published Monthly Excepting July and August

THE RADEX PRESS INC.

Publication Office: - 326 Penton Bldg., Cleveland, Ohio
Editorial and Advertising Office: - - Conneaut, Ohio

Entered as second-class matter April 23, 1931, at the postoffice at Cleveland, Ohio, under the Act of March 3, 1879.

Printed in the U. S. A.

The Mystery DX Contest

THE early response to the announcement of the RADEX Mystery DX Contest, scheduled for February 22, 23 and 24, has been most enthusiastic. DXers everywhere seem to agree that the very novelty of the idea will arouse new interest in DXing, besides providing a medium by which listeners may size up their own tuning ability.

About the only discordant note has been the wails of the younger DXers who can't sit up three nights in a row. When school or parents' objections interfere, even the opportunity of winning a Scott receiver must be put in the background, and the Night Owlets so afflicted have our sincere sympathies.

On the whole, however, the reaction of listeners indicates that the contest is going to be very popular. Naturally, we of RADEX are pleased that our pet idea is going across, and we only hope that the response of the contestants will justify the trouble and expense of arranging the contest.

CPCers will undoubtedly sympathize with our attempt to schedule sixty stations in a group. They know that it often takes three and four letters to get even a reply from a station—and then it is a fifty-fifty chance that the broadcaster will agree to put on a special program.

However, we are more than glad to undertake the task of lining up the contest if it will be popular with our readers. If the response is good, the chances are that the contest will be repeated in future seasons.

There is very little to add to the opening announcement which appeared in the February issue. Even at this time of writing, we have not decided upon the final hours of operation, although the complete schedule will be ready in plenty of time to reach interested readers by way of radio club organs and our own special bulletin.

Since this issue will reach some readers before the contest gets under way, it is too early to list the participating stations. However, this information will appear in the April issue, and we hope to have the list of winners ready for publication in the May number.

In working out the rules for the contest, we failed to consider the DXers who might wish to verify some of the participating stations. This was an oversight which we regret, although this is a problem which we are unable to handle. The reports submitted to us will be used solely for the purpose of determining the winners and enabling the stations to check their coverage. In the event that a verification is desired from any of the stations, an *additional* report should be sent direct to the sation in the usual manner.

In addition to the prizes listed in the February RADEX, we are adding two complete renewals of RCA Radiotron tubes for the receivers of two winners.

The complete list of prizes to date is as follows:

1. *23-Tube Scott All-Wave Receiver.*
2. *7-tube Hallicrafters "Super-Seven" model.*
3. *Study and Reference texts of the National Radio Institute.*
4. *Candler Code Course.*

5-23. *Choice of:*

- *a. Any custom-built Lynch antenna system*
- *b. Set of Trimm headphones*
- *c. Candler course in touch typing*
- *d. Set of Radiotron tubes*
- *e. Set of Raytheon tubes*
- *f. Set of National Union tubes*
- *g. Set of Radiotron tubes*
- *h. World Globe*
- *i. Perfect Phone Adapter*
- *j. Five subscriptions to RADEX*
- *k. Five copies of Radio Amateur Call Book*

As pointed out in the February issue, contestants are requested to list the prizes in order of preference so

(*Continued on page* 41)

Using Tubes *in Our* Crystal Set

● ● ● *By* B. FRANCIS DASHIELL

THE little all-wave set described in the October and January issues of RADEX used a crystal detector. As long as that type of detector is utilized the receiver will be limited in its range. No amount of added amplification can increase the range beyond the sensitivity of the crystal. In order, then, to construct a successful long-distance receiver, we must get away from the "horse-and-buggy" days of crystal detection. The crytsal receiver still has a definite place in radio, but it can never rise above its inherent limitations.

The electron tube, when used as a detector, immediately handles the weakest antenna signals, for it provides unlimited amplification. The Europeans have a way of calling the tube a "valve." Actually it is a valve, for, through its grid action, it automatically turns off and on a powerful current of electricity with the greatest of ease. When a tube is connected to an antenna, the weak signals easily "valve" the flow of a stronger plate current. In this manner it is possible to obtain considerable amplification within the tube itself.

Boosting Antenna Signals

Before we drop the further use of the crystal detector, let us first attempt a simple experiment in radio-frequency amplification. This means the amplification of the weak signal as it is picked up by the antenna. Instead of applying the signal directly to the crystal detector, as described in Figure 5, and previous articles in this series, we shall first impress it on the control-grid of a radio tube. This is an untuned circuit, for the antenna is connected to the grid of a tube, such as a type 30, without a tuning pre-selector system consisting of coils and condensers.

Let us now alter Figure 5 of a previous article. First the slider contact "A" of the primary of the tuner should be disconnected from the antenna and attached instead to the plate of the tube. Then disconnect the ground wire from the point "B" and attach that end of the primary coil to the positive terminal of a 90-volt "B" battery. Connect the grid of the tube to the lead-in from the antenna. The tube filament is heated by a 2-volt "A" battery, the negative terminal of which is connected to the negative post of the "B" battery. This common terminal should be grounded.

A Complete Receiver

The plate current from this tube, which carries radio frequency characteristics created by the weak antenna current, is much stronger than that which flows from the antenna. Therefore, the radio-frequency current that flows through the primary coil of the tuner is more powerful than the current utilized in the original circuit shown in Figure 5. As a result, a stronger current is set up in the secondary of our altered circuit. This is rectified by the crystal. So, with this arrangement, it is possible to hear weaker signals from more distant stations. However, signals from nearby stations are apt to spoil distant reception. Therefore, the ideal location for this type of battery receiver is in some distant rural spot.

We now have provided a complete receiver. First, there is a stage of radio-frequency amplification which strengthens the original antenna current. Then, this amplified signal is impressed on the crystal detector for rectification, as illustrated in the

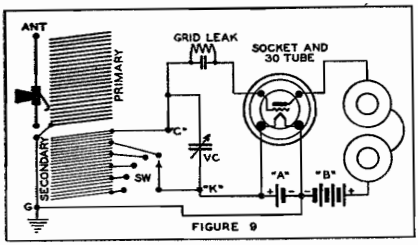


FIGURE 9

original circuit shown in Figure 5. Now, if we add the two stages of audio amplification, as shown in Figures 7 and 8, we provide for further amplification. This receiver has three fundamental circuits, r-f, detection, and a-f. (See Chapter 9 of the Beginner's Story of Radio). No circuit can offer much more, except refinements in selectivity and amplification.

Eliminating The Crystal

Sharp tuning, as well as a more sensitive action, will be observed if we remove the crystal detector from the circuit, as shown in Figure 5, and substitute for it a three-element electron tube, as shown in Figure 9. No other alteration is necessary, except for a ground connection from the "A" and "B" battery. The batteries and tube are connected identical to Figure 7, which shows a one-stage of audio amplification placed after the crystal detector.

The point "C", of Figures 5, 7 and 8, which previously was attached to the crystal detector should now be connected to the control-grid of a type 30 2-volt tube, as indicated in Figure 9. A 3-magohm grid-leak resistor, shunted by a .00025 mfd. (250 mmfds.) condenser, should be placed in series between the grid of the tube and point "C." Then connect the telephones to the plate of the tube, with the remaining tip of the cord going to the positive terminal of a 90-volt "B" battery, instead of to the point "K" shown in Figure 5. This point "K" is now attached to the positive terminal of the 2-volt "A" battery used to heat the filament of the type 30 tube. A ground connection between the negative terminals of the "A" and "B" batteries must be installed. Operation of the circuit is the same as when the crystal was used. While this is a simple one-tube circuit, it may be vastly improved by adding the radio-frequency and audio-frequency stages as previously mentioned for the crystal detector; they will in no way change the method of tuning.

Improving The Detector

The purpose of the detector tube, shown in Figure 9, is simply to rectify the antenna signal. No provision is made for amplification, and the arrangement is known as a "two-circuit tuner." We may add still another circuit, and provide a "three-circuit tuner" which is capable of a high degree of self-amplification. In fact, the three-circuit tuner is still without equal when it comes to distance and selectivity. Its inherent disadvantages, due to noise and re-radiation, have militated against the popular use of this circuit, but for experimental head-set work it is hard to beat.

To the tuner portion of the circuit shown in Figures 5 and 9, we may add a third circuit. This tuner has a primary and secondary coil. Let us add a third or "tickler" coil. It is by means of this third coil that "regenerative" or "feed-back" action is obtained.

Regenerative Receivers

The tickler is a coil that is placed close to the secondary of a two-circuit tuner, such as shown in Figure 9. It is connected in the plate circuit of the tube, and operates as follows: In Figure 9, the primary coil carries a weak antenna current which induces a stronger current in the secondary coil. This current then is impressed on the grid of the tube, and a stronger current flows in the plate circuit. Now, if we permit the plate current to pass through a coil placed near the secondary, this cur-

rent, too, will induce more current in the secondary coil simultaneously with that current originally induced by the primary. This plate-current coil, or feed-back tickler coil, really is a second primary. Feeding back the plate current to the secondary boosts up the original current many times, and, as a result, the small receiver becomes highly sensitive to weak, distant signals.

The tickler coil is wound with about 8 turns of No. 26 wire. It must be placed adjacent to one end of the secondary coil—that end which leads to the grid of the tube. The coil may be placed outside or inside of the end of the secondary, or supported a short distance from one end. When used in connection with the tuner illustrated in Figure 6, the coil is wound on a small tube and inserted within the "high tension" or grid end of the secondary coil. The ends of its winding lead to two terminal binding posts—one for connection to the plate of the tube, and the other for the telephone headset or the plate terminal of an audio transformer.

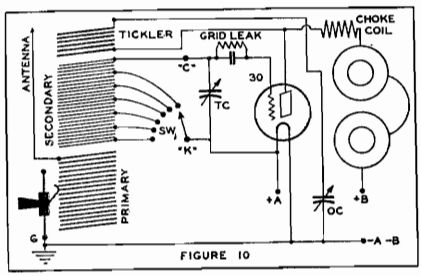


FIGURE 10

Controlling Regeneration

In Figure 10 we see how this tickler coil looks when it appears in the revised circuit. It is placed in series between the plate of the tube and the phones and "B" battery. However, we must make provision for controlling the degree of regeneration caused by the feed-back action, and thus hold oscillation just below the audible or noisy level. In commercial three-circuit tuners this control is obtained by rotating the coil so as to bring its electromagnetic field slowly to the point where it coincides with the original magnetic field around the primary. (See Chapters 3 and 9 of the Beginner's Story of Radio). This action prevents too much feed-back and oscillation with its characteristic shrill, howling noise in the phones or speaker. Such circuits are commonly used in short-wave receivers, but regeneration is controlled by means of an oscillation condenser.

Such a condenser is used in the circuit shown in Figure 10. It is a small variable condenser, of about .00015 mfd, or 150 mmfds. capacity, and should be connected between the battery end of the tickler coil and ground. Whenever the feed-back effect does not appear to work after wiring the circuit it will be necessary to reverse the leads to the coil.

A 3-Circuit Tuner

If the tuner shown in Figure 6 has not been built, the experimenter may wish to wind a simple three-circuit tuner. It can not, however, have the all-wave feature, since it will cover only a portion of the radio band. Use a bakelite or card-board tube, about two inches in diameter and 6 inches long. For the primary coil wind on 15 turns of No. 26 wire and secure the two ends. Begin the secondary winding ⅛ inch away and put on 65 turns of No. 28 wire, and also fasten the two ends. Next place the tickler winding by starting ¼ inch away and using 8 turns of No. 26 wire. These coils are connected into a three-circuit system similar to that shown in Figure 10. The secondary is tuned by the condenser "TC", and the feed back to the tickler is controlled by the oscillation condenser "OC". A small r-f choke coil between the plate and the phones will be beneficial. A .001 fixed by-pass condenser connected across the phones or audio transformer primary

(*Continued on page* 41)

SHORT WAVES *and* Ultra-Short Waves

● ● ● *By* PAGE TAYLOR

AN ANNOUNCEMENT was recently made by the operators of WWJ, the Detroit News radio station, that a new 100-watt general experimental station to work on the ultra-high frequencies would soon be inaugurated. This, we understand, is the sixth station in this country to undertake tests on these seldom-explored frequencies.

Mr. W. J. Scripps, Acting Manager of WWJ, says that their new station, W8XWJ, will be heard within a radius of about 50 miles from the center of Detroit, and, he continues, "the ultra-high frequencies seem to bounce at that point and land again almost anywhere that one can conceive. We are making no claims on coverage; we are merely experimenting. It may be of interest to know that stations operating on these frequencies are repeatedly heard over distances far in excess of fifty miles regularly."

Another of these new stations is W9XPD, relaying KSD, St. Louis, Mo. "This is an experimental venture on our part to determine whether these frequencies are practical for local broadcast service," writes Robert L. Coe, Manager of the station. "W9XPD is of the latest high fidelity type and has an output of 100 watts. This station is at present working, Monday to Saturday inclusive, 0800-0830; 0945 - 1215; 1245-2400. On Sundays from 0800 to 0915 and 1015 to 2400. CST is indicated.

A third station on this 31.6 meg. frequency is in Los Angeles, W6XKG, which picks up most of its programs from KGFJ. W6XKG is the only s.w. broadcaster west of the Rocky Mountains.

The fourth station is W8XKA, relaying KDKA, Pittsburgh. This station was reported to RADEX in January, on 55 megs., but now we believe it also works on the same frequency as its companion stations, 31.6 megs.

Tests from the Argentine

"Radio El Mundo" in Buenos Aires has made its bow to the shortwave channels. Last November the company Emprese Editorial Haynes, Ltda., publishers of the illustrated daily newspaper "El Mundo" started tests with their new 50 kw station on 1070 kcs. and announced plans to work on s.w as well on completion of the tests on 1070 kcs. Mr. A. L. Beaty, 1207—33rd Ave., Tampa, Fla., reports reception of test programs on 15250 kcs. between 2300 and midnight, EST. It is understood El Mundo will have two s.w. frequencies; the one Mr. Beaty reports will be known as LRU, and the other frequency, un-reported at the time of writing, will be LRX, 9580 kcs.

"Is it not a little unusual to have a South American s.w. station early in the morning," inquires J. Herbert Hyde, Box 82, Elmwood, Conn. "I tuned in HJ1ABJ, Santa Marta, Colombia, shortly after 7 a.m., EST., with a musical program. Identification was given in English at 7:05, and the announcer gave his frequency at 6006 kcs.

"The other evening, while scanning the shortwave bands I ran across HC2JSB at Guayaquil, Ecuador. The program consisted of

typical Latin string orchestra selections interspersed with American dance tunes. All announcements were in Spanish but anyone with the scantiest knowledge of Spanish would be able to understand them when they give the call letters and location. Identification is given at frequent intervals together with one stroke on a gong." Mr Hyde sent us our second report of reception of the new LR1 at Buenos Aires. Despite the frequency and the time used, this station comes in surprisingly well.

An African Target

"On Sept. 28, 1935, at 6:09 p.m., I was thrilled to intercept Ethiopia's initial attempt to span the Atlantic Ocean endeavoring to reach America with intelligible voice transmission on 11.955 megacycles. Here is a fine DX target for sharpshooters to level guns at. Since then the CBS contacts Addis Ababa on Wednesdays around 4:45 to 5:15 p.m., EST." Robert Rossi, 2815 So. 11th St., Philadelphia, Pa., is the sharpshooter who records this fine reception. "My confirmation of that particular broadcast was received in due time, augmenting my total to 52 verified foreign countries. The Ethiopian shortwave transmitter is installed a few miles outside of Addis Ababa, on Mount Akaki, which is several thousand feet above sea-level.

"Other new verifications received here are TGS, Casa Presidencial, Guatemala City, Guatemala, whose schedule is Wed., Thur., and Sunday from 7 to 9 p.m., EST. This station leaves the air near 9:10 p.m. with a clock striking the hour of eight.

"Another verification comes from HI4V, La Voz de la Marina, Apartado 771, Trujillo City, D. R. The schedule is given as, daily, 1140-1340 and 1710-1840, EST., and the frequency is 6450 kcs.

"The Mexican station on about 5.975 megs. is XEVI, and its slogan is 'My Voice to the World from Mexico.' This broadcaster has been heard consistently with good volume, at times over-riding the QRM. The address is Apartado 2874, Mexico City."

VR- vs. VP3-

A new Haitian station is reported by two Chicago readers, Ronald Crane of 5536 Dorchester Ave., and Arthur Viner, 5554 Kenwood Ave. This is HH3W, operating on 9.595 megs., as announced, and situated at Port-au-Prince. Most of the announcements are in French but English and sometimes Spanish are used. The station seems to be on the air daily from 6 to 8 p.m., EST.

"Another new station," continues Mr. Viner, "is YNE, Puerto Cabezas, Nicaragua, heard nights working with New Orleans. CO9EC is a new Cuban call intercepted on 11.9 megs. VP3MR, the Georgetown, British Guiana station on 7080 kcs. comes in very well with its test programs. Incidentally, this call sign does not appear to be legal, because the prefix VP3- is assigned to Malta. British Guiana has VR-.

Official information on station CO9JQ at Camaguey, Cuba, comes to us from the owner, Rafael Grimany, E. E. This station works daily from 8 until 9 p.m., EST., on 8665 kcs. with a power of 200 watts in the antenna. Correct reports are verified promptly.

"Broadcasting Reykjavik"

There are two broadcasting stations in Iceland, according to information just received from Rikisutvarpid, Reykjavik. One of these is the "Reykjavik Broadcaster," on long waves, 1446 meters or 208 kcs. The other is the Icelandic Shortwave Broadcaster on 12235 kcs. with a power of 7 kilowatts. "The shortwave broadcaster is quite new and has no regular schedule," the station official writes, "but test programs are transmitted on Sundays from 1340 to 1400, EST. This shortwave station sometimes tests on other frequencies.

"Both transmitters are run by Rikisutvarpid, which is the Icelandic name for State Broadcasting Service.

"The announcement 'Utvarp Reykjavik' has the same meaning as 'Broadcasting Reykjavik' in English. Our address is P. O. Box 547."

The Transpacific Communication Co., Ltd., San Francisco, Calif., advises our reader Charles Hudlow, 2506 E. 18th St., Chattanooga, Tenn., that the call letters W6XN are no longer used by any of the Dixon, California stations.

More Alaskan information comes from Ashley Walcott, 76 San Rafael Way, St. Francis Wood, San Francisco, Calif. Mr. Walcott has a letter from the Signal Corps station WXE at Anchorage which states their frequency is 2997.5 kcs., and the schedule as follows: 8 to about 9:15 a.m., noon, and 7 p.m., Anchorage Time, which is five hours slower than EST. This is the main relay station for all interior Alaska business; the stations worked on the schedule just given are Rainy Pass, K7LW, 3600 kcs.; McGrath, KIIO, 2994 and 5137 kcs.; Lucky Shot, KIIP, 3100 kcs.; Skwenta, K7EUB, 3600 kcs.; Iliamna, K7EGL, 3950 kcs. and Port San Juan, KIJR, 2986 kcs.

More Latin-American Phones

Users of Lafayette receivers are invited to correspond with Russell W. Foss, 52 Linwood St., Lynn, Mass. Some of the new stations he has heard on his Lafayette are CMB2, Havana, 5780 kcs., testing with New York in the early evening. Three Zeesen, Germany, stations, DJJ, 10.042; DJP, 11.855, and DJH, 14.460 megs. all heard testing. HRL5, La Lima, Honduras, 14.545, heard working WNC. HRF, Tegucigalpa, Honduras, 14.545, and HIR, Santo Domingo, D. R., 15.040 kcs.

"I have just completed my first year as a reader of RADEX, so decided to do my duty and send in a report," preambles Robt. Flynn, 541 Beach 133 St., Belle Harbor, N. Y.

Ruth Lyon, NBC soloist, is a university graduate, and taught modern languages before she turned her talents to singing.

"My best stations during this year of tuning have been JVN (my only Asiatic); all the G- stations, Geneva, the three Australians, RNE and many others. Of verifications I have only seven, HVJ, VK2ME, TIEP, DJC, HIH, ORK and VE9GW." Mr. Flynn tunes a Philco 66B.

"May I direct your attention to three verifications I have?" asks Jean C. Aubry, 4514 rue Lafontaine, Montreal, P. Q. "The first is W2XGB, a general experimental station on 4795.5 kcs. with 500 watts, operated by Press Wireless, Inc., in Hicksville, N. Y. The verification is signed by P. D. Zurian, Manager, Hicksville Plant. Station GBS, 12150 kcs., sent me a letter of verification, reading in part, 'Broadcast radiated from the British Post Office transmitter GS.' This is the only definite verification I have from England. The address

is Engineer-in-Chief (Radio Section), G. P. O., 86 Wood St., London EC.2. The third verification is from HI-1-A, giving this information: Proprietor, Rafael Western, P. O. Box 423. Power, 50 watts; frequency, 1410 and 6185 kcs. On the air from 12 to 2 p.m. and from 8 to 10 p.m., every day, local time, which is 20 minutes in advance of EST."

Paradise in the Yukon

The Yukon has never been considered as a tropical paradise, but judging from a communication from W. D. MacBride, Whitehorse, Yukon, it must be a paradise for DXers. His broadcast band results will be noted in another section of this magazine, but on shortwaves, his comments follow. "Regulars here are the English G- stations on all six transmissions. I have not missed the morning news at 9 a.m., EAT (Eastern Alaska Time) for months. Radio Coloniale on 25-meters pounds away all day long. I haven't done much with the Aussies but they will be showing up before long. Japan and Russia come in well in the early morning hours. The best thrill so far was picking up Amelia Earhart direct on her flight from Honolulu to San Francisco, and also reception of the Philippine Clipper enroute, Alemeda to Honolulu; I got these around 5000 kcs."

Another Radexer who keeps in touch with new South and Central American phone stations by listening to WNC at Hialeah, Fla., is Ralph Gozen, 161 Palisade Ave., Yonkers, N. Y. He says that the list of stations with which WNC works seems to be growing by leaps and bounds, their authorized points of communication now being Bahamas, Colombia, Costa Rica, Dominican Republic, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Puerto Rico and Venezuela. Late in the afternoons, near closing down time, WNC calls a roll of all the stations with which it works and an agile tuner can often catch a lot of the replies.

Some new stations reported by Mr. Gozen are HRY, Tegucigalpa, Honduras, 6.350 megs., which tests with New Orleans. HI1S, Puerto Plata, Dominican Republic, 6.425 megs., known as "La Voz de Espanola." HJU, Buenaventura, Colombia, 9080 kcs., broadcasts on Tuesdays and Saturdays from 8 until 10 or 11 p.m., EST.; this station, according to Mr. Gozen, expects to move to 9500 kcs. soon. VK3ME is reported to have shifted from 9503 to 9490 kcs. to avoid interference with GSB.

Our data on the Buenaventura, Colombia station HJU is augmented by Ralph Williams, 108 Fourth St., Garden City, N. Y. He tells us it announces as "La Voz del Pacifico," and that it is operated by the Colombian National Railways.

Theodore Johnson, 821 W. Woodland Ave., Youngstown, Ohio, is one of the first to report the shift in frequency of HCJB. This Ecuadorian station has moved from 8214 kcs. to 8900 kcs. and seems to have benefitted by the change as it is heard much more clearly and consistently on the new frequency.

"Since the middle of last year, when I got my Zenith all-wave 8-tube receiver, I have been an ardent s.w. fan," confesses George Eder, 128 So. 36th St., Philadelphia. "After logging the usual run of relay stations in the various bands, I determined to try the amateurs. So far have 2200 of them logged, from all districts and 17 countries. On checking over my log I find that I have 46 states on 75-meter phone and before before long I expect to pull in Nevada and Utah to give me all the states on this band." Mr. Eder tells us he has been a listener since the first programs went on the air back in 1920, using a crystal set, and that he has read RADEX since 1924. He would like to correspond with other readers, especially Zenith users.

A Triangular Antenna

Werner Howald, 632 So. Fetterly Ave., Los Angeles, Calif., noted in a recent number of this magazine that a York, Pa. reader had difficulty tuning the "D" band of his RCA-Victor receiver, and has kindly offered to describe to anyone having similar trouble, the triangular antenna he has found effective on this band. Mr. Howald sends his log of stations heard but this is much too long to reprint.

"After an absence of three years from the DXing game, I am starting all over again, with a new set, an RCA-Victor," announces Victor Balt, 226 Sumner Ave., Aurora, Ill. "Most of my tuning is done now in the shortwave bands, concentrating mostly on the amateurs. Numerous countries have been heard, and all the USA and Canadian districts. Some new catches are HCJB, Quito, Ecuador, on an announced frequency of 8.900 kcs., and HJU in Buenaventura, Colombia, on about 9.030 megs."

"A new General Electric receiver has been added to the Comet-Pro already in use, and the results of the first month's operation of this new receiver have been most gratifying," states J. G. Richard Heckscher, Devon, Pa. "The outstanding s.w. catches have been JVF, Nazaki, and KAY and KTQ at Manila. Thinking they may be of help to some tuners, I am listing here some stations logged which do not appear in stations lists. Toronto, Ont. police, CYQ, 2375 kcs. VE9EW, Bowmanville, Ont., 8.720 kcs. NRUF, USS Mendota, 21670 megs. NOA, Staten Island, 2.670 megs. Stations of the Dominion Skyways, Ltd., working on 4860 kcs. are CZ5K, location unknown; CZ5L, Mud Lake, Que., and CZ5M, location unknown."

Friendliness Recommended

The verification discussion continues to go "round and round."

Bernard Horne, 1608 Francis St., Jackson, Mich., feels that most of the trouble lies with the sender of the report rather than with the stations. "I send my reports in English," he tells us, "as I can say so much more of interest that way. I try to make the report as informal as possible, with the exception of the log itself, telling of the reception in my own words rather than following some stereotyped form. For instances, last month I sent out three in one day and told them all about an ice storm we had here and explained the trouble the ice can cause if there happens to be a trolley line nearby. They never have those things in some countries and I believe they like to hear about them. I think verifications are courtesies extended by the stations and listeners will get replies if they are courteous in return."

A new s.w. broadcasting station is nearing completion in Podebrady, about 30 miles east of Prague, in Czechoslovakia. Semi-official sources of information indicate this station will be in operation soon, perhaps by the time this notice is in print. Like nearly all other European stations, programs from Prague will be directed towards the largest shortwave audience in the world, that is, the United States. The definite frequen-

cies on which this station will work have not yet been determined.

Our annual letter from John F. Holub, 1419 So. Clarence Ave., Berwyn, Ill., concerns his reception of amateur stations. "In a recent issue," he writes, "you claimed that reception of amateurs in 48 states on 75 meters would be quite a feat. Well, what of the 160 meter band? In five months I have heard 690 hams in all but the seventh district, on a 6-tube Monarch radio. These amateurs were heard in 38 states, and a few Canadian Provinces. Maybe I am wrong but I consider this as being pretty good reception. On 20 meters I have heard Panama, Spain, England, Mexico, Argentina and a few other countries.

"Lately I have been receiving a number of unlisted stations and I am up a tree. First, there is an HI2W around 46.5 meters. This station tests at night and dedicates songs to someone in this country. Another new station is VE9EW on 34.5 meters, and still another is HJU in Colombia on 33 meters."

"There is nothing exceptional about my shortware reception, as I have only 51 stations in 21 countries," admits Julius Orosz, 3109 E. 116 St., Cleveland, Ohio. "All of my stations, with two exceptions, are among the hundred best. The two exceptions are VP3MR, Georgetown, British Guiana, and NX2Z, Hochstetter, Greenland. This latter station was heard from R7 to 9 on five different days. This, the world's most northern station, works in the 14 megacycle amateur band with a power of about 450 watts in the antenna."

Eric Butcher, the World's Champion Radio Club Joiner, of Cokeville, Wyo., sends us a list of stations he believes should have a pat on their respective backs for their promptness in answering reports. He also sends a list of stations which do not answer, but as most of them have at some time or other answered someone we refrain from printing that list. The Good Stations are VE9BK, XEAQ, HP5B, HJ1ABE, HJ5ABC, YV8RB (some readers disagree with Mr. Butcher on this one) TIRCC, and the Germans.

A newcomer to the shortwaves would like correspondents. This is Ansel Robinson, Jr., 330 Clark Drive, San Mateo, Calif. Ansel tunes a Philco 507 and has already heard quite a number of stations.

Two messages received as we go to press include information on new police transmitters. James Black, 2252 Bellfield Ave., Cleveland, Ohio, says "WQFT, Ohio police on 1596 kcs. announce their location as Cambridge. A new police call is CYQ, Toronto, on about 2300 kcs. The new Nashville, Tenn. police broadcaster is testing with call letters W4XAJ on 1666."

The other postal card, from J. W. Brauner, 17 E. Spring St., Williamsville, N. Y., gives the frequency of CYQ as 2.318 megs., and the power as 400 watts. He says they test on the hour and the half hour, in addition to the usual police calls.

The Story *of* YV2RC

ON DECEMBER 11th last, "Broadcasting Caracas" celebrated its fifth anniversary of broadcasting and, as a token of appreciation to their thousands of listeners, published the fourth edition of their interesting booklet descriptive of the station and the country in which it is located.

It was about five and a half years ago that C. A. Almacen Americano, RCA-Victor distributors for Venezuela, realized that a well organized commercial broadcasting service was needed in Caracas, so, on December 11, 1930, a 1-watt transmitter was installed and put into operation. Almost at once the surrounding country be-

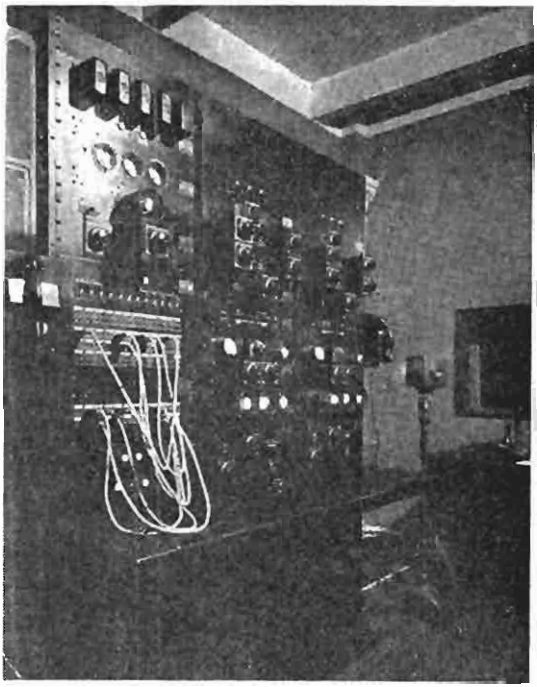
came "radio mad". Not much time had elapsed before the rest of the country was asking for a more powerful station as they, too, wished to hear Caracas.

Deciding it was necessary to comply with these numerous requests, a modern 5 kilowatt transmitter was ordered and not long after, the little antenna on top of the Almacen Americano building in Caracas disappeared and a couple 200 foot towers on the summit of a near-by mountain started to carry the program on YV1BC to the whole of Venezuela and a large part of the South and North American continents.

This new 5 kw. RCA transmitter was inaugurated on July 10, 1932, and today its programs are very popular in the northern part of South America; every type of entertainment is presented and Venezuelan popular airs, classical arias, sporting events, educational talks and dramatic presentations go to thousands of homes carrying entertainment and knowledge.

"Broadcasting Caracas" has always been interested in short waves and their shortwave station has been on the air almost as long as the broadcast band station. Starting on an experimental basis at first, this was soon changed to a reliable 250 watt station that worked on 6112 kc/s. with the call letters YV2RC. Although this small station had been reported on five continents it was decided to increase the power to 1 kw. and on July 23, 1935, this new larger transmitter went on the air; however, the overcrowded condition in the 48-49 meter band forced the operators to look for a clear channel and consequently a permit was obtained to change the frequency to 5800 kc/s. or 51.69 meters.

Broadcasting Caracas is run on the same basis as stations in the United States, having commercial programs sponsored by business firms and sustaining hours exclusively for education and entertainment. It is indeed one of the most popular and widely-heard shortwave stations on the air.



Programs from YV1RC, "Broadcasting Caracas," in Venezuela, are heard from this modern 1 kW transmitter.

Sr. Edgar Anzola, Station Director, invites radio fans visiting in Venezuela to visit YV2RC. Those of us who cannot travel to Venezuela, however, can hear Caracas every night of the year over the ether highway.

Notes *on the* CDXR

● ● ● *By* B. L. Ahman, Jr.

GREAT times were had on the CDXR anniversary frolics December 14, 15 and 16. Many programs were broadcast for the Relay on its Third Birthday.

CDXR's New Zealand representative, Charles G. Forbes, sends word that the Class B stations (those that are permitted to have commercial

programs) are making a political issue of the treatment they have been receiving in contrast to the financial aid which the party in power has given to the National stations. This is probably the first time that a DX-er has been appealed to in a political contest. Special books have been printed and sent to members of radio clubs, soliciting votes for the Liberal Party. I have received one and find it very interesting.

The same correspondent further advises that 1YA, 3YA and 4YA are now using 10 KW, and that 2YA will switch to 60 KW by May or June.

Several of our American members verified all of their Canadian stations over again so they could add to their collection the Jubilee stamps which have just been issued.

The new Canadian tax of so many dollars a tube will bankrupt owners of those 23 and 24 tube receivers. They're all planning to re-invest in midgets.

The CDXR extends congratulations to the Newark News Radio Club on its Eighth Anniversary and hopes that it may have many more. Although a rival club, the pictures and write-ups in the December RADEX made us feel that we really knew the officers and members who contributed to this issue.

This shack is well-papered with ham cards. Art Harris, Jr., 4 Hillside Ave., Winchester, Mass., is the modest fellow who didn't tell us how he won the handsome trophy.

Roster *of* DX Clubs

FOLLOWING is a list of radio clubs for both broadcast band and shortwave fans.

The Canadian DX Relay, Fred. H. Bisset, Pres., Goderich, Ontario. Weekly bulletins are issued for which an annual fee of $1.75 is charged. A five months' trial membership may be had for $1.00.

Chicago Short Wave Radio Club, Chas. P. Hughes, Sec'y. For information address Mr. Wm. H. Reeks, 5941 No. Rockwell, Chicago, Ill.

Globe Circlers' DX Club, Wm. H. Wheatly, Pres., 254 Cleveland St., Brooklyn, N. Y. A six-page bulletin is issued twice monthly and the dues are $1.25 per year.

International DXers' Alliance, Chas. P. Morrison, Bloomington, Ill. The membership fee is $1.00 per year ($1.25 in foreign countries). This includes a 16-page monthly magazine, a sample copy of which may be had on request. Applicants for membership must be able to meet certain definite requirements.

International Short Wave Club, A. J. Green, Pres., East Liverpool, Ohio. $1.00 per year is charged for a monthly shortwave magazine.

KDKA DX Club, c/o Station KDKA, Grant Bldg., Pittsburgh, Pa. There are no dues nor bulletins; DX tips are broadcast every Friday night over KDKA and W8XK, Joe Stokes having charge of the broadcast band and Ed. Lips announcing the shortwave news.

National Radio Club, Robert M. Weaver, 603 W. Market St., York, Pa. A weekly news bulletin is issued from September to May, and a monthly bulletin during the summer. Membership is $1.25 per year.

New Zealand DX Club, Box 1680, Wellington, N. Z. The annual fee for membership is about $.60; the official organ, the "N. Z. Radio Times," is a monthly magazine selling for $.24 in New Zealand.

New Zealand DX Radio Association, P. O. Box 706, Dunedin, N. Z., publishes "Tune In," a monthly magazine selling at 6d each ($.12) or 6/6 per year ($1.56). An entrance fee of 2/6 is charged ($.60).

Newark News Radio Club, A. W. Oppel, Sec'y., 215 Market St., Newark, N. J. A copy of the "Newark News" including DX information is mailed weekly to members, for which a fee of $2 is charged the first year and $1 every succeeding year.

Plainfield DX Club, 431 Watchung Ave., Plainfield, N. J. Tips bulletins are sent frequently. It costs $.25 to join and $.50 per year.

Quixote Radio Club, Box 73, Hendersonville, N. C. Active members receive the weekly bulletin, "The Reporter," for twenty weeks for $1.00, while inactive members receive ten bulletins for $1.00. Active members are required to submit at least one report weekly.

Radio Club Venezolano, Francisco Fossa Anderson, Secretaria, Torre a Madrices No. 8, Caracas, Venezuela. A monthly magazine costing Bs.25 (?) is published in Spanish, but issued free to members of the Club.

United States Radio DX Club, Geo. Deering, Jr., Pres., Shrewsbury, Mass. There are no dues but the monthly magazine is $1.00 per year. A free sample of the magazine may be had on request.

Universal Radio DX Club, 2018 Green St., San Francisco, Calif., $1.00 per year including a bulletin.

Universal DX Club, Elbert Hoppenstedt, Secretary, 345 Maple Ave., Oradell, N. J. The "Universal News" is issued semi-monthly from the headquarters in Hackensack, N. J.

Any radio clubs which have been overlooked in this list will be included in another listing if their secretaries will write us, giving complete details about their organizations.

To Log or Not to Log

● ● ● *By* Carleton Lord

ALMOST since the birth of DXing, listeners have discussed ways and means of counting stations heard. The matter is brought up periodically for a bit of re-hashing and the variety of advocated "Systems" is astonishing. This year, the president of the Universal DX Club, Alfred J. Stansfield, started the ball rolling with his ideas in the January issue.

About the only thing listeners can agree on is that some uniform system should be followed by all DXers. But when it comes to the question of counting deleted stations; changes in location, call letters, frequency or power—that, gentlemen, is where the argument starts.

Some clubs have attempted the Herculean task of establishing a system for the use of their members, but it has been found that DXers are prone to follow their own inclinations.

The question of double call letters is probably the most frequent source of debate. Among the supporters of the idea of counting both calls is Raleigh A. Biss, 614 N. Main St., Crookston, Minn., who pens:

"I cannot see why such stations as WOOD-WASH, WABC-WBOQ and WFAA-WBAP should not be considered as two stations. The difference in time on the air makes the logging of both calls as difficult as getting two different stations. For example, WABC is easy to log in any section of the United States, but hearing WBOQ is an entirely different matter. The case of WBZ-WBZA is a problem, as they use both calls in their announcements; yet they are two different stations with miles between their transmitters."

Another adherent of this theory is Morton Meehan, 563 Adams Ave., Elizabeth, N. J., who follows the

same trend of thought and goes on to point out: "I can hear WHFC practically every morning, yet I have never heard WKBI or WEHS who use the same transmitter. In practically all cases, different calls signify different owners who send out different verifications."

Passing on to the question of a change in frequency, Mr. Meehan continues: "A change in wavelength, a new catch? What a laugh! Some folks will go to extremes to build a large log in a short time. I've been told, and have noticed in a few cases, that a change in frequency often makes some difference in the volume of a station. It is my contention that any increase or decrease in volume was caused by some change in the transmitter or antenna, and not by the change in frequency. Of course, such a change may remove a troublesome nearby station which may have prevented reception previously, but it certainly has no bearing on the question of whether or not a DXer has heard a new catch. As a matter of fact, most DXing is done in the early morning hours and the frequency used has little or no bearing on one's chances of hearing a station—except, of course, when interference is caused by some all-night station."

There seem to be reasonable arguments on both sides of the question concerning deleted stations. To the new generation of DXers, it probably seems unfair that the old-timers list broadcasters who are no longer in operation and, therefore, cannot be heard. As long as there is an opportunity to log a station which has not been heard, he is willing to take his chance; but remove that possibility, and he feels that he should not be penalized just because he didn't commence DXing a few years before.

"I believe a DX log should be a list of active stations which other Dxers can try for," maintains Kenneth C. McCartt, Rocky Rook Farm, Lexington, Ky., and should not contain a lot of 'dead wood'."

On the other hand, we must consider the veteran who worked just as hard for a verification from a now-deleted broadcaster as he did for one from the hardy perennial, KDKA. This point was also covered in the long letter from Mr. Meehan, who says: "Concerning deleted stations, of course they should be kept in the log —especially if verified. I'm told that KPJM, one of my best verified catches, has been silenced. Anyone who thinks I'm going to drop KPJM from my log is nertz. If you hear a station, it's heard—no matter if they do become deleted later."

Joe Tamele, 13201 Coath Ave., Cleveland, Ohio, qualifies his support of this side of the question with two sentences: "I hear that HJN is silent. I hope not, for this is one of the four South Americans which I have."

One very strong argument in favor of maintaining deleted stations comes from a comparison of DXing with the habits of other collectors—for aren't we all *collectors* of verification cards and letters? If a coin or a stamp is out of circulation, do the proud owners of these coins and stamps promptly throw away their prized possession? If a valuable first edition has been bought up, would book collectors advocate the destruction of those volumes? Should the owner of King Tut's toothbrush throw it away just because there weren't any more? Why, then, should a prized verification be discounted when the station from whence it came goes off the air?

Various changes in call letters and locations often are the source of disputes when talking DX. One club, for example, holds that a new call for the same station should be counted as a new catch, while a move in location must go outside the state before becoming eligible for re-entry in a log book. Thus, when KABN changed to

KABR after a few weeks of operation, two stations were possible; although the move of WKJC from Lancaster to Easton would not have counted if the call had not changed as well.

Possibly the easiest way to log stations is to consider the announcements which we hear. When a broadcaster is identified as "KYW, Chicago," we enter him in the log. If he becomes "KYW, Philadelphia" or "XYZ, Podunk," we have another catch. Thus, a change in call letters —without a move in location—or a shift to another city—with or without a change in call—can open the way for a second count. In this way, the list of active stations in one's log can always be checked with the lists in RADEX by call *and* location, while stations which pass out of existence entirely are still verified even if not in actual operation. In other words, verify by *call and location*, and then count the *total of verifications*.

This will automatically take care of the two-call transmitters, since you can only hear WHFC, Cicero" at one time. In the case of the "Westinghouse stations of New England," the calls WBZ-WBZA are given together and, by this method, would be counted as one station. If the small WBZA transmitter ever broadcast a test program and gave its location as Springfield, Mass., that could be listed as an additional catch.

However, despite any amount of talk on the subject, DXers will probably continue to count stations according to their own fancy. If they feel that XEPN on 585 is a different station than XEPN on 590, they will record two separate catches.

Luther E. Grim, 505 S. Main St., Red Lion, Pa., sums up the situation neatly when he admits: "I log to the dictates of my conscience. I have counted WBZ and WBZA as two stations. Why? I cannot explain, but I did and I do not intend to change. I do not count new calls nor changes in frequencies. Only when I feel that a complicated change of call, frequency and location justifies, do I log such changes. There are many cases when I have not counted a change, yet at some future date I may reverse the decision and decide to log the transmitter as a new catch. DXing is my own particular hobby, participated in for my own personal enjoyment, and I will indulge according to my own tastes, regardless of criticism."

Some New Mexicans

AN official list of Mexican broadcasting stations was received from the Secretary of Communications and was found to agree with RADEX except for the following seven stations which we do not list. As this month's indices are already in the hands of the printer, the insertion of these low-powered stations is held over until next month.

980	XEF,	Juarez, Chih., 100 w.
1000	XEBK	Nuevo Laredo, Tams., 100 w.
1210	XEAT	Hidalgo, Chih., 50 w.
1240	XEAC	Tijuana, L. C., 250 w.
	XEME	Merida, Yuc., 15 w.
	XELA	Saltillo, Coah., 50 w.
1310	XEAG,	Cordoba, Ver., 10 w.

THE MONTH'S CHANGES

		NEW
1140	WSPR	Springfield, Mass.
1200	WJNO	W. Palm Beach, Fla.
	WTHT	Hartford, Conn.
1310	WLAK	Lakeland, Fla.
1400	WEGL	Brooklyn, N. Y.
1500	KBIX	Muskogee, Okla.
		POWER
560	WIS	Columbia, S. C., 1000 from 500
760	WBAL	Baltimore, Md., 2500 from 10000
890	WGST	Atlanta, Ga., 1000 from 500
930	KROW	Oakland, Calif., 1000 from 500
1090	XEAQ	Tijuana, L. C., 1000
1310	WMFF	Plattsburg, N. Y., 250 from 100
1380	WSMK	Dayton, Ohio, 200 from 250
		FREQUENCY
560	WIS	Columbia, S. C., from 1010
680	RDN	San Salvador, E. S., from 650
1010	WNOX	Knoxville, Tenn., from 560
		CALLS
1420	WCHV	Charlottesville, Va., from WEHC
	WMSD	Sheffield, Ala., from WNRA
1500	KVOE	Santa Ana, Calif., from KREG
		OWNER
600	WMT	Cedar Rapids, Iowa, Iowa Brdcstg. Co.

The Monthly Round Table

● ● ● *By the* DX EDITOR

IN ACCORDANCE with agreements made at the Regional Convention at Buenos Aires last year, a number of changes have taken place in some South American countries, making it necessary for us to revise completely our list of Foreign Broadcasting Stations. In the Republic of Chile, the changes assume the proportions of an upheaval, while the damage done in other countries is slightly lighter.

The Department of Electrical Service of the Republic of Chile lists fifty broadcasting stations in that country. Forty-seven of these stations have changed their frequencies, as of January 1, 1936, and all of them change their call letters. Some stations listed in RADEX have been deleted and one or two have been added. The familiar prefix CE—is no longer used, being replaced in most cases by CB—. The regular policy of stations in this country of making call signs identical (as much as possible) with the frequency, has been continued. There are no more "split" frequencies.

Twelve stations in Uruguay have changed frequency, two are under construction, and almost a dozen have been deleted, as a result of agreements made at the Conference.

Brazil and Argentina, although members of the Conference, were let off more lightly. Several new stations for Brazil were authorized, and eight have construction permits to increase power.

In Argentina, the only change was an upward turn in power for most stations. Several Argentinians have been inactive for various reasons and it is probable that these will be deleted.

DXers received a pleasant surprise early in the year with the appearance of a series of test programs from foreign stations. According to Walter Birch, writing in the NRC bulletin, the Bureau of Standards arranged a number of test transmissions for the purpose of studying the field intensities of the stations and comparing the absorption of radio waves at broadcast frequencies.

The European part of the tests was over before the news broke to the DXing fraternity. Programs from London Regional, Poste Parisien, Athlone, Kootwijk and Radio-Moroc were broadcast, but reports from DXers were few.

Fortunately, transmissions from several Argentine stations were reported in time for most listeners to add one or more desired stations to their logs. LR5, LR4, LR1 and LS2 were definitely heard between 02:00 and 03:30 EST, each Thursday in January, while LS10 and LR6 were reported to have been on at the same time.

What a CPC this Bureau of Standards would make!

"In November, I DXed for six mornings," greets Ed Olson, 36 Second St., Natick, Mass., "and heard Radio Normandie six times, Bordeaux and Rennes five times, and Poste Parisien three times. Cologne came in on the morning of November 26th, but hasn't been heard since. Radio Normandie comes on the air at 02:00 EST, and, at 03:00, they have an English program, which should help those who would like to verify this station. You list Bordeaux and Rennes as coming on at 3:00, but I find they sign on at 02:00.

"This month I have heard the French stations regularly, with Strasbourg and Monte Ceneri as new ones for me. I believe I had Lille, but wasn't sure and won't count them.

"Besides these stations, my foreign log includes YV1RC, CPX, LR4, LR5, HJN, CX26, Lyons, Montpellier, Frankfort, Hamburg, Konigsberg, Bremen, I1MI, I1TR, I1TO, I1NA, SBH, Copenhagen, PFB1, EAJ7, and CT1GL."

"I am glad to say I started DXing again on November 1st," offers Robert R. Rawstron, 16 Marconi Rd., Worcester, Mass., "and to date (Dec. 13th) I have received 73 new stations in North and South America, and Europe. Thirty-nine of these have verified already, with XETG being my 900th verie. European DX has been fairly good from 01:30 to 03:00 EST, with the French running a good first and the Germans a poor second. I have found trans-Pacific DX consistently poor, with only a few of the larger stations coming through.

"DXers who lament tardy verifications should take note of XEE, which took eleven months to verify. They cannot be classed as a 'dime collector,' even though they can't qualify for a medal for promptness. Their verie was doubly welcome, since they state that their power was but 20 watts."

"I was able to pick up the IDA special from CNR, Rabat, Morocco, on January 8th, very successfully," confides J. Herbert Hyde, P. O. Box 82, Elmwood, Conn. "I held them from about 01:15 to 02:02 EST, being able to get enough of the broadcast for a good log. While the signal was very weak at times, it came through clearly and, at intervals, was quite loud. Frankly, I was surprised to find it was so comparatively easy to pick up this African transmission so well. My receiver is a new Philco 116X and that probably had a good deal to do with the fine reception.

"Chalk up another new station for this state. Effective February 4th, the Hartford Times has a construction permit for a daytime station, WTHT, to operate on 1200 kcys."

Mr. John DeMyer, DXer extraordinary, Director of the 6th IDA District, at his listening post in Lansing, Michigan.

"Reception has been poor here this season, compared with 1934-5," bemoans Samuel A. Meyer, Jr., 83 Canterbury Rd., Rochester, N. Y. "A few good catches have been heard, with CMKM the best. My location is most unfavorable for TP's and TA's. I have tried for them many times, but Poste Parisien and Radio Normandie are the only ones heard. They were R3-4 on my G.E. My log now totals 569, with 462 verified. Some of the better veries include LR2, LS2, LR4, LR6, CMJP, HIX, YV1RC, CMGF, CFCT, KFPM, XEU, XEWZ, CJCJ, and the two Europeans mentioned above.

"Barring the unforeseen, I will leave this city in February and for several months, at least, will reside at 1502 Victoria St., Laredo, Texas —over the Rio from XEFE and XENT."

"I have a 1935 Grunow 7-tube allwave receiver," reports Fred Lovelace, Box 96, Rockton, Ill., "and I

have every belief that the receiver is not the reason I have received no stations on the BCB outside the North American continent. I have heard faint signals from 1YA and 4YA, but no intelligible reception. The others have failed to come in at all, although I have parked on their frequencies for hours. I have tried for Japs, also, but with the same results.

"I have two aerials: one an RCA double doublet, pointing north and south; the other an inverted L type, 200 feet long, 30 feet high, pointing N.E. by S.W., with the lead-in at the S.W. end. If any readers can offer suggestions on how to get some foreign reception with this layout, I would appreciate it very much."

DX On a Two-Tuber

"I am using a 2-tube regenerative set," writes Allan Ford, 707 Sydney St., Cornwall, Ont., "employing 230 tubes. My aerial is 120 feet long, runs east and west, and is about 35 feet high. With this receiver, I have heard CHGS, CHSJ, CKIC, LR4, LS2, Poste Parisien, Rennes, Strasbourg, Bordeaux, Radio Normandie, XEWZ, XERA, CFCO and WFMD. On short waves, I have heard YN1OK, VO1I, HP1A, NY2AE, NX2Z, and XE2CK."

"Figure this one out," challenges Robert E. Base, 4105 Alto Rd., Baltimore, Md. "In November, I heard a station on 625 kcys which I thought was CE62 and sent a report. A short time later, other DXers identified the station as TIPG and I removed the Santiago station from my log. Later, to my surprise, I received a letter from CE62 stating that my references to the broadcast had been correct. They say that they have changed their call to CB62 and give their address as Cia Radio Chilena, c/o International Machinery Co., Casilla 107D, Santiago, Chile."

"I have now logged all but one of the Japanese stations," finds Warren E. Winkley, Hughson, Cal., "having a total of 36. I have heard JOJG, Toyama, 885 kcys, which no other DXer has reported hearing. The Aussies are terrible compared to last year, although 1YA and 3YA are good. XGOA comes in here very well, as does MTCY. Static this year has been the worst I have ever heard. In spite of it, I have added plenty of new ones, so reception must be considered improved over this time last year."

A Question . . .

"Why not have a section in RADEX for questions and answers?" queries Charles E. Roach, 724 Grant St., Camden, N. J. "If a fellow wanted some information, he could just drop a card and you could list the question. When someone had a reply, he could send along another card and everybody would be happy."

. . . And An Answer

"Some time ago, a reader wondered what stations would not verify on their frequency check transmissions," recalls J. Charles Tracy, 506 Delaware Ave., Bethlehem, Pa. "After the November checks, I sent out reports to 35 stations and only WMBC, WPAR, WLBC and WALR have not replied. I give stations three months before writing again, so I think I will have all of them by February 1st."

"Here's my contribution to your 'Analytical Club,'" submits Leander E. Dorey, Marine Band, San Diego, Calif. "While in Hawaii the last two years, I built a four-tube receiver for the sole purpose of DXing. Leaving out the two locals, KGU and KGMB, I had ten stations which totaled 30,285 miles in distance. Of course, the average distance was 3028.5 miles. The greatest distance was 4636 miles, for a 5-KW station, while the most distant low-power station was a 250-watter 2228 miles away. I did not bother to get verifications from most of the stations heard."

"I have not been working so steady this winter, so have hung up the best log since I started DXing," observes R. A. Butts, Ellensburg, Wash., R.D.2, c/o N. P. Depot, Thrall, Wash., who immediately qualifies for the Analytical Club. "My total shows 366 stations logged since the first of September for a total mileage of 568,580 miles, or 1553.5 miles per station. Despite the various networks, I can find lots of fun in hunting for those that are not on the chains."

"In the December issue, you welcomed me into the Analytical Club," avers Nicholas J. Hock, The Scientific DXer, 20 Burnet St., Newark, N. J. "Thanks! Here are a few more statistics: verified in 1929—59; 1930—128; 1931—113; 1932—44; 1933—30; 1934—9; and 1935—229. This gives me a total of 612 verified, of which 64 are 2000-milers. The total mileage has increased to 515,304, but veries from locals have pulled the average mileage down to 842.

"My latest catches are Rennes, Bordeaux, WSVA, WJBW, KLS, KIEM, KMLB, XERA, CFRC, KWBG, KABR, KGIW, WELI, XEWZ and many others. XEWZ comes through here when no other west coaster, including KFI, is audible. 1YA has been heard here very weakly, but not loud enough for a report. Unfortunately, noise is the boss on most DX programs around here."

Carl Scherz, San Angelo, Texas, proudly displays here his verifications from all continents. The disc is a recording from XETE, and the radio is a Philco 16B.

Noise in Puerto Rico, Too

"QRM has been getting so troublesome that I decided to stop half of it," indicates Manuel A. Cadilla, Apartado 337, San Juan, P.R. "I built the filter choke described in December RADEX and have reduced the racket about a half. Probably the apparatus is shooting the noise in over my aerial, too, so I will have to change my antenna location and install some noise-reducing equipment. I would appreciate hearing from anyone who has succeeded in reducing noises to a great extent, without very expensive devices and without signal loss."

"Unless something is done to curb the all-night stations, I can see an early doom for DXing," predicts Carl Forestieri, 2272 Bathgate Ave., New York City. "As we know, thirteen channels are held by all-night stations, and even the adjacent frequencies are spoiled for those whose receivers are not very selective. What DXer is going to be fool enough to get up at 03:00 or 04:00, lose his sleep, catch a cold and only find where to buy a used car in Chicago or a good cup of coffee some place else? And how about the stations which want to test their equipment?

They used to get reports of great value from the DXers, but now a listener is lucky to hear the station, let alone getting off a good report. As has been pointed out before, the only way to stop this is to shift the all-night stations to one channel and permit stations on other frequencies to have an occasional late program without interference."

"DX fans are going to be left out in the QRM," sums up Tom Martin, Fleming Ave., Fairmont, W. Va., "if the F.C.C. permits these stations to stay on all night."

"I am sure tickled that someone over East is waking up," chuckles Rud Anderson, Ambrose, N. D. "Of course, I do not like to know that fifty Eastern stations are DXing and that I can't hear them on account of the all-nighters out this way and on the West Coast. I can hear Japan, China, New Zealand, Australia and South America, but am blocked by other transmitters when going after Eastern stations. The six graveyard channels are not cleared by the F.C.C. during the frequency checks. KGFJ plays all the time on 1200. The 1210 channel may be clear because WEDC is so centrally-located, but WJBK doesn't close down on 1500. The station on 1420 is not KGIW or KGGC, but KXL.

"Why is it that we never hear specials from the home town stations of the various radio clubs? Last year the club in Worcester, Mass., told me about their fine CPC, but I never heard any DXes from WTAG or WORC."

By Way of Tips

"Listened to CMOX this morning, January 13th," reports William E. Johnson, Vinalhaven, Maine, "and they announced that they were on from 03:00 to 06:00 EST on the 13th of each month with a special program. Announcements were in Spanish and English."

"In reply to a request from me for schedules of special programs," submits Walter Wallin, 89 Garvan St., East Hartford, Conn., "KGNF, North Platte, Neb., stated that radio clubs have been coaxing for a DX program and they *may* broadcast from 02:00 to 04:00 EST on February 23rd. This is not definite, but may be worth a try."

"One of your readers advises that he cannot get WNYC," informs Ray B. Edge, 14 Villa Ave., Buffalo, N. Y. "He should try for them just as it is beginning to get dark, or from 1630 to 1730 EST. At that time, they walk right in to Buffalo. You have CMCD listed on 960, but I heard them on December 15th with a special for the CDXR, and they announced that they were on 950. This must have been correct, as they came in just below XEAW."

"I have been DXing on and off since 1930," asserts H. E. Stiff, 605 N. Ninth St., Waco, Texas, "with radios belonging to other people. I now have a Midwest 18-tube receiver and it is undoubtedly the best I have ever seen. Short wave reception has been very poor so far, but it must be because of my location, as there is nothing wrong with the reception on the broadcast band.

"Here are a few tips for other readers: CMK, 730, signs off at 01:00 EST as does CMX, 920, and CMQ, 880; CMBX, 1380, stays on until about 02:00 EST Saturday nights; XETF, 1220, stays on until after 02:00 EST Saturday nights, with occasional announcements in English. Sorry there aren't more, but I haven't done much listening of late."

As in every other hobby, DXing draws its share of newcomers each year. While it is often difficult for the neophytes themselves to explain how and when the bug bit them, they seldom fail to admit the fascination of the pastime. Although beginners, their enthusiastic efforts to improve their logs win the admiration and support of the veterans.

"While working on your December RADEX," relates Florian Lapointe, 127 Main St., Livermore Falls, Me., "I discovered that my new habit of logging stations heard comes under the agreeable title of DXing. Of course, that made me eager to learn more of the hobby. In the past two months, I have logged about 160 stations, although my listening has been generally limited to the daytime and early evenings. Occasionally, the mill where I work will shut down on a late shift, and I come home wide awake and wishing for a chance to do some DXing. While the lack of headphones has prevented this up to now, I expect to remedy the difficulty by the purchase of one of your adapter units.

"Although I have never listened to a foreign continent, I would like to receive the rules about DXing—as you know them. I am afraid that I do not fully understand what I read in your December issue."

The "rules about DXing" are really quite simple. The whole idea is to log the greatest number of stations possible. To do this, of course, it is necessary to spend quite a bit of time at the dials of your receiver.

Generally, stations are divided into two classes—those which can be heard during their regular hours of broadcasting and those which can only be logged during a special transmission—and it is quite impossible to build up any sort of a log by neglecting either of these groups. During the early evenings, it is possible to log many stations by careful tuning on the crowded channels. When more powerful nearby broadcasters block the distant stations, early-morning test programs offer a solution. Details of these tests are to be found in the February issue of this magazine.

After a station has been logged, most DXers write for a verification. Their requests, addressed to the stations, give the time and details of the programs heard, information about reception conditions, etc. All such requests should contain return postage for the station's reply.

Information on tuning foreign stations can be found in the October issue of RADEX, back copies of which may be obtained from the publisher at the usual price. Additional tips on tuning are contained in the DX columns of every issue and many a valued catch can be credited to the news from readers.

Another newcomer to the DX ranks is Milton Spooner, General Delivery, Storm Lake, Iowa. "I have been DXing for the past few weeks," he

Fred Baines is one of our most enthusiastic s.w. tuners in the Maritimes. The photo shows just a few of his QSL cards. Fred lives at Sydney Mines, Cape Breton, Nova Scotia.

writes. "I was never interested before this, due to lack of equipment, but I have a new receiver and have just tuned a half-hour program from LR1. I would like very much to belong to a radio club and would appreciate some information about them."

Verifying The Japs

After tuning a foreign station, many DXers are at a loss as to a means of obtaining a verification, especially when an unknown language is heard. The Japanese stations have always been a problem to listeners, so the following tip from W. Russell DuCette, Seattle, Wash., should be of particular value.

"For those who have trouble identifying the Japs, I suggest extreme patience when listening to their programs," he counsels. "Not unlike our own stations, they have sound effects which are frequently used during their evening programs. I have verified JOHK and JOAK1 by giving the time at which a particular sound effect—such as a boat whistle or a bird singing — was heard. RADEX gives the correct frequencies of the various stations. With that and about an hour of one of their transmissions, one should be able to send off a good report."

As pointed out in the January issue, DXing offers its devotees many outstanding thrills as a reward for hours spent at the dials. Julius Orosz, 3109 East 116th St., Cleveland, Ohio, probably won't forget the time he heard his first T.A.

"On the morning of January 4th," he recalls, "I decided to go after a T.A. At about 02:05 EST, I tuned my dial to 959 kcys and heard a strong carrier which I believed to be XEAW. At 02:09, I tuned back again, hoping that XEAW had shut down. You may be able to appreciate my surprise to hear a fanfare and Poste Parisien coming on the air with clear French announcements. At 04:00, when I turned the set off, they were still coming in, although somewhat weaker. Their signal was about R7, and never dropped below an R4 on even a severe fade. Receiving this station gave me my greatest thrill in all my DXing."

An S.O.S. Or Three

"Can anyone help me identify a Spanish-speaking station on 1410?" asks Alfred Barnard, Box 193, Tech "Y", Atlanta, Ga. "They signed off at 02:05 CST on January 20th, announcing their frequency in English and identifying themselves as 'The Voice of .....' The station was *not* a Cuban."

"For the past two weeks, I have been hearing a Spaniard on about 974 kcys," informs James L. Steele, 34 Hill St., Morristown, N. J. "They have a pretty fair signal, but my set is not very selective and I have trouble pulling them through WCFL and KDKA. Can anyone tell me who it is? Also, I have been hearing another Spanish-speaking station on 1086 kcys. They announce their selections in English sometimes. On January 23rd, I heard them at about 02:15 EST and they seemed to sign off at 03:00."

"This morning, January 12th, I made a very unusual catch," announces Malcolm C. Macdonald, McLennan, Alberta. "They announced their call as VBK—'V' as in Victoria, 'B' as in broadcast and 'K' as in Kennedy. They were on 630 kcys and said they were operated by the Radio Branch of the Department of Marine, Ottawa. I am not sure of the exact location, but the announcer said that they were on the Coppermine River, 100 miles north of the Arctic circle, in the Mountain time zone.

"I heard 14 minutes of what was apparently a test program. I heard two violin recordings and the announcer gave the weather report, saying that it was 38° below zero outside. He asked listeners to report on the broadcast by card or let-

Roy E. DeMent, Box 206, Plainview, Texas, displays his RADEX Time Converter along with the pick of his veries. The home made antenna tuner on the right helped him log 37 countries on all continents.

ter, saying that it would be very much appreciated. My reception was R5-QSA4-S-XX. Can anybody help me identify this station and advise where a report should be sent?"

In answering questions on the identities of stations, it is suggested that readers send their information direct to the listener as well as to us. The person wishing the information will get a break by receiving the reply to his question as soon as possible, while we can pass the data along to other readers who may have heard the same stations.

"I have been failing the DX game," admits Luther E. Grim, 505 S. Main St., Red Lion, Pa., "and have succumbed to the desires of long and pleasant sleep when once I hit the hay. Somehow, the old game has lost its drawing power, although I do cling to some of its side-lines. Perhaps I will be able to shake the lackadaisical attitude before so very long. On scattered occasions, when I just happened to dial aimlessly, I have made several additions to my log, but the catches are nothing to write home about."

"This being my first DX season in real earnest," finds Malcolm C. Macdonald, McLennan, Alta., "I have at last succeeded in achieving what I started after—foreign reception. Previous to this, I had not heard any station beyond the 3000-mile mark and was rather dubious as to my chances of hearing any foreign stations. On the morning of October 16, I tuned in 3YA at 2:05 a.m., MST, and held them until 3:06. Volume was R6, fading slight, no static. On the same evening, I tuned in Radio Normandie at 6:53 p.m., MST, and held them until after 7:30. They came in so well that I didn't realize that I had a foreigner until I heard the announcement."

No West Coasters

"For some reason or other, the West Coast of Canada refuses to penetrate my set," advises Dudley Clarke, 3411 Northcliffe Ave., Apt. 97, Notre Dame de Grace, Montreal, Que., "and the U.S. coast reception is limited to the usual run of stations—KFI, KNX, KHQ, KPO, KGO and KHJ. Try as I may, I cannot seem to get any others through. Could the reason be due to the mineral deposits in the Rockies and the other ore deposits in Western Canada? During the December 2nd F.C.C. tests, I think I heard both KVL and KUJ. I could hear music, but the static was so bad that I could not make out the selections or announcements.

"As for hearing any T.A.'s or T.P.'s, I don't even think of them, although other DXers here in Montreal have heard and verified some of them. Some day, my luck may

come. Anyway, I know they can be heard and I will not go as far as the gentleman whom you quoted in the December issue. What kind of a person is he? Just because he can't get foreign reception, he says it is impossible. What about the listeners who have verifications from some of these foreigners? He probably would say they are fakes. Possibly this person looks up at an airplane flying overhead and, because he does not know how to fly, he says: 'That's impossible. I have never done it, so it *must* be impossible."

"That fellow who said in the December issue that BCB reports of foreign reception is the bunk must be crazy," concludes Charles Rife, 1925 S. 15th St., Argentina, Kans. "I know that I have heard such stations many times from many parts of the world. In many instances, I have heard them nightly, time after time. In February, 1933, I heard 4QG on two consecutive nights and sent them two reports, each an hour long. Needless to say, I received my verification in due time. Then in the fall of 1933, I received them so consistently that I wrote them a letter praising the station for the regularity with which its signals were heard. A couple of months later, I received a personal letter from the manager of the station which read as follows:

" 'Many thanks for your letter of October 16th which was addressed personally to me. I am very pleased indeed that you are getting 4QG so well. Now that cold weather has set in in your country, reports from the United States are coming through regularly once again. During the eight years I have been in control of this station, I have noticed that during our winter months, which correspond with your summer, we receive no reports of reception from America, but once the seasons change, thousands and thousands of reports of clear reception come in from the United States. Your faithfully, J. W. Robinson, Manager, Queensland Division, Australian Broadcasting Commission.' "

"This may well be one of the most curious places for reception in the world," points out E. E. Ely, Route 1 —Box 9, Astoria, Oregon. "Located at the mouth of the Columbia River, reception from each point of the compass has its own peculiarities. From the north, standard waves come in strong, but invariably fade badly. North-east, not so strong, but with little fading. Eastward, Portland, a hundred miles away across low hills, is notoriously hard to get, but Chicago is easy and New York is occasionally heard. To the south-east, we have the only really clear outlet. Stations on the southern U.S. and Mexican coasts are usually plenty strong and steady. KSL is our very best station, coming in well from 4:00 p.m. to 8:00 a.m., without fail or fade. From the south, reception is fair, fading occasionally, but better on the whole than from nearer stations. Mexico City is frequently as good as San Francisco."

New Zealand— *The* DXers' Paradise

● ● ● *By* J. L. Sullivan

THE chief thrill in the popular hobby of DXing lies in receiving verifications from distant stations in all parts of the globe, and for this purpose New Zealand is considered to be the best country in the world. Beginning at 4:00 p.m. on any winter Sunday, it is possible, under favorable conditions, to circle the globe in the course of twenty hours or so.

First we hear the South American between 2:30 and 5:30 p.m. Those most frequently received are LR-3/4/5/6/8, LS2/9, and CE26. Next to follow are the Mexicans, which begin to liven up the dials after

4:00. Of these, XEPN, XENT, XEAW, XEW and XELO are the most consistent and can be logged almost any night until 6:00 p.m. To give a full list of the American and Canadian stations which come next would occupy too much space, but KFI, WLW, KPO, KOA, KNX, KMOX, KSL and WOAI are received at really splendid volume. United States stations of 50 watts have been verified quite often, while 100-watters are most common. Of the Canadians, CFCN and CKY are about the only two regulars, but CFRB, CFCF, CKLW, CFQC and a few others have been verified after midnight in New Zealand.

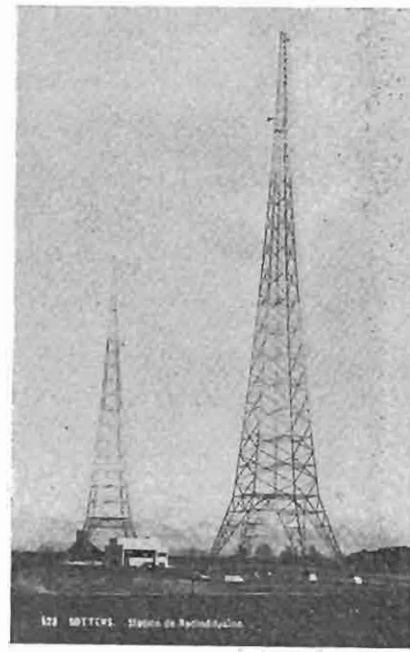
Honolulu is our next port of call. We arrive there about 6:00 p.m., after most of the American stations have disappeared. KGMB and KGU are heard with fair volume. From 7:00, we spend the next two hours or so listening to the New Zealanders and Australians, and many of our DXers have every broadcast station verified.

At 9:30, we transfer our attention to the Japanese stations, and suffice it to state that they come in at splendid volume until after midnight. Continuing westward, we jump to China and the East. XGOA and MTCY (100 KW) come in like locals after 2FC closes down. KZRM, in the Philippines, and HSPI and HS7PJ, Bangkok, Siam, also come in well a little later.

From midnight until about 4:30 a.m., we make a brief tour of Western Australia and find 6WF, 6IX, 6BY, and 6PR coming in with good volume and quality. A hop across the ocean to India gives us VUB and VUC at really splendid volume. If we are lucky, we may hear VPB at Colombo.

Very soon afterwards, the dials suddenly become alive with carriers which rapidly resolve themselves into speech and music. In a flash, we had sped to Europe. England, Ireland, France, Germany, Italy, Spain, Belgium, Holland, Austria, Poland and Russia are all there. We have heard over 60 of these stations in practically every European country. It is then that we marvel and are thrilled by wireless, truly described as "The Magic Carpet," for it is indeed hard to realize that we are listening to stations some 12,000 miles away which come in clear and strong.

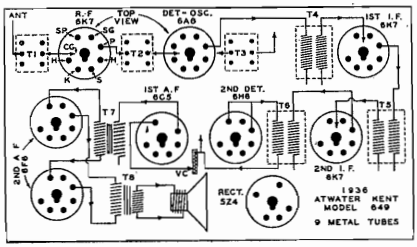
At 6:30 a.m., they begin to fade away and, as our National transmitters (the YA's) begin their breakfast sessions at 7:00, we are left to our own stations for the rest of the day, till perhaps another world tour is due to start shortly before the setting of the winter sun.



High among snow-capped mountains is situated the Sottens, Switzerland, station. The frequency is 677 kcs. and the power was boosted early this year to 100 kw. A good target for eastern tuners.

"Control Room Reception" *of the* A. K.

● ● ● *By* B. FRANCIS DASHIELL



THE ATWATER Kent model 649 all-wave console receiver is one of a number of popular metal-tube sets being offered for 1936. For many years Atwater Kent has been noted for its fine electrical apparatus, and this concern, now one of the world's oldest manufacturers of radio receivers, has become outstanding because of the high efficiency and attractiveness of its products.

One of the first of the independent manufacturers to adopt metal tubes at the time they appeared in the receivers that came from the same laboratories that developed such tubes, the Atwater Kent engineers now offer a large line of modern, metal-tube sets. Their popular model 649 is a nine-tube all-wave receiver. It covers three wave bands—the standard broadcast band, and the two important short-wave bands, or a full range from 540 kilocycles to 18,000 kilocycles. The two bands usually embraced in larger sets, and which cover the long waves and ultra-short waves, are not included in the circuit of the 649.

"Control-Room Reception"

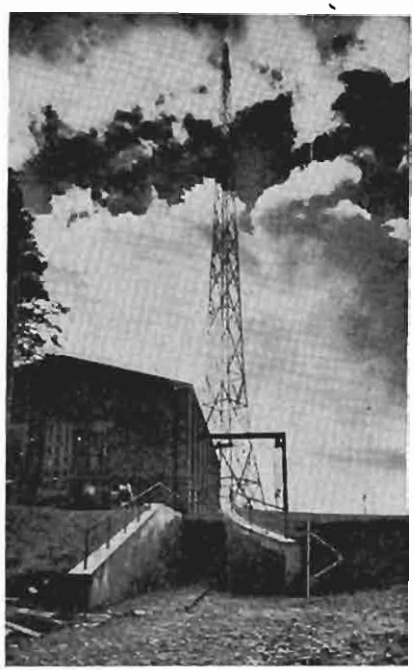
The 1936 line by Atwater Kent features what their publicity department calls "control-room reception". The prospective buyer should not look for an imposing array of special gadgets which, when turned and twisted, are supposed to produce astounding results. The term "control-room reception" is a sales slogan, just as other radio manufacturers use phrases such as "high fidelity", "full range", "magic brain", etc. These descriptions, however, tend to identify different radios, just as such slogans as "it floats", "doesn't scratch", etc., are associated with certain well-known products.

The foregoing terms really express "good tone", "true sound over the full range of the human voice", "remarkable tuning", etc. For the same reason "control-room reception" indicates that the receiver provides a natural reproduction of the original sounds as heard by the transmitting engineer in the control-room of the broadcasting studio. When a radio set can produce tones that are identical to those heard in the studio, it has to be good. And these new 1936 Atwater Kent "control-room reception" sets make a long stride toward perfecting such exacting requirements.

Metal Tubes

The circuit utilizes nine of the metal tubes. No provision is made for the optional use of glass counterpart tubes. All nine tubes are effectively arranged in a straight 8-tube superheterodyne circuit. The remaining tube is a rectifier. The arrangement and spacing of the tubes and associated units on the chassis is carefully planned, so as to take care of the heat that is a serious drawback when metal tubes are placed in sets that are not wisely designed.

Our diagram shows the arrangement of the tubes. This is not a complete circuit, which is of small importance to the average reader, but is a diagram showing the direction the antenna signal takes through the essential units to the speaker. There are eight



One of the aerial towers of the new 220 kw. Lahti, Finland, station is shown here. This is a long wave station on 1806 meters or 166 kcs.

switches of three contacts each, all operated simultaneously by the band-changing knob, which cut in or out the coils used for the three different wave bands. These coils are in the antenna, radio-frequency and oscillator circuits, as indicated by the shielded transformers, T1, T2 and T3.

A New 1936 Circuit

The first two intermediate-frequency transformers are unique because each has an additional secondary winding. This coil connects to a switch that controls selectivity and high fidelity of tone reproduction. When this switch is turned to the "selective" position, it tends to cut down some of the fidelity of tone because it sharpens the peak-frequency of the i-f transformers. It is well-known that such effects cut off some of the audio frequencies and operate somewhat similar to the crystal control in some commercial short-wave sets. But when the switch is thrown to "high fidelity" the two transformers broaden the intermediate frequency and, while selectivity is a little less sharp, the full range of audio frequencies can pass through to the speaker.

First, in this circuit, the incoming signal is tuned in the pre-selector coil, T1, and then passed through a type 6K7 radio-frequency tube for amplification. More tuning takes place in the radio-frequency transformer, T2, and the signal enters a type 6A8 first-detector tube. This tube also acts as an oscillator. The coil, T3, is the oscillator assembly. The output of the 6A8 mixer-oscillator tube now is fed into the first i-f transformer, T4, after being converted into the usual intermediate frequency. Then the signal enters a type 6K7 first i-f tube, the second i-f transformer, T5, and a type 6K7 second i-f tube.

The Audio System

The third i-f transformer, T6, does not tune for selectivity and fidelity. This coil, T6, feeds the diodes (plates) of a type 6H6 second-detector tube, which also serves as an automatic-volume-control tube. One diode plate acts as detector and the other as a.v.c. The automatic-control action is delayed for best action on powerful signals, and is prevented entirely when the shortest wave-band is in use.

The second-detector then passes the rectified signal along to a type 6C5 first audio-frequency tube through a potentiometer, VC, that manually controls speaker volume. The output of the a.f. tube is coupled by means of an audio-frequency transformer, T7, to a pair of type 6F6 push-pull power tubes. A manual tone control having three steps ranging from bass to treble is placed across the input of the a-f circuit. A large speaker gives the "control-room reception" previously mentioned, and is assisted by a power output of 7 watts undistorted energy. The rectifier is a type 5Z4 tube.

The Revolving Mirror

Reflecting Opinions and Reports from Club Bulletins

THE GCDXC takes pleasure in announcing the taking over at this time of the Mid-Co DX Exchange, of Wichita, Kansas. Ted Grosvenor, the President, due to business and lack of co-operation, has retired from the field of DX and is settling down and working for a change. All members of the MCDXC are cordially invited to write in often, and we sincerely hope that this Club will meet with your firm approval. *Hot Spot of the GCDXC, January 22nd.*

* * *

The Honolulu Advertiser (owners of KGU) are awaiting FCC sanction for the establishment of a short wave station with directional antenna towards North America. It is hoped to start broadcasting by late March or the middle of April, as soon as the OK is given. *A. W. Oppel, in the NRC DX News, January 15th.*

* * *

An increasing number of (U. S.) stations are being granted authority to operate 50- and 100-watt portable transmitters from 0200 to 0600 local time. We believe that these transmitters just send out a clear carrier or a carrier modulated by a whistle. These rigs are carted around the countryside and set up in various locations. The engineers then scurry around in cars, measuring the field intensity in all parts of the surrounding territory where the station is supposed to be heard. Of course, the location which proves the most favorable is chosen. This week WSYR-WSYU, WCLO, KWK, etc., were granted such permission. Locations are very important in getting out a signal. A station may have 50 KW and never be heard stronger than a 100-watt transmitter a few miles away—maybe. Anyway, that's the reason for these test transmitters. *CDXR bulletin, January, 22nd.*

* * *

As technical editor, advise all to get hydrogen balloons and send up an aerial. This experiment is worth while. Use No. 28 wire anywhere up to 1000 feet for your heaven-bound antenna. I am contemplating such but have not completed said experiment. It is practical and, theoretically speaking, should be a wow! Twenty cents for 100 feet of annunciator wire from a local 5 & 10 will do very well, although you will need a few baloons to lift such a weight skyward safely. One quarter pound of No. 28 enameled wire can readily be procured at a local radio store and should not cost more than 25c net. This will be equal to at least 500 feet of wire. Imagine 500 feet up in the air! Fellows who want real DX should be vitally interested. KDKA engineers say 100 times better results with their 1500 feet high antenna. Marconi used a kite for his first trans-Atlantic reception; KDKA uses a balloon. Are you content with a mere earthly affair? *Edward Wilds in URDXC Universalite, December 30th.*

* * *

In a letter to Art Brackbill, CPC Chairman, Mr. Herbert L. Pettey, Secretary of the F.C.C., says that at the present time it is not believed expedient—because of the expense and confusion involved, and the hardship which it would work on some stations—to require all other stations operating on a certain frequency to remain silent to allow for the reception of a single station by a comparatively few people interested in "DX" reception. From the tone of this letter, we believe that if enough mail reaches Mr. Pettey, complaining about these all-night broadcasters, they may deem it advisable to take some action favorable to the DXers. *NRC DX News, January 15th.*

Writing to Committeeman Bill Vornkahl, J. Clifford Lee, director of KFXM, San Bernardino, Calif., says: "We are seriously contemplating discontinuance of DX programs after the present season, due to the fact that congestion on the 'local' channels has been greater within the past year than at any time in the past. So far this winter, our DX programs have not been satisfactorily received in the East and Mid-west; we have received only four or five responses to each, up to the present time. With the tendency of the FCC to crowd the local channels, it is almost impossible to clear them on any given night to allow satisfactory DX reception. We have therefore felt that it would hardly be wise to continue such programs after this season. Your reaction and that of NNRCers will be greatly appreciated. Please be assured that we, of KFXM, have always and still do feel honored to be a member of your vast organization." *NNRC bulletin, January* 20.

The studios of the 100 *kw. station at Cologne, Germany, are located in this building. Cologne works on* 658 *kcs. and many DXers in this country are reporting its reception.*

Metal Tubes Yes *and* No

"IN THE metal tube General Electric offers a radio vacuum tube of sturdy construction both internally and externally. The elements themselves are full size—as large as has been found practical in former types of tubes. Since metal working technique can be held to extremely close tolerances, the shell, which is the tube's own shielding, may be placed very close to the elements, thus insuring greater shielding effect. Also, since the overall dimensions of the tube are so much smaller, the tubes may be located in the chassis much closer to the ideal position, with respect to affiliated circuits, thus eliminating further the variables caused by long wire leads between the associated parts of the circuit." *R. J. Cordiner, Asst. Mgr., General Electric Co.*

"Our 1935-1936 line of radios is equipped entirely with glass tubes for the very simple reason that metal tubes are still in an experimental stage, and glass radio tubes are of the highest radio performance value today. The ruggedness of glass tubes has been proved through widespread use in radio sets and in automobile radios. Loss of vacuum is practically unknown in glass tubes and glass tubes give better short-wave, foreign reception. Philco does not use metal tubes because these smaller tubes, with the same amount of heat to dissipate, operate at a higher temperature which tends to shorten tube life. They also tend to change the characteristics of nearby coils, resistors, etc., which impairs the delicate balance of all the various parts of the radio set. Metal tube sets cost more money and deliver less performance and the replacement cost of a set of metal tubes is approximately double that of glass. The inability to see inside a metal tube is a real disadvantage; the transparency of glass often allows the user, the service man

and the factory inspector to determine when a tube is not functioning." *Sayre Ramsdell, Vice President, The Philco Radio & Tel. Corp.*

"Metal tubes eliminate breakage difficulties and the almost impossible problems connected with making uniform, balanced tubes with glass. For the first time, it is feasible to make perfectly matched tubes, an essential factor in securing proper reception. Metal tubes give greater sensitivity. Because of their perfect self-shielding they can be worked to higher capacities in the radio circuit without oscillation—thus getting the most from every tube. These are the chief reasons why General Household is featuring the new metal tubes in its 1936 line." *William Grunow, President, General Household Utilities Co.*

Twenty Meter Reception in England

• • • *By* George W. Haylock

(*115 Grange Park Road, Leyton, London E-10, England*)

HAVING seen, in recent issues of RADEX, reports on amateur transmissions and being very interested in this sphere of s. w. activity myself, I am sending an account of 20-meter reception as experienced in England.

This season—my first of listening on 20-meters—has been fairly successful from my point of view, having logged some 200 DX "hams".

The 1st, 2nd and 3rd district U. S. stations are of course received very well here. Of special note is W1AJZ who, with his XYL Sally, is often heard working numerous British and Continental amateurs. Of the 2nd District stations, W2EDW is heard frequently; also he has been heard working a portable at Miami Beach, Fla. Very good signals have been heard from W2DSB who uses a power of 1000 watts. On one occasion W2DSB, working duplex with F8DR in Paris, the Frenchman could be heard reasonably well through the American transmitter.

One of the most amusing hams to listen to is W3MD, Vineland, N. J. His drawly voice and witty remarks are really amusing. Incidentally W3MD and W3EQZ are among the best heard from the 3rd District. W4CRE is the strongest 4th District heard, with W4AGR a good second. It took me considerable time to reach out to the W5's. However, I finally logged W5AEB, Texas, followed soon by W5ZS and W5BEE. W7QC and W6DL provided me with the long awaited signals from way out West. Eighth District stations are not very reliable but when heard, W8GLY and W8DLD head the list for strength and quality. W8CDW, a 40-watt transmitter of Mt. Sterling, Ohio, has also been heard.

When 9th District stations are coming over, they are usually heard in numbers, the best being W9BHT, W9ARK, W9SP. So far only three Canadian districts have been logged. VE2BG can be said to be the most reliable. His having lived in London some years ago makes his transmission more interesting. VE1CR deserves special mention for, on one occasion, he was the only station at all readable on the whole of the band.

Two good catches here are HP1A and HI7G, the latter putting out a very good signal considering his power of 100 watts. Costa Rica is represented by TI3AV; Puerto Rico by K4SA. VP6YB is another frequently heard station, while VP9R is heard at good strength but rather bad quality.

From South America come LU8DR and LU8AB. Of the seven Cuban stations heard, CO6OM is the strongest but he is not very frequently heard. I think that the best-known Cuban is CO8YB who has also been heard on 40 meters. Egyptian ama-

teurs are rather rare and I consider myself lucky in having logged SU1KG.

THE MONTH'S CHANGES ON THE SHORTWAVES

1.850	megs. YDU5, Padang, Sumatra, N.E.I., Amateur Radio Omroep Padang
2.382	change KNBH to KNHB
2.414	KGHS, Spokane, from 2.458 megs.
...	. Wenatchee, Wash., new
2.422	KACA, Atchison, Kans., 50 w., new
	KACI, Eureka, Calif., new
2.490	KGHX, Santa Ana, from 2.430
4.795	VE9BK, Vancouver, B. C., new
5.705	CFN, Slate Creek, from 5.660
6.000	ZEC, Salisbury, from ZEA, 6.590
6.147	ZEB, Bulawayo, from 6.590
6.182	XEXA, Mexico City, D. F., new
9.060	HJU, Buenaventura, Colombia, new
9.580	LRX, Buenos Aires, Argentina. Relays LR1. new
11.795	DJO, Zeesen, from 11.790
11.855	DJP, Zeesen, Germany, new
12.225	TFJ instead of TFK
14.485	HRL5, La Lima, Honduras, new
15.110	DJL, Zeesen, Germany, new
15.290	LRU, Buenos Aires, Arg. Relays LR1, new

Here is the Broadcasting House of Finland where the programs of Radio Helsinski, 895 kcs., originate. Many American listeners have this station in their logs.

A DX Party

● ● ● *By* Bill Ellis*

OUT here in Los Angeles, there are two IDA local chapters. The Radio Fellowship chapter comprises members in Beverly Hills, Hollywood and parts of Los Angeles, while the Los Angeles Chapter covers the city proper.

Since coming down here from Hughson, I have spent many pleasant evenings at the clubhouse of the Radio Fellowship chapter in View Park, the site of the old Olympic Village. One evening in particular, which stands out in my memory, was on the occasion of our Fourth of July Party.

After several hours of chinning, a gallon or two of strong coffee and a basket of sandwiches, we got down to some serious DX. By midnight, the party had dwindled to Walter McMenamy, Roy Myers and myself. Before the night was over, I was named "California Static."

Well, we had three Patterson receivers on tap and we all fully intended to snare some elusive stations. Remembering that the early evening had given us England, France, Germany, Japan, Suva, Cuba, Mexico and a slew of Central and South American stations, we had high hopes of completing the jaunt around the world during the wee hours of that Fourth of July morning.

Needless to say, however, we were quite disappointed to find that two o'clock had brought us only a mess of static and one Aussie. Still, with that persistence which every DXer needs, Roy and Walter stuck to their sets and I, traitor that I was, dozed over the dial of my set.

Between three and four a. m., Walter let out a whoop which must have been heard clear down at KFI. Wondering at the sudden exuberance, Roy and I found that ZHJ, Penang, Straits Settlement, was coming in.

That got Roy on the edge of his

chair and I managed to open one eye. A little later, it was Roy's turn to give an Indian war cry and this time it woke Frank Andrews down at KFI. After peeking into the dials of Roy's set and getting a few corns on the ears, we managed to hear far-off Tripoli. This *was* the beginning of a real DX party.

Well, it is hardly necessary to say that an Ellis wasn't going to let two Los Angeles DXers run away with the evening's honors. With an effort, I opened my other eye and gave the dials a twirl. Short time after, I pulled in some really good signals from YDB.

Time was growing short by now, so Walter got hot on PLP and Roy followed suit with ZHI. Unwilling to be outdone by this, I proceeded to go back to sleep—and I have been told many times since that my Station *NCS* (Northern California Static) was the best catch of the bunch.

Truly, it was a grand night and morning. In the short space of twelve hours, we covered just about every section of the world. We are eagerly awaiting verifications on our respective catches and hope to mount them on the wall of the clubhouse as a souvenir of a memorable DX party.

*813 South Detroit St., Los Angeles, Cal.

The Equinox *and* Reception

● ● ● *By* Homer G. Gosney*

EVERY spring and fall, when signals from Australian and New Zealand stations reach a peak, listeners report instances of what must be called freakish reception.

While a chap who can barely hear a 5-KW transmitter from Down-Under will yell bloody murder at a report of a 100-watt Aussie, records show that instances of such reception have been authenticated beyond a shadow of doubt, and listeners are constantly endeavoring to supply an explanation.

As a result of nearly a decade of dial-twisting in one location on the Pacific Coast, I have hit upon a theory which may throw some light on the subject. I don't pretend that there is any scientific basis for the theory, but the facts seem to dovetail nicely and I offer the idea for the consideration of other DXers.

I believe that the Equinoxes are responsible for the heretofore unexplained instances of unbelievable reception.

As we all know, the Equinox is the time of the year—about March 21st and September 22nd—when the sun enters the equinoctial points. Its path then coincides with the earth's equator and night and day are of equal length.

Let us take a world globe and stretch a string around the circumference. Put one end of the string at a point midway between Australia and New Zealand and let the other end pass over Raykjavik, Iceland. The path of the string will include the Northern tip of the Gulf of Mexico.

During the approach of our winter months, we note that reports of reception from the Antipodes are on an increase approximately in parallel with the line described by the string. As this line also represents the most direct path taken by a carrier wave, there will be a certain amount of signal radiation thrown off on either side of this line.

Such radiations will represent the signal strength in *any* particular location along this line. Also, we must consider such elements as absorption and deflection which will react upon all signals emanating from a given transmitter.

Assuming that it is mid-winter throughout the United States, the sun is now south of the equator, or in the

regions of the equinoctial points. During this period, I contend that the sun exercises a certain amount of influence upon the path taken by all signals originating in the Antipodes. In conjunction with the winter equinox, it creates a shift along the line as shown by the piece of string.

As the spring season approaches, the sun travels north steadily and enters the equinoctial regions, crossing the equator at the point of the intersection of the ecliptic. This ecliptic being the apparent path of the sun, or the real path of the earth in the heavens during a year.

As the sun travels north to its fixed position above the equator, there is a gradual loss of Australian and New Zealand signals in the eastern and central sections of the United States. On the Pacific Coast, listeners report an increase in strength to a point equal to early autumn reception.

What causes this condition?

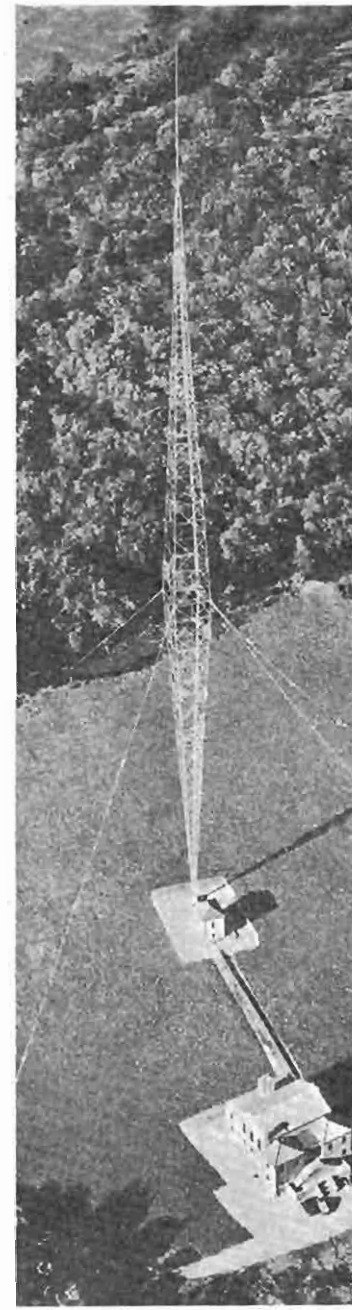
Theoretically, the sun has crossed the equator during the spring equinox. During this time, the sun's influence seems to exert a pull on all signals *away* from the path which they took during the time when the sun was south of the equator.

In my own case, I find it quite impossible to hear an Australian station during the mid-winter months except on an occasional morning. Yet, fans located along the path of this string often report exceptional reception.

Therefore, unless the sun actually exerts a pull in my direction, why is it that I always notice an unusual increase in reception after the spring equinox has taken place?

Such is my theory and, if it is in error, I shall still be seeking an explanation of this mysterious and baffling condition.

*431 S. Elena Ave., Redondo Beach, Cal.



Vertical radiator of WABC at Wayne, N. J. It is 625 feet high with a 14 inch metallic ball on the top.

When DIALS Seem To CREEP

● ● ● *By* B. FRANCIS DASHIELL

JUDGING from the many letters addressed to the technical editor, one of the most interesting complaints concerns the necessity of retuning the dial at infrequent intervals. It seems that once a station has been tuned and the listener settled comfortably in his chair, the signals either fade away or become distorted. But as soon as the dial is retuned, the station comes in again at a new spot a few divisions off its regular position. This "slipping" or "creeping" of the dial, as most of us call it, can become very annoying, and the reader will learn, too, how baffling it can be to the service man.

The fact is, in 99 cases out of 100, the dial does not creep. When such is the case the dial requires resetting only to its original position after it has actually slipped. For example, if a receiver should be tuned to a signal appearing on 1040 kilocycles, and then the dial started to "creep" because of some instability in the tension of the tuning mechanism, the signal would disappear while the dial reading became perhaps 1030 or 1050 kilocycles, depending upon the direction in which the dial moved. In this example it is necessary only to turn the dial back to its original setting of 1040 kilocycles and the station will be heard clearly.

Frequency Shifting

In practically all cases of dial creeping, however, the foregoing is not the case, for mechanical failure is seldom the cause. What really happens is this: A signal is tuned in, for example, on 1040 kilocycles, then after a few minutes it fades away but not to return. Upon retuning the set it is discovered that the station may be picked up on perhaps 1030, 1047 or 1055 kilocycles. And no amount of coaxing will return the signal to its proper setting of 1040 kilocycles. After another interval the tuning may again change to a reading that is slightly up or down the scale.

Detuning, as above mentioned, is not due to actual movement of the tuning units. It is brought about by an invisible action, either in the capacity or inductance of a certain section of the circuit. It is well to remember that the tuning of a radio set is accomplished by a combination of two electrical phenomena—inductive and capacitive effects, and the slightest change in these effects will immediately change the tuning of the receiver.

Oscillator Drift

These effects may be observed on occasion in all sizes and types of radio receivers. However, since the superheterodyne circuit is so widely utilized, and because its pecularities favor these so-called "slipping" effects, we shall glance at the things that frequently cause such baffling failures.

First, let us find a better designation than "dial creeping or slipping", for of course the dial does not slip. Many service men have given this type of trouble all sorts of names, but the less said about that the better. Technically, however, this detuning effect is "oscillator frequency drift" or just "oscillator drift".

Occurs In Superhets

If the reader understands the principles of the superheterodyne circuit he can better see what happens when the oscillator drifts away from its established frequency. There is only one basic superheterodyne circuit, regardless of what em-

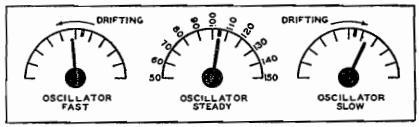
bellishments may be offered by different manufacturers. The circuit is not unlike the well-known tuned-radio-frequency arrangement. Both of these circuits have the t-r-f stage, detector, and audio system with speaker. The *additional* superheterodyne principle is inserted in a standard t-r-f circuit between the last r-f stage and the detector. This detector of the t-r-f circuit now becomes the second detector of the superheterodyne receiver.

Following the r-f stage or pre-selector tube is the first detector or mixer tube. Connected to it is another tube called the oscillator. Older sets use these two tubes separately, but the newer receivers utilize the special dual-purpose mixer tubes, such as the 6A7 type. Whether the detector-oscillator combination is enclosed within one shell, either glass or metal, or separated as two different glass tubes, makes no difference. Between the first-detector and second-detector is the intermediate-frequency amplifying system, with which we need have no concern. Our attention is centered on this detector-oscillator combination.

The Beat Oscillator

When we encounter such troubles as oscillator drift, the difficulty will be found in the first-detector and oscillator (mixer) unit. The first detector rectifies the incoming signal; the oscillator generates a steady signal or local frequency that beats against or heterodynes the incoming signal frequency. The result is a new frequency called the beat or intermediate frequency. It has a much lower rate than the incoming signal. This i-f signal is held at a constant rate regardless of the station being received, and it is amplified in the i-f system.

Let us return to our signal having a frequency of 1040 kilocycles. It has been detected by the first detector, and the separate oscillator system will be generating a local signal having a frequency of 1496 kilocycles if the intermediate frequency of the circuit has been predetermined at 456 kilocycles, which is a standard i-f rate. This i-f is equal to the difference between the frequency of the incoming signal and the higher frequency generated by the local oscillator. In our example it is 1496 minus 1040, or 456 kilocycles. The oscillator beats against the incoming signal at a higher frequency which *always* maintains the constant difference of 456 kilocycles, no matter what may be the frequency of the signal being received. When the intermediate frequency is 456 kilocycles, a station on 6000 kcs., must beat against an oscillator frequency of 6456 kcs., or a station on 2270 will work against 2726 kcs., and a long-wave signal on 560 kcs., can be heard when the oscillator rate is 1016 kilocycles.



When Signals Drift

It will be observed from the foregoing that the oscillator must work smoothly at all times. Of course, we must assume that all incoming signals are on their proper frequencies and that the broadcasting station does not vary or swing from its authorized wave length. Transmitting stations seldom get off their assigned frequencies, for all tuning adjustments are held by means of crystal-controlled apparatus.

So, when signals swing back and forth, or dials appear to creep or slip from their original settings, it is quite unlikely that the fault is in the broadcasting station. Instead, however, the difficulty will be found in the receiver—and centralized in the oscillator.

Oscillator At Fault

If the frequency of the beat signal, which works against the incoming signal, changes several kilocycles from its normal rate it will detune the station entirely. If it gets off just one or two kilocycles this will be enough to cause distortion. The signal will not pass properly through the i-f system, and will lose much of its true fidelity of tone. So, when a receiver loses sensitivity the fault can be attributed to oscillator drifting. The same reasoning applies also to a gradual increase in tone distortion.

If, after tuning in a signal on its true setting, we find the station fades out and a retuning of the dial brings the station back on a different setting, we can suspect the oscillator unit of changing its rate of vibration from the constant period to a new rate. The mechanical tuning apparatus of the oscillator has not been moved, yet its frequency rate has drifted up or down from the established level.

Moisture And Dust

What causes the oscillator to change its frequency without actual movement of its parts? An oscillator consists of a tube, two or three small coils, and a variable tuning condenser. Its output frequency is determined by the capacity of the condenser and the inductance of the coil. Moving the condenser dial controls the frequency of the generated oscillations. Any change in the inductance, capacity or voltage in the circuit, will cause the beating frequency to vary in speed. This, then, will beat an unstable frequency against the steady frequency of the incoming signal and cause the i-f to wander about. A readjustment of the tuning condensers must now be made to offset this difference, and the signal will be located at a new position on the dial. Although the dial stands still the station signal seems to creep away, either up or down the scale a few kilocycles.

Apparently this picture of XGOA at Nanking, China, was snapped from one of the aerial masts. XGOA is picked up frequently in this country on 660 kcs. with its 75 kw. power.

When moisture and dust gathers in the coils, forms, trimmer condensers, or on the material forming the dielectric frames of the units, oscillator frequency drift can occur. Sometimes it is heat that changes the spacing and arrangement of the parts. Frequently, when the receiver is shut off so as to return to its original "cold" status, and then turned on again, proper readings will be noted on the dial for a short time.

Defective Tubes

Any change in the operating condition of a tube is a constant source of trouble. Variations in the operating voltages of the circuit, changes in location and spacing of the internal elements, usually due to heat, or caused by rattling of the speaker or other jarring, occasionally makes a tube unfit to act as an oscillator. Replacement is always the first thought when oscillator drift is observed; it also is indicated when signals cease to be heard on the very short waves, due to loss of electronic emission and failure to oscillate on the highest frequencies.

Defective resistors and bypass condensers, which are shunted across the resistors, will change the voltages impressed upon the various terminals of the oscillator circuit. Such defective resistors will be found lo-

cated in the grid circuit of the oscillator tube. While resistors and condensers may not always appear defective or short-circuited under test, they will, however, sometimes show serious variations in value after heating and during operation of the set, sufficient at least to cause changes in the current, and frequency drifting will result. The obvious remedy is to replace all of the resistors and bypass condensers in the oscillator circuit with new ones of best quality and accurate value.

Coils And Shields

Rust and corrosion between the tube and socket, poor connections between the shield cover over the oscillator coil and the chassis, and loose joints and contacts, are causes of oscillator drifting. Imperfect contacts between the condenser rotor in the oscillator tuning circuit, lack of tension on the rotor bearings, and unequal pull in the tuning dial apparatus, also are likely sources of trouble. Vibration of the rotor plates due to the speaker may tend mechanically to change the tuning of this circuit. Dielectric material must not appear deteriorated, and trimmers that are adjusted by screws should be clean and firmly set.

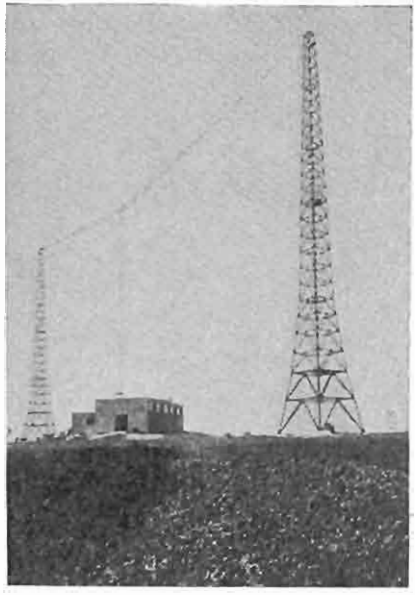
When oscillator coils give trouble the only solution is to replace the entire unit with a new one procured from the factory. Or a careful removal of the old coil, after marking the terminals so it may be replaced correctly, will permit it to be cleaned and dried thoroughly. After dusting, place in a warm oven—not more than 120 degrees, for several hours. Remove and give a thin coat of white shellac. Solder all contacts well, securely ground the shielding, and replace all resistors with new ones. It is hardly necessary to add that the oscillator will now require a complete readjustment so as to track properly over the full tuning range with the remainder of the tuning units.

The March DX Calendar

SPECIAL programs arranged by the stations for the benefit of distant listeners. The revised list of frequency check broadcasts may be found in the February issue. All times are Eastern Standard in order that the programs may be arranged chronologically.

Sunday Mornings				
March 1				
2:00-3:00	CJLS	1310	Yarmouth, N. S.	NNRC
2:00-4:00	CHAB	1200	Moose Jaw, Sask.	CDXR
3:00-4:00	XEFL	1150	Tijuana, L. C.	URDXC
3:00-7:00	KNX	1050	Hollywood, Calif.	NNRC
4:00-5:00	CKCV	1310	Quebec, P. Q.	NNRC
4:00-5:00	KWSC	1220	Pullman, Wash.	CDXR
5:00-5:30	KGKO	1240	Wichita Falls, Tex.	NNRC
March 8				
1:00-2:00	CMKC	1250	Santiago, Cuba	CDXR
March 15				
3:30-4:30	KFRO	1370	Longview, Texas	CDXR
	KIDW	1420	Lamar, Colo.	
4:00-4:30	KFNF	890	Shenandoah, Iowa	
4:00-5:00	WHAZ	1300	Troy, N. Y.	CDXR
4:00-6:00	WTRC	1310	Elkhart, Ind.	NNRC
March 22				
1:00-2:00	CMKC	1250	Santiago, Cuba	IDA
1:00-5:00	CMBX	1380	Havana, Cuba	UDXC
3:00-5:00	CFCT	1450	Victoria, B. C.	CDXR
4:00-5:00	WGBF	630	Evansville, Ind.	
	KWSC	1220	Pullman, Wash.	UDXC
March 29				
12:01-3:00	WPAR	1420	Parkersburg, W. Va.	CDXR
3:00-4:00	WOI	640	Ames, Iowa	CDXR
March 8, 22				
2:00-4:00	WJBO	1420	Baton Rouge, La.	CDXR
March 1, 8, 15, 22, 29				
1:00-3:00	CMJA	1010	Camaguey, Cuba	
1:00-5:00	KIUP	1370	Durango, Colo.	
2:00-4:00	XEWZ	1150	Mexico City, D. F.	
3:00-4:00	CKWX	1010	Vancouver, B. C.	
	KNX	1050	Hollywood, Calif.	NNRC
Monday Mornings				
March 2				
2:45-3:00	KIUJ	1370	Walla Walla, Wash.	
March 9				
12:45-1:45	KSL	1130	Salt Lake City, Utah	
2:00-3:00	KIUN	1420	Pecos, Texas	
2:00-6:10	FCC		Frequency Checks	
2:30-4:30	KID	1320	Idaho Falls, Idaho	NNRC
3:00-4:00	KFRO	1370	Longview, Texas	NNRC
March 23				
1:00-2:00	CMKC	1250	Santiago, Cuba	IDA
March 30				
5:15-5:45	WALA	1380	Mobile, Ala.	
March 2, 9, 16, 23, 30				
12:01-2:00	CMHW	810	Cienfuegos, Cuba	
1:00-2:00	WGES	1360	Chicago, Illinois	
Tuesday Mornings				
March 3				
3:00-4:00	WNEL	1290	San Juan, P. R.	
March 10				
2:00-3:00	W1XBS	1530	Waterbury, Conn.	
2:00-6:20	FCC		Frequency Checks	
3:00-4:30	1ZM	1260	Manurewa, N. Z.	URDXC
6:00-6:30	KFB1	1050	Abilene, Kans.	
March 17				
1:00-4:00	WDAY	940	Fargo, N. D.	
2:00-3:30	KIUL	1210	Garden City, Kans.	
March 3, 10, 17, 24, 30				
1:00-2:00	WHEF	1500	Kosciusko, Miss.	

3:00-4:00	KFXM	1210	San Bernardino, Cal.	
5:00-5:15	WBNS	1430	Columbus, Ohio	
Wednesday Mornings				
March 4				
1:00-1:30	WEBC	1290	Superior, Wisc.	
March 11				
2:00-6:10	FCC		Frequency Checks	
2:30-3:00	WHBQ	1370	Memphis, Tenn.	NNRC
March 18				
2:00-2:30	KWTO	560	Springfield, Mo.	
2:30-3:00	WCMI	1310	Ashland, Ky.	
	WHBQ	1370	Memphis, Tenn.	CDXR
March 25				
2:30- on	WOC	1370	Davenport, Ia.	NNRC
2:30-4:00	KADA	1200	Ada, Okla.	
3:00-4:00	WNEL	1290	San Juan, P. R.	
March 4, 11, 18, 25				
12:01-1:00	WOWO	1160	Fort Wayne, Ind.	
1:30-2:00	WKBB	1500	East Dubuque, Ill.	
4:30-4:45	WCAL	1250	Northfield, Minn.	
Thursday Mornings				
March 5				
2:15-2:45	WTBO	800	Cumberland, Md.	
March 12				
2:00-5:50	FCC		Frequency Checks	
2:15-2:30	WLLH	1370	Lowell, Mass.	
March 19				
2:00-3:00	WRUF	830	Gainesville, Fla.	
March 26				
2:00-3:00	WOC	1370	Davenport, Ia.	
4:00-4:30	KGKY	1500	Scottsbluff, Neb.	
5:10-6:00	WFLA	620	Clearwater, Fla.	NNRC
5:30-6:00	WRAW	1310	Reading, Pa.	MCDXE
Friday Mornings				
March 6				
2:00-3:00	KDYL	1290	Salt Lake City, Utah	CDXR
March 13				
2:00-6:20	FCC		Frequency Checks	
2:15-2:45	KPOF	880	Denver, Colo.	
3:00-6:00	CMOX	1320	Havana, Cuba	
March 20				
3:15-3:30	KGGM	1230	Albuquerque, N. M.	
March 27				
1:00-1:15	KPRC	920	Houston, Texas	
	WLLH	1370	Lowell, Mass.	
2:15-2:30	WCSH	940	Portland, Me.	
March 6, 13, 20, 27				
12:01-2:00	CFCN	1030	Calgary, Alta.	
Saturday Mornings				
March 7				
4:30-5:30	CKNX	1200	Wingham, Ont.	CDXR
March 14				
2:00-6:40	FCC		Frequency Checks	
March 21				
5:00-6:00	CHML	1010	Hamilton, Ont.	CDXR
March 28				
4:00-5:00	WKAQ	1240	San Juan, P. R.	NNRC
5:00-6:00	7HO	820	Hobart, Tas.	IDA
March 7, 14, 21, 28				
5:00-6:00	WMFO	1370	Decatur, Ala.	NNRC
6:00-7:00	WHDL	1420	Olean, N. Y.	
7:00-8:00	WSBC	1210	Chicago, Ill.	NNRC



One of the best stations in Czecho-Slovakia is Moravska Ostrava on 1113 kcs. Here is shown the building housing their 11 kw. transmitter, and the aerial towers.

Image Frequencies

A VERY careful study of his troubles is reported by A. W. Vine, of Washington, D. C. He writes: "I have a Philco 16 RX, 1933. It shows image frequencies on the short waves. When tuned to 49 meters I get code that is broadcast on 4 meters. There is some frequency slip, for a station tuned to 9.4 soon goes up to 9.6. I also get a lot of automobile interference, and can it be prevented?"

Image frequencies would not occur at a separation of 10 kcs. The separation would be at least twice the i-f of the receiver, which in this case is 460 kcs. Unless you can read code we feel it is unlikely that you are picking up code at several points on this band, and it is very easy to make a mistake about this matter.

The shift in the oscillator frequency is something which is mighty difficult to overcome, and is probably due to overheating of some parts in the oscillator circuit by adjacent resistors. Shifting their position might clear up the trouble, and on the other hand might introduce worse trouble. Replacement of the oscillator coil and condenser often helps, and your serviceman should be able to advise

in this respect, since you say he has worked on the set.

The Philco 16 RX is fitted with a wave trap which can be used to prevent much of the interference you are getting from WRC, a nearby transmitter.

Have your service man check the voltages being applied to the 77 type tubes, particularly the control-grid potentials.

A noiseless antenna system should help a lot. If placed about 20 feet above the roof top it will improve distance, but we can never get very optimistic about eliminating all of the automobile sparking from nearby traffic. Why not try one of the new Philco antennas, made and tested for their own receivers?

The Mystery Contest

(*Continued from page* 3)

the judges will be able to make the most suitable award. Insofar as is possible, the distribution of prizes will be governed by these indications.

We hope that all readers will feel free to write in and tell us what they think of the contest as an idea, and make suggestions as to how possible contests in the future should be handled. After all, these special features are intended for the readers and we want to plan them to suit the majority.

Our Crystal Set

(*Continued from page* 6)

may also give a better tone. The primary is untuned, and is connected between the antenna and ground. This set of coils will cover the broadcast band from 200 to 600 meters.

Additional coils may be made to cover shorter waves using less wire in the primary, secondary and tickler windings. If coils are wound on solid forms having bases fitted with 6 prongs, similar to tubes, they may be plugged into tube sockets. This provides instant interchangeability when going from one wave band to another. Plug-in coils of this type may be purchased in sets, and usually six or seven such units will cover the entire range of short and broadcast waves.

(The next article in this series will deal with further refinements in the three-curcuit tuner, as well as other interesting experiments.)

Changing Loud Speakers

D. M. TAYLOR appeals from Presidio, Texas, as follows: "I have an old Bosch model 5-C receiver which has a fine speaker, and I also have an Airline model 167, all-wave receiver, which does not have as good speaker tone as the old Bosch. I would like you to advise me how to use the old speaker with the new set, and if the Airline tone will be improved as a result. Would you also advise me how to build a tone chamber for this Airline set."

We feel that the difference in tone quality is due to the circuits employed rather than to a defect in one of the speakers. You can get a comparative test by disconnecting the voice coil of the Bosch and placing it in parallel with the voice coil of the other speaker. Both sets must be turned on at this time.

If you desire a deeper tone in the Airline, connect a .01 mfd. condenser across the primary of the output transformer on this set. Opening either voice coil of each speaker will enable you to hear the speakers alternately.

We do not have any available data for a tone chamber using the Bosch speaker on the Airline receiver, but we doubt that the change will show improvement. If you really think the tone of your set is not up to par, call in a good service man and instruct him to get some improvement by bypassing the tuned circuits.

REMEDIES *for* Failing Sets

● ● ● *By the* TECHNICAL EDITOR

THE first complaint this month concerns a Philco 16-RX receiver, vintage 1933. The trouble is somewhat unusual.

This receiver shows some image frequencies on the short waves, but when it is tuned to 49 *meters the operator believes he picks up code that is originally broadcast on* 40 *meters. Then, too, there is some frequency slippage, for a station tuned in on* 9.4 *megacycles soon creeps up to* 9.6 *megacycles. Automobile interference on the short waves is very bad.*

Image frequencies should not occur on a separation of about 10 kilocycles, and this inquiry presents an unusual problem. The separation would be at least twice the intermediate frequency of the receiver which, in this case, is 460 kilocycles. Unless code can be read it is unlikely that the set is picking up signals broadcast on 40 meters, and it is easy to make a mistake about this matter.

The shift in the oscillator frequency is something that is more or less difficult to overcome. It is perhaps caused by overheating of some parts in the oscillator circuit. Frequently this heating is brought about by an adjacent resistor. Shifting the position of the resistor to a point farther from the oscillator coil might clear up the trouble, but on the other hand it can also introduce worse trouble. Replacement of the oscillator coil and condenser often helps, but we suggest that a good service-man be consulted, since it has been stated that one recently worked on the set.

The Philco 16-RX is fitted with a wave trap which can be used to prevent some of the interference, thought to be image frequencies, as well as signals from nearby transmitters.

Often a noiseless antenna system will help prevent short-wave interference, such as the automobile ignition noises. If, placed about 20 feet above the roof it will improve distance, but we cannot become too optimistic about eliminating *all* nearby automobile interference. Why not try one of the new Philco noiseless antennas, made and tested for their own receivers?

Changing Speakers

Many readers have wondered whether they could swap the loud speakers in their sets so as to use a larger or more perfect sounding unit.

In this case the receiver is an old Bosch 5-*C set which has had a fine speaker, but the set itself is not very sensitive in the far-away spot where it is used. Another set, an Airline* 167 *receiver, works nicely but its speaker does not give the tone that the old Bosch rendered. Can the Bosch speaker be transferred to the new Airline?*

We feel that the difference in tone quality is very likely due to the circuits employed rather than to some defect in one of the speakers. We suggest that a comparative test be made. Disconnect the voice coil of the Bosch speaker and place it in parallel with the voice coil of the Airline speaker. Both sets must be turned on at the time, but the Airline is the only one attached to an antenna and tuned to a signal. The volume control used is the Airline unit. Opening either voice coil of each speaker will enable you to hear the speakers alternately and thus decide which of the two works best with the Airline receiver.

If a deeper tone is desired in the Airline speaker it is possible to obtain it by connecting a .01 mfd. fixed condenser of high voltage across the primary of the output transformer.

We have no data on the Bosch and Airline speakers so do not know whether the Bosch will substitute for the Airline. If the impedances and resistances of the field and voice coils of the two speakers are about similar the substitution can be made.

Five Or Four Tubes?

False-bottomed wine bottles and multi-tube radios make it appear that the purchaser is getting a lot for his money. One reader believes he has been victimized to a certain extent.

There is a small universal a.c.-d.c. receiver which has five tubes in its chassis. However, only four of these tubes are connected in the circuit. This receiver is called the ....., but nobody can tell who made it. Can RADEX help out?

Sometimes extra tubes are inserted in sets as dummies. It makes it appear that the purchaser is getting more for his money. No reputable manufacturer would do this, of course, and, just as we suspected, the name of this set is not listed in the records of the Federal Trade Commission, where trade names are registered. RADEX regrets its inability to solve the problem. The Technical Editor certainly would like to see this circuit.

Home-Made Power Output

Many enthusiasts still experiment with radio by designing and assembling novel circuits. This reader built an all-wave set.

The home-made all-wave receiver, which was built according to a certain published circuit, utilizes a type 24 tube as detector-oscillator. It is desired to operate a speaker by adding a power stage to this little circuit.

The type 24 tube has sufficient power to operate a speaker very nicely. To do this simply use an intermediate audio amplifier tube, type 37, between the type 24 detector-oscillator output and the pentode output. The 37 tube is resistance coupled in the standard manner using a 250,000 ohm resistor on the detector plate side and a 1.0 megohm resistor on the 37 control-grid side, with a .02 mfd. condenser between the two resistors. Bias the cathode of the 37 with a 2,500 ohm resistor shunted with a .5 mfd. bypass condenser.

Connect the plate output of the 37 to the control-grid of the type 42 pentode tube by means of the usual resistance coupling. A 150,000 ohm resistor on the 37 plate side and a 500,000 ohm resistor on the 42 control-grid side, with a .02 coupling condenser between. The plate output of the 42 pentode power tube feeds the primary of an output transformer having an impedance of 7,000 ohms. The secondary feeding the voice coil of the speaker has a resistance of 15 ohms.

To obtain the correct bias on the type 42 power tube a 450 ohm resistor must be connected in series with the cathode and a ground and shunted by a bypass condenser of from .5 to 2.0 mfds. capacity. This will decidedly improve the fidelity of reproduction and will considerably lengthen the life of the output tube.

A. V. C. Circuit

When a man wishes to replace certain units in a radio receiver he must know the values of the parts to be changed. This reader asks a simple but important question.

It is believed that the automatic volume control circuit of a 'Philco model 146 receiver is causing some trouble, and that the essential units of that part of the circuit may require replacing. How can the a.v.c. of this Philco set be identified?

There are three tubes to be considered—the type 78 radio-frequency amplifier, the detector-oscillator type 6A7 tube, and the last i-f stage with its following diode detector tube.

The grid coil of the r-f transformer is grounded at the bottom through a .05 mfd. condenser, and also connects to the bottom of the grid coil feeding the control-grid of the 6A7 tube

through a 70,000 ohm resistor in series. The bottom of the latter coil also is grounded through a .05 bypass condenser. This point of contact connects to a 2 megohm resistor, the free end of which connects to two separate resistors. One, a 240,000 ohm resistor goes to ground and the other, a 100,000 ohm resistor, connects to the bottom of the grid coil of the last i-f transformer. Any of these four resistors may be defective and should be replaced.

Changes in Volume

Intermittent reception, which causes unexplained changes in volume from time to time, is one of the most common faults in radio receivers. It is caused by many things that go wrong. Here is one.

When a station is tuned in on a Majestic 20 receiver, and the knob is tapped a bit, the volume immediately drops considerably below the usual normal. It does not fade but simply snaps to a lower degree. On the other hand a tap on the knob will often bring the signal back to its original intensity. Retuning the set, or shaking the cabinet, will also cause this form of intermittent reception.

This trouble seems definitely to point to the connection of the gang condenser shaft to the ground, or the connection of the dial mechanism to the ground. First, we suggest that you thoroughly clean all of the brush contacts on the rotor shaft, and, if practicable, solder the spring contacts to the grounded chassis. If you are doubtful about this solder a spring "pig-tail" from the condenser shaft to the ground.

If the contacts are carried through the bearings, they must be cleaned and then tightened by compressing with pliers. But be careful that you do not throw the rotor out of line in doing this or the set may require realigning.

Resolder or tighten all joints and rivets in the supporting parts between the condenser frame and the chassis, making sure that these units and the dial frame are properly grounded.

Tubes And Fading

Many readers believe that substituting the latest types of tubes for older styles in certain receivers will correct fading and bring about other remarkable results. Such substitutions, however, seldom are satisfactory.

A Zenith receiver, model 835, uses modern tubes, such as 6D6, 6A7, 5Z3, 42, 75 and 76 types. Can the new metal tubes be substituted for the above types so as to reduce fading that is becoming worse in this set?

It would be a step in the wrong direction to replace the tubes now in use with the new metal tubes. The charactertistics of most metal tubes are different from the ones now in the set. These characteristics do not always amount to much in themselves; it is the cooperative value when used with other components designed especially for them which allows the improvements of metal tubes to be utilized in new sets.

The fading trouble may indicate that a change of tubes in this receiver may be necessary, particularly in the volume control socket. A careful check should reveal this, but in any case, you should replace the tube that is giving trouble by another tube of the same style or type.

Of course, failure of some essential part, such as a resistor or condenser in the audio biasing circuit, may cause this fading. A service-man, with his testing equipment, should determine this.

Hot Tar And Noise

Heat in normal quantities in radio sets is natural, but when it becomes excessive, then look out for trouble.

This Scott, 1931, all-wave set, plays fine; then fades out, gets mushy and comes in again very nicely. When the volume control is advanced there is a crackling, sputtering noise, and the volume does not increase. After the set plays for a short while there is a smell of hot tar, but there seems to be no sign of over heating.

In some cases the temperature of the units of a receiver can get high enough to cause melting or burning of the packing material. Now, both the power-pack condensers and transformers are filled with a tar-like material for insulation purposes. It has a low melting point, and any excess heat, while not always apparent on the outside, may be sufficient to soften the material so it will run out through openings and loose joints. By opening the chassis it seems that it can be determined which unit is at fault. In any event, replace the unit at fault, whether it tests satisfactorily or not after being removed from the chassis. We believe this is the cause of the trouble experienced in this Scott receiver, but we are unable to tell just what unit may be defective.

Frequency Drifting

Much has been said about oscillator or frequency drift. In fact, an article to appear in RADEX will cover this defect very completely.

This also is a Scott receiver. It is a 1931 model, with dual-dial tuning. The readings of the oscillator dial creep up about 10 kilocycles each month, and the dial has to be reset. Why is this?

Oscillator frequency shifting of this sort is usually caused by warping of the oscillator padding condenser plates or its dielectric material. We think that replacing of this unit with a good mica type or an air type of good, sturdy construction, will overcome the trouble.

D. C. Interference

Electric line interferences come into the receiver by way of the air, carrying short distances as tiny radio waves, or by way of the actual transmission medium itself—the power line.

There is a 110-volt d.c. power plant furnishing power to the railway shops and adjacent homes of a small railroad town. It causes noises in the battery sets that are used in that place, and is it possible to get rid of the commutator ripple caused by the big generators?

While commutator ripple as such cannot be entirely eliminated, it can be reduced by improving the generators themselves, such as cleaning and overhauling, and the installment of filter condensers and choke coils in the leads from the generators. All of these generator and motor noises reflected back into the outgoing power line at its source can be prevented to a great extent.

But, in this case, where battery sets are used, and there is no connection to the power line, commutator ripple cannot cause interference. The power-line interference must be picked up through the air, and it comes as electrical impacts and surges from sparking switches and other inductive sources. This is what is being heard and not simple commutator ripple which is caused by breaks in the current as the generator brushes slide from one commutator segment to another.

Oscillator Unit

Many of our readers like to build things for themselves. It is interesting work, seldom crowned with satisfaction the first time, and many experimental changes must be made before good results are obtained.

Is it possible to build a small oscillator unit that can be operated off a Silvertone radio receiver? If so, how is the unit assembled?

To obtain accuracy with an oscillator, that is to produce different frequencies at will, requires care in the design of the coils and other parts making up the unit. However, it is possible to assemble an oscillator without much difficulty.

A type 47 tube can be used. Its heater is powered by the same secondary coil within the receiver—2½ volts. A center-tap from the power secondary is connected to the control grid of the tube through a 20,000-ohm 5-watt resistor; it is also connected

to the negative B terminal; and then grounded.

An oscillator coil of the size required is connected at one end to the plate and to the control grid through a .002 mfd. condenser at the other end. The coil is shunted by the tuning or variable condenser. The output of the oscillator connects to the plate of the tube through a .002 mfd. bypass condenser.

The positive B (135 volts or more) terminal is attached to the coil at a point close to the bottom or control-grid end of the oscillator coil. This tap should be adjusted as far toward the lower or grid end as possible without destroying the oscillation. This point of contact also connects to the screen-grid terminal of the type 47 tube or socket.

Set Cuts Off

Radio receivers that cut on and off suddenly are extremely annoying. The trouble may be caused by almost any number of defects.

After this Philco 14 has been running about an hour it cuts off, later it comes on. Then the action repeats 3 or 4 times, and finally the set gets back to normal operation. When the set cuts off the shadow tuning instantly widens, but some times it does not affect the shadow which remains narrow.

Cutting off with an immediate response in the shadow tuning that is, a widening of the shadow, may be caused by a defective type 6A7 tube. Try replacing this tube.

The response of the shadow tuning, when set cuts on and off, is a good index of where the trouble lies. Since the shadow tuning meter is connected to the r-f tuning portion of the set, any change in the shadow indicates trouble in that portion of the circuit. See if the padding condensers are shorted; perhaps new mica in these condensers will help. Defective resistors and bypassing condensers in the r-f or i-f circuits may need replacing. Of course, bad tubes and poor connections in the coils and oscillator can cause trouble.

Now, when cutting on and off occurs without change in the shadow tuning, it indicates trouble in that portion of the circuit following the tuning section. It is usually found in the audio plate circuit. A bypass condenser in this part of the circuit may become opened. The oscillator tube may be bad, or some cathode resistor has shorted or opened at times due to heat. The coupling condenser between the detector and first audio tubes may be opening.

* * *

From *Wireless World* comes a story which happened right in our own backyard. Despite its circuitous route, it isn't at all bad.

"Tobe Deutschmann, the radio manufacturer of Canton, Mass., has made himself the envy of goose-hunters by recording the conversation of two live geese, each record playing fifteen minutes of that kind of chatter. Around the gunning stand of his Cape Cod retreat he has mounted four loudspeakers, with control dials running to the turntables. As a flock of geese approaches, the speakers are given the juice and the babble of a thousand geese is simulated. Closer and closer come the visiting geese, and off go the guns!"

And it isn't hard to picture the neighbor of a DXer, driven crazy by static in the early morning hours, making use of a recording of a foreigner as his decoy.

* * *

World Radio, official organ of the BBC, prints a letter from a Lisbon reader who comments on the unique ground system employed by a Portugese listener. An iron crowbar had been pushed into a barrel of earth and the whole stood on an empty packing case.

Using Crystals *for* S. W. SELECTIVITY

●●● *By* B. FRANCIS DASHIELL

WE ARE beginning to hear more and more about the use of crystals in short-wave receivers. It is a fact that when a carefully ground crystal is installed in the intermediate frequency circuit of any superheterodyne receiver, it will provide unusual sharpness of tuning and super-selectivity. Several radio sets now employ crystals for the purpose of obtaining this "single-signal" tuning, and one such receiver is briefly described in this article.

That the short-wave channels are over-crowded is apparent to anyone who attempts regular DX tours of the world. Most listeners realize that super-selectivity is the crying need of the times. However, few receivers have been designed to provide the kind of selectivity that will cut out most interference in the congested short-wave channels. This lack of single-signal tuning is not due to a fault in the receiver, but is the natural result of our reluctance to sacrifice the high fidelity of sound that we demand of modern radio sets.

Crystals May Impair Tone

When a radio set is constructed so as to provide a selectivity of only two or three kilocycles, it naturally cannot pass the full range of audio frequencies and at the same time create high fidelity of sound. There will be some elimination of the higher and lower a.f. side bands, together with a very slight lowering of intelligibility. But amateur and DX listeners are quite willing indeed to lose some of the upper and lower limits of the sound range in order to eliminate the interferences and heterodyne whistles that really cause signals to become wholly unintelligible.

The control of selectivity by means of a crystal in a short-wave receiver has little or no effect on the quality of code or c.w. signals. Generally speaking, the use of a crystal filter for phone reception is not recommended unless the listener is beset with much interference, noise, static and whistles. All of these conditions exist in the amateur and other crowded short-wave bands, and, for the sake of tuning sharply through this barrage of interference we do not object to the fact that super-selectivity by crystal control may slightly impair the fidelity of sound reproduction.

The Piezo-Electric Effect

Those short-wave and all-wave receivers that offer to listeners the advantages of "single-signal" tuning because of a crystal filter, bring to DX, amateur and commercial operators, the opportunity to tune sharply to hundreds of stations in the congested bands that otherwise would never be heard. The crystal filter need not be used except when there is hopeless crowding of the bands, for, in all cases, there is a switch which permits the crystal to be cut in or out at will.

These crystals present the most interesting electrical effects known to science. Some crystals, such as quartz or Rochelle salts, become electrically charged when they are mechanically strained. This remarkable phenomenon is known as the "piezo-electric" effect. If a slice or wafer is cut from a piece of Rochelle salt, quartz or tourmaline crystal, then carefully ground to some uniform thickness with absolutely parallel sides, and mounted loosely between two metal plates, it will show very peculiar traits. For instance, a weak electric charge will flow from the two plates if stress is applied either in the form of pressure

or twisting. Now, if the strain is reversed, that is, if pressure is changed to tension, or a right-hand twist is changed to a left-hand twist, the electric charge also will reverse. Thus, if alternating strains are applied to the crystal it will generate corresponding alternating currents.

Tremulous Crystals

But the requirements of radio call for an opposite effect. Now, if an alternating current is applied to the plates between which the crystal is mounted, there will be a vibration or mechanical tremor in the crystal. This agitation will have a frequency that is equal to the number of alternations of the impressed current. In fact, when the frequency of the alternating current is the same as the natural period of the crystal, the vibration may be made so violent as to burst the crystal. In this manner, then, a crystal may be made to act somewhat as an electrical condenser. The crystal filter, however, definitely limits the current that passes through the circuit to a certain frequency. Crystals are used in transmitting stations to control the tuning of the circuits to the authorized frequency.

A crystal will vibrate approximately at only one frequency—that to which it was calculated before it was ground. The thinner a crystal, the lower its wave length; that is, the faster it can internally vibrate. The invisible oscillations of a crystal, due to the frequency of the radio wave at which it will begin conducting, are directly proportional to its thickness. This rate is approximately 105 meters wavelength to each millimeter thickness of the crystal. For example, then, if the i.f. of a superheterodyne set is peaked at 456 kilocycles, the crystal must be ground to a thickness of 6.25 milimeters.

When a crystal is used in a circuit it tends to reduce the strength of the signal, but this does not matter much because the crystal is used only when interference is bad. As a result, the strength of the interference is reduced at least 100 times, but the signal is only slightly reduced. Therefore a signal appears to become louder because of the contrast, and it instantly is improved in readability.

The 1936 "HRO" Single-Signal Set

The new "HRO" single-signal superheterodyne receiver, built by the National Company, employs nine tubes, exclusive of the power unit. This set covers the short-wave bands from 1.7 to 30 megacycles (17,000 to 3,000 kilocycles). The frequency range is covered by four completely shielded and instantly changeable coil assemblies. Each of these units consists of three r.f. coils and one oscillator coil, all individually shielded and provided with built-in balancing condensers. Factory calibrated curves for tuning are mounted on the front of each assembly. These plug-in assemblies cover wave bands as follows: 1.7 to 4.0 megacycles; 3.5 to 7.3 megacycles; 7.0 to 14.4 megacycles; and 14.0 to 30.0 megacycles. Also, two additional units may be had so as to cover the broadcast band between 2,000 and 500 kilocycles.

The "HRO" receiver utilizes type 58 or 6D6 tubes in the first and second r.f. or preselector stages. A 57 or 6C6 operates as the first detector. The oscillator is also a 57 or 6C6, coupled electronically to the detector-mixer. The two intermediate-frequency tubes are types 58 or 6D6, and are connected to the output of the first detector through the crystal filter unit that can be cut in or out at will by means of a switch. The type 2B7 or 6B7 second-detector tube also operates as an automatic volume-control and a first audio-amplifier tube. The second audio tube is a type 2A5 or 42. A beat-frequency oscillator is created by a 57 or 6C6 tube. The intermediate frequency is peaked at 456 kilocycles, and the crystal is therefore ground to this natural period of vibration.

Antennas And Operation

This receiver may be used with either a doublet or single-wire antenna. A ground is usually desirable when receiving signals above 100 meters, but for wavelengths below 50 meters the

use of a ground may actually weaken signals. The loud speaker requirements are not critical and any magnetic or permanent-magnet dynamic speaker can be used. These speakers do not require field excitation. A headphone jack is wired into the pentode section of the 2B7 tube, and when phones are used the output tube is disconnected and the speaker silenced.

The operation of this set, in spite of its seemingly critical and highly sensitive adjustments, is simple. The main dial turns the 4-gang precision tuning condenser by means of a positive action worm drive instead of the usual friction apparatus. Then there is a selectivity knob for adjusting the single-signal crystal filter. A phasing control and crystal switch balances the filter and eliminates heterodyne whistles. A small B-voltage switch shuts off the set when changing sets of coils, or when transmitting in the case of amateur or commercial use. Still another knob controls the r.f. gain, and is connected to the second r.f. and the two i.f. tubes.

Then there is the c.w. oscillator switch that is used to obtain an audible beat note when receiving c.w. signals or to locate the carrier wave of weak and distant phone stations. After a phone station is located, this c.w. oscillator, of course, must be turned off. Another switch provides for disconnecting the AVC action when c.w. signals are being received, and the last remaining knob operates the audio volume control; it controls the audio gain when either phones or speaker are used. There is an S-meter for indicating carrier-wave intensity or signal strength. A push-button operates this meter when desired.

We have prepared a circular entitled "The Perfect Method of Using Head Phones." It explains fully how you can attach phones to your set and silence the speaker at will. Send for your copy.

WHAT'S ON THE AIR TONIGHT

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

COLUMBIA..... (C)	
Call	**Dial**

NATIONAL, Red (R)	
Call	**Dial**

NATIONAL, Blue(B)	
Call	**Dial**

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

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

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

MONDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs
KFH KGKO KMBC KRLD KRNT KSCJ KTRH KTSA KVOR KWKH WAAB WABC WACO WBNS WBRC WBT WCAO WCCO WHAS WIBW WJAS WJR WKBW WKRC WMBD WOC WREC

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Buck Rogers 25th Century
KFAB KMBC KMOX KRLD KRNT WAAB WABC WBBM WCAO WCAU WCCO WFBL WHAS WHK WJAS WJR WJSV WKBW WKRC WOKO

E-6:15 p.m., C-5:15, M-4:15, P-3:15
C — Bobby Benson—Sunny Jim
WAAB WABC WCAU WDRC WEAN WFBL WGR WHEC WOKO

E-6:45 p.m., C-5:45, M-4:45, P-3:45
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 — Myrt and Marge
WABC WADC WBT WCAO WCAU WDAE WDBO WDRC WEAN WFBL WGR WHK WJAS WJR WJSV WKRC WNAC WOKO WQAM WSPD WTOC WWVA

C — Buck Rogers 25th Century
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

R — Amos 'n' Andy
CRCT KSD KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WJAR WLW WRC WTAG WTAM WTIC WWJ

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Ted Husing and Charioteers
CFRB KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG WABC WBBM WCAO WCAU WCCO WEAN WFBL WFBM WGR WJAS WJSV WKRC WNAC WOKO

R — Uncle Ezra's Radio Station
KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM

B — Ivory Stamp Club
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WSYR WXYZ

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Singing Sam
KFAB KMOX KRNT WABC WADC WBBM WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WNAC WOKO WSPD

B — Lum and Abner
WBZ WBZA WENR WGAR WJZ WLW WSYR

R — Edwin C. Hill
KSD WCKY WCSH WEAF WHIO WIRE WMAQ

E-7:45 p.m., C-6:45, M-5:45, P-4:45
C — Boake Carter
KMBC KMOX KOMA KRLD WABC WBBM WBT WCAO WCAU WCCO WDRC WEAN WFBL WGR WHAS WHK WJAS WJR WJSV WKRC WNAC

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Guy Lombardo and Orchestra
KLRA KWKH WABC WBIG WBT WCAO WCAU WCHS WCSC WDBJ WDNC WDOD WDRC WEAN WFBC WFBL WGR WHEC WHP WIBX WICC WJAS WJSV WLAC WLBZ WMAS WMBG WNAC WNBF WNOX WOKO WORC WPG WREC WSJS WWL WWVA

R — Hammerstein's Music Hall
KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WHO WHIO WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Fibber McGee and Molly
KDKA KDYL KFI KFSD KFYR KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTBS KVOO WAVE WBAL WBZ WBZA WCKY WDAY WEBC WFAA WFIL WGAR WHAM WIBA WIRE WJDX WJZ WKY WLS WMAL WMC WMT WOAI WREN WSB WSM WSMB WSYR WTMJ WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Pick and Pat
KFAB KMBC KMOX KRNT KSCJ WABC WADC WBBM WCAO WCAU WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WJAS WJR WJSV WKRC WMAS WNAC WOKO WORC WSPD

R — Voice of Firestone
CFCF CRCT KFYR KPRC KSD KSTP KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

B — Evening in Paris
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM 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 KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WNAC WNAX WOKO WORC WQAM WREC WSPD WWL

R — A. & P. Gypsies
KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Sinclair Greater Minstrels
KDKA KDYL KFYR KOA KOIL KPRC KSO KSTP KTBS KTHS KVOO KWK WBAL WBZ WBZA WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WLS WLW WMAL

MONDAY (*Continued*)

WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WTMJ WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Grace Moore
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

B — Princess Pat Players
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Wayne King and Orchestra
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KSL KVI KWG WAAB WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WHAS WHK WIBW WJAS WJR WJSV WKBW WKRC WOKO WSPD WWL

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

E-10:45 p.m., C-9:45, M-8:45, P-7:45
C — Clyde Barrie and Orchestra
CFRB CKAC KFH KHJ KLRA KRNT KSCJ KTRH KTSA KVOR KWKH WAAB WABC WACO WADC WALA WBBM WBIG WBNS WBRG WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGR WHAS WHEC WHP WIBW WIBX WISN WJAS WJSV WKBN WKRC WLAC WLBZ WMAS WMBD, WMBR WMMN WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Dance Orchestra
CFRB CKAC WAAB WABC WADC WCAO WCAU WDRC WFBL WFEA WHEC WHK WIBX WJAS WKBN WKBW WLBZ WMAS WOKO WORC WPG WSBT WSPD

C — Myrt and Marge
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KSL KTRH KVI KWG WALA WBBM WBRC WCCO WFBM WGST WHAS WLAC WREC WSFA WWL

R — Amos 'n' Andy
KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KTHS WBAP WDAF WHO WKY WMAQ WMC WOAI WOW WSB WSM WSMB

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Singing Sam
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CFRB CKAC KLRA WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

C — Pick and Pat
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

R — Voice of Firestone
KDYL KFI KFSD KGHL KGIR KGU KGW KHQ KOA KOMO KPO KTAR

E-12:00 p.m., C-11:00, M-10:00, P-9:00
B — Helen Hayes; Drama
KDYL KFI KGW KHQ KOA KOMO KPO

TUESDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs, See Monday

E-6:15 p.m., C-5:15, M-4:15, P-3:15
C — News of Youth
KMOX WAAB WABC WADC WALA WBBM WBNS WBRC WCAO WCAU WDBO WDRC WEAN WFBL WFEA WHP WICC WKBN WLBZ WMAS WMBG WMBR WOKO WORC WSBT WSFA WWVA

E-6:30 p.m., C-5:30, M-4:30, P-3:30
C — Understanding Opera
KLRA WABC WADC WALA WBIG WBRC WCAO WDAE WDBJ WDBO WDNC WDOD WFBL WGST WIBX WJSV WKBN WLAC WLBZ WMAS WNOX WORC WQAM WREC WSJS WSPD

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

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Myrt and Marge, See Monday

R — Amos 'n' Andy, See Monday

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

E-7:15 p.m., C-6:15, M-5:15, P-4:15
R — Popeye, The Sailor
KFYR KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHIO WIBA WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WWJ
C — Krueger Musical Toast
WABC WBIG WBT WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFEA WGR WGST WIBX WICC WJSV WLBZ WMAS WMBG WMBR WNAC WNBF WNOX WOKO WORC WQAM WTOC

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Kate Smith
KFAB KMBC KMOX KRLD KRNT KTRH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WISN WJAS WJR WJSV WKBN WKRC WLBZ WMAS WMBG WMBR WNAC WOKO WWL WWVA

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 — Frank Munn; Lucy Monroe
KFAB KMBC KMOX KRNT WABC WADC WBBM WCAO WCAU WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WNAC WOKO WSPD

R — Leo Reisman and Orchestra
KFYR KPRC KSD KSTP KTBS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR 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 WTIC WTMJ WWJ WWNC

B — Eno Crime Clues
KDKA KOIL KSO WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Lawrence Tibbett
CFRB CRCM KDB KERN KFAB KFBK KFH KFPY KFRC 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 WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBN WKRC WLAC WMAS WMBG WMBR WNAC WNAX WNOX WOC WOKO WORC WQAM WREC WSFA WSJS WSPD WTOC WWL

R — Wayne King and Orchestra
KFYR KPRC KSD KSTP KTBS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEEI WGY WHO WIBA WIRE WJAR WJDX WKY WMAQ WMC WOAI WOW WRC WSAI WSB WSMB WTAG WTAM WTAR WTIC WTMJ WWJ

B — Edgar Guest, Welcome Valley
KDKA KOIL 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 — Walter O'Keefe; Glen Gray
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 WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBD, WMBG

TUESDAY (*Continued*)

WMBR WNAC WNAX WNOX WOKO WORC WOWO WPG WQAM WREC WSBT WSFA WSJS WSPD WTOC WWL

R — Vox Pop; Sidewalk Interviews
KSD KYW WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WTAG WTAM WTIC WWJ

B — Ben Bernie and Orchestra
KDKA KOIL KPRC KSO KTBS KTHS KVOO KWK WBAL WBAP WBZ WBZA WFIL WFLA WGAR WHAM WIOD WIS WJAX WJZ WKY WLS WLW WMAL WMT WOAI WPTF WREN WRVA WSOC WSYR WTAR WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Fred Waring's Pennsylvanians
CFRB CKAC KFAB KFH KGKO KLRA KLZ KMBC KMOX KOH KOMA KRLD KSCJ KSL KTRH KTSA KTUL KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WCSC WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBR WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSBT WSFA WSJS WSPD WTOC WWL

R — Texaco Fire Chief
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WLFA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

B — Helen Hayes, Drama
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Parties at Pickfair
KFAB KFH KLRA KLZ KMBC KMOX KOMA KRLD KRNT KSL KTRH KTSA KTUL KWKH WABC WACO WADC WBBM WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDOD WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WLAC WMBG WMBR WNAC WOKO WQAM WREC WTOC WWL

R — Swift Studio Party
CRCT KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KYW WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHO WHIO WIBA WJAR WKY WLW WMAQ WOAI WOW WRC WTAG WTAM WTIC WTMJ WWJ

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — On the Air with Lud Gluskin
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KVI KWG WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WNAC WOKO WSPD WWL

R—Jimmy Fidler; Hollywood Gossip
KDYL KFI KGW KHQ KOMO KPO KPRC KSD KTBS KTHS KYW WAPI WAVE WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFAA WFBR WGY WJAR WJDX WKY WMC WOAI WOW WRC WSB WSM WSMB WTAG WTAM WTIC WWJ

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Dance Orchestra
CKAC WAAB WABC WADC WCAO WCAU WDRC WFBL WFEA WHEC WHK WIBX WJAS WJSV WKBW WLBZ WMAS WOKO WORC WSBT WSPD

C — Myrt and Marge, See Monday

R — Amos 'n' Andy, See Monday

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CFRB CKAC KLRA KSCJ WAAB WABC WADC WALA WBBM WBNS WBRC WBT WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOC WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

C — Walter O'Keefe; Glen Gray
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOH KOIN KOL KSL KVI KVOR KWG

R — Leo Reisman and Orchestra
KDYL KFI KFSD KGHL KGIR KGW KHQ KOA KOMO KPO KTAR

E-12:00 p.m., C-11:00, M-10:00, P-9:00
C — Fred Waring's Pennsylvanians
KDB KERN KFBK KFPY KFRC KGB KHJ KMJ KOH KOIN KOL KVI KWG

WEDNESDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs; See Monday

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Buck Rogers, See Monday

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

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

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Myrt and Marge, See Monday

C — Buck Rogers; 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 — Paris Night Life
KFAB KMOX KRNT WABC WBBM WBT WCAO WCAU WDRC WEAN WFBL WFBM WGR WHAS WHEC WHK WJAS WJSV WKRC WNAC WOKO WORC

R — Uncle Ezra, See Monday

B — Ivory Stamp Club, See Monday

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Kate Smith, See Tuesday

R — Edwin C. Hill, See Monday

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 KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KVI KWG WABC WACO WBBM WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WLAC WMBG WNAC WOKO WSPD WWL

R — One Man's Family
KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

B — Rendezvous; Phil Duey
CRCT KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY 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 — Burns and Allen
CFRB CKAC KFAB KFH KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTRH KTSA KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WFEA WGR WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSPD WWL

R — Wayne King, See Tuesday

B — Armco Iron Master Program
KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Chesterfield Program
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KGMB 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 WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSFA WSJS WSPD WTOC WWL

Wednesday (*Continued*)

R — Town Hall; Fred Allen
KFYR KPRC KSD KSTP KTBS KTHS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

B — Corn Cob Pipe Club
KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WHIO WIRE WJZ WLS WMAL WMT WREN WRVA WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Ray Noble and Orchestra
CFRB KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKBH WKBW WKRC WLAC WLBZ WMBD WMBG WMBR WNAC WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSFA WSPD WTOC WWL

B—Warden Lawes, Sing-Sing Drama
KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WIRE WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Crime Crusade; Phil Lord
KFAB KLZ KMBC KMOX KOMA KRLD KRNT KSL KTRH KTSA KTUL KWKH WAAB WABC WBBM WBNS WBRC WBT WCAO WCAU WCBL WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WLAC WMBG WMBR WOKO WORC WOWO WQAM WREC WTOC WWL

B — John Charles Thomas
KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WIRE WJZ WLS WMAL WMT WREN WSYR

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — Bruna Castagna, Contralto
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KVI KWG WABC WADC WBBM WBNS WCAO WCAU WCCO WDAE WDBO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WMBG WMBR WNAC WOKO WQAM WSPD WWL

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Myrt and Marge, See Monday

R — Amos 'n' Andy, See Monday

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Paris Night Life
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CKAC KLRA WAAB WABC WADC WALA WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WICC WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMBG WMBR WNOX WOKO WORC WQAM WREC WSPD WTOC

C — Burns and Allen
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KVOR KWG

E-12:00 p.m., C-11:00, M-10:00, P-9:00
R — Town Hall; Fred Allen
KDYL KFI KGW KHQ KOA KOMO KPO

THURSDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs; See Monday

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

E-6:30 p.m., C-5:30, M-4:30, P-3:30
C — Dance Orchestra
KLRA WAAB WABC WADC WALA WBIG WBRC WCAO WDAE WDBJ WDBO WDNC WODD WFBL WGST WHEC WIBX WJSV WLAC WBLZ WMAS WORC WQAM WREC WSJS WSPD

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Imperial Hawaiian Band
KFAB KRNT WAAB WABC WADC WCAO WCAU WDRC WEAN WFBL WFBM WHK WJSV WKBW WKRC WOKO

B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Myrt and Marge, See Monday

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
R — Popeye, See Tuesday

C — Musical Toast, See Tuesday

B — Nine to Five; Comedy Sketch
KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSAI WSYR WXYZ

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Kate Smith, See Tuesday

B — Lum and Abner, See Monday

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Harv and Esther
KFAB KMBC KMOX KRNT WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WMAS WNAC WOKO WSPD

R — Rudy Vallee's Variety Hour
CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KTAR KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHO WJAR WLW WMAQ WOW WRC WTAG WTAM WTIC WTMJ WWJ

B — Pittsburgh Symphony
KDKA KOIL KPRC KSO KTBS KWK WAPI WAVE WBAL WBAP WBZ WBZA WCKY WENR WFAA WFIL WFLA WGAR WHAM WIOD WIRE WIS WJAX WJDX WJZ WKY WLS WMAL WMC WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WWNC WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C—The March of Time
KFAB KLZ KMBC KMOX KRLD KRNT KSL WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WNAC WOKO WSPD WWL

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Walter O'Keefe, See Tuesday

R—Maxwell House Show Boat
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

B — Death Valley Days
KDKA KOIL KSO KWK WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Ed Wynn; Lennie Hayton
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KVI KWG KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDOD WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WHP WISN WJAS WJR WJSV WKBW WKRC WLAC WMBG WMBR WNAC WOKO WOWO WREC WSPD WTOC WWI.

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Horace Heidt and Orchestra
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDBO WDRC WFBL WFBM WGST WHAS WHK WISN WJAS WJR WJSV WKBW WKRC WLAC WMBG WNAC WNAX WOC WOKO WQAM WREC WWL

R — Bing Crosby; Jimmy Dorsey
CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR 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

THURSDAY (*Continued*)

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C—Just Another Amateur; Phil Cook
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KVI KWG WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WNAC WOKO WSPD WWL

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Dance Orchestra
WAAB WABC WADC WCAO WCAU WFBL WHK WIBX WJSV WKBN WKBW WLBZ WMAS WOKO WORC WPG WSBT WSPD

C — Myrt and Marge, See Monday

R — Amos 'n' Andy, See Monday

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CFRB CKAC KLRA WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

C — Walter O'Keefe, See Tuesday

FRIDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs, See Monday

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Buck Rogers, See Monday

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

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Kaltenborn Edits News
CFRB KGKO KHJ KLRA KLZ KMOX KOMA KRNT KSCJ KTRH KTSA KVOR KWKH WAAB WABC WADC WALA WBRC WDAE WDBJ WDBO WDNC WDOD WEAN WFBL WFBM WGST WHAS WHEC WIBX WICC WJSV WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WOKO WORC WQAM WREC WSJS WSMK WSPD

B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Myrt and Marge, See Monday

C — Buck Rogers, See Monday

R — Amos 'n' Andy, See Monday

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Lazy Dan, Minstrel Man
CKAC KFAB KMOX KOMA KRNT WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WMAS WMBG WNAC WOKO WSPD WWL

R — Uncle Ezra, See Monday
B — Ivory Stamp Club, See Monday

E-7:30 p.m., C-6:30, M-5:30, P-4:30
R — Edwin C. Hill, See Monday
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 — Flying Red Horse Tavern
KFAB KFH KMBC KMOX KRNT WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHEC WHK WIBW WICC WJAS WJR WJSV WKRC WLBZ WMAS WMBD WNAC WOC WOKO WORC WSPD

R — Cities Service Concert
CRCT KOA KPRC KSD KSTP KTBS KTHS KYW WBEN WCAE WCSH WDAF WEAF WEBC WEEI WFAA WFBR WGY WHO WHIO 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 KTAR 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 — Wendell Hall
CFCF KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WIRE WJZ WLS WMAL WMT WOOD WREN WSYR WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Broadway Varieties
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KOMA KRNT KSL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WMAS WMBG WNAC WOKO WSPD WWL

B — Red Nichols and Orchestra
KDKA KDYL KFI KFSD KGW KHQ KOIL KOMO KPO KSO KTAR 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 WBRC 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 WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSPD WWL

R — Frank Munn; Bernice Claire
KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WJAR WLW WMAQ WOW WRC WTAG WTAM WWJ

B — Al Pearce and his Gang
KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WHIO WIRE WJZ WLS WMAL WMT WREN WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — True Story Court
KDYL KFI KFSD KGW KOA KOMO KPO KSD KTAR KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WHO WHIO WJAR WMAQ WOW WRC WTAG WTAM WTIC WWJ

B — Fred Waring's Pennsylvanians
KDKA KDYL KFYR KOA KOIL KPRC KSO KSTP KTBS KTHS KWK WAPI WAVE WBAL WBZ WBZA WCKY WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WHIO WIBA WIOD WIRE WIS WJAX WJDX WJZ WKY WMAL WMC WMT WOAI WOOD WPTF WREN WRVA WSB WSM WSMB WSOC WSYR WTAR WTMJ WWNC WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Richard Himber and Orchestra
KFAB KFH KLZ KMBC KMOX KOMA KRLD KRNT KSL KTRH KTSA KTUL WAAB WABC WADC WBBM WBNS WCAO WCAU WCCO WDBJ WDRC WFBL WFBM WGST WHAS WHK WIBX WJAS WJR WJSV WKBW WKRC WOKO WORC WSBT WSPD

R — Compana's First Nighter
KDYL KFI KFSD KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KVOO KYW WBEN WCAE WCSH WDAF WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WIOD WJAR WJAX WKY WKLW WMAQ WMC WOAI WOW WRC WRVA WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

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

E-11:15 p.m., C-10:15, M-9:15, P-8:15
C — Dance Orchestra
CFRB CKAC KLRA KSCJ WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFEA WGST WHEC WHK WIBX WISN WJAS WJR WKBW WLAC WLBZ WMAS WMBD WMBG WMBR WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CFRB CKAC KLRA WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

E-12:00 p.m., C-11:00, M-10:00, P-9:00
B—Fred Waring's Pennsylvanians
KFI KFSD KGHL KGIR KGW KHQ KOMO KPO KTAR

SATURDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Frederic William Wile
KFH KGKO KLRA KLZ KMBC KMOX KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WAAB WABC WACO WADC WALA WBBM WBIG WBRC WBT WCAO WCCO WDAE WDBJ WDBO WDNC WDOD WESG WFBL WFBM WGST WHEC

SATURDAY (*Continued*)

WHK WIBW WIBX WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

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

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Atlantic Family; Frank Parker
WABC WADC WBIG WBNS WBRE WBT WCAO WCAU WCBA WDAE WDBJ WDBO WDRC WEAN WFBG WFBL WGBI WGR WGST WHEC WHK WHP WIBX WICC WJAS WMAS WMBG WMBR WNAC WNBF WOKO WORC WORK WQAM WRAK WSJS WTOC WWVA

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

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Carborundum Band
KFAB KMBC KMOX WABC WBBM WBT WCAO WCAU WCCO WEAN WFBL WGR WHAS WHK WJAS WJR WKRC WNAC

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C—Palmolive Beauty Box Theater
CKAC KFAB KLC KMBC KMOX KOMA KRLD KRNT KSL KTRH KTSA KTUL KWKH WABC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBD WDBJ WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WJAS WJR WJSV WKRC WLAC WLBC WBMG WMBR WNAC WOKO WORC WQAM WREC WTOC WWL

R — The Hit Parade
KDYL KFI KFSD KFYR KGHL KGIR KGU KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE 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-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Chesterfield, See Wednesday

R — Chevrolet Program
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Shell Chateau; Al Jolson
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KSD KSTP KTAR KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WIBA WJAR WLW WMAQ WOW WRC WTAG WTAM WTIC WTMJ WWJ

B — National Barn Dance
KDKA KOIL KPRC KSO KTBS KTHS KVOO KWK WAPI WAVE WBAL WBAP WBZ WBZA WFIL WGAR WHAM WIRE WJDX WJZ WKY WLS WMAL WMC WMT WOAI WOOD WREN WSB WSMB WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Public Opinion
CFRB CKAC KFH KGKO KLRA KLZ KMBC KMOX KOMA KSCJ KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — Along Rialto Row; Variety
CFRB KFH KGKO KLRA KLZ KMBC KMOX KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Dance Orchestra
CFRB CKAC KFH KGKO KLRA KLZ KMBC KMOX KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAX WNOX WOC WOKO WORC WQAM WREC WSHT WSJS WSMK WSPD WTOC

C — Palmolive Beauty Box Theater
KDB KERN KFBK KFPY KFRC KMJ KOIN KOL KVI KWG

B — National Barn Dance
KDYL KFI KFSD KFYR KGHL KGIR KGU KGW KHQ KOA KOMO KPO KSTP KTAR WDAY WEBC WIBA WLW WTMJ

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Dance Orchestra
CFRB CKAC KFH KGKO KLRA KLZ KMBC KMOX KOMA KSL KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WJAS WJR WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

E-12:00 p.m., C-11:00, M-10:00, P-9:00
C — Dance Orchestra
CKAC KFH KLRA KMBC KMOX KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WBBM WBNS WBRC WCAU WCCO WDNC WDOD WEAN WFBL WFBM WGST WIBW WIBX WICC WISN WJAS WJR WKBW WKRC WLAC WMBD WMBR WNOX WOC WOKO WQAM WSBT WSMK WSPD

SUNDAY

E-11:30 a.m., C-10:30, M-9:30, P-8:30
C — Salt Lake Tabernacle Choir
KFH KGKO KLRA KLZ KMBC KOMA KRLD KSCJ KSL KTRH KTSA KWKH WACO WADC WALA WBIG WBNS WBRC WBT WCCO WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGST WHAS WIBW WIBX WISN WJAS WJR WJSV WKBN WKRC WLAC WLBZ WMAS WMBD WMBR WNAC WNAX WNOX WOKO WORC WQAM WREC WSBT WSMK WSPD WTOC

R — Major Bowes' Capitol Family
KDYL KFYR KOA KPRC KSTP KTBS KVOO WAPI WCAE WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WHIO WJAR WJAX WKY WMAQ WMC WOAI WRC WRVA WSAI WSBM WTAG WTAM WWNC

E-12:30 p.m., C-11:30, M-10:30,P-9:30
B — Radio City Music Hall
CFCF CRCT KDKA KDYL KFI KFYR KGO KGW KHQ KOIL KOMO KPRC KSO KVOO WAPI WBAL WBZ WBZA WCKY WDAY WEBC WGAR WHAM WIS WJDX WJZ WKY WMAL WOAI WREN WSMB WSYR WWNC

E-12:45 p.m., C-11:45, M-10:45, P-9:45
C — Trans-Atlantic Broadcast
CFRB CKAC KFH KGKO KLRA KLZ KMBC KRLD KSCJ KTRH KTSA KVOR WABC WACO WADC WALA WBIG WBRC WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WESG WFBL WFBM WFEA WGR WHAS WIBX WJAS WJSV WKBN WLAC WLBZ WMBD WMBR WNAC WOC WOKO WORC WPG WQAM WREC WSJS WSMK WSPD WTOC WWL

E-1:00p.m., C-12:00, M-11:00, P-10:00
C — Church of the Air
KFH KGKO KLRA KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WACO WALA WBNS WBT WCAO WCCO WDAE WDBJ WDBO WDOD WESG WFBM WGR WHAS WHEC WIBW WIBX WJAS WJSV WKBN WKRC WLAC WLBZ WMBD WMBR WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSPD

E-1:30 p.m., C-12:30, M-11:30, P-10:30
C — Musical Footnotes
KMBC KMOX KRNT WABC WBBM WBNS WCAU WCCO WHAS WHK WJAS WJR WJSV WKBW WKRC WREC

E-2:00 p.m., C-1:00, M-12:00, P-11:00
C — Leslie Howard's Matinee
KFAB KLRA KLZ KMBC KMOX KOMA KRLD KRNT KSL KTRH KTUL WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WHAS WHEC WHK WJAS WJR WJSV

SUNDAY (*Continued*)

WKBW WKRC WLAC WNAC WOKO WOWO WREC WWL

B — Magic Key of RCA

CFCF CRCT KDKA KDYL KFI KFYR KGU KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTBS KTHS KVOO KWK WAPI WAVE WBAL WBZ WBZA WCKY WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WHIO WIBA WIOD WIRE WIS WJAX WJDX WJZ WKY WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSYR WTAR WTMJ WWNC WXYZ

E-2:30 p.m., C-1:30, M-12:30, P-11:30
C — José Manzanares and Orchestra

KFAB KMBC KMOX KOMA KRLD KRNT KTRH WABC WADC WBBM WBT WCAO WCAU WCCO WDAE WDRC WEAN WFBL WFBM WHAS WHK WISN WJAS WJR WJSV WKBW WKRC WMBR WNAC WOKO WQAM WREC WSPD WWL

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

CFRB CKAC KFH KGKO KLRA KLZ KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WESG WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WKBN WKBW WKRO WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNOX WOC WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

R — Harry Reser and Orchestra

KSD KYW WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WTAG WTAM WTIC WWJ

B — Your English

KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTHS KVOO KWK WAPI WAVE WBAL WBZ WBZA WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WIOD WJAX WJZ WKY WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSYR WXYZ

E-3:15 p.m., C-2:15, M-1:15, P-12:15
B — Pine Mountain Merrymakers

KDKA KFYR KOIL KSO KSTP KWK WBAL WBZ WBZA WDAY WEBC WENR WFIL WGAR WHAM WIBA WJZ WLW WMAL WMT WREN WSYR WXYZ

E-3:30 p.m., C-2:30, M-1:30, P-12:30
R — Metropolitan Opera Auditions

KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KTBS KTHS KVOO KYW WAPI WAVE WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFAA WFBR WFLA WGY WHO WHIO WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WWJ WWNC

E-4:00 p.m., C-3:00, M-2:00, P-1:00
Rev. Charles E. Coughlin

KFEL KNX KSFO KSTP KVOD KWK WATR WCAO WCAU WDRC WEAN WFBL WFEA WGAR WGR WHB WHO WICC WISN WJAS WJJD WJR WLBZ WLLH WLW WMAS WNAC WNBH WOKO WOL WOR WORC WOW WRDO

E-5:00 p.m., C-4:00, M-3:00, P-2:00
C — Abe Lyman and Orchestra

CFRB KFAB KMBC KMOX KRNT WAAB WABC WADC WBBM WCAO WCAU WCCO WDRC WEAN WFBL WFBM WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WOKO WSPD

B — Roses and Drums

KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

E-5:30 p.m., C-4:30, M-3:30, P-2:30
C — Frank Crumit; Julia Sanderson

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

C — Jose Manzanares and Orchestra

KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

E-5:45 p.m., C-4:45, M-3:45, P-2:45
R — Richard Himber and Orchestra

KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Gabriel Heatter, News Review

KDKA KOIL KSO KWK WAPI WAVE WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJDX WJZ WMAL WMC WMT WREN WSB WSM WSMB WSYR WXYZ

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Phil Spitalny and Orchestra

KFAB KFH KFPY KFRC KGB KGKO KHJ KLRA KLZ KMBC KMOX KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWKH WAAB WABC WADC WBBM WBIG WBNS 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 WMBR WNAX WNOX WOC WOKO WORC WPG WQAM WREC WTOC WWL WWVA

E-6:30 p.m., C-5:30, M-4:30, P-3:30
C — Smiling Ed McConnell

KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLZ KMJ KMOX KOIN KOL KRLD KRNT KSL KVI KWG WAAB WABC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDBJ WDRC WEAN WFBL WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WLAC WWL WWVA

B — Compana's Grand Hotel

KDKA KDYL KFI KHQ KOA KOIL KOMO KPO KSO WBAL WBZ WBZA WCKY WENR WGAR WHAM WJZ WMAL WMT WREN WSYR

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Voice of Experience

KMOX WAAB WABC WADC WBBM WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WHAS WHEC WHK WJAS WJR WKBW WKRC WSPD WWVA

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

KFAB KFH KLRA KLZ KMBC KMOX KOMA KRLD KRNT KTRH KTSA KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDOD WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WICC WJAS WJR WJSV WKRC WLAC WNAC WOKO WOWO WREC WSPD WWL

B — Jack Benny; Johnny Green

CFCF CRCT KDKA KFYR KOIL KPRC KSO KSTP KTBS KVOO KWK WAVE WBAL WBZ WBZA WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSYR WTAR WTMJ WWNC WXYZ

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Phil Baker; Hal Kemp

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

R — Fireside Recitals

KSD KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Ozzie Nelson; Robt. L. Ripley

KDKA KDYL KFI KFYR KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTAR KVOO KWK WBAL WBZ WBZA WCKY WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WJAX WJDX WJZ WKY WLS WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSYR WTMJ WWNC WXYZ

E-7:45 p.m., C-6:45, M-5:45, P-4:45
R — Sunset Dreams; Morin Sisters

CFCF CRCT KSD KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHO WHIO WIRE WJAR WLW WMAQ WOAI WOOD WOW WRC WTAG WTAM WTIC WWJ

E-8:00 p.m., C-7:00, M-6:00, P-5:00
R — Major Bowes' Amateur Hour

CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KVOO KYW WAVE WBEN WBZ WBZA WCAE WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB

SUNDAY (*Continued*)

WSM WSMB WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Ford Concert
CFRB CKAC KDB KERN KFAB KFBK KFH KFPY KFRC 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 WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBR WNAC WNAX WNOX WOC WOKO WORC WOWO WQAM WREC WSBT WSFA WSJS WSMK WSPD WTOC WWL
R — Manhattan Merry-Go-Round
CFCF KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFBR WGY WHO WHIO WIBA WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WTMJ WWJ
B — Charles Previn; Olga Albani
KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM 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 WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC
B — Walter Winchell
KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

E-9:45 p.m., C-8:45, M-7:45, P-6:45
B-Paul Whiteman's Musical Varieties
KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSAI WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Wayne King and Orchestra
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KSL KVI KWG WAAB WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WFBL WFBM WHAS WHK WIBW WJAS WJR WJSV WKBW WKRC WOKO WSPD WWL
R — General Motors Concert
CFCF CRCT KDYL KFI KFSD KFYR KGHL KGIR KGU KGW KHQ KOA KOMO KPO KPRC KSTP KTAR KTBS KTHS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI 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 — Freddie Rich and Orchestra
KLRA WABC WALA WBIG WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFEA WGST WICC WJSV WLAC WLBZ WMAS WMBG WMBR WNAC WORC WQAM WREC WSJS WTOC
C — Jack Hylton and Orchestra
KFAB KFH KLZ KMBC KMOX KRNT KCSJ KVOR WBBM WCCO WFBM WIBW WISN WJSV WKBH WMBD WOC WOWO WSBT

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Eddie Cantor
KDB KERN KFBK KFPY KFRC KGB KHJ KMJ KOIN KOL KSL KVI KWG
R — The Melody Master
KYW WBEN WCAE WEAF WEEI WFBR WGY WJAR WMAQ WRC WTAG WTAM WTIC WWJ
R — Sunset Dreams; Morin Sisters
KDYL KFI KFSD KGW KHQ KOA KOMO KPO KPRC KTAR KTBS KTHS WBAP 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 WBAP WJDX WKY WMC WOAI WSB WSM WSMB

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Voice of Experience
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG
B — Jack Benny; Johnny Green
KDYL KFI KFSD KGHL KGIR KGU KGW KHQ KOA KOMO KPO KTAR
B-Paul Whiteman's Musical Varieties
KECA KEX KFSD KGA KGO KJR KPRC KTBS KTHS WAPI WAVE WBAP WJDX WKY WMC WOAI WSB WSM WSMB

E-12:00 p.m., C-11:00, M-10:00, P-9:00
B — Charles Previn; Olga Albani
KDYL KFI KGW KHQ KOA KOMO KPO
C — Leslie Howard; Drama
KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

CLASSIFIED INDEX TO CHAIN PROGRAM

Time in Eastern Standard

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

These features are correct at the time of going to press, but changes are being made daily.

CONCERTS

Armco Iron Master, 8:30 p.m. Wednesday, B
Ford Concert, 9:00 p.m. Sunday, C
General Motors Concert, 10:00 p.m. Sunday, R
Metropolitan Opera Auditions, 3:30 p.m. Sunday, R
Philharmonic Symphony, 3:00 p.m. Sunday, C
Pittsburgh Symphony, 8:00 p.m. Thurs., B
Radio City Music Hall, 12:30 p.m. Sunday, B

DANCE BANDS

Victor Arden, 8:00 p.m. Thursday; 8:30 p.m. Friday, C
Ben Bernie, 9:00 p.m. Tuesday, B
Ray Block, 7:15 p.m. Tues. and Thurs., C
Jimmy Dorsey, 10:00 p.m. Thursday, R
Eddie Duchin, 9:30 p.m. Tues., R
Lud Gluskin, 10:30 p.m. Tuesday, C
Glen Gray, 9:00 and 11:30 p.m. Tuesday and Thursday, C
Johnny Green, 7:00 and 11:30 p.m. Sunday, B
Louis Gress, 7:00 p.m. Sunday, C
Lennie Hayton, 9:30 p.m. Thurs., C
Horace Heidt, 10:00 p.m. Thursday, C
Richard Himber, 5:45 p.m. Sun., R; 10:00 p.m. Fri., C
Carl Hoff, 8:00 p.m. Sat., R
Jack Hylton, 10:30 p.m. Sunday, C
Hal Kemp, 7:30 p.m. Sunday, C
Wayne King, 10:00 p.m. Sunday and Monday, C; 8:30 p.m. Tuesday and Wednesday, R
Guy Lombardo, 8:00 p.m. Monday, C
Abe Lyman, 5:00 p.m. Sunday, C; 9:00 p.m. Friday, R
Al Lyons, 10:00 p.m. Tuesday, C
Jose Manzanares, 2:30 and 5:30 p.m. Sunday, C
Ozzie Nelson, 7:30 p.m. Sunday, B
Red Nichols, 8:30 p.m. Friday, B

Ray Noble, 9:30 p.m. Wednesday, C
Raymond Paige, 9:00 p.m. Friday, C
Charles Previn, 9:00 and 12:00 p.m. Sunday, B
Leo Reisman, 8:00 and 11:30 p.m. Tuesday, R
Harry Reser, 3:00 p.m. Sunday, R
Freddie Rich, 10:30 p.m. Sunday; 8:00 p.m. Friday, C
Phil Spitalny, 6:00 p.m. Sun., C
Rudy Vallee, 8:00 p.m. Thursday, R
Fred Waring, 9:30 and 12:00 p.m. Tuesday, C; 9:30 and 12:00 p.m. Friday, B
Paul Whiteman, 9:45 and 11:30 p.m. Sunday, B
Victor Young, 9:30 p.m. Saturday, R

DIALOG

Fred Allen, 9:00 and 12:00 p.m. Wednesday, R
Amos 'n' Andy, 7:00 and 11:00 p.m. daily, except Sat. and Sun., R
Phil Baker, 7:30 p.m. Sunday, C
Jack Benny, 7:00 and 11:30 p.m. Sunday, B
Burns and Allen, 8:30 and 11:30 p.m. Wednesday, C
Eddie Cantor, 7:00 and 11:00 p.m. Sunday, C
Phil Cook, 10:30 p.m. Thursday, C
Easy Aces, 7:00 p.m. Tues., Wed., and Thurs., B
Fibber McGee and Molly, 8:00 p.m. Monday, B
Harv and Esther, 8:00 p.m. Thursday, C
Lum and Abner, 7:30 p.m. daily, except Sat and Sun., B
Nine to Five, 7:15 p.m. Thursday, B
Walter O'Keefe, 9:00 and 11:30 p.m. Tuesday and Thursday, C
Pick and Pat, 8:30 and 11:30 p.m. Monday, C
Popeye, The Sailor, 7:15 p.m. Tues., Thurs. and Sat., R
Ed. Wynn, 9:30 p.m. Thursday, C

DRAMA

Cavalcade of America, 8:00 p.m. Wednesday, C
Crime Crusade, 10:00 p.m. Wednesday, C
Death Valley Days, 9:00 p.m. Thursday, B
Eno Crime Clues, 8:00 p.m. Tuesday, B
First Nighter, 10:00 p.m. Friday, R
Goldbergs, 5:45 p.m. daily exc. Sat. and Sun., C
Grand Hotel, 6:30 p.m. Sunday, B
Helen Hayes, 12:00 mid. Monday, 9:30 p.m. Tues., B
Leslie Howard, 2:00 p.m. and 12 mid. Sunday, C
Warden Lawes, 9:30 p.m. Wednesday, B
Phillips Lord, 10:00 p.m. Wednesday, C
Lux Radio Theatre, 9:00 p.m. Monday, C
March of Time, 8:30 p.m. Thursday, C
Myrt and Marge, 7:00 and 11:00 p.m. daily except Sat., and Sun., C
News of Youth, 6:15 p.m. Tues., Thur., Sat., C
One Man's Family, 8:00 p.m. Wed., R
Parties at Pickfair, 10:00 p.m. Tues., C
Princess Pat Players, 9:30 p.m. Monday, B
Irene Rich, 8:00 p.m. Friday, B
Buck Rogers, 6:00 and 7:00 p.m. Mond., Wed., and Fri., C
Roses and Drums, 5:00 p.m. Sunday, B
True Story Court, 9:30 p.m. Friday, R
Welcome Valley, 8:30 p.m. Tuesday, B

POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m. Monday, R
Album of Familiar Music, 9:30 p.m. Sunday, R
Along Rialto Row, 10:30 p.m. Saturday, C
Atlantic Family, 7:00 p.m. Saturday, C
Major Bowes, 11:30 a.m. and 8:00 p.m. Sunday, R
Broadway Varieties, 8:30 p.m. Friday, C
Camel Program, 9:00 and 11:30 p.m. Tues. and Thurs, C
Carborundum Band, 7:30 p.m. Saturday, C
Chesterfield Program, 9:00 p.m. Wed. and Sat., C
Chevrolet Program, 9:00 p.m. Saturday, R
Cities Service Concert, 8:00 p.m. Friday, R
Contented Program, 10:00 p.m. Monday, R
Corn Cob Pipe Club, 9:00 p.m. Wednesday, B
Evening in Paris, 8:30 p.m. Monday, B
Fireside Recitals, 7:30 p.m. Sunday, R
Fleischmann Variety Hour, 8:00 p.m. Thursday, R
Flying Red Horse Tavern, 8:00 p.m. Friday, C
Hammerstein's Music Hall, 8:00 p.m. Monday, R
Hit Parade, 8:00 p.m. Saturday, R
Hollywood Hotel, 9:00 p.m. Friday, C
Imperial Hawaiian Band, 6:45 p.m. Thursday, C
Krueger Musical, 7:15 p.m. Tuesday and Thursday, C
Magic Key of RCA, 2:00 p.m. Sunday, B
Manhattan Merry-Go-Round, 9:00 p.m. Sunday, R
Maxwell House Show Boat, 9:00 p.m. Thursday, R
Melody Master, 11:00 p.m. Sunday, R
Musical Footnotes, 1:30 p.m. Sunday, C
National Barn Dance, 9:30 and 11:00 p.m. Saturday, B
Palmolive Beauty Box, 8:00 and 11:00 p.m., Sat., C
Paris Night Life, 7:15 and 11:15 p.m. Wednesday, C
Al Pearce and Gang, 9:00 p.m. Friday, B
Pine Mountain Merrymakers, 3:15 p.m. Sunday, B
Shell Chateau, 9:30 p.m. Saturday, R
Sherwin-Williams Program, 3:30 p.m. Sunday, R
Sinclair Minstrels, 9:00 p.m. Monday, B
Swift Studio Party, 10:00 p.m. Tuesday, R
Texaco Fire Chief, 9:30 p.m. Tuesday, R
Town Hall Tonight, 9:00 and 12:00 p.m. Wednesday, R
Uncle Ezra, 7:15 p.m. Mon., Wed., and Fri., R
Voice of Firestone, 8:30 and 11:30 p.m., Monday, R
Vox Pop, 9:00 p.m. Tuesday, R

SINGERS

Countess Olga Albani, 9:00 and 12:00 p.m. Sunday, B
Armida, 7:15 and 11:15 p.m., Wednesday, C
Clyde Barrie, 10:45 p.m., Monday, C
Connie Boswell, 9:30 p.m. Wednesday, C
Bruna Castagna, 10:30 p.m. Wednesday, C
Chariotteers, 7:15 p.m. Monday, C
Vivian Della Chiesa, 1:30 p.m. Sunday, C
Bernice Claire, 5:00 p.m. Sunday, C, and 9:00 p.m. Friday, R
Jerry Cooper, 7:15 p.m. Tuesday and Thursday, C
Bing Crosby, 10:00 p.m. Thursday, R
Crumit-Sanderson, 5:30 p.m. Sunday, C
Jessica Dragonette, 8:00 p.m. Friday, R
Phil Duey, 8:00 and 11:30 p.m. Tuesday, R; 8:00 p.m. Wednesday, B
Mary Eastman, 10:45 p.m. Friday, C
Jack Fulton, 5:00 p.m. Sunday, R
Wendell Hall, 8:15 p.m. Friday, B
Al Jolson, 9:30 p.m. Saturday, R
Frances Langford, 9:00 p.m. Friday, C
La Prelle Bros., 8:30 p.m. Monday, C
Lazy Dan, 7:15 p.m. Friday, C
Pierre LeKreune, 7:15 and 11:15 p.m. Wed., C
Elizabeth Lennox, 8:30 p.m. Friday, C
Nino Martini, 9:00 p.m. Saturday, C
Lucy Monroe, 8:00 p.m. Tuesday, C and 9:30 p.m. Sunday, R
Grace Moore, 9:30 p.m. Monday, R
Morin Sisters, 7:45 and 11:00 p.m. Sunday, R
Frank Munn, 8:00 p.m. Tuesday, C; 9:30 p.m. Sunday and 9:00 p.m. Friday, R
Donald Novis, 9:30 p.m. Tuesday, R
Frank Parker, 7:00 p.m. Saturday, C
Pickens Sisters, 8:30 p.m. Monday, B
Lily Pons, 9:00 p.m. Wednesday, C
Carmella Ponselle, 8:30 p.m. Friday, C
Dick Powell, 9:00 p.m. Friday, C
Eleanor Powell, 8:00 p.m. Friday, C
Virginia Rea, 9:00 p.m. Saturday, R
Lanny Ross, 9:00 p.m. Thursday, R
Fritzi Scheff, 8:00 p.m. Tuesday, C
Oscar Shaw, 8:30 p.m. Friday, C
Singin' Sam, 7:30 and 11:15 p.m. Monday, C
Smiling Ed McConnell, 6:30 p.m. Sunday, C
Kate Smith, 7:30 p.m. Tues., Wed., and Thurs., C
Oliver Smith, 5 p.m. Sunday, C
John Charles Thomas, 10:00 p.m. Wednesday, B
Lawrence Tibbett, 8:30 p.m. Tuesday, C

TALKS

Boake Carter, 7:45 p.m. daily except Sat. and Sun., C
Rev. Charles E. Coughlin, 4:00 p.m. Sunday
Jimmy Fidler, 10:30 p.m. Tuesday, R
Gabriel Heatter, 5:45 p.m. Sunday, B
Edwin C. Hill, 7:30 p.m. Mon., Wed., Fri., R
Ted Husing, 7:15 p.m. Monday, C
Ivory Stamp Club, 7:15 p.m. Mon., Wed., and Fri., B

H. V. Kaltenborn, 6:45 p.m. Friday, C
Public Opinion, 10:00 p.m. Saturday, C
Robert L. Ripley, 7:30 p.m. Sunday, B
Sidewalk Interviews, 9:00 p.m. Tuesday, R
Lowell Thomas, 6:45 p.m. daily except Sat. and Sun., B
Trans-Atlantic Broadcast, 12:45 p.m. Sunday, C
Voice of Experience, 6:45 and 11:30 p.m. Sunday, C
Frederic William Wile, 6:00 p.m. Saturday, C
Walter Winchell, 9:30 and 11:15 p.m. Sunday, B
Your English, 3:00 p.m. Sunday, B

Special Program From KNX

E. O. Cutler of New York advises us that KNX will provide a gala program for the NNRC on Sunday morning, March 1st. It will start at Midnight PST when KNX completes its regular schedule. The President of the Pan American Airways, sponsors of the new trans-Pacific Clipper ships has agreed to take part in the program. "Here is the sort of quality program requested by that Dean of DXers, H. T. Tyndall, Jr., in the February RADEX," adds Mr. Cutler.

When Georgie Price receives a request for a photo he writes back and tells the admirer to send him a roll of film. He then has friend wife take the pictures and mails the undeveloped roll to the fan.

Who Knows The "Chelsea"?

Your Editor is floored by a question from Glenn Parish, of Columbus, Ohio. He asks: "I have a set that has the name 'Chelsea' on it. It is one of the a.c.-d.c. universal sets with five tubes, but only four are in the circuit. Can you tell me who makes this set?"

We have been unable to locate information on this receiver. The extra tube on many such sets frequently is a dummy. The purchaser thinks he gets a five-tube set when it is really but a four. However, we do not know in this case as we have no circuit. An appeal to the records of the U. S. Federal Trade Commission at Washington, the source of trade-name registrations, has not helped us. Can any reader help Mr. Parish in this matter?

"The Voice of Experience" (Dr. M. Sayle Taylor) has bought a block of 27 lots at Atlantic Beach. He will build a home and also is contemplating erecting an apartment house.

Where to Get the DAY'S NEWS

Daily except Sunday unless otherwise noted.

1 Thursday only
2 Sunday only
3 Monday only
4 Except Monday
5 Except Saturday
6 Tuesday and Friday

7 Tues., Thurs. and Sat.
8 Mon., Wed., and Fri.
9 Saturday only
a Including Sunday
b Tuesday and Wednesday
c Tues., Thurs. and Fri.
d Thurs., Fri. and Sat.

ATLANTIC TIME

7:50 a.m.	**12:15 p.m.**	**5:05 p.m.**
CHSJ 1120	CKCW 1370	CHSJ 1120
9:00 a.m.	**12:30 p.m.**	**7:00 p.m.**
CKCW 1370	CHNC 1410	CFNB 550
9:30 a.m.	CJLS 1310	CJCB 1240
CHNS 930	**1:00 p.m.**	**8:00 p.m.**
10:30 a.m.	CJCB 1240	CJCB 1240
CJCB 1240		

EASTERN STANDARD TIME

7:00 a.m.	WMBC 1420	**7.55 a.m.**	WKJC 1200	WKZO 590	**9:00 a.m.**	WSOC 1210	**9:55 a.m.**
WIBX 1200	WSAI 1330	WBNS 1430	WOR 710	WNBC 1380	WAIM 1200	**9:15 a.m.**	CKLW 1030
WJR 750	**7:35 a.m.**	WMBR 1370	WPRO 630	WSAR 1450	WBEN 900	WBRE 1310	WOKO 1430
WNEL 1290	WICC 600	**8:00 a.m.**	WSPD 1340	**8:30 a.m.**	WBIG 1440	WBSO 920	**10:00 a.m.**
7:15 a.m.		CFRB 690	WTAG 580	WCAU 1170	WCSC 1360	**9:30 a.m.**	**Red & Blue**
WCMI 1310	**7.45 a.m.**	CKLW 1030	WTIC 1040	WEHC 1420	WGAR 1450	KQV 1380	CBS
WKZO 590	WBIG 1440	CMJH 1360	WWVA 1160	WFBC 1300	WIS 1010	WFDF 1310	WCAU 1170
WNAC 1230	WFIL 560	CMKM 1120	**8:05 a.m.**	WHK 1390	WJBK 1500	WHDL 1420	WDEL 1120
WNBX 1260	WINS 1180	WAAB 1410	WEEI 590	WOPI 1500	WKJC 1200	WIP 610	WELL 1420
WSAJ 1310[1]	WKRC 550	WADC 1320	**8:15 a.m.**	**8:45 a.m.**	WLEU 1420	WKBZ 1500	WIBX 1200
7:30 a.m.	WLW 700	WCKY 1490	WASH 1270	WJEJ 1210	WMAZ 1180	WNEW 1250	WJSV 1460
WAAT 940	WMAZ 1180	WFBR 1270	WBSO 920	**8:55 a.m.**	WMBR 1370	**9:45 a.m.**	WKJC 1200
WBT 1080	WSAZ 1190	WKBN 570	WIP 610	WEAN 780	WMFF 1310	WGBI 880	WNBH 1310

WNYC 810
WOR 710[2]
WPAR 1420
WPTF 680
WSPA 920
10:15 a.m.
WKZO 590
WLW 700
WSAR 1450
10:30 a.m.
WBIG 1440
WMAZ 1180
CBS Sun.
10:45 a.m.
WBT 1080
11:00 a.m.
Red & Blue[2]
CMKM 1120
WCKY 1490
WGBI 880
WKJC 1200
WMBC 1420
WNEL 1290
WSAR 1450
WTIC 1040[2]
11:15 a.m.
WMPG 1200
WSPD 1340
11:30 a.m.
WAGM 1420
WBNS 1430
WDBO 580
WSYB 1500
11:45 a.m.
WNAC 1230
WSYR 570
11:55 a.m.
CFCF 600
WBAL 1060
Noon
CJIC 890
CMJA 1010
WBZ 990
WCAE 1220
WDAE 1220
WFBR 1270
WFIL 560
WFMD 900
WGAR 1450
WIBX 1200
WINS 1180
WIOD 1300
WIP 610
WIS 1010
WJW 1210
WKJC 1200
WKOK 1210
WLEU 1420
12:03 p.m.
WWJ 920
12:15 p.m.
WBIG 1440
WBZA 990
WCAP 1280
WDAS 1370
WHAM 1150
WKBN 570
WOL 1310
WSOC 1210
WEEI 590
WHEC 1430
WNBC 1380
WOPI 1500
WWVA 1160
12:20 p.m.
WBCM 1410
12:25 p.m.
CFRB 690
12:30 p.m.
WBEN 900
WBT 1080[2]
WCAE 1220
WELL 1420
WFDF 1310
WIBM 1370
WJAS 1290
WKBZ 1500
WKRC 550
WKZO 590
WOR 710
WPAX 1210
WQAN 880
WSPA 920
12:35 p.m.
CJKL 530
WMBO 1310
12:45 p.m.
CKCV 1310[3]
CKTB 1200
WAAT 940
WADC 1320
WCSH 940
WEAN 780
WGH 1310
WMFD 1370
WPAR 1420
WTBO 800
12:55 p.m.
WBRE 1310
WBRE 1310
1:00 p.m.
CKCV 1310[4]
KDKA 980
WFBC 1300
WFBG 1310
WJBK 1500
WJSV 1460
WKJC 1200
WMBR 1370
WNBH 1310
WPRO 630
WSAR 1450
WSPD 1340
WTAG 580
WTIC 1040
1:10 p.m.
WCAD 1220
1:15 p.m.
WCAU 1170
WMAZ 1180
WTFI 1450
1:20 p.m.
WHEB 740
1:30 p.m.
CKLW 1030
WBTM 1370
WJR 750
WNAC 1230
WPHR 880
1:45 p.m.
WICC 600
WTAR 780
2:00 p.m.
WCSC 1360
WKJC 1200
WKRC 550
WSPD 1340
2:15 p.m.
WBT 1080
2:30 p.m.
KQV 1380
WINS 1180
2:45 p.m.
WAAB 1410
WEEU 830
2:55 p.m.
WBAL 1060
WBNS 1430
WCAE 1220
3:00 p.m.
WBRE 1310
WGBI 880
WINS 1180
WIP 610
WKJC 1200
3:14 p.m.
WFAS 1210[1]
3:15 p.m.
WMAZ 1180
3:30 p.m.
WJSV 1460
WMCA 570
3:45 p.m.
WSYR 570
WTFI 1450
WGBI 880[2]
4:00 p.m.
WHDL 1420
WKJC 1200
WNEL 1290
WSPA 920
WSPD 1340
4:15 p.m.
CKLW 1030
WHEC1430[5]
WOL 1310
4:30 p.m.
WQAN 880
4:45 p.m.
WAIM 1200
WCNW 1500
5:00 p.m.
WBSO 920
WMBX 1260
WBZA 990
WKJC 1200
WKRC 550
WOR 710
5:10 p.m.
WSPD 1340
5:15 p.m.
CMCF 815
WBIG 1440
WBZ 990
WCAU 1170
WCSH 940
WMFF 1310
WSAR 1450
WBAL 1060
5:20 p.m.
WJR 750
5:30 p.m.
CRCK 1050
WBRB1210[6]
WFLA 620
WICC 600
WNBC 1380
WOCL 1210
5:35 p.m.
WWVA 1160
5:45 p.m.
CRCO 880
WCMI 1310
WEHC 1420
WIOD 1307[7]
WKOK 1210
WMAZ 1180
WNBH 1310
WBRE 1310
WBT 1080
5:55 p.m.
CKLW 1030
WBNS 1430
WSPD 1340
WEEI 590
WJSV 1460
WMBR 1370
6:00 p.m.
CJIC 890
KDKA 980
WAGM1420[1]
WBEN 900
WCAE 1220
WCSC 1360
WGAR 1450
WIBX 1200
WIS 1010
WKJC 1200
WMBC 1420
WMMN 890
WNAC 1230
WPRO 630
WSOC 1210
WSVA 550
6:05 p.m
WWJ 920
6:15 p.m.
WGH 1310
WJAS 1290
WKBN 570
WPAR 1420
WRVA 1110
WSAR 1450
WSPD 1340
WWSW1500[5]
6:20 p.m.
WMCA 570
WEEI 590
6:30 p.m.
CBS
Red & Blue
CFRB 690
WFBC 1300
WFBR 1270
WFDF 1310
WFIL 560
WHAM 1150
WJBK 1500
WKBZ 1500
WKRC 550
WNEW 1250
WOPI 1500
WOR 710
WSAI 1330[8]
WTAG 580
WTIC 1040
6:35 p.m.
WEAN 780
WPTF 680
6:40 p.m.
WIOD 1300[8]
WIP 610
6:45 p.m.
CFCH 930
WDAE 1220
WGBI 880
WINS 1180
WMBO 1310
6:55 p.m.
WCKY 1490
WJSV 1460
WOKO 1430
7:00 p.m.
CMJA 1010
CMKM 1120
WAAB 1410
WKJC 1200
WLBZ 620
WTBO 800
WRDO 1370
7:15 p.m.
WBBR 1300
WBIG 1440
WBRE 1310
WEBR 1310
WIBX 1200
WMPG 1200
WNEW 1250
WNYC 810
WSYB 1500
WTFI 1450
7:30 p.m.
WFAS 1210[9]
WMAZ 1180
7:45 p.m.
WELL 1420
WEEI 590[2]
WFBC 1300
WGBI 880[6]
7:55 p.m.
WBNS 1430
WIP 610
8:00 p.m.
WKJC 1200
WWVA 1160
8:10 p.m.
WIBM 1370
WIP 610
8:30 p.m.
CKCO 1010
WCKY1490[2]
WFDF 1310
9:00 p.m.
CKOC 1120
CMCD 960
WFBC 1300
WGBI 880
WJBK 1500
WKJC 1200
WTAR 780
9:15 p.m.
WOPI 1500
WBT 1080[2]
9:30 p.m.
CMJK 780[5]
WBTM 1370
WEXL 1310
WMBR 1370
WMCA 570
9:45 p.m.
WAAB 1410
WPAR 1420
WSYR 570
10:00 p.m.
WBRE 1310
WCKY 1490
WCSC 1360
WGBI 880
WIS 1010
WJR 750
WKBZ 1500
WKJC 1200
WKRC 550
WLW 700
WNBH 1310
WNEL 1290
10:05 p.m.
WBT 1080
WGAR 1450
WSAR 1450
10:15 p.m.
CKLW 1030
10:30 p.m.
WBIG 1440
WBNS 1430
WOL 1310
WSPD 1340
WWSW1500[5]
10:45 p.m.
CHRC 580
WIP 610
11:00 p.m.
CFCF 600[5]
CFRB 690
CRCK 1050
WBEN 900
WCAE 1220
WEEI 590[2]
WFBR 1270
WFIL 560
WHEC 1430
WIBX 1200
WJAS 1290
WKJC 1200
WLW 700[5]
WNAC 1230
WOR 710
WPRO 630
WTAG 580
WTIC 1040
11:05 p.m.
WEEI 590
11:10 p.m.
Blue Net
11:15 p.m.
CBS Sun.
11:20 p.m.
WICC 600
11:30 p.m.
Red Net[2]
WHK 1390
WOR 710
WTIC 1040[2]
Midn't.
WCAU 1170
WCKY 1490

CENTRAL STANDARD TIME

5:30 a.m.
KFNF 890
6:15 a.m.
KFEQ 680
WBAP 800
WFAA 800
6:30 a.m.
KASA 1210
KMBC 950
WHO 1000
6:45 a.m.
KWBG 1420
7:00 a.m.
KABR 1420
KFJZ 1370
KRNT 1320
WCCO 810
WIBW 580
WMT 600
WTAD 900
WTCN 1250
KSO 1430
7:05 a.m.
WSGN 1310
7:15 a.m.
KGGF 1010
KPAC 1260
WHO 1000
WKEU 1500
7:20 a.m.
WHB 860
WOI 640
7:30 a.m.
KFRO 1370
KGBZ 930
KMBC 950
KSTP 1460
KWTO 560
WIBA 1280
WDSU 1250
XEFO 940
7:40 a.m.
KFEQ 680
7:45 a.m.
KRGV 1260
KVOO 1140
WNBR 1430
WOAI 1190
7:50 a.m.
KABR 1420
KFNF 890
8:00 a.m.
KARK 890
KFAB 770
KFYO 1310
KGFW 1310
WDAY 940
WFBM 1230
WJJD 1130
WJTL 1370
WKBB 1500
WKBH 1380
WMBH 1420
WMFN 1210
WTMV 1500
8:15 a.m.
KFJM 1370
KGFK 1500
WAAW 660
KASA 1210[2]
8:30 a.m.
KGKB 1500
KLPM 1240
KSD 550
KSTP 1460
KWBG 1420
WCCO 810
WGPC 1420
WJBO 1420
WSFA 1410
WTAQ 1330
8:45 a.m.
KNOW 1500
WSGN 1310
9:00 a.m.
Red & Blue
CBS
KGCA 1270
KGDY 1340
WDAF 610
KFYO 1310
WHBU 1210
WHBY 1200
WIND 560
WKEU 1500
WNOX 560
WOWO 1160
WSM 650
WTMJ 620
WTMV 1500
WIND 560[2]
9:05 a.m.
WILL 890
WRTN 1370
9:15 a.m.
KARK 890
KFAB 770
KFEQ 680
KPAC 1260
KSTP 1460
WLBC 1310
WMBD 1440
9:30 a.m.
KFIZ 1420
KFYO 1310
KTBS 1450
KTWO 560
WJBC 1200
WJJD 1130
WKBB 1500
WMT 600
WTRC 1310
CBS[2]
9:45 a.m.
KMBC 950
WJBO 1420[2]
KDLR 1210
10:00 a.m.
KFVS 1210
KLCN 1290
KVOS 1210
WCCO 810
WGST 890
WHBU 1210
WIND 560
WJTL 1370
WMBH 1420
WROK 1410
WTAX 1210
WTMV 1500
10:05 a.m.
KLPM 1240
WKBB 1500
10:15 a.m
CJGX 630
WBOW 1310
WDOD 1280
WJMS 1420
10:25 a.m.
WTCN 1250
KFOR 1210
KGDE 1200
WBEO 1310
WIND 560[2]
10:40 a.m.
KFEQ 680
10:45 a.m.
WKEU 1500
11:00 a.m.
KFJZ 1370
KFNF 890
KSTP 1460
WHBU 1210
WSGN 1310
WTMV 1500
11:15 a.m.
WDAF 610
11:25 a.m.
WDAY 940
11:30 a.m.
KFPW 1210
KRNT 1320
KWBG 1420
WMT 600
KSO 1430
11:45 a.m.
KABR 1420
KASA 1210
KFAB 770
KGKB 1500
KVOO 1140
WBAA 890
WCCO 810
WDSU 1250

WIND 560
11:55 a.m.
KFAB 770
WOAI 1190
Noon
CJGX 630
KARK 890
KGDY 1340
KGEX 630
KGNF 1430
KMBC 950
KVOL 1310
WGPC 1420
WHB 860
WHBU 1210
WISN 1120
WJJD 1130
WJTL 1370
WMBD 1440
WOC 1370
WSIX 1210
WTMV 1500
WTRC 1310
XEWZ 1150
12:15 p.m.
KGGF 1010
WBRC 930
WCLS 1310
WFBM 1230
WHBY 1200
WKBB 1500
WROK 1410
WOWO 1160
12:20 p.m.
KFNF 890
WRTN 1370
WTAW 1120
12:25 p.m.
KDLR 1210
12:30 p.m.
KFEQ 680
KFJM 1370
KWTO 560

WAGF 1370
WIBA 1280
WJAG 1060
WKBH1380[2]
WKEU 1500
WNBR 1430
12:35 p.m.
WJMS 1420
12:45 p.m.
KBTM 1200
KFIZ 1420
KFRO 1370
KFYO 1310
KLPM 1240
KRGV 1260
KSTP 1460
WBAA 890[9]
WBOW 1310
WCCO 810
WHO 1000
WKBH 1380
WLBC 1310
WMFN 1210
WNOX 560
WSFA 1410
WTCN 1250
1:00 p.m.
CKY 960
KCRC 1360
KFOR 1210
KGKL 1370
KRNT 1320
WCBS 1420
WDOD 1280
WHBU 1210
WMT 600
WSM 650
WTAX 1210
WTMJ 620
WTMV 1500
1:15 p.m.
KPAC 1260
KTBS 1450

KWTO 560[2]
1:30 p.m.
WLBC 1310
WMBH 1420
1:45 p.m.
KFDY 780
KGEX 630
WHEF 1500
2:00 p.m.
WHBU 1210
WJJD 1130
WJTL 1370
WTMV 1500
2:15 p.m.
KWBG 1420
WBAP 800
WFAA 800
WKEU 1500
WNAD1010*b*
2:20 p.m.
WCCO 810
2:25 p.m.
WTCN 1250
2:30 p.m.
KSTP 1460
KVOS 1210
WDAY 940
WIND 560
3:00 p.m.
KARK 890
KFJB 1200
WHBU 1210
WLBC 1310
WSGN 1310
WTMV 1500
3:05 p.m.
KFNF 890
3:15 p.m.
WGST 890
3:30 p.m.
KSOO 1110
KSTP 1460

WGBF 630*c*
WHO 1000
3:45 p.m.
KABR 1420
KOIL 1260
WKEU 1500
WTAX 1210
4:00 p.m.
KBTM 1200
WHBU 1210
WTMV 1500
4:15 p.m.
KWTO 560
WHB 860
WJAG 1060
4:30 p.m.
KFAB 770
KGEX 630
KMBC 950
KSTP 1460
WDAF 610
WOC 1370
WTMJ 620
5:00 p.m.
KFEQ 680
KFIZ 1420
KFJZ 1370
KFXR 1310
KOMA1480[5]
KSOO 1110
WHBU 1210
WHO 1000[9]
WIRE 1400
WJJD 1130
WJTL 1370
WMBD 1440
WOI 640
WSM 650
WTCN 1250
WTMV 1500
5:15 p.m.
WCCO 810
WMC 780

5:20 p.m.
KGGF 1010
5:30 p.m.
CBS
Red & Blue
KASA 1210[2]
KFAB 770
KFJB 1200
KPAC 1260
WOAI 1190
5:35 p.m.
KVOO 1140*d*
WENR 870
5:40 p.m.
WJAG 1060
5:45 p.m.
KFAB 770
KFYO 1310
WDAY 940
WDSU 1250
WFBM 1230
WKEU 1500
WNOX 560
WTRC 1310
5:50 p.m.
KSTP 1460
KFJM 1370
5:55 p.m.
WMT 600
6:00 p.m.
KARK 890
KFEQ 680
KVOL 1310
KWTO 560*a*
WHBY 1200
WJBO 1420
WTAQ 1330
WTAX 1210
WTMV 1500
6:10 p.m.
KLPM 1240
6:15 p.m.
KFNF 890
KFRO 1370

KFRU 630
KFVS 1210
WLBC 1310
WMFN 1210
WGL 1370
6:30 p.m.
KASA 1210
KDLR 1210
KFOR 1210
KOIL 1260
KWKC 1370
WDOD 1280
WHO 1000
WNBR 1430
WSGN 1310
6:45 p.m.
KRGV 1260
WKBH 1380
WSFA 1410
6:55 p.m.
KGDE 1200
7:00 p.m.
KGKB 1500
KWBG 1420
WAVE 940
WBOW 1310
WJTL 1370
WKBB 1500
WMBH 1420
WNAX 570
WTMV 1500
7:15 p.m.
KFNF 890
WJMS 1420
7:30 p.m.
WIND 560
7:45 p.m.
WRTN 1370
WTAD 900
8:00 p.m.
KARK 890
KFIZ 1420
KVOO 1140[2]

WGN 720
WHBU 1210
WTMV 1500
XENT 910*a*
WENR 870[5]
WGST 890
WHBU 1210
WIBA 1280
WIRE 1400
WMBD 1440
WNBR 1430
WOAI 1190
WTMJ 620
WTMV 1500
XENT 910
XEWZ 1150
10:05 p.m.
WCCO 810
10:10 p.m.
Blue Net
10:15 p.m.
CBS[2]
KLPM 1240
KSTP 1460
WGBF 630[9]
WHO 1000
WTCN 1250
10:30 p.m.
Red Net[2]
WHO 1000[9]
WRTN 1370
10:45 p.m.
WIND 560
11:00 p.m.
KMBC 950
WHBU 1210
WJTL 1370
WTMV 1500
XENT 910
Midn't.
KSTP 1460

MOUNTAIN STANDARD TIME

6:00 a.m.
KFKA 880
7:45 a.m.
KGKY 1500
KLZ 560
8:00 a.m.
Red & Blue*a*
CBS Net[2]
CHWC 1010
KFEL 920
KVOR 1270
8:15 a.m.
CFRN 1260
KGVO 1260

8:30 a.m.
CBS Net[2]
CHAB 1200
CKBI 1210
9:15 a.m.
KDYL 1290
KICA 1370
KIUL 1210
KIUP 1370
9:30 a.m.
CKCK 1010
10:00 a.m.
KOY 1390
10:30 a.m.
KDFN 1440

11:00 a.m.
XETB 1310
11:45 a.m.
KICA 1370
KLZ 560
Noon
KFEL 920
KTAR 620
12:15 p.m.
KFBB 1280
KGHL 780
KGVO 1260
KGIR 1340
KIUP 1370
XEAF 990

12:20 p.m.
KOY 1390
12:25 p.m.
KDFN 1440
12:30 p.m.
KFKA 880
KGEZ 1310
1:00 p.m.
CFCN 1030
KVOR 1270
2:00 p.m.
KICA 1370
2:30 p.m.
KDYL 1290
KSUN 1200

3:15 p.m.
CHCK 1010
3:30 p.m.
KIUL 1210
KSL 1130
3:45 p.m.
KLZ 560
4:00 p.m.
CHWC 1010
KFEL 920
KICA 1370
4:30 p.m.
Red & Blue
CBS Net
KIDW 1420

5:00 p.m.
KVOR 1270
5:30 p.m.
KDFN 1440
6:00 p.m.
KFKA 880
KOY 1390
6:15 p.m.
CHAB 1200
KGEZ 1310
KGVO 1260
6:30 p.m.
KGCX1310[9]
6:45 p.m.
KDFN 1440

7:00 p.m.
KFEL 920
CHWC 1010
CJCJ 690
KVOR 1270
XEFV 1210
8:15 p.m.
KICA 1370
KLZ 560
8:30 p.m.
KDFN 1440
8:45 p.m.
XEAF 990
9:00 p.m.

CJRM 540
KTSM 1310
KVOR 1270
9:15 p.m.
Blue Net[2]
CBS Net[2]
9:30 p.m.
Red Net[2]
10:00 p.m.
CFCN 1030
KDYL 1290
KGHL 780
KOY 1390
11:00 p.m.
KTAR 620

PACIFIC STANDARD TIME

6:00 a.m.
KJBS 1070
KRSC 1120
6:30 a.m.
KOIN 940
6:45 a.m.
KRLC 1420
7:00 a.m.
CBS Net
Red & Blue*a*
KGDM 1100
KQW 1010
KRSC 1120
KUJ 1370

7:15 a.m.
KERN 1370
KFBK 1490
KMJ 580
7:30 a.m.
CBS Net[2]
7:45 a.m.
KFPY 890
KRKD 1120
8:00 a.m.
KIT 1310
KRSC 1120
KUJ 1370
8:15 a.m.
KROW 930

8:30 p.m.
CRCV 1100
KGFJ 1200
KXRO 1310
8:45 a.m.
KOIN 940
KWJJ 1040
9:00 a.m.
KFRC 610
KFXM 1210
KOOS 1390
KRSC 1120
KWG 1200
9:15 a.m.
KOL 1270

KVOS 1200
KGDM 1100
9:30 a.m.
KJR 970
KMPC 710
9:45 a.m.
KFI 640
KFOX 1250
9:51 a.m.
KPQ 1500
10:00 a.m.
KJBS 1070
KQW 1010
KUJ 1370

10:15 a.m.
KELW 780
10:20 a.m.
KLX 880
11:00 a.m.
KRSC 1120
11:15 a.m.
KOIN 940
11:30 a.m.
CJAT 910
KRKD 1120
11:45 a.m.
KGHF 1200
Noon
KFJR 1300

KFRC 610
KJBS 1070
KQW 1010
KROW 930
KRSC 1120
KUJ 1370
KOAC 550
12:10 p.m.
CHWK 780
CKWX 1010
12:15 p.m.
KECA 1430
KHSL 950
KOL 1270

KREG 1500
KVI 570
KVOS 1200
W6XAI 1550
12:20 p.m.
KIT 1310
12:30 p.m.
KFPY 890
KIEM 1210
KOOS 1390
KPQ 1500
KRLC 1420
KTRB 740
KXRO 1310

12:45 p.m.
CKOV 630
KFXM 1210
1:00 p.m.
KGFJ 1200
KOIN 940
KRSC 1120
KJBS 1070[2]
1:30 p.m.
KMPC 710
1:45 p.m.
CHWK 780
KRKD 1120
2:00 p.m.
KRSC 1120

KGFJ 1200[2]
2:15 p.m.
KGDM 1100
3:00 p.m.
KJBS 1070
KQW 1010
KRSC 1120
3:15 p.m.
KGFJ 1200
3:30 p.m.
CBS Net
Red & Blue
3:45 p.m.
KFPY 890
KOIN 940

4:00 p.m.
KFRC 610
KRSC 1120
4:15 p.m.
KOIN 940
KWJJ 1040
4:45 p.m.
KGFJ 1200[2]
5:00 p.m.
KFJR 1300
KRSC 1120
KGDM 1100
5:30 p.m.
KELW 780
KMPC 710

5:45 p.m.
KOOS 1390*a*
KGFJ 1200
CHWK 780
6:00 p.m.
KJBS 1070*a*
KROW 930
KFOX 1250
KQW 1010[2]
KRSC 1120
KFXM 1210
6:15 p.m.
KECA 1430
KGFJ 1200[2]

XEMO 860
6:30 p.m.
CHWK 780
CKWX 1010
KFXM1210*a*
KJR 970
KPQ 1500
KQW 1010
KREG 1500
KUJ 1370
6:45 p.m.
W6XAI 1550
7:00 p.m.
KGFJ 1200
KIT 1310

KLX 880
KRKD 1120
KRLC 1420
KRSC 1120
KUJ 1370
KVOS 1200*a*
KXRO 1310
8:00 p.m.
KFPY 890
KRSC 1120
KUJ 1370
8:15 p.m.
CBS Net[2]
Blue Net[2]

8:30 p.m.
Red Net[2]
CKCD 1010
9:00 p.m.
KECA 1430
KFSD 600
KIEM 1210
KJR 970
KQW 1010
KROW 930
KRSC 1120
9:15 p.m.
KGFJ 1200[2]
W6XAI 1550

9:30 p.m.
KLX 880
KUJ 1370
9:45 p.m.
KIT 1310
KOL 1270
KVOS 1200
KYA 1230
KVI 570*a*
10:00 p.m.
KFI 640
KFOX 1250
KFRC 610

KFXM1210*a*
KGB 1330
KHJ 900
KOMO 920
10:30 p.m.
CRCV 1100
10:45 p.m.
KGFJ 1200
KXA 760
11:00 p.m.
KFPY 890
11:45 p.m.
KROW 930

FOREIGN B. C. STATIONS BY FREQUENCIES

Wavelength in meters is given in parentheses following frequencies in kilocycles. Entering dial number in square provided will enable you to identify stations heard. Power is given in second column in kilowatts and decimals thereof. Actual frequency is given in parentheses. While call letters are given wherever possible, very few European stations use these calls. Time is Local unless otherwise stated

520 (576.6)

LKH .7 **Hamar, Nor.** (519)
OFH 10. **Vilpuri, Fin.** (527)
RW34 10. **Stalingrad, USR.** (522)
..... 1. **Innsbruck, Aust.** (519)
..... 5. **Ljubljana, Yug.** (527)
..... .5 **Tartu, Est.** (517)

530 (565.7)

I1BZ 1. **Bolzano, I.** (536)
..... 16. **Wilno, Pol.** (536)

540 (555.2)

HAL 120. **Budapest, Hun.** (546) **Budapest VIII, Sandor Utca No. 7. Weekdays 0045-1815; Sun. 315-1900 EST**
RW52 20. **Tchita, USR.** (546)

550 (545.1)

2CR 10. **Cumnock, Ausl.**
..... 100. **Beromunster, Sw.** (556) **Report to PTT, Berne, Speichergrasse No. 6. Weekdays 600-1630; Sun. 130-1630 EST**

560 (535.4)

I1PA 4. **Palermo, I.** (565)
MTCY 100. **Hsinking, Mch.**
RW41 1.2 **Syktyvkar, USR.** (563)
RW42 10. **Gorki, USR.** (565)
XLHB .045 **Shanghai, Chn.**
ZUG 10. **Grahamstown, S. Af.**
6WA 10. **Minding, Ausl.**
..... 60. **Athlone, IFS** (565) **Radio Atha Luain. Daily 830-1800 EST**

570 (526)

CB57 5. **Santiago, Chile. Soc. Nacional Agricultura**
XGOH .15 **Changsha, Chn.**

2YA 5. **Wellington, N. Z. Featherstone St., Mon. to Sat. 700-900; 1000-1100; Sun. 900-1215; 1300-1430; 1800-2200.**
..... 100. **Stuttgart, G.** (574) **Charlottenplatz No. 1 Daily 0000-2000 EST**
..... 10. **Magnitogorsk, U.S.R.** (571)

580 (516.9)

CC58 .5 **Temuco, Chile. Luis E. Brain.**
JFCK 1. **Taichu, Formosa**
RW36 10. **Archangel, USR** (586)
RW54 10. **Khabarovsk, USR**
XQHA .25 **Shanghai, Chn.**
YLZ 15. **Riga, Lat.** (583)
3WV 10. **Horsham, Ausl.**
..... 15. **Grenoble, F.** (583) **Daily 300-1730 EST**

590 (508.2)

JOAK2 10. **Tokyo, Jap. M. Tomabecio, EST. Daily 4 a.m.-7:30 a.m.**
LS10 6. **Buenos Aires, Arg. Radio Callao, Callao** (666)
RW35 10. **Astrakhan, USR** (598)
7ZL 1. **Hobart, Ausl. Elizabeth St. Mon. to Fri. 830-1030; 1200-1530; 1630-1800; 1900-100; Sat. 830-1000; 1230-1300; Sun. 1200-300; 1630-1830; 1915-2400**
..... 120. **Vienna, Aust.** (592) **Wein No. 1, Johannesgrasse No. 4B. Daily 310-1900 EST**

600 (499.7)

CNR 25. **Rabat, Mor.** (601) **Radio Maroc, Office Cherifien des Postes et Telegraphes.**

PRH2 25. **Porto Alegre, Brz.** (now building)
RW82 2.5 **Frounze, U.S.R.** (608)
SBD 10. **Sundsvall, Swe.** (601)
XMHA .6 **Shanghai, Chn.**
ZTC 10. **Cape Town, S. Af.**
4QN 7. **Clevedon, Ausl.**

610 (491.5)

CX4 1. **Montevideo, Uru. Direccion de Agronomia, Millan, 746; 10-12; 17-19**
I1FI 20. **Florence, I. EIAR Stazione di Firenze. Weekdays 130-1730; Sun. 310-1730 EST**
JODK2 10. **Seoul, Ko.**
KZRM 50. **Manila, P. I.** (618.5) **Daily 600-2300**
RW18 1. **Pratigorsk, USR**
RW22 10. **Oufa, U.S.R.** (617)
RW50 2.5 **Oust Abakansk, USR** (617)
RW79 10. **Murmansk, U.S.R.**
XGSS .015 **Tsunshi, Chn.**
2FC 3. **Sydney, Ausl. 96 Market St. Mon. to Fri. 830-930; 1100-1300; 1330-1530; 1630-1745; 1900-100; Sat. 830-930; 1100-1830; 1900-100; Sun. 1130-1345; 1630-1815; 1930-2400**

620 (483.6)

CB62 1. **Santiago, Chl. Radio Chilena.**
CT1AA 20. **Lisbon, Por.** (629) **Emissora Nacional. Daily 700-1900 EST**
JOTK .5 **Matsuye, Jap.** (625)
LKT 20. **Trondelag, Nor.** (629)
LV3 2. **Cordoba, Arg.**
RW31 10. **Ivanovo, U.S.R.** (625)
4ZP .5 **Invercargill, N. Z. R. T. Parsons, 155 Layard St. N., Mon., Wed. 1230-1330; 1830-2130; Tue., Thus., Fri. 1230-1330; 1900-**

		2200; Sat. 1830-2130; Sun. 1100-1200; 1830-2200.
No. 1	15.	Brussels, Belg. la Rue du Bastion Weekdays 655-1800; Sun. 445-1900 EST
.....	20.	Cairo, Egypt.
.....	20.	Jerusalem, Pal.

630 (475.9)

JODG	.5	Hamamatsu, Jap. (635)
LS3	5.	Buenos Aires, Arg. Radio Mayo, Callao 1526
OKP	120.	Praha, Cz. (633). The Radio Journal, Praha, Cz. Daily 0030-1730 EST
RW28	.3	Vladivostok, U.S.R. (635)
RW32	10.	Vladivostok, U.S.R. (635)
TW84	1.2	Oust-Abakansk, USR (635)
3AR	4.5	Melbourne, Ausl. 120A Russel St., Mon. to Fri. 830-1100; 1300-1900; 1930-2400; Sat. 830-1100; 1300-1900; 1930-130; Sun. 1225-1630; 1810-2230

640 (468.5)

CB64	1.	Vina del Mar, Chile. La Union, Av. Portales 528
CC64	.1	Concepcion, Chile. El Sur, Freyre 799
JOUK	.3	Akita, J. (645)
RW29	10.	Petrozavodsk, U.S.R. (648)
RW56	1.2	Penza, U.S.R.
YN	90.	Lyons, F. (648). La Doua (testing). Daily 215-1800 EST
ZEK	.5	Hong Kong, Chn. GMT Mon., Thurs., Sat., from 12:30. The Secretary, Hong Kong Brdcstg. Com., P. O. Box 200.
ZTJ	10.	Johannesburg, S. Af. (645)
5CK	7.5	Crystal Brook, Ausl. Relays 5CL Mon. to Fri. 9-10; 1230-1600; 17-1830; 1930-130; Sat. 9-1030; Sun. 1230-1530; 17-19; 1945-0030
.....	.1	Shanghai, Chn.

650 (461.3)

CX6	10.	Montevideo, Uru. Estacion Oficial, Martin Fierro 2603. 12-14; 17-23
JOCG	.3	Asahigawa, J. (655) Pres. NBC, Hokkaido Asahikawa Branch. EST Daily 11 p.m.-7:30 a.m.
JQAK	.5	Dairen, Mnch. (652)
1YA	10.	Auckland, N.Z.
		Karangahape Rd. Mon. to Sat. 7-9; 10-23; Sun. 9-1215; 13-1630; 18-22
.....	100.	Cologne, G. (658) Dagoberlstrabe No. 38 Daily 0000-1800 EST

660 (454.3)

XGOA	75.	Nanking, Chn.
RW38	2.	Alexandrovsk U.S.R. (662)
.....	50.	Manchester, G. B. (668) North Regional Weekdays 515-1900; Sun. 730-1745 EST

670 (447.5)

JFAK	10.	Taihoku, For.
LS4	7.	Buenos Aires, Arg.
MTFY	3.	Harbin, Mnch. (674)
RW23	1.	Groznyl, U.S.R. (676)
YV6RV	.35	Valencia, Vnz.
2CO	1.	Corowa, Ausl. Relays 3LO and 3AR. Mon. to Fri. 830-13; 1330-1530; 1630-1745; 19-1; Sat. 830-1030; 1130-13; 1330-1830; 19-100; Sun. 1130-1345; 1430-1815; 1930-2400
.....	100.	Sottens, Swi. (677) Report to PTT Berne, Speichergrasse No. 6. Weekdays 630-1630; Sun. 355-1630 EST

680 (440.9)

CW27	.15	Salto, Uruguay. Ernesto Popelka
HJN	.5	Bogota, Col. (681)
JOLK	.5	Fukuoka, J.
JOVK	.5	Hakodate, J.
LKD	.5	Bodo, Nor. (686)
RW17	10.	Kazan, USR. (686)
RW27	4.	Makhatch, USR. (689)
RW46	1.2	Karaganda, U.S.R. (686.5)
RW71	1.2	Petropavlovsk, U.S.R. (689)
RW74	1.2	Tcheboksary. U.S.R.
.....	2.5	Belgrade, Yug. (686)
.....	1.5	Salisbury, S. Af. (681.9)

690 (434.5)

CX8	.5	Montevideo, Uru. Ramon Puyal, Caigua 3710
XGOY	.5	Yunnan-fu, Chn.
6WF	3.5	Perth, Ausl. Hay St. Mon. to Fri. 1030-1230; 1400-1730; 1830-20; 21-3; Sat. 1030-12; 1430-3; Sun. 14-17; 1830-2030; 2115-200
.....	7.	Paris, F. (695) FPTT Ecole Superieure des Postes et Telegraphes (Testing with 120 kw.) Daily 300-1800 EST

700 (428.3)

JOKK	.5	Okayama, J.
PRA7	.05	Sao Paulo, Brz., Rua Tibirica 26 (706)
RW48	2.5	Elista, USR. (704)
SBA	55.	Stockholm, Swe. (704) Weekdays 145-1700; Sun. 3-17 EST
VPB	1.75	Colombo, Cey. (705)
XMHC	.5	Shanghai, Chn.
ZP15	..	Villarrica, Par.
2NR	7.	Lawrence, Ausl.

710 (422.3)

I1RO	50.	Rome, I. (713) Weekdays 130-1730; Sun. 335-1730 EST
JOJK	3.	Kanazawa, J.
LS1	5.	Buenos Aires. Arg. Radio Municipal, Teatro, Colon
RW16	10.	Kouibychew, USR.
XGML	.0075	Kashing, Chn. (714.3)
XGOS	1	Chunking, Chn. (711)

720 (416.4)

JFBK	1.	Tainan, For.
JORK	.5	Kochi, J. Mr. Matsuo, Mgr., EST Daily 10:15 p.m.-7:30 a.m.; Sun., 10:30 p.m.-7:30 a.m.
PRF2	.25	Rio Claro, Brz. (725) Radio Club of Rio Claro
PRG5	.75	Santos, Brz. Radio Atlantica
RW9	36.	Kiev, USR. (722)
XLHC	.05	Shanghai, Chn.
XLHD	.05	Shanghai, Chn.
3YA	10.	Christchurch, N. Z Gloucester St. Mon. to Sat. 7-9; 10-23; Sun. 9-1215; 13-1630; 1730-22
6GF	2.	Kalgoorlie, Ausl.

730 (410.7)

CB73	1.	Santiago, Chile. Ultimas Noticias. Compania 1258
CX10	1.	Montevideo, Uru. Internacional Brdcstg. Industria 2840; 11-15; 16-24
EAJ2	3.	Madrid, Sp. (731) Radio-Espana
EAJ5	5.5	Seville, Sp. (731) Daily 230-1630 EST
JOSK	1.	Kokura, J. (735)
LV1	1.	San Juan, Arg. Radio Graffingna, C. de Correo 44
RW65	1.	Saransk, USR. (734)
XHGS	.05	Wuchow, Chn.
5CL	2.	Adelaide, Ausl. Hindmarsh Square. Same Schedule as 5CK, 640 kc.
.....	20.	Tallin, Est. (731)

740 (405.2)

OFD	1.	Pori, Fin. (749)

PRE6 1.5 Uberaba, Brz.
XHHB 1. Shanghai, Chn.
2BL 3. Sydney, Ausl.
96 Market St. Mon. to Fri. 830-1100; 13-19; 1930-2400; Sat. 830-11; 13-19; 1930-130; Sun. 1225-1630; 18-2330
..... 100. Munich, G., Funkhaus Rundfunkplatz No. 1
Daily 0000-1800 EST
..... 5. Marseilles, F. (749)
PTT Daily 245-17 EST
..... .2 Sortavala, Fin. (749)

750 (399.8)

HS7PJ 10. Bangkok, Siam
JOBK1 10. Osaka, J.
LR7 15. Buenos Aires, Arg.
LUHO .02 T'ung Hsien, Chn.
OAX4A 1.5 Lima, Peru. Daily 11 a.m.-1 p.m.; 6-7; 9-11 p.m.
PRA2 1.5 Rio de Janeiro, Brz.
Rua da Carcoca 45
PRA8 3. Pernambuco, Brz.
Ave. Cruz Cabuga 394
RW64 10. Urdjonikidze, USR. (752)
XGOK 1. Canton, Chn.
YV4RC .1 Caracas, Vnz.
ZTD 1.5 Durban, S. Af.
7NT 7. Kelso, Ausl. Same schedule as 7ZL, 590 kc.
..... .15 Tientsin, Chn.
..... 12. Katowice, Pol. (758)
..... 10. Maritzburg, S. Af.

760 (394.5)

CB76 10. Valparaiso, Chl. Co-op. Vitalicia, Agustina 1253, 9 Piso
PRD9 .25 Sorocaba, Brz. (769)
Radio Soc. Sorocaba
RW78 3. Ijevsk, USR. (767)
XLHI .0075 Shanghai, Chn.
XLHJ .015 Shanghai, Chn.
2YB .1 New Plymouth, N. Z.
Empire Bldg., King St. Mon. 19-22; Wed. 1830-22; Sat. 1330-17; 1830-22; Sun. 18-22
..... 50. Falkirk, G.B. (767)
Scottish Regional
Weekdays 515-19; Sun. 730-1730 EST

770 (389.4)

CX12 1. Montevideo, Uru.
Radio Westinghouse, Itacabo 2620; 10-23
JOHK 10. Sendai, J.
LKF 1. Frederikstad, N. (776)
RW26 10. Stalino, U.S.R. (776)
VUM .2 Madras, In.
3LO 3.5 Melbourne, Ausl.
120A Russel St. Mon. to Fri. 830-930; 11-13; 1330-1530; 1630-1745; 19-1; Sat. 830-930; 11-1830; 19-1; Sun. 1130-1345; 1630-1815; 1930-24
..... 2. Toulouse, F. (776)
PTT Daily 330-1730 EST

780 (384.4)

CB78 1. Santiago, Chile. Co-operative Vitalicia, Agustina 1253, 9 piso
JOPK .5 Shizuoka, J.
KZEG 1. Manila, P. I.
Daily 8-20
LT1 4. Rosario, Arg.
Radio Litoral, Cordoba 1049
PRE7 5. Sao Paulo, Brz. (788)
Radio Cosmos, Praca Marechal Deodora 52
XHHC .05 Shanghai, Chn.
..... 120. Leipsig, G. (785)
Temporarily on low power.
Daily 00-18 EST

790 (379.5)

EAJ1 7.5 Barcelona, Sp. (795)
Union Radio. Daily 215-19 EST
JOGK 10. Kumamoto, J.
LR10 10.25 Buenos Aires, Arg.
Radio Cultura, Belgrano 1841
RW51 1. Naltchik, USR. (794)
ZTB .5 Bloemfontaine, S. Af.
4VA 10. Dunedin, N. Z.
Stuart St. Mon. to Sat. 7-9; 10-23; Sun. 9-1215; 13-1630; 1730-22
..... 16. Lwow, Pol. (795)
Polskie Radjo SA, Rozglosnia we Lwowie
Daily 1-18 EST

800 (374.8)

PRB7 .5 Rio de Janeiro, Brz.
XLHK .0075 Shanghai, Chn.
XLHL .1 Shanghai, Chn.
4QG 2.5 Brisbane, Ausl.
State Insurance Bldgs. Mon. to Fri. 830-1030; 12-1530; 1630-18; 19-1; Sat. 830-10; 1230-1; Sun. 12-15; 1630-1830; 1915-24
..... 50. Cardiff, G.B. (804)
West Regional
Weekdays 515-1900; Sun. 730-1745 EST

810 (370.2)

CX14 5. Montevideo, Uru.
El Espectador Ltd., Lanus 5760. 10-24
I1MI 50. Milan, I. (814)
Radio Milano, Corso 28, Ottobre 102, Milano 134
Weekdays 130-1730; Sun. 330-1730 EST
JOCK1 10. Nagoya, J.
PRA6 10. Sao Paulo, Brz. (815)
Radio Educadora Paulista, Rua Jose Bonifacio 12
VUC 3. Calcutta, In.
..... .1 Peiping, Chn.

820 (365.6)

CB82 1 Santiago, Chl. El Diario Ilustrado, Moneda 1158. 9-10; 12-14; 16-1830; 20-24
CW23 .25 Salto, Uruguay. Modesto Llantada
LV7 1. Tucuman, Arg.
G. Acha Munoz y Cia. Mendoza 437
PRH8 5. Rio de Janeiro, Brz.
Radio Ipanema
RW68 1.5 Tcheliabinsk, U.S.R. (824)
XLKB .055 Tientsin, Chn.
2ZH .065 Napier, N. Z.
C. B. Hansen & Co., 59 Latham St., Mon., Tue., Fri. 12-14; 19-22; Wed. 12-14; 1830-2230; Thu. 12-14; Sat. 10-17; 19-23; Sun. 12-15; 1830-22
7HO 1. Hobart, Ausl.
82 Elizabeth St. Mon. to Sat. 930-1030; 1330-1530; 1900-0030; Sun. 2130-2330
..... 12. Bucharest, Ru. (823)
Weekdays 6-1730; Sun. 430-1830 EST

830 (361.2)

JOIK 10. Sapporo, J. T. Okada, Chf. Engr. EST Daily. 4 a.m.-7:30 a.m.
LR5 29. Buenos Aires, Arg.
Radio Excelsior, Maipu 462
RW39 100. Moscow, U.S.R. (832)
Innan Marr, Esq.
Moscow-Stalin Radio Station.
Daily 9-1630 EST
XGF .0075 Tsinan, Chn. (833)
XLII .03 Wuhu, Chn.
3GI 7. Longford, Ausl.

840 (356.9)

CB84 .1 Taicahuano, Chile.
Francisco Morales, Aldea 96
F31CD 12. Saigon, Indo.
Cie Generale de Telegraphie sans Fil, P.O. Box, 238
LT8 .5 Rosario, Arg.
Julio Blomberg, Sarmiento 958
PRA4 .05 Bahia, Brz. Radio Soc. da Bahia
XGTM .015 Chang-sha, Chn.
XHHA .15 Shanghai, Chn.
ZBW 2. Hongkong, C. (845)
The Secretary, Hong Kong Brdcstg. Com., P. O. Box 200.
2YC .2 Wellington, N. Z.
Featherstone St.
Mon. to Sat. 17-18; 19-220; Sun. 18-22

. ...	100.	Berlin, G. (841) Radio Reichssender, Berlin Brdcstg. House Daily 0000-1800 EST

850 (352.7)

CX16	10.	Montevideo, Uru. SADREP, Av. S. Martinez 13500
EAJ3	3.	Valencia, Sp.
HSPI	2.5	Bangkok, Siam (856)
JOFK	10.	Hiroshima, J.
LKA	.35	Aalesund, Nor.
LKB	1.	Bergen, Nor.
LKP	1.	Porsgrund, Nor.
PRB3	.25	Juiz de Fora, Brz. (857) Radio Soc. de Juiz de Fora, Parque Herald
RW73	10.	Simferopol, USR. (859)
VQ7LO	.6	Nairobi, Ken. (858)
VUB	3.	Bombay, In. (855)
XGOF	.5	Tsinan, Chn. (852)
XQHB	.1	Shanghai, Chn.
5RM	1.	Renmark, Ausl. River Murray Brdcsters, Ltd., 29 Rundle St., Adelaide
.....	1.	Sofia, Bul.
....	35.	Strasbourg, F. (859) Radio Strasbourg PTT, 30 Rue du 22 Nov. Weekdays 545-19; Sun. 1630-19 EST
.....	.05	Hangchow, Chn.

860 (348.6)

PRA3	2.5	Rio de Janeiro, Brz. Radio Club de Brasil, Rua Betancourt da Silva 21
XHHD	.05	Shanghai, Chn.
.....	16.	Poznan, Pol. (868) Daily 1-18 EST
.....	.6	Paris, F. (868) AGEN

870 (344.6)

JOAK1	10.	Tokyo, J. M. Tomabecio, EST Daily 4 a.m.-7:30 a.m.
LR6	26.	Buenos Aires, Arg. La Nacion, Florida 347
RW85	2.	Igarka, USR. (871)
XLIL	.02	Suchow, Chn.
2GB	1.	Sydney, Ausl. "The Nation's Station", Adyar House, 29 Bligh St., Mon. to Sat. 830-1; Sun. 930-1330; 1415-24
. .	50.	London, G.B. (877) London Regional. Weekdays 515-1930; Sun. 730-1745 EST

880 (340.7)

LV2	2.	Cordova, Arg. Radio Central, San Lorenzo 339
PRB2	.25	Curityba, Brz. (882) Radio Club Paranaense
RW61	1.	Iochar-Ola, USR. (888)
VUD	20.	Delhi, India. (882)
XHHV	.1	Shanghai, Chn.
YV3RC	.1	Caracas, Venz. (882)
1YX	.5	Auckland, N. Z. Karangahape Road Mon. to Sat. 17-18; 19-22; Sun. 18-22
6PR	.5	Perth, Ausl. Barrack St., Mon. to Sat. 1030-12; 14-1530; 21-2; Sun. 2330-130
.....	7.	Graz, Aust. (886) Daily 310-19 EST

890 (326.9)

CB89	1.	Santiago, Chile. Otto Becker, Ahuamada 113
CX18	1.	Montevideo, Uruguay Difusora El Espectador, Ltda., Olimar 1364
MTBY	1.	Mukden, Mnch.
OFA	10.	Helsinki, Fin. (895)
XGKA	.015	Kashing. Chn. (895)
ZP9	1.5	Asuncion, Par. (898)
.....	.5	Limoges, F. (895)

900 (333.1)

CB90	1.	Valparaiso, Chile. El Murcurio de Val., Casino de Vina del Mar.
JODK1	10.	Seoul, Korea
KZIB	1.	Manila, P. I. Daily 10-20
LU2	2.	Bahia Blanca, Arg. Radio Bahia Blanca.
PRF3	5.	Sao Paulo, Brz. (CP, 60 kw) Radio Difusora Sao Paulo.
XGOI	.5	Shanghai, China.
XGTM	.1	Tengchow, Chn.
2ZP	.105	Walroa, N. Z. E. A. Perry, 128 Queen St. Tue. 7-9; 18-2230; Wed. to Sat. 7-9; Sun. 730-930
3MA	.05	Mildura, Ausl. 22 Deakin Ave. Mon. to Thu. 9-10; 12-13; 1930-24; Fri. 9-10; 12-13; 1930-0030; Sat. 9-10 1930-0030; Sun. 1230-1530; 1945-2330
4WK	.05	Warwick, Ausl. King and Albion Sts. Daily 1230-1530; 19-2330
.....	100.	Hamburg, G. (904) Radio Reichssender Hamburg. Daily 00-18 EST

910 (329.6)

LR2	12.	Buenos Aires, Arg. Radio, Bolivar 1356 Argentina
RW30	10.	Dnepropetrovsk, USR., (913)
XLIM	.05	Hanim, Chn.
4RK	2.	Rockhamton, Ausl. Relays 4QG. Same schedule as 4QG 800 kc.
.....	60.	Toulouse, F. (913) Villa Schmidt, Rue Monie. Daily 3-1930 EST
.....	.5	Limoges, F. (913)

920 (325.9)

JOQK	.5	Niigata, J.
OKB	32.	Brno, Cz. (922) Daily 0030-1730 EST
PRC3	.25	Pelotas, Brz. Soc. Radio Pelotense
PRF4	10.	R'de Janeiro, Brz. (923). Soc. Anonima "Journal do Brasil"
XHHX	1.	Shanghai, Chn.
2ZR	.015	Nelson, N. Z. Trafalgar St. Temporarily silent.

930 (322.4)

CB93	3.	Santiago, Chile. Huke, Providencia 1022
CX20	2.	Montevideo, Uru. Radio Monecario, Humberto I No. 3. 11-1430; 16-24
JOAG	.5	Nagasaki, J.
PRD2	1.	R'de Janeiro, Brz. (932) Soc. Radio Cruceiro do Sul; Rua Mariz e Barros 270
RW55	1.	Engels, USR. (932)
VUG	1.	Delhi, India
XGON	.2	Nanking, China.
3UZ	.65	Melbourne, Ausl. 45 Bourke St. Mon. to Thu. 830-1530; 1645-100; Fri. 830-16; 1645-100; Sat. 830-1330; 1930-130; Sun. 1130-1400; 1915-2330
No. 2	15.	Brussels, Belg. (932) Weekdays 7-19; Sun. 5-19 EST

940 (319)

JONK	.5	Nagano, J. K. Yanada, Dir. EST Daily 4-1930
PRE4	.25	Rio de Janeiro, Brz. (941). Soc. Radio Cultura "A Voz do Espacao"
SBB	10.	Goteborg, Swe. (941) Weekdays 145-17; Sun. 3-17 EST
XHHE	1.	Shanghai, Chn.
3ZR	.4	Greymouth, N. Z. West Coast Radio Soc., Bright St., Cobden. Mon. to Fri. 730-830; 15-17; 18-19; 1930-22; Sat. 730-830; 1330-17; 18-21; Sun. 12-1330; 1730-1830; 19-21
.....	12.	Algiers Alg. (941) Radio PTT du Govt. Gen., Rue Berthezene, Alger, Algeria, N. Af. Daily 8-18 EST

950 (315.6)

LR3	31.	Buenos Aires, Arg. Radio Belgrano, Belgrano 1841
PP	60.	Paris, F. (959) Poste Parisien, 4 Rue du General-Foy. Daily 210-18 EST
PRF8	.5	Bahia, Brz. (959) Radio Commercial da Bahia
RW40	1.	Gomel, U.S.R. (959)
RW54	1.	Gomel, USR. (959)
XGOP	.3	Peiping, Chn.
ZTP	.5	Pretoria, S. Af. (952)
2UE	1.	Sydney, Ausl. Rex Shaw, 296 Pitt St., Mon. to Fri. 730-15; 16-1; Sat. 730-1230; 1500-130; Sun. 930-1330; 1815-0030
.....	100.	Breslau, G. Schlesische Funkstunde, GMBH, Breslau 18 Daily 23-18 EST

960 (312.3)

CC96	.1	Curico, Chile. Merced 11
JOOK	.3	Kyoto, J.
PRB4	1.	Santos, Brz. Radio Club de Santos, Rua de Pedro II 16.
RW13	10.	Odessa USR. (968)
RW67	2.	Oukhta, USR. (968)
RW69	10.	Odessa, USR. (968)
XHHF	.1	Shanghai, Chn.
YV1RC	5.	Caracas, Venz. (961) Brdcstg. Caracas, Apt de Correos 2009. Sun. 9-23; Weekdays 16-2230
2ZF	.25	Palmerston, N. Z. King St., Mon., Thurs., Sat., 20-22; Wed. 1815-22; Fri., Sun., 19-2130
5DN	.3	Adelaide, Ausl. 29 Rundle St., Mon. to Fri. 915-115; Sat. 915-15; 20-115; Sun. 845-0015

970 (309)

CB97	1.	Santiago, Chile. Siam, Bolivar 1551
CX22	.25	Montevideo, Uru. Fada Radio, Larranga 278. 1030-1530; 17-23
JOBG	.5	Maebashi, J.
LV9	.5	Salta, Arg. G. Saches y Cia., Alberdi 110
XHIB	.075	Wusih, Chn.
3BO	.2	Bendigo, Ausl. Kangaroo Flat. Mon. to Fri. 1230-1500; 19-24; Sat. 1230-24; Sun. 1130-1430; 2030-2330
.....	1.	Belfast, GB (977)

980 (305.9)

CNO	.025	Casablanca, Mor. (983)
I1GE	10.	Genoa, I. (986) EIAR Stazione di Genoua. Weekdays 130-1730; Sun. 310-1730 EST
JOXK	.5	Tokushima, J. T. Tsutsumi, Chf. Engr. EST Daily 2205-730; Sun., 2230-730
OAX4E	.05	Lima, Peru, Juan P. Goincochea, Jiron Ocona No. 158
PRC6	1.	R'de Janeiro, Brz. Soc. Radio Philips, Rua Sacadura Cabral 43
XMHB	.5	Shanghai, Chn.
2LV	..	Invernell, Ausl.
2ZJ	.06	Gisborne, N. Z. 229 Gladstone Rd. Mon., Fri., Sat., 19-22; Tues., Wed., 12-1330; 19-22; Thurs., 19-20
4AY	.1	Ayr., Ausl. Norman L. Dahl, Airdmillon Rd. "The Voice of the Cane Fields" Mon. to Sat. 16-1830; 1930-24; Sun. 2130-2330
6AM	1.	Northam, Ausl. Mon. to Sat. 10-12; 1530-1730; 21-2; Sun. 1330-1730; 1830-2030; 2130-130
.....	24.	Torun, Pol. (986) (Testing)

990 (302.8)

JOFG	.3	Fukui, J.
LR4	16.	Buenos Aires, Arg. Radio Splendid, Callao 1526. Daily 11-24
PFBI	60.	Hilversum, Hol. (995) Heir Radio Hilversum, Ouden, Engweg, 4. Daily 310-1810 EST
XGCK	.075	Chuching, Chn.
XGOD	1.	Hangchow, Chn.
2GZ	2.	Orange, Ausl.

1000 (299.8)

HJ3ABH	2.	Bogota, Col. (1005) "La Voz. de La Victor", Aptdo 565. Sun., 12-14; 16-21; Wednesdays 1130-14; 18-23
OKR	13.5	Bratislava, Cz. (1004) Daily 0030-1730 EST
PRA9	1.	Rio de Janeiro, Brz. Radio Soc. Mayrink Veiga, Rua Mayrink Veiga 17
PRB8	.05	Mogy das Cruzes, Brz.
XGMK	.015	Poatung, Chn. (1005)
XGOT	.05	Taiyuan, Chn.
ZP3	.3	Asuncion, Par.
4GR	.5	Toowoomba, Ausl. Ruthven St. Mon. to Fri. 8-1530; 19-2330; Sat. 8-1130; 1930-2330; Sun. 1130-1430; 030-2330

1010 (296.9)

CB101	1.	Santiago, Chile. Radio Mayo, Bander 154
CX24	2.5	Montevideo, Uruguay SADREP, Las Rozas 756
PRB9	5.	Sao Paulo, Brz. (1017) Radio Soc. Record, Praca da Republica 17
RW86	5.	Tchernigov, USR. (1013)
XGOW	5.	Hangkow, Chn.
3HA	.3	Hamilton, Ausl. 37 Gray St., "The Age Brdcstg. Service", Mon. to Sat. 830-1030; 1330-1745; 1915-2400; Sun. 1230-1800; 2015-0030
4ZB	.025	Dunedin, N. Z. 180 Rattray St. Wed., Thu. 18-23; Sun. 10-12
4ZM	.003	Dunedin, N. Z. McCracken & Wells, 17 George St. Mon., Wed., Thu., Fri. 9-1145; 13-14; Tue. 9-1145; 13-14; 18-23; Fri. 10-12; 13-14; Sat. 9-12; 17-22; Sun. 14-22
4ZO	.025	Dunedin, N. Z. Mon. 12-13; 14-15; 20-23; Tue., Wed., Thu., 12-13; 14-15; 17-18; Fri. 12-13; 14-15; 17-18; 19-23; Sat. 12-13
.....	50.	Daventry, G. B. (1013) Midland Regional. Weekdays 545-1815; Sun. 1130-1745 EST

1020 (293.9)

EAJ15	3.	Barcelona, Sp. (1022)
EAJ19	.7	Oviedo, Sp. (1022)
JBAK	.5	Fuzan, Korea
OBJ	...	Lima, Peru. Escuela Militor de Chorrillos.
XHHG	.1	Shanghai, Ch.
2KY	1.	Sydney Ausl. The Block, George St. Mon., Tue., Thu., Fri. 815-1330; 1430-17; 1745-0030; Wed. 815-1330; 14-0030; Sat. 815-1240; 14-18; 1845-0030; Sun. 9-0030
.....	2.	Cracow, Pol. (1022)

1030 (291.1)

CD103	.1	Magallanes, Chile. Ramon Verde Sanchez, Mexicana 936
CT1GL	5.	Parede, Por. (1031) Radio Club Portuguese.
LR9	5.	Buenos Aires, Arg. Radio Fenix, Santa Fe 1174
PRC8	1.	Rio de Janeiro, Brz. Radio Soc. Guanabara, Rua 1st de Mayo 123
XGOL	1.	Foochow, Chn.
YV11RMO	..	Maracaibo, Venz. (1034)
3DB	.6	Melbourne, Ausl. 36 Flinders St. Mon. to Fri. 8-1; Sat. 8-130;

Sun. 1130-1330; 1530-24

..... 100. Konigsberg, G. (1031) Daily 00-18 EST

1040(288.3)

CP4 10. La Paz, Bol. Carlos Lopez Vedela, Casilla 637

CW25 .5 Durazno, Uru. Artola Evangelisti y Cia. 10-13; 18-23

RW70 10. Leningrad, USR.

XHHH .1 Shanghai, Chn.

5PI 2. Port Pirie, Ausl. Relays 5AD. Mon. to Fri. 8-16; 19-1; Sat. 8-16; 17-1; Sun. 1930-24

..... 40. Rennes-Bretagne, F. Daily 3-1730 EST

1050(285.5)

CX26 2. Montevideo, Uru. Radio Uruguay, Millan 2370. 9-1430; 16-23

I1BA 20. Bari, I. (1059) EIAR Stazione di Bari Weekdays 130-1730; Sun. 335-1730 EST

PRF6 .05 Bahia, Brazil. Radio Club da Bahia

RW33 1. Krasnodar, USR.

XHKA .1 Tien-tsin, Chn.

2CA .5 Canberra, Ausl. Mon. to Fri. 14-15; 19-2330; Sat. 1930-2330; Sun. 2130-2330

..... 50. Falkirk, G. B. Scottish National. Weekdays 545-1815; Sun. 1130-1745 EST

1060(282.8)

CB106 1. Santiago, Chl. Sud America, Goicolea 0122. 11-13; 17-18

RW57 4. Tiraspol, USR. (1068)

XHHI .1 Shanghai, Chn.

3YB .025 Melbourne, Ausl. 430 Little Collins St. Mon. to Sat. 20-24; Sun. 2030-2330

4MB .05 Maryborough, Ausl. Wynne's Stn. Mon. to Fri. 10-1130; 1330-1530; 20-2330; Sat. 10-1130; 1330-1530

..... 2. Paris, F. (1068) Radio-Cite

1070(280.2)

LR1 50. Buenos Aires, Arg. Radio El Mundo, Maipu 555

PYG2 10. Sao Paulo, Brz. Radio Tupy Sao Paulo

XGOX .2 Honan-fu, Chn.

XKRI .1 Canton, Chn. (1071)

..... 30. Bordeaux, F. (1077) Bordeaux - Lafayette Hotel des PTT, 220 Chemin do Tondu Daily 300-1730 EST

1080(277.6)

JOBK2 10. Osaka, J. (1085)

LT3 4.5 Rosario, Arg. Radio Soc. Rural de Cerealistas, Pte. Roca 770

OAX4F .05 Lima, Peru F. W. Castelano & Hno. Opens and closes "Anchors Aweigh" Daily except Sun., 15-17 EST

SCC 2. Falun, Swe. (1086)

XHHJ .2 Shanghai, Chn.

ZP7 .7 Asuncion, Par. (1083)

2AD .. Armidale, Ausl.

3SH .05 Swan Hill, Ausl. Mon. to Sat. 14-15; 2030-24; Sun. 1345-1545; 1745-1930; 2045-2330

..... .7 Zagreb, Yu. (1086)

1090(275.1)

CC109 .1 Rancagua, Chile. Jorge Romero, Independencia 483

CX28 3. Montevideo, Uru.

EAJ7 10. Madrid, Sp. (1095) Union Radio Station EAJ7, Aptdo 745. Daily 3-19 EST

PRC2 3. Porto Alegre, Brz. Radio Soc. Gaucha, Galerie Chaves

PRC7 .25 Bello Horizonte, Brz. Soc. Radio Minheira

RW75 10. Vinnitza, USR. (1095)

XGOB .25 Loyang, Chn.

1ZB .1 Auckland, N. Z. 153 Krangahape Rd. Tue. to Fri. 9-930; 1015-1100; 1830-2130; Sat. 9-930; 1015-11; 1515-1645; Sun. 9-12; 1830-2130

1100(272.6)

HJ3ABD .05 Bogota, Col. Alford's Radio, Calle 16. No. 5-40

I1NA 1.5 Naples, I. (1104)

XHHS .1 Shanghai, Chn.

7LA .3 Lanceston, Ausl. 67 Brisbane St. Mon. to Fri. 9-1030; 1330-1530; 19-24; Sat. 9-1030; 16-1830; 19-24; Sun. 1915-2330

..... 50. Madona, Lat. (1104) Weekdays 00-1630; Sun. 200-1700 EST

1110(270.1)

CB111 1. Vina del Mar, Chile. Los Castanos, Av. Castanos 393

CD111 .1 Magallanes, Chile. Radio Austral, Independencia s/n 20-23

LS5 5. Buenos Aires, Arg. Radio Rivadavia, Callao 1526

OKK 11.2 Moravska, Cz. (1113) Daily 0030-1730 EST

2UW 1. Sydney, Ausl., J. M. Prentice, Box 241D, GPO. "At the Cross Roads of Sydney". 24 hrs. daily.

..... 10. Normandie, F. (1113) Fecamp Daily 2-21 EST

..... .001 Suchow, Chn.

1120(267.7)

CD112 .1 Osorno, Chile. David Arriagada, Baquedano 715

CW29 .05 Mercedes, Uru. Bautista Abbo. 1130-13; 1830-2230

HAE 6.2 Nyiregyhaza, Hung. (1122)

LV5 .7 San Juan, Arg. Radio Los Andes, G. Acha 362

OAX41 ... Lima, Peru. Radio Internacional

PRH3 10. Sao Paulo, Brz. Radio Piratininga

XLHM .05 Shanghai, Chn.

XLHN .2 Shanghai, Chn.

4BC 1. Brisbane, Ausl., R. F. Roberts, 43 Adelaide St., Mon. to Fri. 8-0030; Sat. 8-11; 1330-0030; Sun. 830-1330; 1630-24

..... .25 Alexandria, Eg. (1122)

..... 1. Newcastle, G.B. (1122)

1130(265.3)

CX30 .5 Montevideo, Uru. Radio Nacional, Porvenir 2384. 9-24.

PRD8 1. Nitheroy, Brz. (1132) Radio Club Fluminense

SBH 10. Horby, Swe. (1131) Weekdays 145-1700; Sun. 3-17 EST

XGOC .25 Nan-chang, Chn.

ZP1 1. Asuncion, Par. (1135)

6ML .5 Perth, Ausl. Lyric House, Murray St. Mon. to Fri. 1030-1230; 1430-16; 21-2; Sat. 1030-1230; 1430-16; 2130-2; Sun. 2230-130

1140 (263)

CB114 1. Santiago, Chile. Chilena Consolidada, E. Llanos 35

I1TO 7. Turin, I. Weekdays 130-1730; Sun. 310-1730 EST

XHHL .1 Shanghai, Chn.

2HD .5 Newcastle, Ausl. Box 123. Mon. to Fri. 730-1530; 1630-1730; 19-24; Sat. 730-1530; 1630-1730; 19-130; Sun. 1030-1330; 1630-1730; 1830-130

4YO 1.5 Dunedin, N. Z. Mon. to Sat. 17-18; 19-22; Sun. 18-22
..... 20. London National, G.B. (1149)
..... 20. North National, G.B. (1149) Weekdays 545-1815; Sun. 1130-1745 EST
..... 20. West National, G.B. (1149) Same as North National

1150(260.7)

HC2ET .3 Guyaquil, Ec. (1153)
HJ1ABM .05 Cartagena, Clb. (1154)
LR8 7. Buenos Aires, Arg. Radio Paris, Cangallo 860
OAX4H ... Lima, Peru. Radio Davila, Aptdo. 373
XGGW .05 Tengchow, Chn.
XGOZ .1 Kongsu, Chn.
XGYY .015 Tsangchow, Chn.
YV7RMO .5 Maracaibo, Venz. (1153)
2WG .2 Wagga, Aus. 16 Fitzmaurice St. Mon. to Sat. 930-1030; 1330-1530; 1930-24; Sun. 2130-2330
2ZM .015 Gisborne, N. Z. Mon.,Tue.,Wed.,Fri., Sat. 915-1015; Thu. 915-1015; 20-2230; Sun. 19-22
..... 2.6 Kosice, Poland. (1158)

1160(258.5)

CB116 .1 Valparaiso, Chile. Radio Valparaiso, Prat 773
CW31 .25 Salto, Uru. Salvador E Pera. 9-1230; 16-23
LT5 .5 Resistencia, Arg. Radio Chaco, Av. 9 de Julio
XHHU .1 Shanghai, Chn.
2KA .1 Katoomba, Ausl. 80 Market St. Time indefinite
4MK .1 Mackay, Ausl. 64 Nelson St., Mon. to Fri. 11-1230; 15-19; 20-0030; Sat. 11-19; 20-0030; Sun. 1130-14; 1630-1830; 20-23
6BY .05 Bunbury, Ausl. Bedford Hall
..... 15. Mte. Ceneri, Sw. (1167) Report to PTT Berne, Speighergrasse No. 6 Weekdays 6-17; Sun. 430-1630 EST

1170(256.3)

CC117 .1 Concepcion, Chile. Zenith, Rolando Beckdorf, Av. Argentina 977
CX32 .5 Montevideo, Uru. Radio Marconi, Gen. Hornos 537. 10-2
JOCK2 10. Nagoya, J. (1175)
PRB6 1. Sao Paulo. Radio Cruceiro do Sul, Largo da Misericordia 4
PRC9 .25 Campinas, Brz. (1175) Radio Educadora di Campinas
XLIF .03 Wusih, Chn.
2NZ 2. Narrabri, Ausl.
2ZD .005 Masterton, N. Z. W. D. Anseli, 7 Rimu St. Daily 20-22. Relays 2YA Tue., Fri., Sat., Sun.
4TO .2 Townsville, Aus. Mon., Tue., Thu., Fri. 9-1; 1330-1530; 1930-2345; Wed., Sat., 9-10; 15-19; 1930-2345; Sun. 2030-2330
..... 10. Cophgen., Den. (1176) Strats Radio Fonien Heibergsgrade No. 7

1180(254.1)

CB118 1. Santiago, Chile. Radio Bayer, Portal Fernandez Co. 960
LKM .1 Tromsoe, Nor. (1186)
RW20 10. Kharkov, USR. (1185)
XHHZ .15 Shanghai, Chn.
3KZ .6 Melbourne, Ausl., S. Morgan, 64 Elizabeth St., "The Brighton Brdcstg. Service". 24 Victoria St. Mon. to Fri. 8-1530; 16-18; 1830-100; Sat. 8-1215; 1345-230; Sun. 16-18; 1930-24

1190(252)

LS2 30. Buenos Aires, Arg. Radio Prieto, Bolivar 1356
OAX4H ... Lima, Peru. Radio Zenith, Casa Davile
XLKA .03 Peiping, Chn. (1194)
2CH 1. Sydney, Ausl. 77 York St., Mon. to Fri. 830-15; 1630-0030; Sat. 830-14; 1445-0030; Sun. 12-14; 16-2330
..... 25. Frankfurt, G. (1195) Eschersheimer Landstrabe No. 33. Daily 00-20 EST
..... 5. Freiburg, G. (1195)
..... .5 Kaiserslautern (1195)
..... 2. Trier, G. (1195)
..... .5 Cassel, G. (1195)
..... 2. Coblenz, G. (1195)

1200(249.9)

CB120 1. Valparaiso, Chile. Chilena Consolidada, Edwards 383
HJ3ABE 1. Bogota, Clb., Uribe y Moreno, P. O. Box 317.
LT9 .5 Santa Fe, Argentina. Radio Roca Soler
OAX4B .25 Lima, Peru
PRD3 .25 Taubate, Brz. (1207) Soc. Radio Bandeirante
XHHN .1 Shanghai, Chn.
YV3RC 3. Caracas, Vnz. Bajos Pasaje Ramella
VUL .1 Lahore, India
3YL .5 Christchurch, N. Z. Mon. to Sat. 17-18; 19-22; Sun. 18-22
5KA .3 Adelaide, Ausl. Richards Bldg., Mon. to Fri. 830-1; Sat. 830-2; Sun. 12-14; 17-18; 1845-100
No. 2 5. Praha, Cz. (1204)
.... Bangkok, Siam

1210(247.8)

CD121 .1 Osorno, Chile. Radio Austral, E. Ramirez, 2930
CX34 .5 Montevideo, Uru. Radio Artigas, Millan 2370. 10-16; 18-23
LV10 .5 Mendoza, Argentina. Radio de Cuyo
OA4AR .025 Lima, Peru
OA4D .025 Lima, Peru
XLPH .015 Pinghu, Chn.
XLTC .015 Wusih, Chn.
2GF .05 Grafton, Ausl. 47 York St., Mon. 9-10; 1330-1430; 1930-2330; Tue. to Sat. 9-10; 1430-1530; 1930-2330
6KG .085 Kalgoorlie, Ausl. 86 Palace Chambers. Mon. to Fri. 1430-1630 22-2; Sat. 1730-2030; 2230-2; Sun. 2315-0130
..... 60. Lille, F. (1213) Radio PTT Nord (testing) Daily 3-1730 EST

1220(245.8)

I1TR 10. Trieste, I. (1222) Weekdays 130-1730; Sun. 310-1730 EST
PRE3 10. Rio de Janeiro, Brz. Radio Transmissora Brasileira
PRG9 .5 Sao Paulo, Brazil. Radio Excelsior.
XGOT .5 Pei-ping, Chn.
4AK 1. Oakey, Ausl. Daily 19-0030
4ZL .1 Dunedin, N. Z. 243 Macandrew Rd. Mon., Thu., Sat. 8-9; 1930-23; Tue., Wed., Fri. 8-9; Sun. 830 1030
..... .3 Narvik, Norway (1222)

1230(243.8)

HJ4ABK .3 Medellin, Clb.
LS8 20. Buenos Aires, Arg. Radio Stentor, Florida 8
2NC 2. Newcastle, Ausl. Relays 2FC and 2BL. Mon. to Fri. 830-1530; 1630-1745; 19-100; Sat. 830-1030; 1130-

1830; 19-100; Sun. 1130-1815; 1930-24

. . 5. Gleiwitz, G. (1231)

..... .05 Hangchow, Chn.

1240(241.8)

CB124 .25 Valparaiso, Chile. A. Garcia y Cia., Av. Brasil 212

CW35 .25 Paysandu, Uru. Buenaventura y Mahler. 9-13; 17-22

LU7 2. Bahia Blanca, Argentina. Radio Ge. San Martin, Calle Saromento 60

LV-14 .5 La Rioja, Arg. Radio Provincia de La Roija

XHHY .1 Shanghai, Chn.

2ZL .05 Hastings, N. Z. John Holden, 609 Park Rd. Thurs., 1830-23; Sun. 930-1200

3TR .5 Sale, Ausl. A. Gilchrist, Raymond St., "Gippsland's Radio Station." Mon. to Fri. 12-15; 19-24; Sat. 12-1430; 1930-24; Sun. 20-24

6CK 1. Cork, I. F. S.

6IX .5 Perth, Ausl. St. George's Terrace. Mon. to Fri. 1230-1430 2130-230; Sat. 1230-1545; 2130-230; Sun. 17-1830; 2130-200

..... 2. Juan-les-Pins, F. (1249). Radio Cote d' Azur.

..... .2 Swedish Relay Stations.

1250(239.9)

CX36 .25 Montevideo, Uru. Centenario Brdcstg. Ignacio Nunez 2133. 9-14; 17-24

EAJ8 1. Sn. Sebastian, Sp. (1258)

HC2JB .03 Guyaquil, Ec.

MABS .035 Siangyuang, Chn.

OAX4L .1 Lima, Peru. Radio Miraflores, Calle Manco Capac 347

PYG8 .25 Bauru, Brz.

XLIE .05 Wusih, Chn.

No. 3 1. Rome, I. (1258)

..... 10. Kuldiga, Lat. (1258)

1260(238)

CB126 1. Santiago, Chl. (1265) Consorcio Espanol, Gran Ave. 2564. 9-10; 16-17; 21-22.

LT11 .5 Parana, Arg. Radio Provincia de Entre Rios.

XHHP .1 Shanghai, Chn.

1ZM .05 Manurewa, N. Z. W. Rodgers, Massey Rd. Mon. to Fri. 17-22; Sat. 13-16; 17-24; Sun. 10-18; 19-22

3WR .05 Shepparton, Ausl. High St. Mon. to Fri. 12-1430; 1930-0030; Sat. 12-1430; 2030-2330; Sun. 2130-2230

..... .2. Nurnberg, G. (1267)

1270(236.1)

LKK .5 Khristiansand. Nor. (1276)

LKS .5 Stavanger, Nor. (1276)

LS9 6. Buenos Aires, Arg. Radio La Voz del Aire, Pozos 439.

OA40 .1 Lima, Peru (1277)

PRE8 7. Rio de Janeiro, Brz. Soc. Radio Nacional Rua Buenos Aires 120.

TUA .5 Tunis, Tun. (1275)

XDYF .015 Wu-hu, Chn.

ZP4 .15 Asuncion, Par. (1275)

2SM 1. Sydney, Ausl. 46 Carrington St., "Double D Eucalyptus" Australia House. Mon. to Sat. 830-1030; 1430-24; Sun. 1230-24

1280(234.2)

PRG3 10. Rio de Janeiro, Brz.

XHHQ .08 Shanghai, Chn.

3AW .6 Melbourne, Ausl. 218 Exhibition St. Mon. to Sat. 8-1130; 1230-1; Sun. 1145-14; 18-24.

4ZC .007 Cromwell, N. Z. John I. Bilton, Lowburn Ferry. Daily 19-21.

..... 1. Aberdeen, G. B. (1285)

..... .25 Dresden, G. (1285)

..... .1 Tientsin, Chn.

1290(232.4)

CX38 .5 Montevideo, Uru.

PRA5 5. Sao Paulo, Brz. (1295) Radio Club de Sao Paulo, Rua 7 de Abril

4BK .5 Brisbane, Ausl. Mon. to Fri. 830-0030; Sat. 830-0130; Sun. 13-1530; 1830-24.

..... 5. Dornbirn, Aust. (1294)

..... 4.2 Klagenfurt, Aust. (1294)

..... 20. Linz, Austria (1294)

..... 2. Vorarlberg, Aus. (1294)

1300(230.6)

CB130 1. Santiago, Chile. Mavis, Av. J. D. Canas 565

CPX 5. La Paz, Bol.

LT10 .1 Santa Fe, Arg. Radio del Inst. Soc. de la Univ. Nac. del Litoral

LU6 .5 Mar del Plata, Arg. Radio Atlantica.

OAX4C .. Lima, Peru, Estaction Radiodifusora DUSA, Calle de Plumeros.

PRC4 .05 Ampara, Brz. (1304)

XGOE 1. Nanning, Chn.

XQHC .5 Shanghai, Chn.

YV5RMO .15 Maracaibo, Vnz.

2TM .05 Tamworth, Ausl. Peel St. Mon. to Sat. 830-1030; 1330-1530; 17-18; 19-2330; Sun. 1330-1530; 1630-1830; 2030-2330.

..... .5 Danzig. Dan. (1303)

1310(228.9)

LS7 10. Buenos Aires, Arg.

PRE9 .5 Fortaleza, Brz. (1315) Ceara Radio Club

SBC 1.25 Malmo, Swe. (1312)

SCK .25 Karlstad, Swe. (1312)

SCO .25 Norrkoping, Swe. (1312)

SCQ .25 Trollhattan, Swe. (1312)

XLIJ .05 Wusih, Chn.

5AD .3 Adelaide, Ausl. Weymouth St. Daily 9-0100

1320(227.1)

CB132 1. Valparaiso, Chile. David Wallace, Esmeralda 1111

CD132 .1 Valdivia, Chile. Carlos Kahler, Isla Teja

CW39 .1 Paysandu, Uru. Miguel Penna. 1030-1230; 1730-2245

HAE2 1.25 Magyarovar, Hun. (1321)

HJ3ABK .05 Bogota, Col.

XLIA .015 Ningpo, Chn.

3BA .05 Ballarat, Ausl. Armstrong and Dana Sts. Mon. to Fri. 9-1145; 1330-1530; 2030-24; Sat. 9-1145; 2030-0030; Sun. 1430-1630; 20-2330

1330(225.4)

CX40 .5 Montevideo, Uru. Radio Fenix, Chayos 4534; 8-24

HJ1ABA .1 Barranquilla, Clb., E. J. Pellet B., P. O. Box 751

PRE2 .5 R' de Janeiro, Brz. Soc. Radio Cajuti, Rua Conde de Bomfim 457

PRG7 .25 Jahu, Brz. Radio Club Jahuense

XGSA .001 Kiangyin, Chn. (1335)

XLIK .075 Changchow, Chn.

2BH .1 Broken Hill, Ausl., 10 O'Connell St., Mon. to Sat. 9-11; 20-0030; Sun. 1230-15; 20-24

4RO .05 Rockhampton, Ausl. Mon., Tue., Thu., Fri., Sat. 1930-2330; Wed. 1930-2345; Sun. 2030-2330

..... 5. Montpellier, F. (1339)

..... 2. Bremen, G.

.....	2.	Hanover, G.
.....	2.	Madgeburg, G.
.....	2.	Stettin, G.
.....	2.	Flensburg, G.
.....	1.7	Lodz, Pol. (1339)

1340(223.7)

CB134	.5	Santiago, Chile. Radio Aliviol, Gumersindo 135
CW19	.05	Rocha, Uruguay. Juan J. Arispuru y Abel Machado
LKR	.15	Rjukan, Nor. (1348)
LT7	.5	Corrientes, Arg. Radio Provinciade Corrientas
OFE	.7	Tampere, Finland. (1348)
XGED	.015	Suchow, Chn.
XHHR	.05	Shanghai, Chn.
2RN	.5	Dublin, I. F. S. (1348)
2XN	.05	Lismore, Aus. P. O. Box 138B. Mon. to Fri. 830-930; 1530-1630; 1930-2330; Sat. 830-930; 1930-2330
4ZR	.004	Balclutha, N. Z. Renton & Clark, Clyde St. Tue. 1930-20; Thu. 19-20; Sun. 10-12; 1930-2130
No. 2	4.	Milan, I. (1348)
.....	2.	Ile de F., F. (1348)
.....	.5	Salzburg, Aust. (1348)
.....	2.	Konigsberg, G. (1348)
.....	1.	Bordeaux, F. (1348)
.....	.5	Cairo, Eg. (1348)

1350(222.4)

LKN	.15	Notodden, Nor. (1357)
LS6	6.	Buenos Aires, Arg. Radio del Pueblo, Estados Unidos 1816
OA6E	.03	Arequipa, Peru
XQKA	.1	Tientsin, China.
3GL	.05	Geelong, Ausl. National Mutual Bldg., Mon. 830-1045; 1430-1530; 19-24; Tue., Wed., Thu. 9-1045; 1430-1530; 19-24; Fri. 845-1045; 1430-1530; 19-24; Sat. 9-1045; 1930-0030; Sun. 2030-2335.
No. 2	.2	Turin, I. (1357)

1360(220.4)

CC136	.1	Rancagua, Chile. Guillermo Espinosa, Milan 767
CD136	.1	Magallanes, Chile. Santiago Aguilera, Valdivia 250
CW41	.05	San Jose, Uru. Radio San Jose 10-14; 18-23.
OA4K	.15	Lima, Peru
PRC5	.1	Belem, Brz. (1364) Radio Club do Para
PRD4	.25	Araraquara, Brs. (1364) Radio Cultura Araraquara, Ave. Feijo 25
PRF3	.5	Porto Alegre, Brz. Empresa Radiodifusora
XQHD	.2	Shanghai, Chn.
2MO	.05	Gunnedah, Ausl. P. O. Box 78. Mon. to Sat. 830-1030; 1330-1530; 1930-2330; Sun. 930-1130; 1530-1730; 1930-2330
4PM	.1	Port Moresby, Ausl.
No. 2	.1	Turin, I. (1366)

1370(218.8)

CX42	1.	Montevideo, Uru. Colonial Brdcstg. Ave. Italia 3646. 11-24
XHHA	.05	Hangchow, Chn.
3HS	.05	Horsham, Ausl. 84 Wilson St. Mon., Thu. 1330-15; 20-24; Tue., Wed., Fri. 1330-15; 1930-24; Sat. 1330-15; 20-0030; Sun. 1330-15; 2030-2330
.....	.5	Basle, Swi. (1375)
.....	.5	Berne, Swi. (1375)

1380(217.3)

CB138	5.	Santiago, Chile. El Murcurio, Cia. esq. Morande
XLHE	.05	Shanghai, Chn.
XLHF	.05	Shanghai, Chn.
4BH	.6	Brisbane, Ausl. Parbury House, Eagle St. Mon. to Fri. 830-1030; 1230-1430; 19-0030; Sat. 830-1030; 19-0030; Sun. 1330-1630; 20-24.
No. 2	2.	Warsaw, Pol. (1384)
.....	150.	Motala, Sw. (1389) (testing)

1390(215.7)

CB139	.105	Valparaiso, Chile. Zenith, Atahualpa 816
LR11	1.	La Plata, Arg. Radio Univ. Nac. de La Plata
XLIN	.05	Wusih, Chn.
2GN	.1	Goulburn, Ausl. Auburn St. Mon. to Fri. 1345-1515; 1930-24; Sat. 1330-1430; 1930-24; Sun. 2030-2330
7BU	..	Burnie, Ausl.
.....	5.	Radio-Lyons, F. (1393)

1400(214.2)

CB140	.1	San Antonio, Chile. Vina Santa Rita, Pob. Coop. Victoria, Casa 212
CW37	.025	Colonia, Uruguay. N. Gonzales Moreno
FFZ	.25	Shanghai, Chn.
OA6D	.15	Arequipa, Peru
PRD5	1.	R' de Janeiro, Brz. Dpto. de Educacio da Pref. Largo da Carloca 5
XLHO	.1	Shanghai, Chn.
2ZO	.1	Palmerston, N. Z. J. V. Kyle, 50 Waldegrave St. Tue. 1830-22; Thu. 1830-21; Sun. 10-1230

Swedish Common Wave (1402)
See SC in Index by Calls

1410(212.6)

CC141	.1	Concepcion, Chl. Radio Phillips, Caupolican 370.
CX44	.2	Montevideo, Uru. SADREP, Solis Grande 912. 8-2
PRB5	.05	Franca, Brz. (1415) Radio Club Hertz
PRE5	.25	Uberaba, Brz. Radio Soc. Triangulo Minero
XHIA	.06	Tuchow, China
2KO	.5	Newcastle, Ausl. 57 Hunter St. Mon. to Fri. 830-1730; 1830-24; Sat. 1130-0030; Sun. 1030-1130; 1930-2330

Portuguese Common Wave (1411)

1420(211.1)

.....	.8	Paris, F. (1424) Radio LL
XHHK	.1	Shanghai, Chn.
1ZS	.05	Auckland, N. Z.
3XY	.6	Melbourne, Ausl. Princess Theatre. Mon. to Sat. 8-1530; 1615-01; Sun: 1130-14; 16-24
.....	1.5	Beziers, F. (1429)
.....	.5	Alexandria, Eg. (1429)
.....	.6	Turku, Fin. (1429)
.....	10.	Vaasa, Finland. O. Y. Suomen Yleisradio A. B.

1430(209.7)

CC143	.1	Talca, Chile. Radio Atlantida, Enrique Garcia, Molino Sandoval
CW25	.5	Durazno, Uruguay, Artola, Evangelisti y Cia.
HAE3	1.25	Miskolc. Hung. (1438)
LS11	.7	La Plata, Arg. Radio Prov. de Bs. Aires
PRD7	.25	Sorocaba, Brz. Radio Club Sorocaba
RW10	100.	Minsk, U.S.R. (1438)
2WL	.05	Wollongong, Ausl. Russell Yeidon, Woolongong Brdcstg. Co., "Ferranti Products". Mon. to Fri. 12-1330; 20-2330; Sat. 20-2330; Sun. 2030-2230
4GY	.05	Gympie, Ausl.

1440(208.2)

CB144	.1	Santiago, Chile. Se-

guros Generales, Moneda 1367
CB144A .1 Santiago, Chile. Nacimento, J. Infanta 2290
CB144B .5 Santiago, Chile. Los Cuatro Ases, Roman Diaz 2000
CB144C .15 Santiago, Chile. Luis Desmaras Los Leones, Calella 2860
OA6U .05 Arequipa, Peru (1443)
PRG4 .25 Jabotical, Brz. Radio Club Jabotical (1442)
XLHQ .03 Shanghai, Chn.
2QN .. Deniliquin, Ausl.
4IP .05 Ipswich, Ausl.
Spanish Common Wave (1447)

1450(206.8)

CX46 1.5 Montevideo, Uru. Radio America, Camino Corrales 2808. 10-24
XLIB .015 Suchow, Chn.
XOMO .015 Peiping, Chn.
5MU .1 Murray Bridge, Ausl. Regional unit of 5AD. Daily 9-24
..... 5. Paris F. (1456) Eiffel Tower

1460(205.4)

CB146 .1 San Felipe, Chile. Ilustre Municipalidad, Baquedano 715
CW33 .075 Florida, Uruguay. Omar F. Barreiro
HAE4 1.25 Pecs, Hun. (1465)
ON4EB .1 Antwerp, Belg. (1465)
XQHE .25 Shanghai, Chn.
ZP5 .15 Asuncion, Par. (1465)
7UV .3 Ulverstone, Ausl. Mon. to Fri. 9-1030; 19-24; Sat. 9-1030; 1330-0030; Sun. 1330-1530; 19-2330
..... 1.5 Dresden, G. (1465)
..... .1 Courtrai, Belg. (1465)
.... Bega, Ausl.

1470(204)

CW43 .1 Lavellaja, Uruguay. B. C. Blanes y I. R. Volante.
XGDZ .001 Changchow, Chn.
2BE .1 Bega, Ausl.
3ZM .06 Christchurch, N. Z. Green & Younger, 253 Brougham St. Mon. to Thu. 730-10; 17-18; 19-22; Fri. 730-10; Sat. 730-10; 20-24; Sun. 11-14; 17-18; 19-22
4CA .1 Cairns, Aus.
..... .3 Plymouth, G. B. (1474)
..... 1. Bournemouth, G. B. (1474)

1480(202.6)

CW47 .1 Canelones, Uru. Rafael J. Espiga, 11-14; 16-23
PRH4 1. Petropolis, Brz.
XQHF .2 Shanghai, Chn.
2AY .1 Albury, Ausl. John Dower, 47 York St., (Sydney). Mon. to Fri. 1345-1515; 19-24; Sat. 14-1515; 19-0030
4BU .1 Bundaberg, Ausl.

1490(201.2)

ON4CE .1 Chatelineau, Blg. (1492)
XLKS .02 Kashing, Chn.
No. 1 .1 Wallonia, Belg. (1492)
2TM .05 Tamworth, Ausl.
..... .1 Binche, Blg. (1492)
..... .2 Nimes, F. (1492)
..... .1 Courtrai, Belg.
Spanish Common Wave (1492)
See EAJ in Index by Calls

1500(199.9)

CB150 1. Santiago, Chile. Markoff Hnos.
CX48 1.5 Montevideo, Uruguay Vazquez y Cia., 18 de Julio 1333
HJ5ABE .. Cali, Colombia Jose Calderon N, Cia. Radiodifusora Colombiana, S. A. Aptd. 50
PRG6 .25 Cruzeiro, Brz. Soc. Radio Mantiqueira
VUP 2. Peshawar, India
XHHT .1 Shanghai, Chn.
XOCL .0075 Tsinan, Chn.
3AK .2 Melbourne, Ausl. 116 Queen St. Mon. 630-830; Tue. to Fri. 0100-0330; 630-830; Sat. 0100-0330; 630-830; 1430-1530; Sun. 0100-430; 14-16; 2330-0130
.... Hobart, Ausl.
..... .25 Pietasaari, Fin.
..... .2 Radio Alcala, Sp.
Belgium has several 100 watt stations on 1500.

1510(198.6)

YDA .5 Tandjongpriok, Java

1530(196.0)

SCJ .2 Karlskrona, Swe.

SOUTH AMERICA

ARGENTINA

Bahia Blanca		
LU2	900	2000
LU7	1240	2000
Buenos Aires		
LR1	1070	50000
LR2	910	12000
LR3	950	31000
LR4	990	16000
LR5	830	16000
LR6	870	26000
LR7	750	15000
LR8	1150	7000
LR9	1030	5000
LR10	790	10250
LS1	710	5000
LS2	1190	30000
LS3	630	5000
LS4	670	7000
LS5	1110	5000
LS6	1350	6000
LS7	1310	10000
LS8	1230	15000
LS9	1270	6000
LS10	590	6000
Cordoba		
LV2	880	7000
LV3	620	2000
Corrientes		
LT7	1340	500
La Plata		
LR11	1390	1000
LS11	1430	700
La Rioja		
LV14	1240	500
Mar del Plata		
LU6	1300	500
Mendoza		
LV10	1210	500
Parana		
LT11	1260	500
Resistancia		
LT5	1160	500
Rosario		
LT1	780	4000
LT3	1080	4500
LT8	840	500
Salta		
LV9	900	500
San Juan		
LV1	730	1500
LV5	1120	700
Santa Fe		
LT9	1200	500
LT10	1300	500
Tucuman		
LV7	820	1000

BOLIVIA

La Paz		
CPX	1300	5000
CP4	1040	10000

BRAZIL

Amparo		
PRC4	1300	50
Araraquara		
PRD4	1364	250
Bahia		
PRA4	840	50
PRF6	1050	50
PRF8	950	500
Bauru		
PYG8	1250	250
Belem		
PRC5	1360	100
Bello Horizonte		
PRC7	1090	250
Campinas		
PRC9	1175	250
Cruzeiro		
PRG6	1500	250
Curityba		
PRB2	882	250
Fortaleza		
PRE9	1315	500
Jabotical		
PRG4	1442	250
Jahu		
PRG7	1330	250
Juiz de Fora		
PRB3	857	250

Mogy das Cruces
PRB8 1000 50
Nitheroy
PRD8 1132 1000
Pelotas
PRC3 920 250
Pernambuco
PRA8 750 3000
Petropolis
PRH4 1480 1000
Porto Alegre
PRC2 1090 3000
PRF9 1360 500
PRH2 600 25000
Rio Claro
PRF2 725 250
Rio de Janeiro
PRA2 750 1500
PRA3 860 2500
PRA9 1000 1000
PRB7 800 500
PRC6 980 1000
PRC8 1030 1000
PRD2 932 1000
PRD5 1400 1000
PRE2 1330 500
PRE3 1220 10000
PRE4 940 250
PRE8 1270 7000
PRF4 923 10000
PRG3 1280 10000
PRH8 820 5000
Santos
PRB4 960 1000
PRG5 720 750
Sao Paulo
PRA5 1295 500
PRA6 815 10000
PRA7 706 50
PRB6 1170 1000
PRB9 1017 5000
PRE7 788 5000
PRF3 900 5000
PRG9 1220 500
PRH3 1120 10000
PYG2 1070 10000
Sorocaba
PRD7 1430 250
PRD9 769 250
Uberaba
PRE5 1410 250
PRE6 740 1500

CHILE

Concepcion
CC64 640 100
CC117 1170 100
CC141 1410 100
Curico
CC96 960 100
Magallanes
CD103 1030 100
CD111 1110 100
CD136 1360 100
Osorno
CD112 1120 100
CD121 1210 100
Rancagua
CC109 1090 100
CC136 1360 100
San Antonio
CB140 1400 100
San Felipe
CB146 1460 100
Santiago
CB57 570 5000
CB62 620 1000
CB73 730 1000
CB78 780 1000
CB82 820 1000
CB89 890 1000
CB93 930 3000
CB97 970 1000
CB101 1010 1000
CB106 1060 1000
CB114 1140 1000
CB118 1180 1000
CB126 1260 1000
CB130 1300 1000
CB134 1340 500
CB138 1380 5000
CB144 1440 100
CB144A 1440 100
CB144B 1440 500
CN144C 1440 150
CB150 1500 1000
Talca
CC143 1430 100
Talcahuano
CB84 840 100
Temuco
CC58 580 500
Valdivia
CD132 1320 100
Valparaiso
CB76 760 10000
CB90 900 1000
CB116 1160 100
CB120 1200 1000
CB124 1240 250
CB132 1320 1000
CB139 1390 105
Vina del Mar
CB64 640 1000
CB111 1110 1000

COLOMBIA

Barranquilla
HJ1ABA 1330 100
Bogota
HJN 681 500
HJ3ABD 1100 50
HJ3ABE 1200 1000
HJ3ABH 1005 2000
HJ3ABK 1320 50
Cartagena
HJ1ABM 1154 50
Medellin
HJ4ABK 1230 300

ECUADOR

Guyaquil
HC2ET 1153 300
HC2JB 1250 30

PARAGUAY

Asuncion
ZP1 1135 1000
ZP3 1000 300
ZP4 1275 150
ZP5 1465 150
ZP7 1083 700
ZP9 898 1500
Villarrica
ZP15 700 ....

PERU

Arequipa
OA6D 1400 150
OA6E 1350 30
OA6U 1443 50
Lima
OAX4A 750 1500
OAX4B 1200 250
OAX4C 1300 ....
OAX4E 980 50
OAX4F 1080 50
OAX4H 1150 ....
OAX4H 1190 ....
OAX4I 1120 ....
OAX4L 1250 100
OA4AR 1210 25
OA4K 1360 150
OA4O 1277 100
OA4D 1210 25

URUGUAY

Canelones
CW47 1480 100
Colonia
CW37 1400 25
Durazno
CW25 1430 500
Florida
CW33 1460 75
Lavelleja
CW43 1470 100
Mercedes
CW29 1120 50
Montevideo
CX4 610 1000
CX6 650 10000
CX8 690 500
CX10 730 1000
CX12 770 1000
CX14 810 500
CX16 850 10000
CX18 890 1000
CX20 930 2000
CX22 970 250
CX24 1010 2500
CX26 1050 2000
CX28 1090 3000
CX30 1130 500
CX32 1170 500
CX34 1210 500
CX36 1250 250
CX38 1290 500
CX40 1330 500
CX42 1370 1000
CX44 1410 200
CX46 1450 1500
CX48 1500 1500
Paysandu
CW35 1240 250
CW39 1320 100
Rocha
CW19 1340 50
Salto
CW23 820 250
CW27 680 150
CW31 1160 250
San Jose
CW41 1360 50

VENEZUELA

Caracas
YV1RC 960 5000
YV3RC 1200 3000
YV4RC 750 100
Maracaibo
YV5RMO 1300 150
YV7RMO 1153 500
YV11RMO 1034 ....
Valencia
YV6RV 670 350

EUROPE

AUSTRIA

Dornbirn
..... 1294 500
Graz
..... 886 7000
Innsbruck
.... 519 1000
Klangenfurt
.... 1294 4200
Linz
.... 1294 15000
Salzburg
..... 1348 500
Vienna
..... 592 120000
Vorariberg
..... 1294 2000

BELGIUM

Antwerp
ON4EB 1465 100
Binche
..... 1492 100
Brussels
No. 1 620 15000
No. 2 932 15000
Chatelineau
ON4CE 1492 100
Courtrai
.... 1465 100
Liege
ON4RW 1500 100
Radio Comte
..... 1500 100
Seraing
..... 1500 100
Verviers
No. 1 1500 100
No. 2 1500 100
Wallonia
No. 1 1492 100
No. 2 1500 100

BULGARIA

Sofia
..... 850 1000

CZECHOSLOVAKIA

Bratislava
OKR 1004 13500
Brno
OKB 922 32000
Kosice
..... 1158 2600
Moravska
OKK 1113 11200
Praha
OKP 633 120000
No. 2 1204 5000

DANZIG

Danzig
.... 1303 500

DENMARK

Copenhagen
.... 1176 10000

ESTONIA

Tallinn
.... 731 20000
Tartu
..... 517 500

FINLAND

Heisinki
OFA 895 10000

Pietersaari
. . . . 1500 250
Pori
OFD 749 1000
Sortavala
. . . . . 749 200
Tampere
OFE 1420 700
Turku
. . . . . 1429 500
Viipuri
OFH 527 10000

FRANCE

Bordeaux
. . . . . 1077 30000
. . . . 968 3000
Grenoble
. . . . . 583 15000
Lille
. . . . . 1213 60000
Limoges
. . . . . 895 500
Lyons
YN 648 90000
RL 1393 25000
Marseilles
. . . . . 749 1600
Montpellier
. . . . . 1339 5000
Nice
. . . . . 1249 2000
Nimes
. . . . . 1492 200
Paris
AGEN 868 600
FPTT 695 120000
ILLE 1348 800
PP 959 60000
Eiffel 1456 20000
Radio-Normandie
. . . . 1113 10000
Rennes
. . . . . 1040 40000
Strasbourg
SPTT 859 35000
Toulouse
. . . . . 776 2000
. . . . . 913 60000

GERMANY

Berlin
. . . . . 841 100000
Bremen
. . . . . 1330 2000
Breslau
. . . . . 950 100000
Cassel
. . . . . 1195 2000
Coblenz
. . . . . 1195 2000
Cologne
. . . . . 658 100000
Dresden
. . . . . 1285 250
Flensburg
. . . . 1330 2000
Frankfurt
. . . . . 1195 25000
Freiburg
. . . . . 1195 5000
Gleiwitz
. . . . . 1231 5000
Hamburg
. . . . . 904 100000
Hanover
. . . . . 1330 2000
Kaiserslautern
. . . . . 1195 1500
Konigsberg
. . . . . 1031 10000
. . . . . 1348 2000
Leipsig
. . . . . 785 120000
Magdeburg
. . . . . 1330 2000
Munich
. . . . . 740 100000
Nurnberg
. . . . . 1267 2000
Stettin
. . . . . 1330 2000
Stuttgart
. . . . . 574 100000
Trier
. . . . . 1195 2000

GREAT BRITAIN

Aberdeen
. . . . . 1285 1000
Belfast
. . . . . 977 1000
Bournemouth
. . . . . 1474 1000
Cardiff
WR 804 50000
WN 1149 20000
Daventry
MR 1013 50000
Falkirk
SN 1050 50000
SR 767 50000
London
LN 1149 20000
LR 877 50000
Manchester
NN 1149 20000
NR 668 50000
Newcastle
. . . . . 1122 1000
Plymouth
. . . . . 1474 300

HOLLAND

Hilversum
PFBI 995 60000

HUNGARY

Budapest
HAL 546 120000
Magyarovar
HAE-2 1321 1250
Miskolc
HAE-3 1438 1250
Nyiregyhaza
HAE 1122 6200
Pecs
HAE-4 1465 1250

IRISH FREE STATE

Athlone
. . . . . 565 60000
Cork
6CK 1240 1000
Dublin
2RN 1348 500

ITALY

Bari
I1BA 1059 20000
Bolzano
I1BZ 536 1000
Firenze
I1FI 610 20000
Genoa
I1GE 986 10000
Milan
I1MI 814 50000
No. 2 1348 4000
Naples
I1NA 1104 1500
Palermo
I1PA 565 4000
Rome
I1RO 713 50000
No. 3 1258 1000
Trieste
I1TR 1222 10000
Turin
I1TO 1140 7000
No. 2 1357 200

LATVIA

Kuldiga
. . . . 1258 10000
Madona
. . . . . 1104 50000
Riga
YLZ 583 15000

NORWAY

Aalesund
LKA 850 350
Bergen
LKB 850 1000
Bodo
LKD 686 500
Fredrikstad
LKF 776 1000
Hamar
LKH 519 700
Kristianssand
LKK 1276 500
Narvik
. . . . . 1222 300
Notodden
LKN 1357 150
Porsgrund
LKP 850 1000
Rjukan
LKR 1348 150
Stavanger
LKS 1276 500
Tromsoe
LKM 1186 100
Trondelag
LKT 629 20000

POLAND

Cracow
. . . . . 1022 2000
Katowice
. . . . . 758 12000
Lodz
. . . . . 1339 1700
Lwow
. . . . . 795 16000
Poznan
. . . . . 868 16000
Torun
. . . . . 986 24000
Warsaw
No. 2 1384 2000
Wilno
. . . . . 536 16000

PORTUGAL

Lisbon
CT1AA 629 20000
Parede
CT1GL 1031 5000

ROUMANIA

Bucharest
. . . . . 823 12000

SPAIN

Alcala
. . . . . 1500 200
Barcelona
EAJ1 795 7500
EAJ15 1022 3000
Madrid
EAJ2 731 3000
EAJ7 1095 10000
Oviedo
EAJ19 1022 700
San Sebastian
EAJ8 1258 1000
Seville
EAJ5 731 5500
Valencia
EAJ3 850 3000

Spain has many stations of 100 watts or less on 1492 and 1500 kcs. For complete list see Index by Calls.

SWEDEN

Falun
SCC 1086 2000
Goteborg
SBB 941 10000
Horby
SBH 1131 10000
Kariskrona
SCJ 1530 200
Karistad
SCK 1312 250
Malmo
SBC 1312 1250
Motala
. . . . . 1389 15000
Norrkoping
SCO 1312 250
Stockholm
SBA 704 55000
Sundsvall
SBD 601 10000
Trollhattan
SCQ 1312 250

Swedish Common Wave 1402. See Index by Calls.

SWITZERLAND

Basle
. . . . . 1375 500
Berne
. . . . . 1375 500
Beremunster
. . . . . 556 100000
Monte Ceneri
. . . . . 1167 15000
Sottens
. . . . . 677 100000

U. S. S. R.

Alexandrovsk
RW38 662 2000
Archangel
RW36 586 10000

Astrakhan
RW35 598 10000
Dnepropetrovsk
RW30 913 10000
Elista
RW48 704 2500
Engels
RW55 932 1000
Frounze
RW82 608 2500
Gomel
RW40 959 1000
RW54 959 1000
Gorki
RW42 565 10000
Groznyl
RW23 676 1000
Igarka
RW85 871 2000
Ijevsk
RW78 767 3000
Iochar-Ola
RW61 888 1000
Ivanovo
RW31 625 10000
Karaganda
RW46 686.5 1200
Kazan
RW17 686 10000
Kharkov
RW20 1185 10000
Kiev
RW9 722 36000
Krasnodar
RW33 1050 1000
Kouibychew
RW16 710 10000
Leningrad
RW70 1040 10000
Magnitogorsk
..... 571 10000
Makhatch
RW27 689 4000
Minsk
RW10 1438 100000
Moscow
RW39 832 100000
Mourmansk
RW79 610 10000
Naltchik
RW51 794 1000
Odessa
RW13 968 10000
RW69 968 10000
Oufa
RW22 617 10000
Oukhta
RW67 968 2000
Oust-Abakansk
RW50 617 2500
RW84 635 1200
Penza
RW56 640 1200
Petropavlovsk
RW71 689 1200
Petrozavodsk
RW29 648 10000
Pratigorsk
RW18 610 1000
Saransk
RW65 734 1000
Simferopol
RW73 859 10000
Stalingrad
RW34 522 10000
Stalino
RW26 776 10000
Syktyvkar
RW41 563 1200

Tcheboksary
RW74 680 1200
Tcheliabinsk
RW68 824 1500
Tchernigov
RW86 1013 5000
Tchita
RW52 546 20000
Tiraspol
RW57 1068 4000
Vinnitza
RW75 1095 10000
Urdjonikidze
RW64 752 10000
Vladivostok
RW28 635 300
RW32 635 10000

YUGOSLAVIA

Belgrade
..... 686 2500
Ljubijana
..... 527 5000
Zagreb
..... 1086 700

ASIA

CEYLON

Colombo
VPB 705 1750

CHINA

Canton
XGOK 750 1000
XKRI 1071 100
Chang-Chow
XGDZ 1470 10
XLIK 1330 75
Chang-sha
XGOH 570 1000
XGTM 840 15
Chuching
XGCK 990 7.5
Chunking
XGOS 711 1000
Foo-chow
XGOF 1030 1000
Hangchow
XGOD 990 2000
XHHA 1370 50
..... 850 50
..... 1230 50
Hangkow
XGOW 1010 5000
Hanim
XLIM 910 50
Honan-fu
XGOX 1070 200
Hongkong
ZBW 845 2000
Kiangyin
XGSA 1335 10
Kashing
XGKA 895 15
XGML 714.3 7.5
XLKS 1490 20
Kongsu
XGOZ 1150 100
Loyang
XGOB 1090 250
Nan-chang
XGOC 1130 500
Nanking
XGOA 660 75000
XGON 900 200

Nanning
XGOE 1300 1000
Ningpo
XLIA 1320 15
Peiping
XGOP 950 300
XGOT 1220 500
XLKA 1194 30
..... 810 100
Pinghu
XLPH 1210 15
Poatung
XGMK 1005 15
Shanghai
FFZ 1400 250
XHHA 840 150
XHHB 740 100
XHHC 780 50
XHHD 860 50
XHHE 940 1000
XHHF 960 100
XHHG 1020 100
XHHH 1040 100
XHHI 1060 100
XHHJ 1080 200
XHHK 620 100
XHHL 1140 100
XHHN 1200 100
XHHP 1260 100
XHHQ 1280 80
XHHR 1340 50
XHHS 1100 100
XHHT 1500 100
XHHU 1160 100
XHHV 880 100
XHHX 920 1000
XHHY 1240 100
XHHZ 1180 150
XLHB 560 45
XLHC 720 50
XLHD 720 50
XLHE 1380 50
XLHF 1380 50
XLHI 760 7.5
XLHJ 760 100
XLHK 800 7.5
XLHL 800 100
XLHM 1120 50
XLHN 1120 200
XLHO 1400 100
XLHQ 1440 30
XMHA 600 600
XMHB 980 500
XMHC 700 500
XQHA 580 250
XQHB 850 100
XQHC 1300 1000
XQHD 1360 200
XQHE 1460 250
XQHF 1480 200
..... 640 100
Shuhing
..... 1090 ....
Siangyang
MABS 1250 35
Suchow
XLIB 1450 15
XLIL 870 20
..... 1110 10
Taiyuan
XGOT 1000 50
Tengchow
XGGW 1150 50
XTGM 900 100
Tientsin
XLKB 825 55
XHKA 1050 100
..... 750 150
..... 1280 100

Tsangchow
XKYY 1150 15
Tsinan
XGF 833 7.5
XGOF 852 500
XOCL 1500 7.5
Tsunshi
XGSS 610 15
T'ung Hsien
LUHO 750 20
Wuchow
XHGS 730 50
Wu-hu
XDYF 1270 15
XGWH 830 30
Wusih
XHIB 970 75
XLIE 1250 50
XLIF 1170 30
XLIJ 1310 50
XLIN 1390 50
XLTC 1210 15
XLWU 1250 50
Yunan-fu
XGOY 698 250

FORMOSA

Taichu
JFCK 580 1000
Taihoku
JFAK 670 10000
Tainan
JFBK 720 1000

INDIA

Bombay
VUB 855 3000
Calcutta
VUC 810 3000
Delhi
VUG 933 1000
Lahore
VUL 1200 100
Madras
VUM 770 200

INDO-CHINA

Saigon
F31CD 840 12000

JAPAN

Akita
JOUK 645 300
Asahigawa
JOCG 655 300
Fukui
JOFG 990 300
Fukuoka
JOLK 680 500
Hakodate
JOVK 680 500
Hamamatsu
JODG 635 500
Hiroshima
JOFK 850 10000
Kanazawa
JOJK 710 3000
Kochi
JORK 720 500
Kokura
JOSK 735 1000
Kumamoto
JOGK 790 10000
Kyoto
JOOK 960 300

Maebashi		
JOBG	970	500
Matsuye		
JOTK	625	500
Nagano		
JONK	940	500
Nagasaki		
JOAG	930	500
Nagoya		
JOCK-1	810	10000
JOCK-2	1175	10000
Niigata		
JOQK	920	500
Okayama		
JOKK	700	500
Osaka		
JOBK-1	750	10000
JOBK-2	1085	10000
Sapporo		
JOIK	830	10000
Sendai		
JOHK	770	10000
Shizuoka		
JOPK	780	500
Tokushima		
JOXK	980	500
Tokyo		
JOAK-1	870	10000
JOAK-2	590	10000

JAVA

Tandjongpriok		
YDA8	1510	500

KOREA

Fuzan		
JBAK	1020	500
Seoul		
JODK-1	900	10000
JODK-2	610	10000

MANCHUOKUO

Dairen		
JQAK	652	500
Harbin		
MTFY	675	3000
Hsinking		
MTCY	560	100000
Mukden		
MTBY	890	1000

PHILIPPINES

Manila		
KZEG	780	1000
KZIB	900	1000
KZRM	618.5	50000

SIAM

Bangkok		
HSP-1	856	2500
HS7PJ	750	10000
.....	1200	....

AFRICA

ALGERIA

Algiers		
.....	941	12000

EGYPT

Alexandria		
.....	1122	250
.....	1429	500
Cairo		
.....	620	20000
.....	1348	500

KENYA

Nairobi		
VQ7LO	858	600

MOROCCO

Casblanca		
CNO	983	25
Rabat		
CNR	601	25000

SOUTH RHODESIA

Salisbury		
.....	681.8	1500

TUNISIA

Tunis		
TUA	1275	500

UNION S. AFRICA

Bloemfontaine		
ZTB	790	500
Cape Town		
ZTC	600	10000
Durban		
ZTD	750	1500
Grahamstown		
ZUG	560	10000
Johannesburg		
ZTJ	645	10000
Maritzburg		
.....	750	10000
Pretoria		
ZTP	952	500

OCEANIA

AUSTRALIA

Adelaide		
5AD	1310	300
5CL	730	2000
5DN	960	300
5KA	1200	300
Albury		
2AY	1480	100
Armidale		
2AD	1080	....
Ayr		
4AY	980	100
Ballarat		
3BA	1320	50
Bega		
2BE	1470	100
Bendigo		
3BO	970	200
Brisbane		
4BC	1120	1000
4BH	1380	600
4BK	1290	500
4QG	800	2500
Broken Hill		
2BH	1330	100
Bunbury		
6BY	1160	50
Bundaberg		
4BU	1480	100
Burnie		
7BU	1390	100
Cairns		
4CA	1470	100
Canberra		
2CA	1050	500
Clevedon		
4QN	600	7000
Corowa		
2CO	670	1000
Crystal Brook		
5CK	640	7500
5PI	1040	2000
Cumnock		
2CR	550	10000
Denilquin		
2QN	1440	....
Geelong		
3GL	1350	50
Goulburn		
2GN	1390	100
Grafton		
2GF	1210	50
Gunnedah		
2MO	1360	50
Gympie		
4GY	1430	50
Hamilton		
3HA	1010	300
Hobart		
7HO	820	100
7ZL	590	1000
Horsham		
3HS	1370	50
3WV	580	10000
Invernell		
2LV	980	....
Ipswich		
4IP	1440	50
Kalgoorlie		
6GF	720	2000
6KG	1210	85
Katoomba		
2KB	1160	100
Kelso		
7NT	710	7000
Launceston		
7LA	1100	300
Lawrence		
2NR	700	7000
Lismore		
2XN	1340	50
Longford		
3GI	830	7000
Mackay		
4MK	1160	100
Maryborough		
4MB	1060	50
Melbourne		
3AK	1500	200
3AR	580	4500
3AW	1280	600
3DB	1030	600
3KZ	1180	600
3LO	770	3500
3UZ	930	650
3XY	1420	600
3YB	1060	25
Mildura		
3MA	900	50
Minding		
6WA	560	10000
Murray Bridge		
5MU	1450	100
Narrabri		
2NZ	1170	2000
Newcastle		
2HD	1140	500
2KO	1410	500
2NC	1230	2000
Northam		
6AM	980	1000
Oakey		
4AK	1220	1000
Orange		
2GZ	990	2000
Perth		
6IX	1240	500
6ML	1130	500
6PR	880	500
6WF	690	3500
Port Moresby		
4PM	1360	100
Renmark		
5RM	850	1000
Rockhampton		
4RK	910	2000
4RO	1330	50
Sale		
3TR	1240	500
Shepparton		
3WR	1260	50
Swan Hill		
3SH	1080	50
Sydney		
2BL	740	3000
2CH	1190	1000
2FC	610	3000
2GB	870	1000
2KY	1020	1000
2SM	1270	1000
2UE	950	1000
2UW	1110	1000
Tamworth		
2TM	1300	50
Toowoomba		
2GR	1000	500
Townsville		
4TO	1170	200
Ulverstone		
U7V	1460	300
Wagga		
2WG	1150	200
Warwick		
4WK	900	50
Wollongong		
2WL	1430	50

NEW ZEALAND

Auckland		
1YA	650	10000
1YX	880	150
1ZB	1090	100
1ZS	1420	50
Balclutha		
4ZR	1340	4
Christchurch		
3YA	720	10000
3YL	1200	500
3ZM	1470	60
Cromwell		
4ZC	1280	7
Dunedin		
4YA	790	500
4YO	1140	150
4ZB	1010	25
4ZL	1220	100
4ZM	1010	30
4ZO	1010	25
Gisbourne		
2ZJ	980	60
2ZM	1150	15
Greymouth		
3ZR	940	400
Hastings		
2ZL	1240	50
Invercargill		
4ZP	620	500

FOREIGN B. C. STATIONS BY LOCATIONS

Manurewa			**Napier**			**New Plymouth**			**Wairoa**		
1ZM	1260	50	2ZH	820	65	2YB	760	100	2ZP	900	105
Masterton			**Nelson**			**Palmerston N.**			**Wellington**		
2ZD	1170	5	2ZR	920	15	2ZF	960	250	2YA	570	5000
						2ZO	1400	100	2YC	840	200

FOREIGN B. C. STATIONS BY CALLS

CB57	570	CX14	810	HAE2	1321	LKM	1186	OKB	922	RW16	710	SCR	1402		
CB62	620	CX16	850	HAE3	1438	LKN	1357	OKK	1113	RW17	686	SCS	1402		
CB64	640	CX18	890	HAE4	1465	LKO	1181	OKP	633	RW18	610	SCT	1402		
CB73	730	CX20	930	HAL	546	LKP	850	OKR	1004	RW20	1185	SCU	1240		
CB76	760	CX22	970	HC2ET	1153	LKR	1348	ON4CE	1492	RW22	617	SCV	1402		
CB78	780	CX24	1010	HC2JB	1250	LKS	1276	ON4CE	1500	RW23	676	SCW	1402		
CB82	820	CX26	1050	HJN	681	LKT	629	ON4EB	1492	RW26	776	SPTT	859		
CB84	840	CX28	1090	HJ1ABA	1330	LR1	1070	ON4RW	1500	RW27	689	TUA	1275		
CB89	890	CX30	1130	HJ1ABM	1154	LR2	910	PFBI	995	RW28	635	VPB	705		
CB90	900	CX32	1170	HJ3ABD	1100	LR3	950	PP	959	RW28	725	VQ7LO	858		
CB93	930	CX34	1210	HJ3ABE	1200	LR4	990	PRA2	750	RW29	648	VUB	855		
CB97	970	CX36	1250	HJ3ABH	1005	LR5	830	PRA3	860	RW30	913	VUC	810		
CB101	1010	CX38	1290	HJ4ABJ	1000	LR6	870	PRA4	840	RW31	625	VUD	880		
CB106	1060	CX40	1330	HJ4ABK	1230	LR7	750	PRA5	1295	RW32	635	VUG	933		
CB111	1110	CX42	1370	HSP1	856	LR8	1150	PRA6	815	RW33	1050	VUL	1200		
CB114	1140	CX44	1410	HS7PJ	750	LR9	1030	PRA7	706	RW34	522	VUM	770		
CB116	1160	CX46	1450	I1BA	1059	LR10	790	PRA8	750	RW35	598	VUP	1500		
CB118	1180	CX48	1500	I1BZ	536	LR11	1390	PRA9	1000	RW36	586	XDYF	1270		
CB120	1200	EAJ1	795	I1FI	610	LS1	710	PRB2	882	RW38	662	XGCK	990		
CB124	1240	EAJ2	731	I1GE	986	LS2	1190	PRB3	857	RW39	832	XGDZ	1470		
CB126	1260	EAJ3	850	I1MI	814	LS3	630	PRB4	960	RW40	959	XGED	1340		
CB130	1300	EAJ4	1492	I1NA	1104	LS4	670	PRB5	1415	RW41	563	XGF	833		
CB132	1320	EAJ5	731	I1PA	565	LS5	1110	PRB6	1170	RW42	565	XGGW	1150		
CB134	1340	EAJ6	1492	I1RO	713	LS6	1350	PRB7	809	RW46	686.5	XGKA	895		
CB138	1380	EAJ7	1095	I1TO	1140	LS7	1310	PRB8	1000	RW48	704	XGMK	1005		
CB139	1390	EAJ8	1258	I1TR	1222	LS8	1230	PRB9	1017	RW50	617	XGML	714.3		
CB140	1400	EAJ9	1492	JBAK	1020	LS9	1270	PRC2	1090	RW51	794	XGOA	660		
CB144	1440	EAJ10	1492	JFAK	670	LS10	590	PRC3	920	RW52	546	XGOB	1090		
CB144A	1440	EAJ11	1500	JFBK	720	LS11	1430	PRC4	1304	RW54	580	XGOC	1130		
CB144B	1440	EAJ12	1492	JFCK	580	LT1	780	PRC5	1364	RW54	950	XGOD	990		
CB144C	1440	EAJ13	1492	JOAG	930	LT3	1080	PRC6	980	RW55	932	XGOE	1300		
CB146	1460	EAJ14	1500	JOAK-1	870	LT5	1160	PRC7	1090	RW56	640	XGOF	852		
CB150	1500	EAJ15	1022	JOAK-2	590	LT7	1340	PRC8	1030	RW57	1068	XGOH	570		
CC58	580	EAJ16	1492	JOBG	970	LT8	840	PRC9	1175	RW61	888	XGOI	900		
CC64	640	EAJ17	1492	JOBK-1	750	LT9	1200	PRD2	932	RW65	734	XGOK	750		
CC96	960	EAJ19	1022	JOBK-2	1085	LT10	1300	PRD3	1207	RW67	968	XGOL	1030		
CC109	1090	EAJ20	1492	JOCG	655	LT11	1260	PRD4	1364	RW68	824	XGON	930		
CC117	1170	EAJ21	1492	JOCK-1	810	LUHO	750	PRD5	1400	RW69	968	XGOP	950		
CC136	1360	EAJ23	1492	JOCK-2	1175	LU2	900	PRD7	1430	RW70	1040	XGOS	711		
CC141	1410	EAJ24	1492	JODG	635	LU6	1300	PRD8	1132	RW71	689	XGOT	1000		
CC143	1430	EAJ25	1502	JODK-1	900	LU7	1240	PRD9	769	RW73	859	XGOT	1220		
CD103	1030	EAJ26	1502	JODK-2	610	LV1	730	PRE2	1330	RW74	680	XGOW	1010		
CD111	1110	EAJ27	1492	JOFG	990	LV2	880	PRE3	1220	RW75	1095	XGOX	1070		
CD112	1120	EAJ29	1500	JOFK	850	LV3	620	PRE4	941	RW78	767	XGOY	698		
CD121	1210	EAJ30	1500	JOGK	790	LV5	1120	PRE5	1410	RW79	610	XGOZ	1150		
CD132	1320	EAJ31	1492	JOHK	770	LV7	820	PRE6	740	RW82	608	XGSA	1335		
CD136	1360	EAJ32	1500	JOIK	830	LV9	970	PRE7	788	RW84	635	XGSS	610		
CNO	983	EAJ33	1492	JOJK	710	LV10	1210	PRE8	1270	RW85	871	XGTM	840		
CNR	601	EAJ34	1492	JOKK	700	LV14	1240	PRE9	1315	RW86	1013	XGTM	900		
CPX	1360	EAJ35	1500	JOLK	680	MABS	1250	PRF2	725	SBA	704	XGYY	1150		
CP4	1040	EAJ36	1500	JONK	940	MTBY	890	PRF3	900	SBB	941	XHGS	730		
CT1AA	629	EAJ37	1500	JOOK	960	MTCY	560	PRF4	923	SBC	1312	XHHA	840		
CT1GL	1031	EAJ38	1500	JOPK	780	MTFY	675	PRF6	1050	SBD	601	XHHA	1370		
CW19	1340	EAJ39	1492	JOQK	920	OAX4A	750	PRF7	1380	SBH	1131	XHHB	740		
CW23	820	EAJ40	1500	JORK	720	OAX4B	1200	PRF8	950	SCA	1402	XHHC	780		
CW25	1430	EAJ41	1492	JOSK	735	OAX4C	1300	PRF9	1360	SCB	1402	XHHD	860		
CW27	680	EAJ42	1492	JOTK	625	OAX4E	980	PRG3	1280	SCC	1086	XHHE	940		
CW29	1120	EAJ43	1492	JOUK	645	OAX4F	1080	PRG4	1442	SCD	1402	XHHF	960		
CW31	1160	EAJ44	1492	JOVK	680	OAX4H	1150	PRG5	720	SCE	1402	XHHG	1020		
CW33	1460	EAJ45	1500	JOXK	980	OAX4I	1120	PRG6	1500	SCF	1402	XHHH	1040		
CW35	1240	EAJ46	1492	JQAK	652	OAX4L	1250	PRG7	1330	SCG	1402	XHHI	1060		
CW37	1400	EAJ47	1492	KZEG	780	OA4AR	1210	PRG9	1200	SCH	1402	XHHJ	1080		
CW39	1320	EAJ48	1492	KZIB	900	OA4K	1360	PRH2	600	SCI	1402	XHHK	1420		
CW41	1360	EAJ49	1500	KZRM	618.5	OA4O	1277	PRH3	1120	SCJ	1530	XHHL	1140		
CW43	1470	EAJ51	1492	LKA	850	OA6D	1400	PRH4	1480	SCK	1312	XHHN	1200		
CW47	1480	EAJ52	1492	LKB	850	OA6E	1350	PRH8	820	SCL	1402	XHHP	1260		
CX4	610	EAJ53	1492	LKD	686	OA6U	1443	PYG2	1070	SCM	1402	XHHQ	1280		
CX6	650	EAJ55	1492	LKF	776	OFA	895	PYG8	1250	SCN	1492	XHHR	1340		
CX8	690	FFZ	1400	LKH	519	OFD	749	RW9	722	SCO	1312	XHHS	1100		
CX10	730	F31CD	840	LKI	845	OFE	1340	RW10	1438	SCP	1402	XHHT	1500		
CX12	770	HAE	1122	LKK	1276	OFH	527	RW13	960	SCQ	1312	XHHU	1160		

FOREIGN B. C. STATIONS BY CALLS

XHHV	880	XLIL	870	YV6RV	670	2GB	870	2ZJ	980	3ZM	1470	4ZP	620
XHHX	920	XLIM	910	ZBW	845	2GF	1210	2ZL	1240	3ZR	940	4ZR	1340
XHHY	1240	XLIN	1390	ZEK	640	2GN	1390	2ZM	1150	4AK	1220	5AD	1310
XHHZ	1180	XLKA	1194	ZP1	1135	2GZ	990	2ZO	1400	4AY	980	5CK	640
XHIA	1410	XLKB	825	ZP4	1275	2HD	1140	2ZP	900	4BC	1120	5CL	730
XHIB	970	XLKS	1490	ZP5	1465	2KA	1160	2ZR	920	4BH	1380	5DN	960
XHKA	1050	XLPH	1210	ZP9	898	2KO	1410	3AK	1500	4BK	1290	5KA	1200
XKRI	1071.4	XLTC	1210	ZTB	790	2KY	1020	3AR	630	4BU	1480	5MU	1450
XLHB	560	XMHA	600	ZTC	600	2LV	980	3AW	1280	4CA	1470	5PI	1040
XLHC	720	XMHB	980	ZTD	750	2MO	1360	3BA	1320	4GR	1000	5RM	850
XLHD	720	XMHC	700	ZTJ	645	2NC	1230	3BO	970	4GY	1430	6AM	980
XLHE	1380	XOCL	1500	ZTP	952	2NR	700	3DB	1030	4IP	1440	6BY	1160
XLHF	1380	XOMO	1450	ZUG	560	2NZ	1170	3GI	830	4MB	1060	6CK	1240
XLHI	760	XQHA	580	1YA	650	2QN	1440	3GL	1350	4MK	1160	6GF	720
XLHJ	760	XQHB	850	1YX	880	2RN	1340	3HA	1010	4PM	1360	6IX	1240
XLHK	800	XQHC	1300	1ZB	1090	2SM	1270	3HS	1370	4QG	800	6KG	1210
XLHL	800	XQHD	1360	1ZM	1260	2TM	1300	3KZ	1180	4QN	600	6ML	1130
XLHM	1120	XQHE	1460	12S	1420	2UE	950	3LO	770	4RK	910	6PR	880
XLHN	1120	XQHF	1480	2AD	1080	2UW	1110	3MA	900	4RO	1330	6WA	560
XLHO	1400	XQKA	1350	2AY	1480	2WG	1150	3SH	1880	4TØ	1170	6WF	690
XLHQ	1440	YDA	1510	2BE	1470	2WL	1430	3TR	1240	4WK	900	7BU	1390
XLIA	1320	YLZ	583	2BH	1330	2XN	1340	3UZ	930	4YA	790	7HO	820
XLIB	1450	YN	648	2BL	740	2YA	570	3WR	1260	4YO	1140	7LA	1100
XLIE	1250	YVIRC	960	2CA	1050	2YB	760	3WV	580	4ZB	1010	7NT	750
XLIF	1170	YV3RC	1200	2CH	1190	2YC	840	3XY	1420	4ZC	1280	7UV	1460
XLII	830	YV4RC	750	2CO	670	2ZD	1170	3YA	720	4ZL	1220	7ZL	590
XLIJ	1310	YV5RMO	1300	2CR	550	2ZF	960	3YB	1060	4ZM	1010		
XLIK	1330	YV11RMO	1034	2FC	610	2ZH	820	3YL	1200	4ZO	1010		

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

					Heard	Logged	Reported	Verified
540 kcys. (555.2)								
CJRM	ak	1000	F	Moose Jaw, Sask.				
550 kcys. (545.1)								
CFNB	ak	500	F (1)	Fredericton, N. B.				
KFUO	ae	500	2 (1)	St. Louis, Mo.				
KFYR	ae	1000	N (5)	Bismarck, N. D.				
KOAC	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	ck	1000	C	Buffalo, N. Y.				
WKRC	ak	1000	C	Cincinnati, Ohio				
WSVA	ak	500	D	Harrisonburg, Va.				
560 kcys. (535.4)								
KFDM	ak	500	(1)	Beaumont, Tex.				
KLZ	ae	1000	C	Denver, Colo.				
KSFO	ak	1000	.. .	San Francisco, Cal.				
KWTO	ak	5000	D	Springfield, Mo.				
WFIL	ak	1000	B	Philadelphia, Pa.				
WIND	ak	1000	(5)	Gary, Ind.				
WIS	ae	1000	N (5)	Columbia, S. C.				
WQAM	ae	1000	C	Miami, Fla.				
XEAO	ak	250	(.15)	Mexicali, L. C.				
XEFC	ak	100	....	Merida, Yuc.				
570 kcys. (526.0)								
KGKO	ak	250	C (1)	Wichita Falls, Tex.				
KMTR	ak	1000	....	Hollywood, Calif.				
KVI	ak	1000	C	Tacoma, Wash.				
WKBN	ae	500	1C	Youngstown, Ohio				
WMCA	ak	500	....	New York, N. Y.				
WNAX	ak	1000	C (5)	Yankton, S. D.				
WOSU	ak	750	1 (1)	Columbus, Ohio				
WSYR	ak	250	BX	Syracuse, N. Y.				
WWNC	ak	1000	N	Asheville, N. C.				
580 kcys. (516.9)								
CFPR	z	50	....	Prince Rupert, B.C.				

					Heard	Logged	Reported	Verified
CHRC	ak	100	F	Quebec, Que.				
CKCL	ae	100	F	Toronto, Ont.				
CKUA	ak	500	....	Edmonton, Alta.				
KMJ	ak	1000	C	Fresno, Calif.				
KSAC	ak	500	2 (1)	Manhattan, Kans.				
WCHS	ak	500	(1)	Charleston, W. Va.				
WDBO	ae	1000	C	Orlando, Fla.				
WIBW	an	1000	C2 (5)	Topeka, Kans.				
WTAG	ae	500	R	Worcester, Mass.				

590 kcys. (508.2)

KHQ	ak	1000	N (2.5)	Spokane, Wash.				
WEEI	ak	1000	R	Boston, Mass.				
WKZO	ae	1000	D	Kalamazoo, Mich.				
WOW	ae	5000	R	Omaha, Nebr.				
XEPN	ak	50000	..	Piedras Negras, Coah.				

600 kcys. (499.7)

CFCF	ae	400	FN	Montreal, Que.				
CJOR	ak	500	....	Vancouver, B. C.				
CMW	ak	1000	....	Havana, Cuba				
CRCW	ak	500	F (1)	Windsor, Ont.				
FQN	z	250	609	St. Pierre, Miq.				
KFSD	ae	1000	N	San Diego, Calif.				
WCAC	ak	500	2	Storrs, Conn.				
WCAO	ae	500	C (1)	Baltimore, Md.				
WICC	ae	500	2 C (1)	Bridgeport, Conn.				
WMT	ak	1000	B (2.5)	Cedar Rapids, Ia.				
WREC	ak	1000	C (2.5)	Memphis, Tenn.				

610 kcys. (491.5)

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

620 kcys. (483.6)

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

630 kcys. (475.9)

CFCO	ak	100	F	Chatham, Ont.				
CFCY	ae	1000	F	Charlottetown, P.E.I.				
CJGX	ae	1000	F	Yorkton, Sask.				
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.				
WOS	ak	500	ID	Jefferson City, Mo.				
WPRO	ak	250	....	Providence, R. I.				
XEZ	z	500	....	Merida, Yuc.				

640 kcys. (468.5)

CMBY	z	150	....	Havana, Cuba				
KFI	ah	50000	N	Los Angeles, Calif.				
WAIU	ae	500	....	Columbus, Ohio				
WOI	ae	5000	D	Ames, Iowa				
XEOX	ak	500	....	Saltillo, Coah.				

650 kcys. (461.3)

WSM	ae	50000	N	Nashville, Tenn.				

660 kcys. (454.3)					Heard	Logged	Reported	Verified
CMCX	z	150	....	Havana, Cuba				
WAAW	ak	500	D	Omaha, Neb.				
WEAF	ak	50000	R	New York, N. Y.				
670 kcys. (447.5)								
WMAQ	ak	50000	N	Chicago, Ill.				
680 kcys. (440.9)								
CMCQ	z	250	....	Havana, Cuba				
KFEQ	ak	2500	D	St. Joseph, Mo.				
KPO	ak	50000	N	San Francisco, Cal.				
RDN	z	500	....	San Salvador, E.S.				
VAS	akn	2000	685	Glace Bay, N. S.				
VOWR	ck	500	681	St. John's, Nfld.				
WPTF	ae	5000	DnN	Raleigh, N. C.				
690 kcys. (434.5)								
CFRB	ak	10000	C	Toronto, Ont.				
CJCJ	aj	100	F	Calgary, Alta.				
NAA	akn	1000	....	Arlington, Va.				
XET	ak	500	....	Monterrey, N. L.				
700 kcys. (428.3)								
WLW	ak	500000	N	Cincinnati, Ohio				
710 kcys. (422.3)								
KIRO	ae	500	....	Seattle, Wash.				
KMPC	ak	500	....	Beverly Hills, Cal.				
WOR	ak	50000	....	Newark, N. J.				
XEN	ak	1000	....	Mexico City, D. F.				
720 kcys. (416.4)								
WGN	ak	50000	....	Chicago, Ill.				
730 kcys. (410.7)								
CFPL	ak	100	F	London, Ont.				
CJCA	ah	1000	F	Edmonton, Alta.				
CKAC	ck	5000	C	Montreal, Que.				
740 kcys. (405.2)								
KMMJ	ae	1000	D	Clay Center, Neb.				
KTRB	ak	250	D	Modesto, Calif.				
WHEB	ak	250	D	Portsmouth, N. H.				
WSB	ah	50000	N	Atlanta, Ga.				
750 kcys. (399.8)								
CMCW	dk	150	....	Havana, Cuba				
KGU	aj	2500	N	Honolulu, T. H.				
WJR	ak	50000	C	Detroit, Mich.				
XEAM	z	7.5	....	Matamoros, Tams.				
760 kcys. (394.5)								
CMHX	ak	500	(.15)	Cienfuegos, Cuba				
KXA	ae	250	(.5)	Seattle, Wash.				
WBAL	ae	2500	BSy	Baltimore, Md.				
WEW	ae	1000	D	St. Louis, Mo.				
WJZ	ak	50000	BSy	New York, N. Y.				
XEOK	z	250	....	Tijuana, L. C.				

770 kcys. (389.4)

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

780 kcys. (384.4)

CHWK	dk	100	F	Chilliwack, B. C.				
CKSO	ak	1000	F	Sudbury, Ont.				
CMJK	ak	250	...	Camaguey, Cuba				
KELW	ak	500	2	Burbank, Calif.				
KFDY	ae	1000	D	Brookings, S. D.				
KFQD	ck	250	...	Anchorage, Alaska				
KGHL	ak	1000	N (2.5)	Billings, Mont.				
KTM	ak	500	2 (1)	Los Angeles, Calif.				
WEAN	ae	500	C	Providence, R. I.				
WMC	ak	1000	N (5.)	Memphis, Tenn.				
WTAR	ae	500	N (1)	Norfolk, Va.				
XEYZ	z	10000	....	Mexico City, D. F.				

790 kcys. (379.5)

CMOA	z	150	....	Havana, Cuba				
KGO	ak	7500	N	San Francisco, Cal.				
WGY	ak	50000	R	Schenectady, N. Y.				

800 kcys. (374.8)

HIX	ak	700	....	Santo Domingo, D.R.				
WBAP	ak	50000	Na	Fort Worth, Tex.				
WFAA	ak	50000	Na	Dallas, Tex.				
WTBO	ak	250	D	Cumberland, Md.				

810 kcys. (370.2)

CMCF	ak	250	815	Havana, Cuba				
CMHW	ak	100	....	Cienfuegos, Cuba				
WCCO	ae	50000	C	Minneapolis, Minn.				
WNYC	ak	1000	D	New York, N. Y.				
XFC	z	350	....	Aguascalientes, Ags.				

820 kcys. (365.6)

WHAS	aj	50000	C	Louisville, Ky.				
XETW	dk	500	....	Mexico City, D. F.				
XEMZ	z	....	....	Coronado Isle, L. C.				

830 kcys. (361.2)

KOA	ak	50000	N	Denver, Colo.				
WEEU	ak	1000	D	Reading, Pa.				
WHDH	ae	1000	Dn	Boston, Mass.				
WRUF	ae	5000	Dn	Gainesville, Fla.				

840 kcys. (356.9)

CFQC	ak	1000	F	Saskatoon, Sask.				
CRCT	ak	5000	FN	Toronto, Ont.				
VOGY	ak	400	....	St. John's, Nfld.				
XEP	z	500	....	Mexico City, D. F.				
XERA	ck	250000	....	Villa Acuna, Coah.				

850 kcys. (352.7)

KIEV	ak	100	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.				
XEFE	z	250	....	Nuevo Laredo				

860 kcys. (348.6)					Heard	Logged	Reported	Verified
WABC	ak	50000	C	New York, N. Y.				
WHB	ak	1000	D	Kansas City, Mo.				
XEMO	ak	5000	....	Tijuana, L. C.				
870 kcys. (344.6)								
WENR	ak	50000	Na	Chicago, Ill.				
WLS	ae	50000	Na	Chicago, Ill.				
880 kcys. (340.7)								
CFJC	ak	100	F	Kamloops, B. C.				
CMBN	z	150	....	Havana, Cuba				
CMQ	ak	500	....	Havana, Cuba				
CRCO	ak	1000	F	Ottawa, Ont.				
KFKA	ak	500	2 (1)	Greeley, Colo.				
KLX	ae	1000	....	Oakland, Calif.				
KPOF	ae	500	2	Denver, Colo.				
WCOC	ae	500	(1)	Meridian, Miss.				
WGBI	ae	500	1	Scranton, Pa.				
WPHR	ak	500	D	Petersburg, Va.				
WQAN	ae	250	1	Scranton, Pa.				
WSUI	ae	500	(1)	Iowa City, Iowa				
890 kcys. (336.9)								
KARK	ak	250	(.5)	Little Rock, Ark.				
KFNF	ak	500	2 (1)	Shenandoah, Iowa				
KFPY	ak	1000	C	Spokane, Wash.				
KUSD	ae	500	2	Vermillion, S. D.				
WBAA	ak	1000	D	W. Lafayette, Ind.				
WGST	ak	1000	C	Atlanta, Ga.				
WILL	ak	250	2 (1)	Urbana, Ill.				
WJAR	ae	500	R	Providence, R. I.				
WMMN	ak	500	(1)	Fairmount, W. Va.				
XEW	ak	50000	....	Mexico City, D. F.				
900 kcys. (333.1)								
KGBU	ak	500	....	Ketchikan, Alaska				
KHJ	ae	1000	C (5)	Los Angeles, Calif.				
KSEI	ck	250	(.5)	Pocatello, Idaho				
WBEN	ak	1000	R (5)	Buffalo, N. Y.				
WELI	z	500	D	New Haven, Conn.				
WFMD	ah	500	DP	Frederick, Md.				
WJAX	aeh	1000	N (5)	Jacksonville, Fla.				
WKY	ae	1000	N	Oklahoma City, Okla.				
WLBL	ak	2500	D	Stevens Point, Wis.				
WTAD	ak	500	D	Quincy, Ill.				
910 kcys. (329.6)								
CJAT	ak	250	F	Trail, B. C.				
CRCM	ak	5000	F	Montreal, Que.				
XENT	ak	65000	....	Nuevo Laredo, Tams.				
920 kcys. (325.9)								
CMX	ae	650	....	Havana, Cuba				
HHK	ae	1000	....	Port-au-Prince, Haiti				
KFEL	ak	500	a	Denver, Colo.				
KOMO	ak	1000	N (5)	Seattle, Wash.				
KPRC	ak	1000	N (5)	Houston, Texas				
KVOD	ak	500	a	Denver, Colo.				
WAAF	ak	1000	D	Chicago, Ill.				
WORL	ae	500	D	Needham, Mass.				
WPEN	ak	250	(.5) 1	Philadelphia, Pa.				
WRAX	ak	250	1 (.5)	Philadelphia, Pa.				
WSPA	ae	1000	D	Spartanburg, S.				
WWJ	ak	1000	R (5)	Detroit, Mich.				
XEAA	ak	200	....	Mexicali, L. C.				

930 kcys. (322.4)

					Heard	Logged	Reported	Verified
CFAC	ak	100	F	Calgary, Alta.				
CFCH	ak	100	F	North Bay, Ont.				
CFLC	ae	100	....	Prescott, Ont.				
CHNS	ae	1000	F	Halifax, N. S.				
CKPC	ae	100	F	Brantford, Ont.				
CKPR	ak	100	F	Fort William, Ont.				
KGBZ	ak	1000	2 (2.5)	York, Neb.				
KMA	ak	1000	2 (2.5)	Shenandoah, Iowa				
KROW	ak	1000	....	Oakland, Calif.				
TIRH	z	50	....	San Jose, C. R.				
WBRC	ak	1000	C	Birmingham, Ala.				
WDBJ	ae	1000	C	Roanoke, Va.				

940 kcys. (319.0)

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

950 kcys. (315.6)

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.				
YNVA	z	30	....	Managua, Nic.				

960 kcys. (312.3)

CKY	ak	15000	F	Winnipeg, Man.				
CMCD	ak	250	....	Havana, Cuba				
XEAW	ck	50000	....	Reynosa, Tams.				

970 kcys. (309.1)

KJR	ak	5000	N	Seattle, Wash.				
WCFL	ae	5000	B	Chicago, Ill.				
WIBG	ak	100	D	Glenside, Pa.				

980 kcys. (306.0)

KDKA	ae	50000	B	Pittsburgh, Pa.				

990 kcys. (302.8)

WBZ	ak	50000	BSy	Boston, Mass.				
WBZA	ak	1000	BSy	Springfield, Mass.				
XEAF	ak	500	....	Nogales, Sonora				
XEK	ak	100	....	Mexico City, D. F.				
XES	dk	250	....	Tampico, Tams.				

1000 kcys. (299.8)

CMBZ	ak	250	....	Havana, Cuba				
KFVD	ak	250	Dn	Los Angeles, Calif.				
TIGH	z	500	....	San Jose, C. R.				
WHO	ak	50000	R	Des Moines, Iowa				
XEBH	z	500	....	Hermosillo, Sonora				
XEY	z	10	....	Merida, Yuc.				

1010 kcys. (296.9)

CHML	ak	100	F	Hamilton, Ont.				
CHWC	ak	500	3F	Regina, Sask.				
CKCD	ak	100	....	Vancouver, B. C.				
CKCK	ak	500	3F	Regina, Sask.				

					Heard	Logged	Reported	Verified
CKCO	ak	100	F	Ottawa, Ont.				
CKIC	ak	50	....	Wolfville, N. S.				
CKWX	ak	100	F	Vancouver, B. C.				
CMJA	ak	300	....	Camaguey, Cuba				
KGGF	ak	1000	2	Coffeyville, Kans.				
KQW	ak	1000	....	San Jose, Calif.				
TIGA	z	30	1014	Cartago, C. R.				
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.				

1020 kcys. (293.9)

KYW	ak	10000	R	Philadelphia, Pa.
XEJ	ak	1000	....	Juarez, Chih.

1030 kcys. (291.1)

CFCN	ak	10000	....	Calgary, Alta.
CKLW	ag	5000	....	Windsor, Ont.
CMCY	ak	1000	....	Havana, Cuba
XEB	ak	10000	....	Mexico City, D. F.

1040 kcys. (288.3)

KRLD	ae	10000	C	Dallas, Texas
KWJJ	ak	500	....	Portland, Ore.
WTIC	ah	50000	....	Hartford, Conn.

1050 kcys. (285.5)

CMKD	ak	250	....	Santiago, Cuba
CRCK	ak	1000	F	Quebec, Que.
KFBI	ak	5000	Dn	Abilene, Kans.
KNX	ak	50000	....	Hollywood, Calif.
TIFA	z	75	....	San Jose, C. R.

1060 kcys. (282.8)

CMK	ae	250	....	Havana, Cuba
KTHS	ae	10000	N	Hot Springs, Ark.
VOAC	z	40	1065	St. John's, Nfld.
WBAL	ak	10000	B	Baltimore, Md.
WJAG	ak	1000	D	Norfolk, Neb.
XEA	ak	500	....	Guadalajara, Jal.

1070 kcys. (280.2)

CMHA	z	50	....	Sagua la Grande
KJBS	ak	500	Dn	San Francisco, Cal.
WCAZ	ak	100	D	Carthage, Ill.
WDZ	ak	100	DZX	Tuscola, Ill.
WTAM	ak	50000	R	Cleveland, Ohio

1080 kcys. (277.6)

WBT	ak	50000	C	Charlotte, N. C.
WCBD	ak	5000	lDn	Waukegan, Ill.
WMBI	ak	5000	lDn	Chicago, Ill.
XEMA	z	50	....	Tampico, Tams.

1090 kcys. (275.1)

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

1100 kcys. (272.6)

CRCV	ak	500	F	Vancouver, B. C.
KGDM	ak	1000	D	Stockton, Calif.
KWKH	ae	10000	C	Shreveport, La.
WLWL	ae	5000	I	New York, N. Y.
WPG	ak	5000	lG	Atlantic City, N. J.
XEL	z	250	....	Mexico City, D. F.

					Heard	Logged	Reported	Verified
1110 kcys. (270.1)								
CMCO	ak	250	....	Havana, Cuba				
KSOO	ak	2500	Dn	Sioux Falls, S. D.				
WRVA	ae	5000	N	Richmond, Va.				
XELO	z	10000	....	Piedras Negras, Co.				
1120 kcys. (267.7)								
CHLP	ak	100	F	Montreal, Que.				
CHSJ	ae	500	F (1)	St. John, N. B.				
CKOC	ae	500	F (1)	Hamilton, Ont.				
CKX	ak	100	F	Brandon, Man.				
CMGF	dk	100	....	Matanzas, Cuba				
CMKM	ak	200	....	Manzanillo, Cuba				
KFIO	ae	100	D	Spokane, Wash.				
KFSG	ag	500	a (1)	Los Angeles, Calif.				
KRKD	aj	500	a (2.5)	Los Angeles, Calif.				
KRSC	ak	100	D	Seattle, Wash.				
WCOP	ak	500	D	Boston, Mass.				
WDEL	ak	250	(.5)	Wilmington, Del.				
WISN	ak	250	(1)	Milwaukee, Wis.				
WTAW	ae	500	....	College Station, Tex.				
1130 kcys. (265.3)								
CMJI	ak	50	....	Ciego de Avila, Cuba				
KSL	ae	50000	C	Salt Lake City, Utah				
WJJD	ak	20000	Dn	Chicago, Ill.				
WOV	ag	1000	D	New York, N. Y.				
1140 kcys. (263.0)								
CMBG	z	200	....	Havana, Cuba				
KVOO	ak	25000	1N	Tulsa, Okla.				
WAPI	ae	5000	1N	Birmingham, Ala.				
WSPR	z	500	P	Springfield, Mass.				
1150 kcys. (260.7)								
CMJF	z	200	....	Camaguey, Cuba				
WHAM	ae	50000	B	Rochester, N. Y.				
XED	ak	2500	1155	Guadalajara, Jal.				
XEFL	z	500	....	Tijuana, L. C.				
XEH	ak	250	....	Monterrey, N. L.				
XEWZ	ak	100	....	Mexico City, D. F.				
1160 kcys. (258.5)								
CMHJ	z	100	....	Cienfuegos, Cuba				
WOWO	ae	10000	1C	Fort Wayne, Ind.				
WWVA	ak	5000	1C	Wheeling, W. Va.				
XEAS	z	100	....	Saltillo, Coah.				
XEC	z	30	....	Tijuana, L. C.				
XESL	z	....	....	Tijuana, L. C.				
1170 kcys. (256.3)								
CMBD	z	150	....	Havana, Cuba				
WCAU	ae	50000	C	Philadelphia, Pa.				
1180 kcys. (254.1)								
CMJO	ak	50	...	Ciego de Avila, Cuba				
KEX	ak	5000	2N	Portland, Ore.				
KOB	ak	10000	2	Albuquerque, N.M.				
VE9EK	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	...	Mexico City, D. F.				
1190 kcys. (252.0)								
CMKV	z	50	....	Santiago, Cuba				

					Heard	Logged	Reported	Verified
HIJ	z	15	1195	Santo Domingo, D.R.				
VONF	ak	500	1195	St. John's, Nfld.				
WATR	ak	100	D	Waterbury, Conn.				
WOAI	ak	50000	N	San Antonio, Tex.				
WSAZ	ak	1000	....	Huntington, W. Va.				

1200 kcys. (249.9)

CHAB	ak	100	F	Moose Jaw, Sask.				
CKNX	ak	50	....	Wingham, Ont.				
CKTB	ae	100	F	St. Catherines, Ont.				
CMCJ	ak	350	....	Havana, Cuba				
KADA	ak	100	D	Ada, Okla.				
KBTM	ak	100	D	Jonesboro, Ark.				
KFJB	ak	100	(.25)	Marshalltown, Iowa				
KFXD	ae	100	(.25)	Nampa, Idaho				
KFXJ	ak	100	(.25)	Grand Junc., Colo.				
KGDE	ak	100	(.25)	Fergus Falls, Minn.				
KGEK	ak	100	....	Sterling, Colo.				
KGFJ	ae	100	....	Los Angeles, Calif.				
KGHI	ak	100	(.25)	Little Rock, Ark.				
KMLB	ak	100	....	Monroe, La.				
KSUN	ak	100	....	Lowell, Ariz.				
KVOS	dk	100	....	Bellingham, Wash.				
KWG	ak	100	C	Stockton, Calif.				
WABI	ak	100	....	Bangor, Maine				
WAIM	ak	100	....	Anderson, S. C.				
WBBZ	ak	100	....	Ponca City, Okla.				
WBNO	ak	100	1	New Orleans, La.				
WCAT	ak	100	D	Rapid City, S. D.				
WCAX	ak	100	....	Burlington, Vt.				
WCLO	ak	100	....	Janesville, Wis.				
WCPO	ak	100	(.25)	Cincinnati, Ohio				
WEST	ae	100	3 (.25)	Easton, Pa.				
WFAM	ak	100	8	South Bend, Ind.				
WHBC	ak	100	(.25)	Canton, Ohio				
WHBY	ak	100	(.25)	Green Bay, Wis.				
WIBX	aej	100	(.3) C	Utica, N. Y.				
WIL	ak	100	(.25)	St. Louis, Mo.				
WJBC	ak	100	6	Bloomington, Ill.				
WJBL	ak	100	6	Decatur, Ill.				
WJBW	ak	100	1	New Orleans, La.				
WJNO	z	100	P	W. Palm Beach, Fla.				
WKBO	ak	100	3 (.25)	Harrisburg, Pa.				
WLVA	ak	100	(.25)	Lynchburg, Va.				
WMFR	ae	100	PD	High Point, N. C.				
WMPC	ak	100	(.25)	Lapeer, Mich.				
WNRI	ak	100	(.25)	Newport, R. I.				
WRBL	ak	100	....	Columbus, Ga.				
WWAE	ae	100	8	Hammond, Ind.				
WTHT	z	100	DP	Hartford, Conn.				

1210 kcys. (247.8)

CJCS	z	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				
KASA	ck	100	....	Elk City, Okla.				
KDLR	ak	100	....	Devils Lake, N. D.				
KDON	z	100	....	Del Monte, Calif.				
KFJI	ak	100	....	Klamath Falls, Ore.				
KFOR	ae	100	(.25) C	Lincoln, Neb.				
KFPW	ak	100	....	Fort Smith, Ark.				
KFVS	ak	100	6(.25)	Cape Girardeau, Mo.				
KFXM	ak	100	9	San Bernardino, Calif.				
KGY	ak	100	....	Olympia, Wash.				
KIUL	ak	100	....	Garden City, Kans.				
KPPC	ak	50	9	Pasadena, Calif.				
KVSO	ak	100	D	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.				
WBRB	ak	100	3	Red Bank, N. J.				
WCOL	ak	100	....	Columbus, Ohio				

					Heard	Logged	Reported	Verified
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.				
WGBB	ae	100	3	Freeport, N. Y.				
WGCM	ae	100	(.25)	Gulfport, Miss.				
WGNY	ak	100	3	Chester, N. Y.				
WHBF	ak	100	(.25)	Rock Island, Ill.				
WHBU	ak	100	....	Anderson, Ind.				
WIBU	ak	100	(.25)	Poynette, Wis.				
WJBY	ak	100	....	Gadsden, Ala.				
WJEJ	ae	100	D	Hagerstown, Md.				
WJIM	z	100	(.25)	Lansing, Mich.				
WJW	ae	100	(.25)	Akron, Ohio				
WKOK	ak	100	....	Sunbury, Pa.				
WMBG	ak	100	C(.25)	Richmond, Va.				
WMFG	z	100	....	Hibbing, Minn.				
WMFN	ak	100	....	Clarksdale, Miss.				
WOCL	ak	50	....	Jamestown, N. Y.				
WOMT	ak	100	....	Manitowoc, Wis.				
WPAX	ak	250	D	Thomasville, Ga.				
WSAY	z	100	DP	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.				
XEE	z	50	....	Durango, Dgo.				
XEFV	ak	100	....	Juarez, Chih.				
XEMZ	z	250	....	Tijuana, L. C.				
XETH	ak	100	....	Puebla, Pue.				

1220 kcys. (245.8)

CMJE	z	50	....	Camaguey, Cuba				
KFKU	ae	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	R(5)	Pittsburgh, Pa.				
WDAE	ae	1000	C(2.5)	Tampa, Fla.				
WREN	ak	1000	Ba(5)	Lawrence, Kas.				
XETF	ak	12	....	Veracruz, Ver.				

1230 kcys. (243.8)

CJOC	ak	100	F	Lethbridge, Alta.				
CMCB	ak	150	....	Havana, Cuba				
KGBX	ak	500	....	Springfield, Mo.				
KGGM	ak	250	(.5)	Albuquerque, N.M.				
KYA	ak	1000	N	San Francisco, Calif.				
WFBM	ae	1000	C	Indianapolis, Ind.				
WNAC	ak	1000	C(2.5)	Boston, Mass.				
XEFJ	ak	100	....	Monterrey, N. L.				
YNOP	z	100	....	Managua, Nic.				

1240 kcys. (241.8)

CJCB	ak	1000	F	Sydney, N. S.				
CMHB	z	50	....	Sancti Spiritus, Cuba				
KGCU	ak	250	1	Mandan, N. D.				
KLPM	ak	250	1	Minot, N. D.				
KTAT	ak	1000	....	Fort Worth, Texas				
KTFI	ae	1000	....	Twin Falls, Idaho				
WKAQ	ae	1000	....	San Juan, P. R.				
WXYZ	ak	1000	B	Detroit, Mich.				
XEAI	z	100	....	Mexico City, D. F.				
XEKL	z	500	....	Leon, Guan.				

1250 kcys. (239.9)

CMCG	ak	250	1255	Havana, Cuba				
CMKC	ak	150	....	Santiago, Cuba				
KFOX	ae	1000	....	Long Beach, Calif.				
WCAL	ah	1000	2(2.5)	Northfield, Minn.				
WDSU	ak	1000	....	New Orleans, La.				
WHBI	ak	1000	a(2.5)	Newark, N. J.				
WLB	ak	1000	2	Minneapolis, Minn.				
WNEW	ae	1000	a(2.5)	Newark, N. J.				
WTCN	ak	1000	2(5)	Minneapolis, Minn.				

1260 kcys. (238.0)					Heard	Logged	Reported	Verified
CFRN	ak	100	F	Edmonton, Alta.				
KGVO	ak	1000	....	Missoula, Mont.				
KOIL	ak	1000	B(2.5)	Council Bluffs, Ia.				
KPAC	ak	500	D	Port Arthur, Texas				
KRGV	ak	500	....	Weslaco, Texas				
KUOA	ak	1000	D	Fayetteville, Ark.				
KVOA	ak	500	....	Tucson, Ariz.				
WHIO	ae	1000	R	Dayton, Ohio				
WNBX	ak	1000	....	Springfield, Vt.				
WTOC	ae	1000	C	Savannah, Ga.				

1270 kcys. (236.1)					Heard	Logged	Reported	Verified
CMHD	dk	250	....	Caibarien, Cuba				
KGGA	ak	100	2D	Decorah, Iowa				
KOL	ae	1000	C(2.5)	Seattle, Wash.				
KVOR	ae	1000	C	Colorado Sp'gs, Colo.				
KWLC	ak	100	2D	Decorah, Iowa				
WASH	ak	500	aN	Grand Rapids, Mich.				
WFBR	ak	500	R	Baltimore, Md.				
WJDX	ae	1000	N(2.5)	Jackson, Miss.				
WOOD	ak	500	aN	Grand Rapids, Mich.				
XEG	z	200	....	Ensenada, L. C.				
XFB	ak	250	....	Jalapa, Ver.				
YNLF	z	20	1275	Managua, Nic.				

1280 kcys. (234.2)					Heard	Logged	Reported	Verified
CMCU	z	150	....	Havana, Cuba				
KFBB	ae	1000	(2.5)	Great Falls, Mont.				
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	12	....	Mexico City, D. F.				

1290 kcys. (232.4)					Heard	Logged	Reported	Verified
KDYL	ak	1000	N	Salt Lake City, Utah				
KLCN	ak	100	D	Blytheville, Ark.				
KTRH	ak	1000	C(5)	Houston, Texas				
WEBC	ae	1000	N(5)	Superior, Wis.				
WJAS	ak	1000	C(2.5)	Pittsburgh, Pa.				
WNBZ	z	100	D	Saranac Lake, N. Y.				
WNEL	ak	1000	(2.5)	San Juan, P. R.				

1300 kcys. (230.6)					Heard	Logged	Reported	Verified
HIZ	z	10	....	Santo Domingo, D. R.				
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	ae	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)	Greenville, S. C.				
WHAZ	ae	500	1	Troy, N. Y.				
WIOD	ak	1000	N	Miami, Fla.				

1310 kcys. (228.9)					Heard	Logged	Reported	Verified
CHCK	ak	50	....	Charlottetown, P.E.I.				
CJKL	ak	1000	....	Kirkland Lake, Ont.				
CJLS	ak	500	....	Yarmouth, N. S.				
CKCV	ak	100	F	Quebec, Que.				
KCRJ	ak	100	D	Jerome, Ariz.				
KFPL	dk	100	(.25)	Dublin, Texas				
KFXR	ak	100	(.25)	Oklahoma City, Okl.				
KFYO	dk	100	(.25)	Lubbock, Texas				
KGCX	ak	100	(.25)	Wolf Point, Mont.				
KGEZ	aj	100	....	Kalispell, Mont.				

					Heard	Logged	Reported	Verified
KGFW	ak	100	....	Kearney, Neb.				
KINY	ak	100	....	Juneau, Alaska				
KIT	ak	100	(.25)	Yakima, Wash.				
KIUJ	ak	100	....	Santa Fe, N. Mex.				
KMED	ck	100	(.25)	Medford, Ore.				
KPDN	z	100	DP	Pampa, Texas				
KRMD	ak	100	....	Shreveport, La.				
KROC	z	100	....	Rochester, Minn.				
KTSM	ak	100	....	El Paso, Texas				
KVOL	ak	100	....	Lafayette, La.				
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, Il!.				
WCMI	z	100	....	Ashland, Ky.				
WDAH	ak	100	S	El Paso, Texas				
WEBR	aeh	100	(.25)	Buffalo, N. Y.				
WEMP	z	100	D	Milwaukee, Wis.				
WEXL	ak	50	....	Royal Oak, Mich.				
WFBG	ae	100	3	Altoona, Pa.				
WFDF	mk	100	....	Flint, Mich.				
WGH	aj	100	(.25)	Newport, News, Va.				
WHAT	ak	100	4	Philadelphia, Pa.				
WJAC	ae	100	3	Johnstown, Pa.				
WLAK	z	100	P	Lakeland, Fla.				
WLBC	ak	100	6(.25)	Muncie, Ind.				
WLNH	ak	100	....	Laconia, N. H.				
WMBO	ak	100	....	Auburn, N. Y.				
WMFF	ak	250	D	Plattsburg, N. Y.				
WNBH	ak	100	(.25)C	New Bedford, Mass.				
WOL	ak	100	....	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.				
XEAJ	z	15	....	Oaxaca, Oax.				
XECW	z	10	....	Mexico City, D. F.				
XEFW	ak	250	....	Tampico, Tams.				
XETB	ak	125	....	Torreon, Coah.				
XEX	ak	125	....	Monterrey, N. L.				
XFA	z	5	....	Aguascalientes, Ags.				

1320 kcys. (227.1)

CMOX	ak	250	....	Havana, Cuba
KGHF	ak	500	....	Pueblo, Colo.
KGMB	ak	1000	C	Honolulu, T. H.
KID	ae	250	(.5)	Idaho Falls, Idaho
KRNT	ak	500	C(1)	Des Moines, Iowa
WADC	ae	1000	C(2.5)	Akron, Ohio
WORK	ak	1000	....	York, Pa.
WSMB	ak	500	N	New Orleans, La.

1330 kcys. (225.4)

CMHK	z	250	....	Cruces, Cuba
KGB	ag	1000	C(2.5)	San Diego, Calif.
KMO	ak	250	....	Tacoma, Wash.
KSCJ	aj	1000	1C(2.5)	Sioux City, Iowa
WDRC	ae	1000	C(.5)	Hartford, Conn.
WSAI	ak	1000	R(2.5)	Cincinnati, Ohio
WTAQ	ae	1000	1	Eau Claire, Wis.

1340 kcys. (223.7)

CMJL	z	100	....	Camaguey, Cuba
HRN	z	50	....	Tegucigalpa, Hond.
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	ae	500	C(1)	Manchester, N. H.

					Heard	Logged	Reported	Verified
WSPD	ae	1000	C(2.5)	Toledo, Ohio				
XFD	z	350	....	Jalapa, Ver.				
1350 kcys. (222.1)								
CMCA	z	250	....	Havana, Cuba				
KIDO	ak	1000	(.25)	Boise, Idaho				
KWK	ak	1000	B(5)	St. Louis, Mo.				
WAWZ	ae	500	1(1)	Zarephath, N. J.				
WBNX	ae	250	1	New York, N. Y.				
1360 kcys. (220.4)								
CMJH	dk	100	....	Ciego de Avila, Cuba				
KCRC	ak	250	....	Enid, Okla.				
KGER	ak	1000	....	Long Beach, Calif.				
WCSC	ak	500	(1)	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 kcys. (218.8)								
CKCW	ak	100	F	Moncton, N. B.				
CMGE	ak	50	....	Cardenas, Cuba				
KAST	ak	100	D	Astoria, Ore.				
KELD	z	100	....	El Dorado, Ark.				
KERN	ak	100	....	Bakersfield, Calif.				
KFGQ	ak	100	....	Boone, Iowa				
KFJM	ak	100	(.25)	Grand Forks, N. D.				
KFJZ	ae	100	....	Fort Worth, Texas				
KFRO	ak	100	D	Longview, Texas				
KGAR	ae	100	(.25)	Tucson, Ariz.				
KGFG	bk	100	....	Oklahoma City, Okla.				
KGFL	ak	100	4	Roswell, N. M.				
KGKL	ak	100	(.25)	San Angelo, Texas				
KICA	ak	100	4	Clovis, N. M.				
KIUP	ak	100	....	Durango, Colo.				
KLUF	z	100	(.25)	Galveston, Texas				
KMAC	ak	100	5	San Antonio, Tex.				
KONO	ak	100	5	San Antonio, Tex.				
KRE	ak	100	(.25)	Berkeley, Calif.				
KRKO	ak	50	1	Everett, Wash.				
KSLM	ak	100	..	Salem, Ore.				
KUJ	ak	100	.	Walla Walla, Wash.				
KVL	ak	100	1	Seattle, Wash.				
KWKC	ak	100	..	Kansas City, Mo.				
KWYO	ak	100	....	Sheridan, Wyo.				
WABY	aj	100	..	Albany, N. Y.				
WAGF	ak	250	D	Dothan, Ala.				
WATL	ak	100	...	Atlanta, Ga.				
WBNY	z	100	2P(.25)	Buffalo, N. Y.				
WBTM	ak	100	(.25)	Danville, Va.				
WCBM	ae	100	(.25)	Baltimore, Md.				
WDAS	ae	100	(.25)	Philadelphia, Pa.				
WEOA	z	100	P	Evansville, Ind.				
WGL	ae	100	C	Fort Wayne, Ind.				
WHBQ	ak	100	..	Memphis, Tenn.				
WHDF	ak	100	(.25)	Calumet, Mich.				
WHLB	z	100	P	Virginia, Minn.				
WIBM	ak	100	(.25)	Jackson, Mich.				
WLLH	ak	100	(.25)	Lowell, Mass.				
WMBR	ak	100	C(.25)	Jacksonville, Fla.				
WMFD	ak	100	D	Wilmington, N. C.				
WMFO	ak	100	D	Decatur, Ala.				
WOC	ak	100	C(.25)	Davenport, Iowa				
WPAY	ak	100	.	Portsmouth, Ohio				
WPFB	ak	100	....	Hattiesburg, Miss.				
WQDM	ae	100	....	St. Albans, Vt.				
WRAK	ak	100	(.25)	Williamsport, Pa.				
WRDO	ae	100	.	Augusta, Maine				
WRJN	ak	100	(.25)	Racine, Wis.				
WSVS	ak	50	D2	Buffalo, N. Y.				
XEFZ	ak	100	....	Mexico City, D. F.				
XEI	ak	125	....	Morelia, Mich.				
XEZZ	z	100	...	San Luis Potosi, SLP.				

1380 kcys. (217.3)

					Heard	Logged	Reported	Verified
CMBX	ak	500	....	Havana, Cuba				
KOH	ak	500	C	Reno, Nev.				
KQV	ae	500	....	Pittsburgh, Pa.				
WALA	af	500	C(1)	Mobile, Ala.				
WKBH	ae	1000	....	LaCrosse, Wis.				
WNBC	mk	250	D	New Britain, Conn.				
WSMK	ak	200	C	Dayton, Ohio				

1390 kcys. (215.7)

					Heard	Logged	Reported	Verified
CJRC	ak	100	F	Winnipeg, Man.				
CMJC	z	150	....	Camaguey, Cuba				
HIH	ak	15	1395	San Ped. de Macoris				
KLRA	ae	1000	C(2.5)	Little Rock, Ark.				
KOOS	ae	250	D	Marshfield, Ore.				
KOY	ae	500	(1)	Pnoenix, Ariz.				
WHK	ae	1000	C(2.5)	Cleveland, Ohio				

1400 kcys. (214.2)

					Heard	Logged	Reported	Verified
CMGC	z	100	....	Matanzas, Cuba				
CMKR	z	100	....	Santiago, Cuba				
KLO	ak	500	....	Ogden, Utah				
KTUL	ak	500	C(1)	Tulsa, Okla.				
TGX	ak	250	....	Guatemala City, Gt.				
WARD	ak	500	2	Brooklyn, N. Y.				
WBBC	ae	500	2(1)	Brooklyn, N. Y.				
WEGL	z	500	P	Brooklyn, N. Y.				
WIRE	ak	500	R(1)	Indianapolis, Ind.				
WLTH	ak	500	2	Brooklyn, N. Y.				
WVFW	ak	500	2	Brooklyn, N. Y.				

1410 kcys. (212.6)

					Heard	Logged	Reported	Verified
CHNC	ak	500	F(1)	New Carlisle, Que.				
CKFC	ak	50	5	Vancouver, B. C.				
CKMO	ag	100	5F	Vancouver, B. C.				
CMCR	z	150	....	Havana, Cuba				
KGNC	ae	1000	(2.5)	Amarillo, Texas				
WAAB	ak	500	C	Boston, Mass.				
WBCM	ae	500	....	Bay City, Mich.				
WHBL	ae	500	Z	Sheboygan, Wis.				
WHIS	ak	250	(.5)	Bluefield, W. Va.				
WROK	ak	500	....	Rockford, Ill.				
WSFA	ak	500	C(1)	Montgomery, Ala.				

1420 kcys. (211.1)

					Heard	Logged	Reported	Verified
CKGB	ak	100	....	Timmins, Ont.				
CMGI	z	50	....	Matanzas, Cuba				
KABC	ak	100	(.25)	San Antonio, Texas				
KABR	ak	100	....	Aberdeen, S. Dak.				
KALB	z	100	D	Alexandria, La.				
KBPS	aj	100	4	Portland, Ore.				
KCMC	ak	100	....	Texarkana, Ark.				
KFIZ	ak	100	....	Fond du Lac, Wis.				
KGFF	ak	100	(.25)	Shawnee, Okla.				
KGGC	ak	100	....	San Francisco, Cal.				
KGIW	ak	100	1	Alamosa, Colo.				
KHBC	z	100	....	Hilo, T. H.				
KIDW	ak	100	1	Lamar, Colo.				
KIUN	ak	100	....	Pecos, Texas				
KNET	z	100	DP	Palestine, Texas				
KORE	ae	100	....	Eugene, Ore.				
KRLC	ak	100	....	Lewiston, Idaho				
KRLH	z	100	DP	Midland, Tex.				
KUMA	ak	100	....	Yuma, Ariz.				
KWBG	ak	100	....	Hutchinson, Kans.				
KXL	ak	100	4(.25)	Portland, Ore.				
WACO	ak	100	C	Waco, Texas				
WAGM	ae	100	....	Presque Isle, Maine				
WAZL	ak	100	2	Hazleton, Pa.				
WCBS	ak	100	....	Springfield, Ill.				
WCHV	ak	100	3(.25)	Charlottesville, Va.				
WEED	ak	100	3	Rocky Mount, N. C.				

					Heard	Logged	Reported	Verified
WEHS	ak	100	a	Cicero, Ill.				
WELL	ak	100	....	Battle Creek, Mich.				
WGPC	ak	100	....	Albany, Ga.				
WHDL	ak	100	D	Olean, N. Y.				
WHFC	ae	100	a	Cicero, Ill.				
WILM	aj	100	2	Wilmington, Del.				
WJBO	ak	100	....	Baton Rouge, La.				
WJBR	z	100	P	Gastonia, N. C.				
WJMS	ak	100	....	Ironwood, Mich.				
WKBI	ak	100	a	Cicero, Ill.				
WLAP	ak	100	(.25)	Lexington, Ky.				
WLBF	ak	100	....	Kansas City, Kan.				
WLEU	ak	100	(.25)	Erie, Pa.				
WMAS	ak	100	C(.25)	Springfield, Mass.				
WMBC	ae	100	(.25)	Detroit, Mich.				
WMBH	ak	100	(.25)	Joplin, Mo.				
WMFJ	ak	100	....	Daytona Beach, Fla.				
WMSD	ak	100	....	Sheffield, Ala.				
WPAD	ak	100	(.25)	Paducah, Ky.				
WPAR	ak	100	....	Parkersburg, W.Va.				
WPRP	z	100	P(.25)	Ponce, P. R.				
XEAZ	z	7	....	Guanajuato, Gto.				
XEFB	ak	100	....	Monterrey, N. L.				

1430 kcys. (209.7)

CMJP	ak	100	....	Camaguey, Cuba				
KECA	ah	1000	(5) N	Los Angeles, Calif.				
KGNF	ak	1000	D	North Platte, Neb.				
KSO	ak	500	B (1)	Des Moines, Iowa				
WBNS	ae	500	C (1)	Columbus, Ohio				
WHEC	ae	500	C (1)	Rochester, N. Y.				
WHP	ak	500	C (1)	Harrisburg, Pa.				
WNBR	ae	500	(1)	Memphis, Tenn.				
WOKO	aj	500	C (1)	Albany, N. Y.				

1440 kcys. (208.2)

HP50	z	25	....	Colon, Panama				
KDFN	ak	500	....	Casper, Wyo.				
KLS	ag	250	D	Oakland, Calif.				
KXYZ	ak	1000	....	Houston, Texas				
TIFS	z	7.5	(1441)	Cartago, C. R.				
WBIG	ae	500	C (1)	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 kcys. (206.8)

CFCT	ae	75	....	Victoria, B. C.				
CHGS	ae	50	F	Summerside, P.E.I.				
KIEM	ak	500	....	Eureka, Calif.				
KTBS	ak	1000	N	Shreveport, La.				
WGAR	ak	500	B (1)	Cleveland, Ohio				
WHOM	ae	250	....	Jersey City, N. J.				
WSAR	ae	1000	....	Fall River, Mass.				
WTFI	ak	500	....	Athens, Ga.				

1460 kcys. (205.4)

CMKF	z	50	....	Holguin, Cuba				
KSTP	ak	25000	N	St. Paul, Minn.				
WJSV	ak	10000	C	Washington, D. C.				

1470 kcys. (204.0)

CMOK	z	150	....	Havana, Cuba				
KGA	ak	5000	N	Spokane, Wash.				
WLAC	ak	5000	C	Nashville, Tenn.				

1480 kcys. (202.6)

KOMA	ak	5000	C	Oklahoma City, Okla.				
WKBW	ck	5000	C	Buffalo, N. Y.				

					Heard	Logged	Reported	Verified
1490 kcys. (201.2)								
KFBK	ak	5000	C	Sacramento, Calif.				
WCKY	ae	5000	B	Covington, Ky.				
1500 kcys. (199.9)								
CJIC	ak	100	....	Sault Ste. Marie, Ont.				
CMCN	z	150	....	Havana, Cuba				
KBIX	z	100	P	Muskogee, Okla.				
KDB	ak	100	C	Santa Barbara, Cal.				
KGFI	ak	100	(.25)	Corpus Christi, Tex.				
KGFK	ak	100	Y	Moorhead, Minn.				
KGKB	ak	100	....	Tyler, Texas				
KGKY	ak	100	(.25)	Scottsbluff, Neb.				
KNEL	z	100	D	Brady, Texas				
KNOW	ak	100	....	Austin, Texas				
KOTN	ak	100	D	Pine Bluff, Ark.				
KPLC	ak	100	....	Lake Charles, La.				
KPQ	ak	100	(.25)	Wenatchee, Wash.				
KVOE	ak	100	....	Santa Ana, Calif.				
KRNR	z	100	D	Roseburg, Ore.				
KXO	ae	100	....	El Centro, Calif.				
WCNW	ak	100	1 (.25)	Brooklyn, N. Y.				
WDNC	ae	100	C	Durham, N. C.				
WGAL	ae	100	(.25)	Lancaster, Pa.				
WHBB	z	100	D	Selma, Ala.				
WHEF	ak	100	(.25)	Kosciusko, Miss.				
WJBK	ae	100	(.25)	Detroit, Mich.				
WKBB	ak	100	(.25)	E. Dubuque, Ill.				
WKBV	ak	100	....	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.				
WOPI	ae	100	....	Bristol, Tenn.				
WRDW	ak	100	....	Augusta, Ga.				
WRGA	ak	100	(.25)	Rome, Ga.				
WSYB	ak	100	....	Rutland, Vt.				
WTMV	ak	100	....	East St. Louis, Ill.				
WWRL	ak	100	1 (.25)	Woodside, N. Y.				
WWSW	ae	100	(.25)	Pittsburgh, Pa.				
1510 kcys. (198.6)								
CFRC	ak	100	....	Kingston, Ont.				
CKCR	ak	100	....	Waterloo, Ont.				
1530 kcys. (196.0)								
W1XBS	z	1000	....	Waterbury, Conn.				
W9XBY	ak	1000	....	Kansas City, Mo.				
1550 kcys. (193.4)								
W2XR	z	1000	....	Long Isl. City, N.Y.				
W6XAI	ak	1000	....	Bakersfield, Calif.				

KEY TO SYMBOLS

As Shown in the index by Frequencies and Dial Numbers

Frequency is given in kilocycles; wavelengths 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

- a Verifies reception for return postage.
- b Verifies only occasionally.
- c Does not verify.
- d Verification 10c: letter 25c.
- e Sends Ekko stamp for 10c.
- f Sends Ekko stamp for 5c.
- g Sends Ekko stamp for postage.
- h Sends own station stamp for 10c.
- i Sends own station stamp for 5c.
- j Sends own station stamp for postage.
- k Has no stamps.
- m Verifies for 5c.
- n Weather or time only.
- z No information available.

Fourth Column Symbols

- B National "Blue" network.
- C Columbia network.
- D Day time only.
- Dn Day time with occasional evening hours.
- F Canadian Radio Brdcstg. Commission.
- N National "Red" and "Blue" networks.
- P Has construction permit only.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
- X Has permit to increase power.
- Y Has permit to change location.
- Z Has permit to change frequency.
- a-b-c. Small letters show stations using same transmitter.
- 1-2-3. Figures denote stations sharing time.
- ..... No information.

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.

ALABAMA

Birmingham			
WAPI	1140	5000	N
WBRC	930	1000	C
WSGN	1310	100	
Decatur			
WMFO	1370	100	
Dothan			
WAGF	1370	250	
Gadsden			
WJBY	1210	100	
Mobile			
WALA	1380	500	C
Montgomery			
WSFA	1410	500	C
Selma			
WHBB	1500	100	
Sheffield			
WMSD	1420	100	

ALASKA

Anchorage			
KFQD	780	250	
Juneau			
KINY	1310	100	
Ketchikan			
KGBU	900	500	

ARIZONA

Jerome			
KCRJ	1310	100	
Lowell			
KSUN	1200	100	
Phoenix			
KOY	1390	500	
KTAR	620	1000	N
Tucson			
KGAR	1370	100	
KVOA	1260	500	
Yuma			
KUMA	1420	100	

ARKANSAS

Blytheville			
KLCN	1290	100	
El Dorado			
KELD	1370	100	
Fayetteville			
KUOA	1260	1000	
Fort Smith			
KFPW	1210	100	
Hot Springs			
KTHS	1060	10000	N
Jonesboro			
KBTM	1200	100	
Little Rock			
KARK	890	250	
KGHI	1200	100	
KLRA	1390	1000	C
Pine Bluff			
KOTN	1500	100	
Texarkana			
KCMC	1420	100	

CALIFORNIA

Bakersfield			
KERN	1370	100	C
W6XAI	1550	1000	
Berkeley			
KRE	1370	100	
Beverly Hills			
KMPC	710	500	
Burbank			
KELW	780	500	
Chico			
KHSL	950	250	
Del Monte			
KDON	1210	100	
El Centro			
KXO	1500	100	
Eureka			
KIEM	1450	500	
Fresno			
KMJ	580	1000	C
Glendale			
KIEV	850	100	
Hollywood			
KFWB	950	1000	
KMTR	570	1000	
KNX	1050	50000	
Long Beach			
KFOX	1250	1000	
KGER	1360	1000	
Los Angeles			
KECA	1430	1000	N
KFAC	1300	1000	
KFI	640	50000	N
KFSG	1120	500	
KFVD	1000	250	
KGFJ	1200	100	
KHJ	900	1000	C
KRKD	1120	500	
KTM	780	500	
Modesto			
KTRB	740	250	
Oakland			
KLS	1440	250	
KLX	880	1000	
KROW	930	1000	
Pasadena			
KPPC	1210	50	
Sacramento			
KFBK	1490	5000	C
San Bernardino			
KFXM	1210	100	
San Diego			
KFSD	600	1000	N
KGB	1330	1000	C
San Francisco			
KFRC	610	100	C
KGGC	1420	100	
KGO	790	7500	N
KJBS	1070	500	
KPO	680	50000	N
KSFO	560	1000	
KYA	1230	1000	N
San Jose			
KQW	1010	1000	
Santa Ana			
KVOE	1500	100	
Santa Barbara			
KDB	1500	100	C
Stockton			
KGDM	1100	1000	
KWG	1200	100	C

COLORADO

Alamosa			
KGIW	1420	100	
Colorado Springs			
KVOR	1270	1000	C
Denver			
KFEL	920	500	
KLZ	560	1000	C
KOA	830	50000	N
KPOF	880	500	
KVOD	920	500	
Durango			
KIUP	1370	100	
Grand Junction			
KFXJ	1200	100	
Greeley			
KFKA	880	500	
Lamar			
KIDW	1420	100	
Pueblo			
KGHF	1320	500	
Sterling			
KGEK	1200	100	

CONNECTICUT

Bridgeport			
WICC	600	500	C
Hartford			
WDRC	1330	100	C
WTIC	1040	50000	R
WTHT	1200	100	
New Britain			
WNBC	1380	250	
New Haven			
WELI	900	500	
Storrs			
WCAC	600	500	
Waterbury			
WATR	1190	100	
W1XBS	1530	1000	

DELAWARE

Wilmington			
WDEL	1120	250	
WILM	1420	100	

DISTRICT OF COLUMBIA

Washington			
WJSV	1460	10000	C
WMAL	630	250	B
WOL	1310	100	
WRC	950	500	R

FLORIDA

Clearwater			
WFLA	620	1000	N
Daytona Beach			
WMFJ	1420	100	
Gainesville			
WRUF	830	5000	
Jacksonville			
WJAX	900	1000	N
WMBR	1370	100	C
Lakeland			
WLAK	1310	100	
Miami			
WIOD	1300	1000	N
WQAM	560	1000	C
Orlando			
WDBO	580	1000	C
Pensacola			
WCOA	1340	500	C
St. Petersburg			
WSUN	620	1000	N
Tallahassee			
WTAL	1310	100	
Tampa			
WDAE	1220	1000	C
West Palm Beach			
WJNO	1200	100	

GEORGIA

Albany			
WGPC	1420	100	
Athens			
WTFI	1450	500	
Atlanta			
WATL	1370	100	
WGST	890	500	C
WSB	740	50000	N
Augusta			
WRDW	1500	100	
Columbus			
WRBL	1200	100	
Griffin			
WKEU	1500	100	
Macon			
WMAZ	1180	1000	
Rome			
WRGA	1500	100	
Savannah			
WTOC	1260	1000	C
Thomasville			
WPAX	1210	250	

HAWAII

Hilo			
KHBC	1420	100	
Honolulu			
KGMB	1320	1000	C
KGU	750	2500	N

IDAHO

Boise			
KIDO	1350	1000	
Idaho Falls			
KID	1320	250	
Lewiston			
KRLC	1420	100	
Nampa			
KFXD	1200	100	
Pocatello			
KSEI	900	250	
Twin Falls			
KTFI	1240	1000	

ILLINOIS

Bloomington			
WJBC	1200	100	
Carthage			
WCAZ	1070	100	
Chicago			
WAAF	920	1000	
WBBM	770	50000	C
WCFL	970	5000	B
WCRW	1210	100	
WEDC	1210	100	
WENR	870	50000	N
WGES	1360	500	
WGN	720	50000	
WJJD	1130	20000	
WLS	870	50000	N
WMAQ	670	50000	N
WMBI	1080	5000	
WSBC	1210	100	
Cicero			
WEHS	1420	100	
WHFC	1420	100	
WKBI	1420	100	
Decatur			
WJBL	1200	100	
East Dubuque			
WKBB	1500	100	

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

East St. Louis			
WTMV	1500	100	
Harrisburg			
WEBQ	1210	100	
Joliet			
WCLS	1310	100	
Peoria			
WMBD	1440	500	C
Quincy			
WTAD	900	500	
Rockford			
WROK	1410	500	
Rock Island			
WHBF	1210	100	
Springfield			
WCBS	1420	100	
WTAX	1210	100	
Tuscola			
WDZ	1070	100	
Urbana			
WILL	890	250	
Waukegan			
WCBD	1080	5000	

INDIANA

Anderson			
WHBU	1210	100	
Elkhart			
WTRC	1310	100	
Evansville			
WEOA	1370	100	
WGBF	630	500	
Fort Wayne			
WGL	1370	100	C
WOWO	1160	10000	C
Gary			
WIND	560	1000	
Hammond			
WWAE	1200	100	
Indianapolis			
WFBM	1230	1000	C
WIRE	1400	500	R
Muncie			
WLBC	1310	100	
Richmond			
WKBV	1500	100	
South Bend			
WFAM	1200	100	
WSBT	1360	500	C
Terre Haute			
WBOW	1310	100	
West Lafayette			
WBAA	890	1000	

IOWA

Ames			
WOI	640	5000	
Boone			
KFGQ	1370	100	
Cedar Rapids			
WMT	600	1000	B
Council Bluffs			
KOIL	1260	1000	B
Davenport			
WOC	1370	100	C
Decorah			
KGCA	1270	100	
KWLC	1270	100	
Des Moines			
KRNT	1320	500	C
KSO	1430	500	B
WHO	1000	50000	R
Iowa City			
WSUI	880	500	
Marshalltown			
KFJB	1200	100	
Shenandoah			
KFNF	890	500	
KMA	930	1000	
Sioux City			
KSCJ	1330	1000	C

KANSAS

Abilene			
KFBI	1050	5000	
Coffeyville			
KGGF	1010	1000	
Dodge City			
KGNO	1340	250	
Garden City			
KIUL	1210	100	
Hutchinson			
KWBG	1420	100	
Kansas City			
WLBF	1420	100	
Lawrence			
KFKU	1220	1000	
WREN	1220	100	B
Manhattan			
KSAC	580	500	
Topeka			
WIBW	580	1000	C
Wichita			
KFH	1300	1000	C

KENTUCKY

Ashland			
WCMI	1310	100	
Covington			
WCKY	1490	5000	B
Lexington			
WLAP	1420	100	
Louisville			
WAVE	940	1000	N
WHAS	820	50000	C
Paducah			
WPAD	1420	100	

LOUISIANA

Alexandria			
KALB	1420	100	
Baton Rouge			
WJBO	1420	100	
Lafayette			
KVOL	1310	100	
Lake Charles			
KPLC	1500	100	
Monroe			
KMLB	1200	100	
New Orleans			
WBNO	1200	100	
WDSU	1250	1000	
WJBW	1200	100	
WSMB	1320	500	N
WWL	850	10000	C
Shreveport			
KRMD	1310	100	
KTBS	1450	1000	N
KWKH	1100	1000	C

MAINE

Augusta			
WRDO	1370	100	
Bangor			
WABI	1200	100	
WLBZ	620	500	C
Portland			
WCSH	940	1000	R
Presque Isle			
WAGM	1420	100	

MARYLAND

Baltimore			
WBAL	760	2500	B
WBAL	1060	10000	B
WCAO	600	500	C
WCBM	1370	100	
WFBR	1270	500	R
Cumberland			
WTBO	800	250	
Frederick			
WFMD	900	500	
Hagerstown			
WJEJ	1210	100	

MASSACHUSETTS

Boston			
WAAB	1410	500	C
WBZ	990	50000	B
WCOP	1120	500	
WEEI	590	1000	R
WHDH	830	1000	
WMEX	1500	100	
WNAC	1230	1000	C
Fall River			
WSAR	1450	1000	
Lowell			
WLLH	1370	100	
Needham			
WORL	920	500	
New Bedford			
WNBH	1310	100	C
Springfield			
WBZA	990	1000	B
WMAS	1420	100	C
WSPR	1140	500	
Worcester			
WORC	1280	500	C
WTAG	580	500	R

MICHIGAN

Battle Creek			
WELL	1420	100	
Bay City			
WBCM	1410	500	
Calumet			
WHDF	1370	100	
Detroit			
WJBK	1500	100	
WJR	750	50000	C
WMBC	1420	100	
WWJ	920	1000	R
WXYZ	1240	1000	B
East Lansing			
WKAR	850	1000	
Flint			
WFDF	1310	100	
Grand Rapids			
WASH	1270	500	N
WOOD	1270	500	N
Ironwood			
WJMS	1420	100	
Jackson			
WIBM	1370	100	
Kalamazoo			
WKZO	590	1000	
Lansing			
WJIM	1210	100	
Lapeer			
WMPC	1200	100	
Marquette			
WBEO	1310	100	
Muskegon			
WKBZ	1500	100	
Royal Oak			
WEXL	1310	50	

MINNESOTA

Fergus Falls			
KGDE	1200	100	
Hibbing			
WMFG	1210	100	
Minneapolis			
WCCO	810	50000	C
WDGY	1180	1000	
WLB	1250	1000	
WTCN	1250	1000	
Moorhead			
KGFK	1500	100	
Northfield			
WCAL	1250	1000	
Rochester			
KROC	1310	100	
St. Paul			
KSTP	1460	25000	N
Virginia			
WHLB	1370	100	

MISSISSIPPI

Clarksdale			
WMFN	1210	100	
Gulfport			
WGCM	1210	100	
Hattiesburg			
WPFB	1370	100	
Jackson			
WJDX	1270	1000	N
Kosciusko			
WHEF	1500	100	
Laurel			
WAML	1310	100	
Meridian			
WCOC	880	500	
Vicksburg			
WQBC	1360	1000	

MISSOURI

Cape Girardeau			
KFVS	1210	100	
Columbia			
KFRU	630	500	
Jefferson City			
WOS	630	500	
Joplin			
WMBH	1420	100	
Kansas City			
KMBC	950	1000	C
KWKC	1370	100	
WDAF	610	1000	R
WHB	860	1000	
W9XBY	1530	1000	
St. Joseph			
KFEQ	680	2500	
St. Louis			
KFUO	550	500	
KMOX	1090	50000	C
KSD	550	1000	R
KWK	1350	1000	B
WEW	760	1000	
WIL	1200	100	
Springfield			
KGBX	1230	500	
KWTO	560	5000	

MONTANA

Billings			
KGHL	780	1000	N
Butte			
KGIR	1340	1000	N
Great Falls			
KFBB	1280	1000	
Kalispell			
KGEZ	1310	100	

Missoula
KGVO 1260 1000
Wolf Point
KGCX 1310 100

NEBRASKA

Clay Center
KMMJ 740 1000
Kearney
KGFW 1310 100
Lincoln
KFAB 770 10000 C
KFOR 1210 100 C
Norfolk
WJAG 1060 1000
North Platte
KGNF 1430 1000
Omaha
WAAW 660 500
WOW 590 5000 R
Scottsbluff
KGKY 1500 100
York
KGBZ 930 1000

NEVADA

Reno
KOH 1380 500 C

NEW HAMPSHIRE

Laconia
WLNH 1310 100
Manchester
WFEA 1340 500 C
Portsmouth
WHEB 740 250

NEW JERSEY

Asbury Park
WCAP 1280 500
Atlantic City
WPG 1100 5000 C
Camden
WCAM 1280 500
Jersey City
WAAT 940 500
WHOM 1450 250
Newark
WHBI 1250 1000
WNEW 1250 1000
WOR 710 50000
Red Bank
WBRB 1210 100
Trenton
WTNJ 1280 500
Zarephath
WAWZ 1350 500

NEW MEXICO

Albuquerque
KGGM 1230 250
KOB 1180 10000
Clovis
KICA 1370 100
Roswell
KGFL 1370 100
Santa Fe
KIUJ 1310 100

NEW YORK

Albany
WABY 1370 100
WOKO 1430 500 C
Auburn
WMBO 1310 100
Binghamton
WNBF 1500 100
Brooklyn
WARD 1400 500
WBBC 1400 500
WBBR 1300 1000
WGNW 1500 100
WEGL 1400 500
WLTH 1400 500
WMBQ 1500 100
WVFW 1400 500
Buffalo
WBEN 900 1000 R
WEBR 1310 100
WGR 550 1000 C
WKBW 1480 5000 C
WSVS 1370 50
WBNY 1370 100
Canton
WCAD 1220 500
Chester
WGNY 1210 100
Elmira
WESG 850 1000 C
Freeport
WGBB 1210 100
Jamestown
WOCL 1210 50
Long Island City
W2XR 1550 1000
New York
WABC 860 50000 C
WBNX 1350 250
WBOQ 860 50000
WEAF 660 50000 R
WEVD 1300 1000
WFAB 1300 1000
WHN 1010 1000
WINS 1180 1000
WJZ 760 50000 B
WLWL 1100 5000
WMCA 570 500
WNYC 810 1000
WOV 1130 1000
Olean
WHDL 1420 100
Plattsburg
WMFF 1310 250
Rochester
WHAM 1150 50000 B
WHEC 1430 500 C
WSAY 1210 100
Saranac Lake
WNBZ 1290 100
Schenectady
WGY 790 50000 R
Syracuse
WFBL 1360 1000 C
WSYR 570 250 B
Troy
WHAZ 1300 500
Utica
WIBX 1200 100 C
White Plains
WFAS 1210 100
Woodside
WWRL 1500 100

NORTH CAROLINA

Asheville
WWNC 570 1000 N
Charlotte
WBT 1080 50000 C
WSOC 1210 100 N
Durham
WDNC 1500 100 C
Gastonia
WJBR 1420 100
Greensboro
WBIG 1440 500 C
High Point
WMFR 1200 100
Raleigh
WPTF 680 5000 N
Rocky Mount
WEED 1420 100
Wilmington
WMFD 1370 100
Winston-Salem
WSJS 1310 100 C

NORTH DAKOTA

Bismarck
KFYR 550 1000 N
Devils Lake
KDLR 1210 100
Fargo
WDAY 940 1000
Grand Forks
KFJM 1370 100
Mandan
KGCU 1240 250
Minot
KLPM 1240 250

OHIO

Akron
WADC 1320 1000 C
WJW 1210 100
Canton
WHBC 1200 100
Cincinnati
WCPO 1200 100
WKRC 550 1000 C
WLW 700 500000 N
WASI 1330 1000 R
Cleveland
WGAR 1450 500 B
WHK 1390 1000 C
WJAY 610 500
WTAM 1070 50000 R
Columbus
WAIU 640 500
WBNS 1430 500 C
WCOL 1210 100
WOSU 570 750
Dayton
WHIO 1260 1000 R
WSMK 1380 200 C
Portsmouth
WPAY 1370 100
Toledo
WSPD 1340 1000 C
Youngstown
WKBN 570 500 C
Zanesville
WALR 1210 100

OKLAHOMA

Ada
KADA 1210 100
Ardmore
KVSO 1200 100
Elk City
KASA 1210 100
Enid
KCRC 1360 250
Muskogee
KBIX 1500 100
Norman
WNAD 1010 1000
Oklahoma
KFXR 1310 100
KGFG 1370 100
KOMA 1480 5000 C
WKY 900 1000 N
Ponca City
WBBZ 1200 100
Shawnee
KGFF 1420 100
Tulsa
KTUL 1400 500 C
KVOO 1140 25000 N

OREGON

Astoria
KAST 1370 100
Corvallis
KOAC 550 1000
Eugene
KORE 1420 100
Klamath Falls
KFJI 1210 100
Marshfield
KOOS 1390 250
Medford
KMED 1310 100
Portland
KALE 1300 500 C
KBPS 1420 100
KEX 1180 5000 N
KFJR 1300 500
KGW 620 1000 N
KOIN 940 1000 C
KWJJ 1040 500
KXL 1420 100
Roseburg
KRNR 1500 100
Salem
KSLM 1370 100

PENNSYLVANIA

Allentown
WCBA 1440 500
WSAN 1440 500
Altoona
WFBG 1310 100
Easton
WEST 1200 100
Erie
WLEU 1420 100
Glenside
WIBG 970 100
Greensburg
WHJB 620 250
Grove City
WSAJ 1310 100
Harrisburg
WHP 1430 500 C
WKBO 1200 100
Hazleton
WAZL 1420 100
Johnstown
WJAC 1310 100
Lancaster
WHAL 1500 100
Philadelphia
KYW 1020 10000 R
WCAU 1170 50000 C
WDAS 1370 100
WFIL 560 1000 B
WHAT 1310 100
WIP 610 1000
WPEN 920 250
WRAX 920 250
WTEL 1310 100
Pittsburgh
KDKA 980 50000 B
KQV 1380 500
WCAE 1220 1000 R

WJAS	1290	1000 C
WWSW	1500	100
Reading		
WEEU	830	1000
WRAW	1310	100
Scranton		
WGBI	880	500
WQAN	880	250
Sunbury		
WKOK	1210	100
Wilkes-Barre		
WBAX	1210	100
WBRE	1310	100
Williamsport		
WRAK	1370	100
York		
WORK	1320	1000

PUERTO RICO

Ponce		
WPRP	1420	100
San Juan		
WKAQ	1240	1000
WNEL	1290	1000

RHODE ISLAND

Newport		
WNRI	1200	100
Providence		
WEAN	780	500 C
WJAR	890	500 R
WPRO	630	250

SOUTH CAROLINA

Anderson		
WAIM	1200	100
Charleston		
WCSC	1360	500
Columbia		
WIS	560	1000 N
Greenville		
WFBC	1300	1000
Spartanburg		
WSPA	920	1000

SOUTH DAKOTA

Aberdeen		
KABR	1420	100
Brookings		
KFDY	780	1000
Huron		
KGDY	1340	250
Pierre		
KGFX	630	200
Rapid City		
WCAT	1200	100
Sioux Falls		
KSOO	1110	2500
Vermillion		
KUSD	890	500
Watertown		
KWTN	1210	100
Yankton		
WNAX	570	1000 C

TENNESSEE

Bristol		
WOPI	1500	100
Chattanooga		
WDOD	1280	1000 C
Jackson		
WTJS	1310	100
Knoxville		
WNOX	1010	1000 C
WROL	1310	100
Memphis		
WHBQ	1370	100
WMC	780	1000 N
WNBR	1430	500
WREC	600	1000 C
Nashville		
WLAC	1470	5000 C
WSM	650	50000 N
Springfield		
WSIX	1210	100

TEXAS

Amarillo		
KGNC	1410	1000
Austin		
KNOW	1500	100
Beaumont		
KFDM	560	500
Brady		
KNEL	1500	100
College Station		
WTAW	1120	500
Corpus Christi		
KGFI	1500	100
Dallas		
KRLD	1040	10000 C
WFAA	800	50000 N
WRR	1280	500
Dublin		
KFPL	1310	100
El Paso		
KTSM	1310	100
WDAH	1310	100
Fort Worth		
KFJZ	1370	100
KTAT	1240	1000
WBAP	800	50000 N
Galveston		
KLUF	1370	100
Houston		
KPRC	920	1000 N
KTRH	1290	1000 C
KXYZ	1440	1000
Longview		
KFRO	1370	100
Lubbock		
KFYO	1310	100
Midland		
KRLH	1420	100
Palestine		
KNET	1420	100
Pampa		
KPDN	1310	100
Pecos		
KIUN	1420	100
Port Arthur		
KPAC	1260	500
San Angelo		
KGKL	1370	100
San Antonio		
KABC	1420	100
KMAC	1370	100
KONO	1370	100
KTSA	550	1000 C
WOAI	1190	50000 N
Tyler		
KGKB	1500	100
Waco		
WACO	1420	100 C
Weslaco		
KRGV	1260	500
Wichita Falls		
KGKO	570	250 C

UTAH

Ogden		
KLO	1400	500
Salt Lake City		
KDYL	1290	1000 N
KSL	1130	50000 C

VERMONT

Burlington		
WCAX	1200	100
Rutland		
WSYB	1500	100
St. Albans		
WQDM	1370	100
Springfield		
WNBX	1260	100
Waterbury		
WDEV	550	500

VIRGINIA

Arlington		
NAA	690	1000
Charlottesville		
WCHV	1420	100
Danville		
WBTM	1370	100
Harrisonburg		
WSVA	550	500
Lynchburg		
WLVA	1200	100
Newport News		
WGH	1310	100
Norfolk		
WTAR	780	500 N
Petersburg		
WPHR	880	500
Richmond		
WBBL	1210	100
WMBG	1210	100 C
WRVA	1110	5000 N
Roanoke		
WDBJ	930	1000 C

WASHINGTON

Aberdeen		
KXRO	1310	100
Bellingham		
KVOS	1200	100
Everett		
KRKO	1370	50
Olympia		
KGY	1210	100
Pullman		
KWSC	1220	1000
Seattle		
KIRO	710	500
KJR	970	5000 N
KOL	1270	1000 C
KOMO	920	1000 N
KRSC	1120	100
KTW	1220	1000
KVL	1370	100
KXA	760	250
Spokane		
KFIO	1120	100
KFPY	890	1000 C
KGA	1470	5000 N
KHQ	590	1000 N
Tacoma		
KMO	1330	250
KVI	570	1000 C
Walla Walla		
KUJ	1370	100
Wenatchee		
KPQ	1500	100
Yakima		
KIT	1310	100

WEST VIRGINIA

Bluefield		
WHIS	1410	250
Charleston		
WCHS	580	500
Fairmont		
WMMN	890	500
Huntington		
WSAZ	1190	1000
Parkersburg		
WPAR	1420	100
Wheeling		
WWVA	1160	5000 C

WISCONSIN

Eau Claire		
WTAQ	1330	1000
Fond du Lac		
KFIZ	1420	100
Green Bay		
WHBY	1200	100
Janesville		
WCLO	1200	100
LaCrosse		
WKBH	1380	1000
Madison		
WHA	940	1000
WIBA	1280	1000 N
Manitowoc		
WOMT	1210	100
Milwaukee		
WEMP	1310	100
WISN	1120	250 C
WTMJ	620	1000 N
Poynette		
WIBU	1210	100
Racine		
WRJN	1370	100
Sheboygan		
WHBL	1410	500
Stevens Point		
WLBL	900	2500
Superior		
WEBC	1290	1000 N

WYOMING

Casper		
KDFN	1440	500
Sheridan		
KWYO	1370	100

CANADA

ALBERTA

Calgary		
CFAC	930	100 F
CFCN	1030	10000
CJCJ	690	100 F
Edmonton		
CFRN	1260	100 F
CJCA	730	1000 F
CKUA	580	500
Lethridge		
CJOC	1230	100 F

BRITISH COLUMBIA

Chilliwack		
CHWK	780	100 F
Kamloops		
CFJC	880	100 F
Kelowna		
CKOV	630	100 F

Prince Rupert
CFPR 580 50
Trail
CJAT 910 250 F
Vancouver
CJOR 600 500
CKCD 1010 100
CKFC 1410 50
CKMO 1410 100 F
CKWX 1010 100 F
CRCV 1100 500 F
Victoria
CFCT 1450 75

MANITOBA

Brandon
CKX 1120 100 F
Winnipeg
CJRC 1390 100 F
CKY 960 15000 F

NEW BRUNSWICK

Fredericten
CFNB 550 500 F
Moncton
CKCW 1370 100 F
St. John
CHSJ 1120 500 F

N. W. TERRITORY

Aklavik
CJCU 1210 50

NOVA SCOTIA

Glace Bay
VAS 685 2000
Halifax
CHNS 930 1000 F
Sydney
CJCB 1240 1000 F
Wolfville
CKIC 1010 50
Yarmouth
CJLS 1310 100

ONTARIO

Brantford
CKPC 930 100 F
Chatham
CFCO 630 100 F
Cobalt
CKMC 1210 50
Fort William
CKPR 930 100 F
Hamilton
CHML 1010 100 F
CKOC 1120 500 F
Kingston
CRFC 1510 100
Kirkland Lake
CJKL 1310 100
London
CFPL 730 100 F
North Bay
CFCH 930 100 F
Ottawa
CKCO 1010 100 F
CRCO 880 1000 F
Prescott
CFLC 930 100
St. Catherines
CKTB 1200 100 F
Sault Ste. Marie
CJIC 1500 100
Stratford
CJCS 1210 50
Sudbury
CKSO 780 1000 F
Timmins
CKGB 1420 100
Toronto
CFRB 690 10000 C
CKCL 580 100 F
CRCT 840 5000 N
Waterloo
CKCR 1510 100
Windsor
CKLW 1030 5000
CRCW 600 500 F
Wingham
CKNX 1200 50

PRINCE EDWARD ISLAND

Charlottetown
CFCY 630 1000 F
CHCK 1310 50
Summerside
CHGS 1450 50 F

QUEBEC

Chicoutimi
CRCS 950 100 F
Hull
CKCH 1210 100 F
Montmagny
VE9EK 1185 10
Montreal
CFCF 600 400 N
CHLP 1120 100 F
CKAC 730 5000 C
CRCM 910 5000 F
New Carlisle
CHNC 1410 500 F
Quebec
CHRC 580 100 F
CKCV 1310 100 F
CKCK 1010 1000 F
CRCK 1050 1000

SASKATCHEWAN

Moose Jaw
CHAB 1200 100 F
CJRM 540 1000 F
Prince Albert
CKBI 1210 100 F
Regina
CHWC 1010 500 F
CKCK 1010 500 F
Saskatoon
CFQC 840 1000 F
Yorkton
CJGX 630 1000 F

NEWFOUNDLAND

St. John's
VOAC 1065 40
VOAS 940 100
VOGY 840 400
VONF 1195 500
VOWR 681 500

MIQUELON

St. Pierre
FQN 609 250

CENTRAL AMERICA

COSTA RICA

Cartago
TIFS 1441 7.5
TIGA 1014 30
San Jose
TIEP 850 500
TIFA 1050 75
TIGH 1000 500
TIRH 930 50

GUATEMALA

Guatemala City
TGW 1210 10000
TGX 1400 250

HONDURAS

Tegucigalpa
HRN 1270 100

NICARAGUA

Managua
YNLF 1275 20
YNOP 1230 100
YNVA 950 30

PANAMA

Colon
HP50 1440 25

EL SALVADOR

San Salvador
RDN 680 500

MEXICO

AGUASCALIENTES

Aguascalientes
XFA 1310 5
XFC 810 350

CHIHUAHUA

Chihuahua
XEFI 1440 250
Juarez
XEFV 1210 100
XEJ 1020 1000

COAHUILA

Piedras Negras
XELO 1110 10000
XEPN 590 50000
Saltillo
XEAS 1160 100
XEOX 640 500
Torreon
XETB 1310 125
Villa Acuna
XERA 840 250000

D. F.

Mexico City
XEAI 1240 100
XEB 1030 10000
XECW 1310 10
XEFA 1180 500
XEFO 940 5000
XEFZ 1370 100
XEK 990 100
XEL 1100 250
XEMX 1280 12
XEN 710 1000
XEP 840 500
XETW 820 500
XEW 890 50000
XEWZ 1150 100
XEYZ 780 10000
XFX 610 1000

DURANGO

Durango
XEE 1210 50

GUANAJUATO

Guanajuato
XEAZ 1420 7
Leon
XEKL 1240 500

JALISCO

Guadalajara
XEA 1060 500
XED 1155 2500

LOWER CALIFORNIA

Coronado Island
XEMZ 820
Ensenada
XEG 1270 200
Mexicali
XEAA 920 200
XEAO 560 250
Tijuana
XEAQ 1090 1000
XEC 1160 30
XEFL 1150 500
XEMO 860 5000
XEMZ 1210 250
XEOK 760 250
XESL 1160

MICHOACAN

Morelia
XEJ 1370 125

NUEVO LEON

Monterrey
XEFB 1420 100
XEFJ 1230 100
XEH 1150 250
XET 690 500
XEX 1310 125

OAXACA

Oaxaca
XEAJ 1310 15

PUEBLA

Puebla
XETH 1210 100

SAN LUIS POTOSI

San Luis Potosi
XEZZ 1370 100

SONORA

Hermosillo		
XEBH	1000	500
Nogales		
XEAF	990	500

TAMAULIPAS

Matamoros		
XEAM	750	7.5
Nuevo Laredo		
XEFE	850	250
XENT	910	65000
Reynosa		
XEAW	960	50000
Tampico		
XEFW	1310	250
XEMA	1080	50
XES	990	250

VERACRUZ

Jalapa		
XFB	1270	250
XFD	1340	350
Veracruz		
XETF	1220	12
XEU	1010	250

YUCATAN

Merida		
XEFC	560	100
XEY	1000	10
XEZ	630	500

WEST INDIES

CUBA

Caibarien		
CMHD	1270	250
Camaguey		
CMJA	1010	300
CMJC	1390	150
CMJE	1220	50
CMJF	1150	200
CMJK	780	250
CMJL	1340	100
CMJP	1430	100
Cardenas		
CMGE	1370	50
Ciego de Avila		
CMJH	1360	100
CMJI	1130	50
CMJO	1180	50
Cienfuegos		
CMHJ	1160	100
CMHW	810	100
CMHX	760	500
Cruces		
CMHK	1330	250
Havana		
CMBC	940	500
CMBD	1170	150
CMBG	1140	200
CMBN	880	150
CMBS	770	150
CMBX	1380	500
CMBY	640	150
CMBZ	1000	250
CMCA	1350	250
CMCB	1230	150
CMCD	960	250
CMCF	815	250
CMCG	1255	250
CMCJ	1200	350
CMCN	1500	150
CMCO	1110	250
CMCQ	680	250
CMCR	1410	150
CMCU	1280	150
CMCW	750	150
CMCX	660	150
CMCY	1030	1000
CMK	1060	250
CMOA	790	150
CMOK	1470	150
CMOX	1320	250
CMQ	880	500
CMW	600	1000
CMX	920	650
Holguin		
CMKF	1460	50
Manzanillo		
CMKM	1120	200
Matanzas		
CMGC	1400	100
CMGF	1120	100
CMGI	1420	50
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
CMKV	1190	50

DOMINICAN REPUBLIC

San Pedro de Macoris		
HIH	1395	15
Santo Domingo		
HIJ	1195	15
HIX	800	700
HIZ	1300	10

HAITI

Port-au-Prince		
HHK	920	1000

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930 100 Calgary, Alta.	**CJLS** 1310 100 Yarmouth, N. S.	**CMBS** 770 150 Havana, Cuba
CFCF 600 400 Montreal, Que.	**CJOC** 1230 100 Lethbridge, Alta.	**CMBX** 1380 500 Havana, Cuba
CFCH 930 100 North Bay, Ont.	**CJOR** 600 500 Vancouver, B. C.	**CMBY** 640 150 Havana, Cuba
CFCN 1030 10000 Calgary, Alta.	**CJRC** 1390 100 Winnipeg, Man.	**CMBZ** 1000 250 Havana, Cuba
CFCO 630 100 Chatham, Ont.	**CJRM** 540 1000 Moose Jaw, Sask.	**CMCA** 1350 250 Havana, Cuba
CFCT 1450 75 Victoria, B. C.	**CKAC** 730 5000 Montreal, Que.	**CMCB** 1230 150 Havana, Cuba
CFCY 630 1000 Charlottetown, P.E.I.	**CKBI** 1210 100 Prince Albert, Sask.	**CMCD** 960 250 Havana, Cuba
CFJC 880 100 Kamloops, B. C.	**CKCD** 1010 100 Vancouver, B. C.	**CMCF** 815 250 Havana, Cuba
CFLC 930 100 Prescott, Ont.	**CKCH** 1210 100 Hull, Que.	**CMCG** 1255 250 Havana, Cuba
CFNB 550 500 Fredericton, N. B.	**CKCK** 1010 500 Regina, Sask.	**CMCJ** 1200 350 Havana, Cuba
CFPL 730 100 London, Ont.	**CKCL** 580 100 Toronto, Ont.	**CMCN** 1500 150 Havana, Cuba
CFPR 580 50 Prince Rupert, B. C.	**CKCO** 1010 100 Ottawa, Ont.	**CMCO** 1110 250 Havana, Cuba
CFQC 840 1000 Saskatoon, Sask.	**CKCR** 1510 100 Waterloo, Ont.	**CMCQ** 680 250 Havana, Cuba
CFRB 690 10000 Toronto, Ont.	**CKCV** 1310 100 Quebec, Que.	**CMCR** 1410 150 Havana, Cuba
CFRC 1510 100 Kingston, Ont.	**CKCW** 1370 100 Moncton, N. B.	**CMCU** 1280 150 Havana, Cuba
CFRN 1260 100 Edmonton, Alta.	**CKFC** 1410 50 Vancouver, B. C.	**CMCW** 750 150 Havana, Cuba
CHAB 1200 100 Moose Jaw, Sask.	**CKGB** 1420 100 Timmins, Ont.	**CMCX** 660 150 Havana, Cuba
CHCK 1310 50 Charlottetown, P.E.I.	**CKIC** 1010 50 Wolfville, N. S.	**CMCY** 1030 1000 Havana, Cuba
CHGS 1450 50 Summerside, P.E.I.	**CKLW** 1030 5000 Windsor, Ont.	**CMGC** 1490 100 Matanzas, Cuba
CHLP 1120 100 Montreal, Que.	**CKMC** 1210 50 Cobalt, Ont.	**CMGE** 1370 50 Cardenas, Cuba
CHML 1010 100 Hamilton, Ont.	**CKMO** 1410 100 Vancouver, B. C.	**CMGF** 1120 100 Matanzas, Cuba
CHNC 1410 500 New Carlisle, Que.	**CKNX** 1200 50 Wingham, Ont.	**CMGI** 1420 50 Matanzas, Cuba
CHNS 930 1000 Halifax, N. S.	**CKOC** 1120 500 Hamilton, Ont.	**CMHA** 1070 50 Sagua la Grande, Cu.
CHRC 580 100 Quebec, Que.	**CKOV** 630 100 Kelowna, B. C.	**CMHB** 1240 50 Sancti Spiritus, Cuba
CHSJ 1120 500 St. John, N. B.	**CKPC** 930 100 Brantford, Ont.	**CMHD** 1270 250 Caibarien, Cuba
CHWC 1010 500 Regina, Sask.	**CKPR** 930 100 Fort William, Ont.	**CMHI** 1210 150 Santa Clara, Cuba
CHWK 780 100 Chilliwack, B. C.	**CKSO** 780 1000 Sudbury, Ont.	**CMHJ** 1160 100 Cienfuegos, Cuba
CJAT 910 250 Trail, B. C.	**CKTB** 1200 100 St. Catherines, Ont.	**CMHK** 1330 250 Cruces, Cuba
CJCA 730 1000 Edmonton, Alta.	**CKUA** 580 500 Edmonton, Alta.	**CMHW** 810 100 Cienfuegos, Cuba
CJCB 1240 1000 Sydney, N. S.	**CKWX** 1010 100 Vancouver, B. C.	**CMHX** 760 500 Cienfuegos, Cuba
CJCJ 690 100 Calgary, Alta.	**CKX** 1120 100 Brandon, Man.	**CMJA** 1010 300 Camaguey, Cuba
CJCS 1210 50 Stratford, Ont.	**CKY** 960 15000 Winnipeg, Man.	**CMJC** 1390 150 Camaguey, Cuba
CJCU 1210 50 Aklavik, N. W. T.	**CMBC** 940 500 Havana, Cuba	**CMJE** 1220 50 Camaguey, Cuba
CJGX 630 1000 Yorktown, Sask.	**CMBD** 1170 150 Havana, Cuba	**CMJF** 1150 200 Camaguey, Cuba
CJIC 1500 100 S. Ste. Marie, Ont.	**CMBG** 1140 200 Havana, Cuba	**CMJH** 1360 100 Ciego de Avila, Cuba
CJKL 1310 100 Kirkland Lake, Ont.	**CMBN** 880 150 Havana, Cuba	**CMJI** 1130 50 Ciego de Avila, Cuba

CMJK 780 250
Camaguey, Cuba

CMJL 1340 100
Camaguey, Cuba

CMJO 1180 50
Ciego de Avila, Cuba

CMJP 1430 100
Camaguey, Cuba

CMK 1060 250
Havana, Cuba

CMKC 1250 150
Santiago, Cuba

CMKD 1050 250
Santiago, Cuba

CMKF 1460 50
Holguin, Cuba

CMKM 1120 200
Manzanillo, Cuba

CMKR 1400 100
Santiago, Cuba

CMKV 1190 50
Santiago, Cuba

CMOA 790 150
Havana, Cuba

CMOK 1470 150
Havana, Cuba

CMOX 1320 250
Havana, Cuba

CMQ 880 500
Havana, Cuba

CMW 600 1000
Havana, Cuba

CMX 920 650
Havana, Cuba

CRCK 1050 1000
Quebec, Que.

CRCM 910 5000
Montreal, Que.

CRCO 880 1000
Ottawa, Ont.

CRCS 950 100
Chicoutimi, Que.

CRCT 840 5000
Toronto, Ont.

CRCV 1100 500
Vancouver, B. C.

CRCW 600 500
Windsor, Ont.

FQN 609 250
St. Pierre, Miq.

HHK 920 1000
Port-au-Prince, Haiti

HIH 1395 15
San Pedro de M., D.R.

HIJ 1195 15
Santo Domingo, D. R.

HIX 800 700
Santo Domingo, D. R.

HIZ 1300 10
Santo Domingo, D. R.

HP5O 1440 25
Colon, Panama

HRN 1270 100
Tegucigalpa, Hond.

KABC 1420 100
San Antonio, Texas

KABR 1420 100
Aberdeen, S. Dak.

KADA 1260 100
Ada, Okla.

KALB 1420 100
Alexandria, La.

KALE 1300 500
Portland, Ore.

KARK 890 250
Little Rock, Ark.

KASA 1210 100
Elk City, Okla.

KAST 1370 100
Astoria, Ore.

KBIX 1500 100
Muskogee, Okla.

KBPS 1420 100
Portland, Ore.

KBTM 1200 100
Jonesboro, Ark.

KCMC 1420 100
Texarkana, Ark.

KCRC 1360 250
Enid, Okla.

KCRJ 1310 100
Jerome, Ariz.

KDB 1500 100
Santa Barbara, Calif.

KDFN 1440 500
Casper, Wyo.

KDKA 980 50000
Pittsburgh, Pa.

KDLR 1210 100
Devils Lake, N. D.

KDON 1210 100
Del Monte, Calif.

KDYL 1290 1000
Salt Lake City, Utah

KECA 1430 1000
Los Angeles, Calif.

KELD 1370 100
El Dorado, Ark.

KELW 780 500
Burbank, Calif.

KERN 1370 100
Bakersfield, Calif.

KEX 1180 5000
Portland, Ore.

KFAB 770 10000
Lincoln, Neb.

KFAC 1300 1000
Los Angeles, Calif.

KFBB 1280 1000
Great Falls, Mont.

KFBI 1050 5000
Abilene, Kans.

KFBK 1490 5000
Sacramento, Calif.

KFDM 560 500
Beaumont, Texas

KFDY 780 1000
Brookings, S. D.

KFEL 920 500
Denver, Colo.

KFEQ 680 2500
St. Joseph, Mo.

KFGQ 1370 100
Boone, Iowa

KFH 1300 1000
Wichita, Kans.

KFI 640 50000
Los Angeles, Calif

KFIO 1120 100
Spokane, Wash.

KFIZ 1420 100
Fond du Lac, Wis.

KFJB 1200 100
Marshalltown, Iowa

KFJI 1210 100
Klamath Falls, Ore.

KFJM 1370 100
Grand Forks, N. D.

KFJR 1300 500
Portland, Ore.

KFJZ 1370 100
Fort Worth, Texas

KFKA 880 500
Greeley, Colo.

KFKU 1220 1000
Lawrence, Kans.

KFNF 890 500
Shenandoah, Iowa

KFOR 1210 100
Lincoln, Neb.

KFOX 1250 1000
Long Beach, Calif.

KFPL 1310 100
Dublin, Texas

KFPW 1210 100
Fort Smith, Ark.

KFPY 890 1000
Spokane, Wash.

KFQD 780 250
Anchorage, Alaska

KFRC 610 1000
San Francisco, Calif.

KFRO 1370 100
Longview, Texas

KFRU 630 500
Columbia, Mo.

KFSD 600 1000
San Diego, Calif.

KFSG 1120 500
Los Angeles, Calif.

KFUO 550 500
St. Louis, Mo.

KFVD 1000 250
Los Angeles, Calif.

KFVS 1210 100
Cape Girardeau, Mo.

KFWB 950 1000
Hollywood, Calif.

KFXD 1200 100
Nampa, Idaho

KFXJ 1200 100
Grand Jct., Colo.

KFXM 1210 100
San Bernardino, Calif.

KFXR 1310 100
Oklahoma City, Okla.

KFYO 1310 100
Lubbock, Texas

KFYR 550 1000
Bismarck, N. D.

KGA 1470 5000
Spokane, Wash.

KGAR 1370 100
Tucson, Ariz.

KGB 1330 1000
San Diego, Calif.

KGBU 900 500
Ketchikan, Alaska

KGBX 1230 500
Springfield, Mo.

KGBZ 930 1000
York, Neb.

KGCA 1270 100
Decorah, Iowa

KGCU 1240 250
Mandan, N. D.

NORTH AMERICAN B. C. STATIONS BY CALLS

KGCX	1310	100	Wolf Point, Mont.
KGDE	1200	100	Fergus Falls, Minn.
KGDM	1100	1000	Stockton, Calif.
KGDY	1340	250	Huron, S. D.
KGEK	1200	100	Sterling, Colo.
KGER	1360	1000	Long Beach, Calif.
KGEZ	1310	100	Kalispell, Mont.
KGFF	1420	100	Shawnee, Okla.
KGFG	1370	100	Oklahoma City, Okla.
KGFI	1500	100	Corpus Christi, Texas
KGFJ	1200	100	Los Angeles, Calif.
KGFK	1500	100	Moorhead, Minn.
KGFL	1370	100	Roswell, N. M.
KGFW	1310	100	Kearney, Neb.
KGFX	630	200	Pierre, S. D.
KGGC	1420	100	San Francisco, Calif.
KGGF	1010	1000	Coffeyville, Kans.
KGGM	1230	250	Albuquerque, N. M.
KGHF	1320	500	Pueblo, Colo.
KGHI	1200	100	Little Rock, Ark.
KGHL	780	1000	Billings, Mont.
KGIR	1340	1000	Butte, Mont.
KGIW	1420	100	Alamosa, Colo.
KGKB	1500	100	Tyler, Texas
KGKL	1370	100	San Angelo, Texas
KGKO	570	250	Wichita Falls, Texas
KGKY	1500	100	Scottsbluff, Neb.
KGMB	1320	1000	Honolulu, T. H.
KGNC	1410	1000	Amarillo, Texas
KGNF	1430	1000	North Platte, Neb.
KGNO	1340	250	Dodge City, Kans.
KGO	790	7500	San Francisco, Calif.
KGU	750	2500	Honolulu, T. H.
KGVO	1260	1000	Missoula, Mont.
KGW	620	1000	Portland, Ore.
KGY	1210	100	Olympia, Wash.
KHBC	1420	100	Hilo, T. H.
KHJ	900	1000	Los Angeles, Calif.
KHQ	590	1000	Spokane, Wash.
KHSL	950	250	Chico, Calif.
KICA	1370	100	Clovis, N. M.
KID	1320	250	Idaho Falls, Idaho
KIDO	1350	1000	Boise, Idaho
KIDW	1420	100	Lamar, Colo.
KIEM	1450	500	Eureka, Calif.
KIEV	850	100	Glendale, Calif.
KINY	1310	100	Juneau, Alaska
KIRO	710	500	Seattle, Wash.
KIT	1310	100	Yakima, Wash.
KIUJ	1310	100	Santa Fe, N. Mex.
KIUL	1210	100	Garden City, Kans.
KIUN	1420	100	Pecos, Texas
KIUP	1370	100	Durango, Colo.
KJBS	1070	500	San Francisco, Calif.
KJR	970	5000	Seattle, Wash.
KLCN	1290	100	Blytheville, Ark.
KLO	1400	500	Ogden, Utah
KLPM	1240	250	Minot, N. D.
KLRA	1390	1000	Little Rock, Ark.
KLS	1440	250	Oakland, Calif.
KLUF	1370	100	Galveston, Texas
KLX	880	1000	Oakland, Calif.
KLZ	560	1000	Denver, Colo.
KMA	930	1000	Shenandoah, Iowa
KMAC	1370	100	San Antonio, Texas
KMBC	950	1000	Kansas City, Mo.
KMED	1310	100	Medford, Ore.
KMJ	580	1000	Fresno, Calif.
KMLB	1200	100	Monroe, La.
KMMJ	740	1000	Clay Center, Neb.
KMO	1330	250	Tacoma, Wash.
KMOX	1090	50000	St. Louis, Mo.
KMPC	710	500	Beverly Hills, Calif.
KMTR	570	1000	Hollywood, Calif.
KNEL	1500	100	Brady, Texas
KNET	1420	100	Palestine, Texas
KNOW	1500	100	Austin, Texas
KNX	1050	50000	Hollywood, Calif.
KOA	830	50000	Denver, Colo.
KOAC	550	1000	Corvallis, Ore.
KOB	1180	10000	Albuquerque, N. M.
KOH	1380	500	Reno, Nev.
KOIL	1260	1000	Council Bluffs, Iowa
KOIN	940	1000	Portland, Ore.
KOL	1270	1000	Seattle, Wash.
KOMA	1480	5000	Oklahoma City, Okla.
KOMO	920	1000	Seattle, Wash.
KONO	1370	100	San Antonio, Texas
KOOS	1390	250	Marshfield, Ore.
KORE	1420	100	Eugene, Ore.
KOTN	1500	100	Pine Bluffs, Ark.
KOY	1390	500	Phoenix, Ariz.
KPAC	1260	500	Port Arthur, Texas
KPDN	1310	100	Pampa, Texas
KPLC	1500	100	Lake Charles, La.
KPO	680	50000	San Francisco, Calif.
KPOF	880	500	Denver, Colo.
KPPC	1210	50	Pasadena, Calif.
KPQ	1500	100	Wenatchee, Wash.
KPRC	920	1000	Houston, Texas
KQV	1380	500	Pittsburgh, Pa.
KQW	1010	1000	San Jose, Calif.
KRE	1370	100	Berkeley, Calif.
KRGV	1260	500	Weslaco, Texas
KRKD	1120	500	Los Angeles, Calif.
KRKO	1370	50	Everett, Wash.
KRLC	1420	100	Lewiston, Idaho
KRLD	1040	10000	Dallas, Texas

NORTH AMERICAN B. C. STATIONS BY CALLS

KRLH 1420 100
Midland, Texas

KRMD 1310 100
Shreveport, La.

KRNR 1500 100
Roseburg, Ore.

KRNT 1320 500
Des Moines, Iowa

KROC 1310 100
Rochester, Minn.

KROW 930 1000
Oakland, Calif.

KRSC 1120 100
Seattle, Wash.

KSAC 580 500
Manhattan, Kans.

KSCJ 1330 1000
Sioux City, Iowa

KSD 550 1000
St. Louis, Mo.

KSEI 900 250
Pocatello, Idaho

KSFO 560 1000
San Francisco, Calif.

KSL 1130 50000
Salt Lake City, Utah

KSLM 1370 100
Salem, Ore.

KSO 1430 500
Des Moines, Iowa

KSOO 1110 2500
Sioux Falls, S. D.

KSTP 1460 25000
St. Paul, Minn.

KSUN 1200 100
Lowell, Ariz.

KTAR 620 1000
Phoenix, Ariz.

KTAT 1240 1000
Fort Worth, Texas

KTBS 1450 1000
Shreveport, La.

KTFI 1240 1000
Twin Falls, Idaho

KTHS 1060 10000
Hot Springs, Ark.

KTM 780 500
Los Angeles, Calif.

KTRB 740 250
Modesto, Calif.

KTRH 1290 1000
Houston, Texas

KTSA 550 1000
San Antonio, Texas

KTSM 1310 100
El Paso, Texas

KTUL 1400 500
Tulsa, Okla.

KTW 1220 1000
Seattle, Wash.

KUJ 1370 100
Walla Walla, Wash.

KUMA 1420 100
Yuma, Ariz.

KUOA 1260 1000
Fayetteville, Ark.

KUSD 890 500
Vermillion, S. D.

KVI 570 1000
Tacoma, Wash.

KVL 1370 100
Seattle, Wash.

KVOA 1260 500
Tucson, Ariz.

KVOD 920 500
Denver, Colo.

KVOE 1500 100
Santa Ana, Calif.

KVOL 1310 100
Lafayette, La.

KVOO 1140 25000
Tulsa, Okla.

KVOR 1270 1000
Colorado Spgs., Colo.

KVOS 1200 100
Bellingham, Wash.

KVSO 1210 100
Ardmore, Okla.

KWBG 1420 100
Hutchinson, Kans.

KWG 1200 100
Stockton, Calif.

KWJJ 1040 500
Portland, Ore.

KWK 1350 1000
St. Louis, Mo.

KWKC 1370 100
Kansas City, Mo.

KWKH 1100 10000
Shreveport, La.

KWLC 1270 100
Decorah, Iowa

KWSC 1220 1000
Pullman, Wash.

KWTN 1210 100
Watertown, S. D.

KWTO 560 5000
Springfield, Mo.

KWYO 1370 100
Sheridan, Wyo.

KXA 760 250
Seattle, Wash.

KXL 1420 100
Portland, Ore.

KXO 1500 100
El Centro, Calif.

KXRO 1310 100
Aberdeen, Wash.

KXYZ 1440 1000
Houston, Texas

KYA 1230 1000
San Francisco, Calif.

KYW 1020 10000
Philadelphia, Pa.

NAA 690 1000
Arlington, Va.

RDN 680 500
San Salvador, E. S.

TGW 1210 10000
Guatemala, Gua.

TGX 1400 250
Guatemala City

TIEP 850 500
San Jose, C. R.

TIFA 1050 75
San Jose, C. R.

TIFS 1441 7.5
Cartago, C. R.

TIGA 1014 30
Cartago, C. R.

TIGH 1000 500
San Jose, C. R.

TIRH 930 50
San Jose, C. R.

VAS 685 2000
Glace Bay, N. S.

VE9EK 1185 10
Montmagny, Que.

VOAC 1065 40
St. John's, Nfld.

VOAS 940 100
St. John's, Nfld.

VOGY 840 400
St. John's, Nfld.

VONF 1195 500
St. John's, Nfld.

VOWR 681 500
St. John's, Nfld.

WAAB 1410 500
Boston, Mass.

WAAF 920 1000
Chicago, Ill.

WAAT 940 500
Jersey City, N. J.

WAAW 660 500
Omaha, Neb.

WABC 860 50000
New York, N. Y.

WABI 1200 100
Bangor, Maine

WABY 1370 100
Albany, N. Y.

WACO 1420 100
Waco, Texas

WADC 1320 1000
Akron, Ohio.

WAGF 1370 250
Dothan, Ala.

WAGM 1420 100
Presque Isle, Me.

WAIM 1200 100
Anderson, S. C.

WAIU 640 500
Columbus, Ohio

WALA 1380 500
Mobile, Ala.

WALR 1210 100
Zanesville, Ohio

WAML 1310 100
Laurel, Miss.

WAPI 1140 5000
Birmingham, Ala.

WARD 1400 500
Brooklyn, N. Y.

WASH 1270 500
Grand Rapids, Mich.

WATL 1370 100
Atlanta, Ga.

WATR 1190 100
Waterbury, Conn.

WAVE 940 1000
Louisville, Ky.

WAWZ 1350 500
Zarephath, N. J.

WAZL 1420 100
Hazleton, Pa.

WBAA 890 1000
West Lafayette, Ind.

WBAL 760 2500
Baltimore, Md.

WBAL 1060 10000
Baltimore, Md.

WBAP 800 50000
Fort Worth, Texas

WBAX 1210 100
Wilkes-Barre, Pa.

WBBC 1400 500
Brooklyn, N. Y.

WBBL 1210 100
Richmond, Va.

WBBM 770 50000
Chicago, Ill.

WBBR 1300 1000
Brooklyn, N. Y.

WBBZ 1200 100
Ponca City, Okla.

WBCM 1410 500
Bay City, Mich.

WBEN 900 1000
Buffalo, N. Y.

WBEO 1310 100
Marquette, Mich.

WBIG 1440 500
Greensboro, N. C.

WBNO 1200 100
New Orleans, La.

WBNS 1430 500
Columbus, Ohio

WBNX 1350 250
New York, N. Y.

WBNY 1370 100
Buffalo, N. Y.

WBOQ 860 50000
New York, N. Y.

WBOW 1310 100
Terre Haute, Ind.

WBRB 1210 100
Red Bank, N. J.

WBRC 930 1000
Birmingham, Ala.

WBRE 1310 100
Wilkes-Barre, Pa.

WBT 1080 50000
Charlotte, N. C.

WBTM 1370 100
Danville, Va.

WBZ 990 50000
Boston, Mass.

WBZA 990 1000
Springfield, Mass.

WCAC 600 500
Storrs, Conn.

WCAD 1220 500
Canton, N. Y.

WCAE 1220 1000
Pittsburgh, Pa.

WCAL 1250 1000
Northfield, Minn.

WCAM 1280 500
Camden, N. J.

WCAO 600 500
Baltimore, Md.

WCAP 1280 500
Asbury Park, N. J.

WCAT 1200 100
Rapid City, S. D.

WCAU 1170 50000
Philadelphia, Pa.

WCAX 1200 100
Burlington, Vt.

WCAZ 1070 100
Carthage, Ill.

WCBA 1440 500
Allentown, Pa.

WCBD 1080 5000
Waukegan, Ill.

WCBM 1370 100
Baltimore, Md.

WCBS 1420 100
Springfield, Ill.

WCCO 810 50000
Minneapolis, Minn.

WCFL 970 5000
Chicago, Ill.

WCHS 580 500
Charleston, W. Va.

WCHV 1420 100
Charlottesville, Va.

WCKY 1490 5000
Covington, Ky.

WCLO 1200 100
Janesville, Wis.

WCLS 1310 100
Joliet, Ill.

WCMI 1310 100
Ashland, Ky.

WCNW 1500 100
Brooklyn, N. Y.

WCOA 1340 500
Pensacola, Fla.

WCOC 880 500
Meridian, Miss.

WCOL 1210 100
Columbus, Ohio

WCOP 1120 500
Boston, Mass.

WCPO 1200 100
Cincinnati, Ohio

WCRW 1210 100
Chicago, Ill.

WCSC 1360 500
Charleston, S. C.

WCSH 940 1000
Portland, Me.

WDAE 1220 1000
Tampa, Fla.

WDAF 610 1000
Kansas City, Mo.

WDAH 1310 100
El Paso, Texas

WDAS 1370 100
Philadelphia, Pa.

WDAY 940 1000
Fargo, N. D.

WDBJ 930 1000
Roanoke, Va.

WDBO 580 1000
Orlando, Fla.

WDEL 1120 250
Wilmington, Del.

WDEV 550 500
Waterbury, Vt.

WDGY 1180 1000
Minneapolis, Minn.

WDNC 1500 100
Durham, N. C.

WDOD 1280 1000
Chattanooga, Tenn.

WDRC 1330 1000
Hartford, Conn.

WDSU 1250 1000
New Orleans, La.

WDZ 1070 100
Tuscola, Ill.

WEAF 660 50000
New York, N. Y.

WEAN 780 500
Providence, R. I.

WEBC 1290 1000
Superior, Wis.

WEBQ 1210 100
Harrisburg, Ill.

WEBR 1310 100
Buffalo, N. Y.

WEDC 1210 100
Chicago, Ill.

WEED 1420 100
Rocky Mount, N. C.

WEEI 590 1000
Boston, Mass.

WEEU 830 1000
Reading, Pa.

WEGL 1400 500
Brooklyn, N. Y.

WEHS 1420 100
Cicero, Ill.

WELI 900 500
New Haven, Conn.

WELL 1420 100
Battle Creek, Mich.

WEMP 1310 100
Milwaukee, Wis.

WENR 870 50000
Chicago, Ill.

WEOA 1370 100
Evansville, Ind.

WESG 850 1000
Elmira, N. Y.

WEST 1200 100
Easton, Pa.

WEVD 1300 1000
New York, N. Y.

WEW 760 1000
St. Louis, Mo.

WEXL 1310 50
Royal Oak, Mich.

WFAA 800 50000
Dallas, Texas

WFAB 1300 1000
New York, N. Y.

WFAM 1200 100
South Bend, Ind.

WFAS 1210 100
White Plains, N. Y.

WFBC 1300 1000
Greenville, S. C.

WFBG 1310 100
Altoona, Pa

WFBL 1360 1000
Syracuse, N. Y.

WFBM 1230 1000
Indianapolis, Ind.

WFBR 1270 500
Baltimore, Md.

WFDF 1310 100
Flint, Mich.

WFEA 1340 500
Manchester, N. H.

WFIL 560 1000
Philadelphia, Pa.

WFLA 620 1000
Clearwater, Fla.

WFMD 900 500
Frederick, Md.

WGAL 1500 100
Lancaster, Pa.

WGAR 1450 500
Cleveland, Ohio

WGBB 1210 100
Freeport, N. Y.

WGBF 630 500
Evansville, Ind.

WGBI 880 500
Scranton, Pa.

WGCM 1210 100
Gulfport, Miss.

WGES 1360 500
Chicago, Ill.

WGH 1310 100
Newport News, Va.

WGL 1370 100
Fort Wayne, Ind.

WGN 720 50000
Chicago, Ill.

WGNY 1210 100
Chester, N. Y.

WGPC 1420 100
Albany, Ga.

WGR 550 1000
Buffalo, N. Y.

WGST 890 1000
Atlanta, Ga.

WGY 790 50000
Schenectady, N. Y.

WHA 940 1000
Madison, Wis.

WHAM 1150 50000
Rochester, N. Y.

WHAS 820 50000
Louisville, Ky.

WHAT 1310 100
Philadelphia, Pa.

WHAZ 1300 500
Troy, N. Y.

WHB 860 1000
Kansas City, Mo.

WHBB 1500 100
Selma, Alabama

WHBC 1200 100
Canton, Ohio

WHBF 1210 100
Rock Island, Ill.

WHBI 1250 1000
Newark, N. J.

WHBL 1410 500
Sheboygan, Wis.

WHBQ 1370 100
Memphis, Tenn.

WHBU 1210 100
Anderson, Ind.

WHBY 1200 100
Green Bay, Wis.

WHDF 1370 100
Calumet, Mich.

WHDH 830 1000
Boston, Mass.

WHDL 1420 100
Olean, N. Y.

WHEB 740 250
Portsmouth, N. H.

WHEC 1430 500
Rochester, N. Y.

WHEF 1500 100
Kosciusko, Miss.

WHFC 1420 100
Cicero, Ill.

WHIO 1260 1000
Dayton, Ohio

WHIS 1410 250
Bluefield, W. Va.

WHJB 620 250
Greensburg, Pa.

WHK 1390 1000
Cleveland, Ohio

WHLB 1370 100
Virginia, Minn.

WHN 1010 1000
New York, N. Y.

WHO 1000 50000
Des Moines, Iowa

WHOM 1450 250
Jersey City, N. J.

WHP 1430 500
Harrisburg, Pa.

WIBA 1280 1000
Madison, Wis.

WIBG 970 100
Glenside, Pa.

WIBM 1370 100
Jackson, Mich.

WIBU 1210 100
Poynette, Wis.

WIBW 580 1000
Topeka, Kans.

WIBX 1200 100
Utica, N. Y.

WICC 600 500
Bridgeport, Conn.

WIL 1200 100
St. Louis, Mo.

WILL 890 250
Urbana, Ill.

WILM 1420 100
Wilmington, Del.

WIND 560 1000
Gary, Ind.

WINS 1180 1000
New York, N. Y.

WIOD 1300 1000
Miami, Fla.

WIP 610 1000
Philadelphia, Pa.

WIRE 1400 500
Indianapolis, Ind.

WIS 560 1000
Columbia, S. C.

WISN 1120 250
Milwaukee, Wis.

WJAC 1310 100
Johnstown, Pa.

WJAG 1060 1000
Norfolk, Neb.

WJAR 890 500
Providence, R. I.

WJAS 1290 1000
Pittsburgh, Pa.

WJAX 900 1000
Jacksonville, Fla.

WJAY 610 500
Cleveland, Ohio

WJBC 1200 100
Bloomington, Ill.

WJBK 1500 100
Detroit, Mich.

WJBL 1200 100
Decatur, Ill.

WJBO 1420 100
Baton Rouge, La.

WJBR 1420 100
Gastonia, N. C.

WJBW 1200 100
New Orleans, La.

WJBY 1210 100
Gadsden, Ala.

WJDX 1270 1000
Jackson, Miss.

WJEJ 1210 100
Hagerstown, Md.

WJIM 1210 100
Lansing, Mich.

WJJD 1130 20000
Chicago, Ill.

WJMS 1420 100
Ironwood, Mich.

WJNO 1200 100
W. Palm Beach, Fla.

WJR 750 50000
Detroit, Mich.

WJSV 1460 10000
Washington, D. C.

WJW 1210 100
Akron, Ohio

WJZ 760 50000
New York, N. Y.

WKAQ 1240 1000
San Juan, P. R.

WKAR 850 1000
East Lansing, Mich.

WKBB 1500 100
East Dubuque, Ill.

WKBH 1380 1000
LaCrosse, Wis.

WKBI 1420 100
Cicero, Ill.

WKBN 570 500
Youngstown, Ohio

WKBO 1200 100
Harrisburg, Pa.

WKBV 1500 100
Richmond, Ind.

WKBW 1480 5000
Buffalo, N. Y.

WKBZ 1500 100
Muskegon, Mich.

WKEU 1500 100
Griffin, Ga.

WKOK 1210 100
Sunbury, Pa.

WKRC 550 1000
Cincinnati, Ohio

WKY 900 1000
Oklahoma City, Okla.

WKZO 590 1000
Kalamazoo, Mich.

WLAC 1470 5000
Nashville, Tenn.

WLAK 1310 100
Lakeland, Fla.

WLAP 1420 100
Lexington, Ky.

WLB 1250 1000
Minneapolis, Minn.

WLBC 1310 100
Muncie, Ind.

WLBF 1420 100
Kansas City, Kans.

WLBL 900 2500
Stevens Point, Wis.

WLBZ 620 500
Bangor, Me.

WLEU 1420 100
Erie, Pa.

WLLH 1370 100
Lowell, Mass.

WLNH 1310 100
Laconia, N. H.

WLS 870 50000
Chicago, Ill.

WLTH 1400 500
Brooklyn, N. Y.

WLVA 1200 100
Lynchburg, Va.

WLW 700 500000
Cincinnati, Ohio

WLWL 1100 5000
New York, N. Y.

WMAL 630 250
Washington, D. C.

WMAQ 670 50000
Chicago, Ill.

WMAS 1420 100
Springfield, Mass.

WMAZ 1180 1000
Macon, Ga.

WMBC 1420 100
Detroit, Mich.

WMBD 1440 500
Peoria, Ill.

WMBG 1210 100
Richmond, Va.

WMBH 1420 100
Joplin, Mo.

WMBI 1080 5000
Chicago, Ill.

WMBO 1310 100
Auburn, N. Y.

WMBQ 1500 100
Brooklyn, N. Y.

WMBR 1370 100
Jacksonville, Fla.

WMC 780 1000
Memphis, Tenn.

WMCA 570 500
New York, N. Y.

WMEX 1500 100
Boston, Mass.

WMFD 1370 100
Wilmington, N. C.

WMFF 1310 250
Plattsburg, N. Y.

WMFG 1210 100
Hibbing, Minn.

WMFJ 1420 100
Daytona Beach, Fla.

WMFN 1210 100
Clarksdale, Miss.

WMFO 1370 100
Decatur, Ala.

WMFR 1200 100
High Point, N. C.

WMMN 890 500
Fairmount, W. Va.

WMPC 1200 100
Lapeer, Mich.

WMSD 1420 100
Sheffield, Ala.

WMT 600 1000
Cedar Rapids, Iowa

WNAC 1230 1000
Boston, Mass.

WNAD 1010 1000
Norman, Okla.

WNAX 570 1000
Yankton, S. D.

WNBC 1380 250
New Britain, Conn.

WNBF 1500 100
Binghamton, N. Y.

WNBH 1310 100
New Bedford, Mass.

WNBR 1430 500
Memphis, Tenn.

WNBX 1260 1000
Springfield, Vt.

WNBZ 1290 100
Saranac Lake, N. Y.

WNEL 1290 1000
San Juan, P. R.

WNEW 1250 1000
Newark, N. J.

WNOX 1010 1000
Knoxville, Tenn.

WNRI 1200 100
Newport, R. I.

WNYC 810 1000
New York, N. Y.

WOAI 1190 50000
San Antonio, Texas

WOC 1370 100
Davenport, Iowa

WOCL 1210 50
Jamestown, N. Y.

WOI 640 5000
Ames, Iowa

WOKO 1430 500
Albany, N. Y.

WOL 1310 100
Washington, D. C.

WOMT 1210 100
Manitowoc, Wis.

WOOD 1270 500
Grand Rapids, Mich.

WOPI 1500 100
Bristol, Tenn.

WOR 710 50000
Newark, N. J.

WORC 1280 500
Worcester, Mass.

WORK 1320 1000
York, Pa.

WORL 920 500
Needham, Mass.

WOS 630 500
Jefferson City, Mo.

WOSU 570 750
Columbus, Ohio

WOV 1130 1000
New York, N. Y.

WOW 590 5000
Omaha, Neb.

WOWO 1160 10000
Fort Wayne, Ind.

WPAD 1420 100
Paducah, Ky.

WPAR 1420 100
Parkersburg, W. Va.

WPAX 1210 250
Thomasville, Ga.

WPAY 1370 100
Portsmouth, Ohio

WPEN 920 250
Philadelphia, Pa.

WPFB 1370 100
Hattiesburg, Miss.

WPG 1100 5000
Atlantic City, N. J.

WPHR 880 500
Petersburg, Va.

WPRO 630 250
Providence, R. I.

WPRP 1420 100
Ponce, P. R.

WPTF 680 5000
Raleigh, N. C.

WQAM 560 1000
Miami, Fla.

WQAN 880 250
Scranton, Pa.

WQBC 1360 1000
Vicksburg, Miss.

WQDM 1370 100
St. Albans, Vt.

WRAK 1370 100
Williamsport, Pa.

WRAW 1310 100
Reading, Pa.

WRAX 920 250
Philadelphia, Pa.

WRBL 1200 100
Columbus, Ga.

WRC 950 500
Washington, D. C.

WRDO 1370 100
Augusta, Me.

WRDW 1500 100
Augusta, Ga.

WREC 600 1000
Memphis, Tenn.

WREN 1220 1000
Lawrence, Kans.

WRGA 1500 100
Rome, Ga.

WRJN 1370 100
Racine, Wis.

WROK 1410 500
Rockford, Ill.

WROL 1310 100
Knoxville, Tenn.

WRR 1280 500
Dallas, Texas

WRUF 830 5000
Gainesville, Fla.

WRVA 1110 5000
Richmond, Va.

WSAI 1330 1000
Cincinnati, Ohio

WSAJ 1310 100
Grove City, Pa.

WSAN 1440 500
Allentown, Pa.

WSAR 1350 1000
Fall River, Mass.

WSAY 1210 100
Rochester, N. Y.

WSAZ 1190 1000
Huntington, W. Va.

WSB 740 50000
Atlanta, Ga.

WSBC 1210 100
Chicago, Ill.

WSBT 1360 500
South Bend, Ind.

WSFA 1410 500
Montgomery, Ala.

WSGN 1310 100
Birmingham, Ala.

WSIX 1210 100
Springfield, Tenn.

WSJS 1310 100
Winston-Salem, N. C.

WSM 650 50000
Nashville, Tenn.

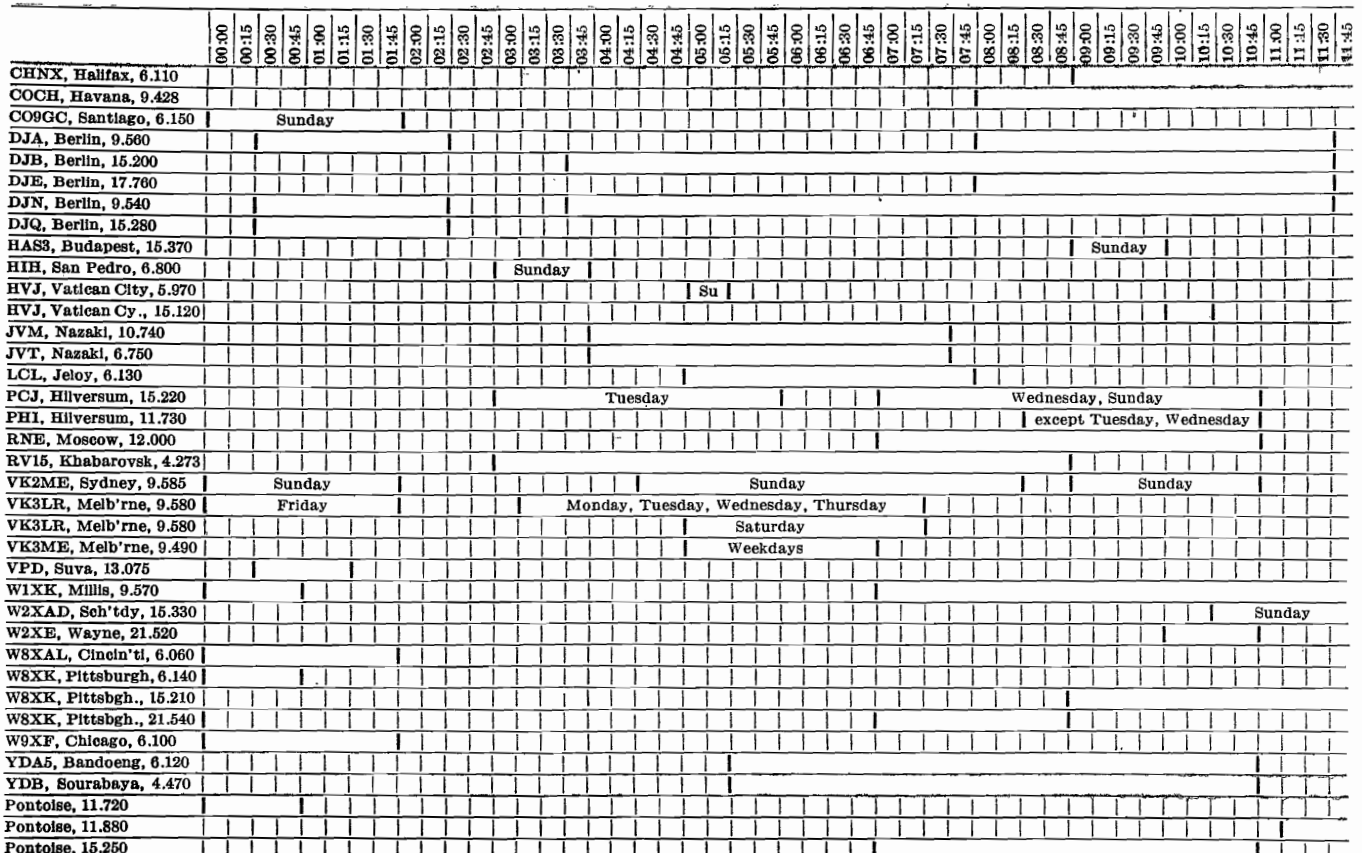
WSMB 1320 500
New Orleans, La.

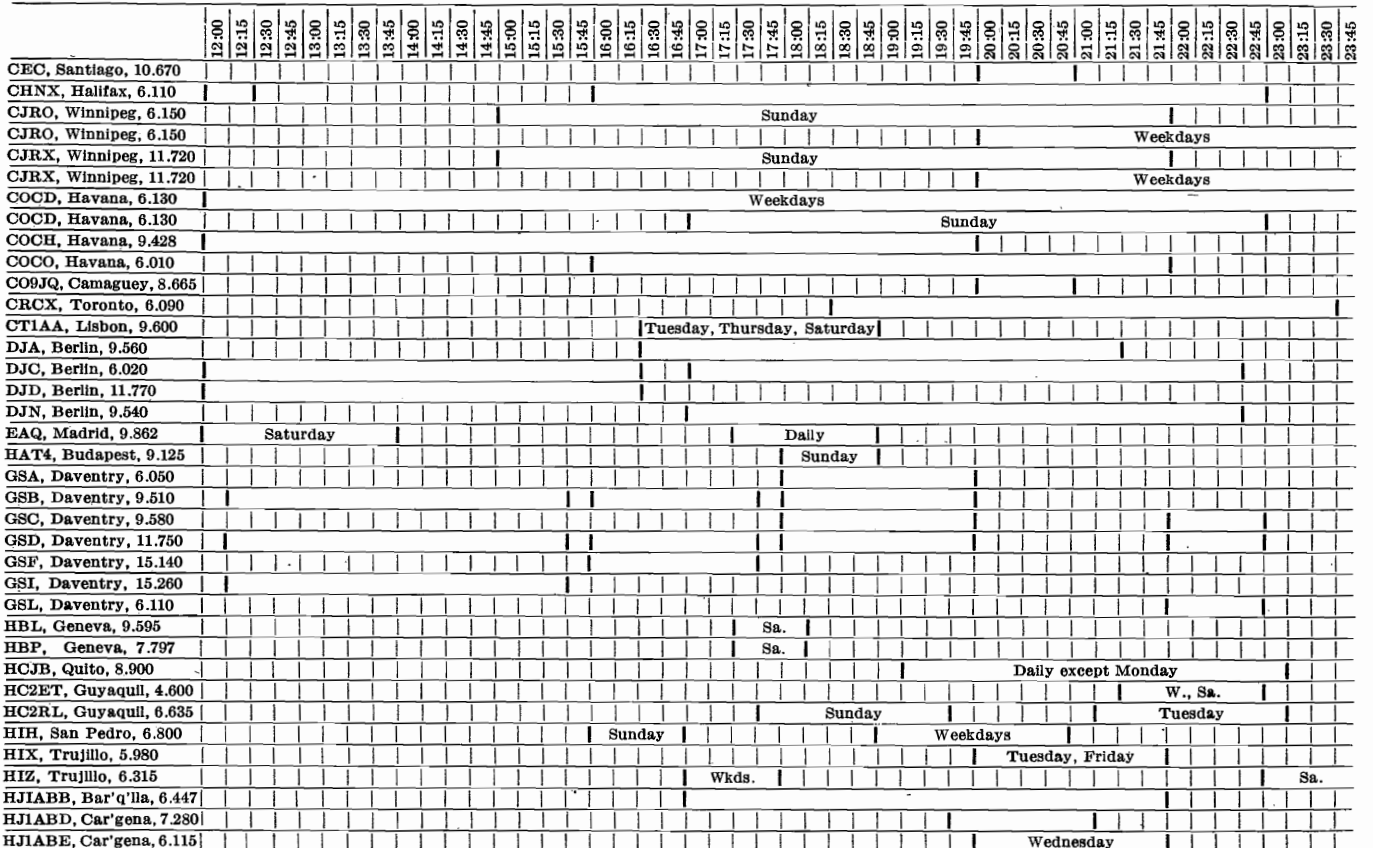
WSMK 1380 200
Dayton, Ohio
WSOC 1210 100
Charlotte, N. C.
WSPA 920 1000
Spartanburg, S. C.
WSPD 1340 1000
Toledo, Ohio
WSPR 1140 500
Springfield, Mass.
WSUI 880 500
Iowa City, Iowa
WSUN 620 1000
St. Petersburg, Fla.
WSVA 550 500
Harrisonburg, Va.
WSVS 1370 50
Buffalo, N. Y.
WSYB 1500 100
Rutland, Vt.
WSYR 570 250
Syracuse, N. Y.
WTAD 900 500
Quincy, Ill.
WTAG 580 500
Worcester, Mass.
WTAL 1310 100
Tallahassee, Fla.
WTAM 1070 50000
Cleveland, Ohio
WTAQ 1330 1000
Eau Claire, Wis.
WTAR 780 500
Norfolk, Va.
WTAW 1120 500
College Station, Tex.
WTAX 1210 100
Springfield, Ill.
WTBO 800 250
Cumberland, Md.
WTCN 1250 1000
Minneapolis, Minn.
WTEL 1310 100
Philadelphia, Pa.
WTFI 1450 500
Athens, Ga.
WTHT 1200 100
Hartford, Conn.
WTIC 1040 50000
Hartford, Conn.
WTJS 1310 100
Jackson, Tenn.
WTMJ 620 1000
Milwaukee, Wis.
WTMV 1500 100
East St. Louis, Ill.
WTNJ 1280 500
Trenton, N. J.
WTOC 1260 1000
Savannah, Ga.
WTRC 1310 100
Elkhart, Ind.
WVFW 1400 500
Brooklyn, N. Y.
WWAE 1200 100
Hammond, Ind.
WWJ 920 1000
Detroit, Mich.
WWL 850 10000
New Orleans, La.
WWNC 570 1000
Asheville, N. C.

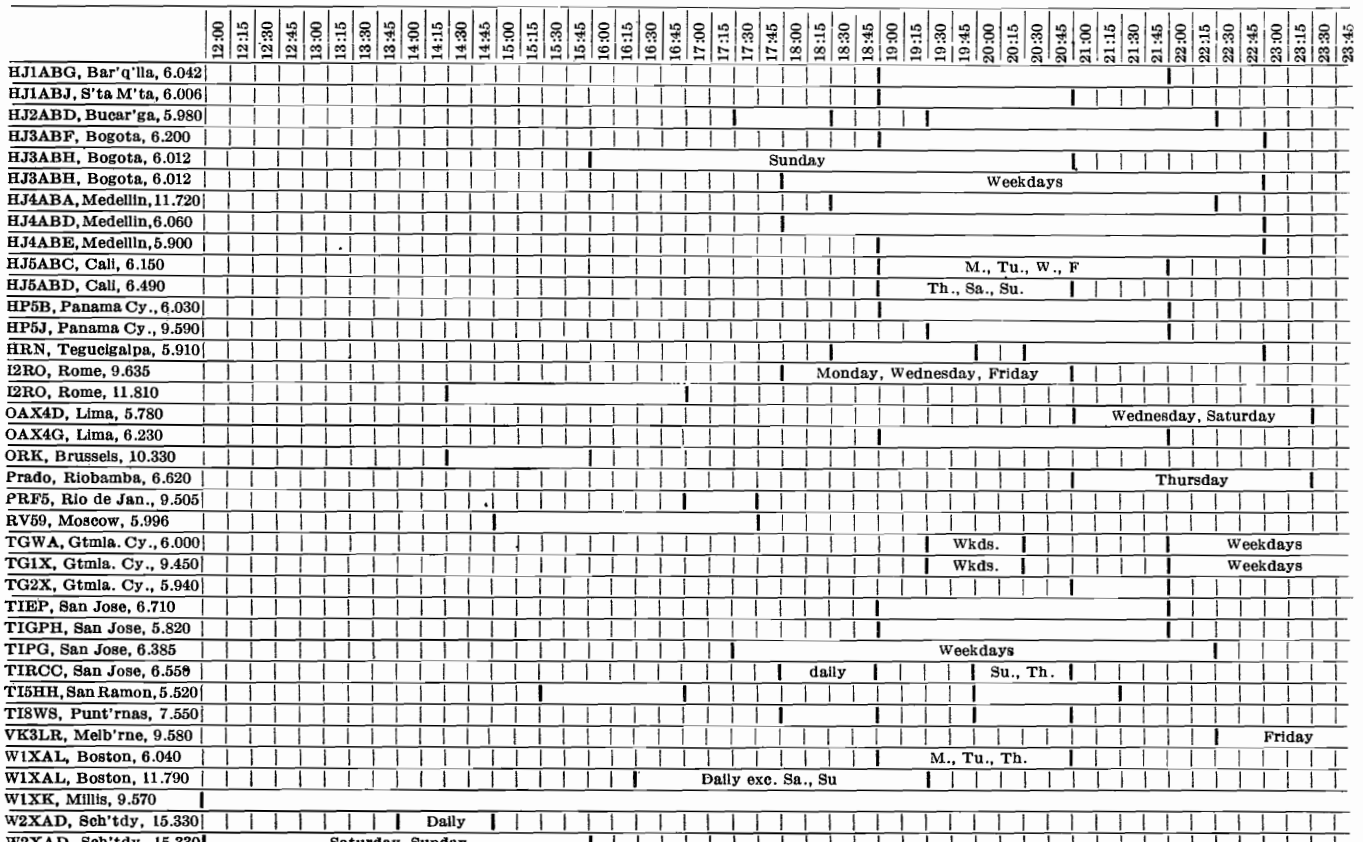
WWRL 1590 100
Woodside, N. Y.
WWSW 1500 100
Pittsburgh, Pa.
WWVA 1160 5000
Wheeling, W. Va.
WXYZ 1240 1000
Detroit, Mich.
W1XBS 1530 1000
Waterbury, Conn.
W2XR 1550 1000
Long Island City, N. Y.
W6XAI 1550 1000
Bakersfield, Calif.
W9XBY 1530 1000
Kansas City, Mo.
XEA 1060 500
Guadalajara, Jal.
XEAA 920 200
Mexicali, B. C.
XEAF 990 500
Nogales, Son.
XEAI 1240 100
Mexico City, D. F.
XEAJ 1310 15
Oaxaca, Oax.
XEAM 750 7.5
Matamoros, Tams.
XEAO 560 250
Mexicali, B. C.
XEAQ 1090 1000
Tijuana, B. C.
XEAS 1160 100
Saltillo, Coah.
XEAW 960 50000
Reynosa, Tams.
XEAZ 1420 7
Guanajuato, Gto.
XEB 1030 10000
Mexico City, D. F.
XEBH 1000 500
Hermosillo, Sonora
XEC 1160 30
Tijuana, L. C.
XECW 1310 10
Mexico City, D. F.
XED 1155 2500
Guadalajara, Jal.
XEE 1210 50
Durango, Dgo.
XEFA 1180 500
Mexico City, D. F.
XEFB 1420 100
Monterrey, N. L.
XEFC 560 100
Merida, Yuc.
XEFE 850 250
Laredo, Tams.
XEFI 1440 250
Chihuahua, Chih.
XEFJ 1230 100
Monterrey, N. L.
XEFL 1150 500
Tijuana, L. C.
XEFO 940 5000
Mexico City, D. F.
XEFV 1210 100
Jaurez, Chih.
XEFW 1310 250
Tampico, Tams.
XEFZ 1370 100
Mexico City, D. F.

XEG 1270 200
Ensenada, B. C.
XEH 1150 250
Monterrey, N. L.
XEI 1370 125
Morelia, Mich.
XEJ 1020 1000
Juarez, Chich.
XEK 990 100
Mexico City, D. F.
XEKL 1240 500
Leon, Guan.
XEL 1100 250
Mexico City, D. F.
XELO 1110 10000
Piedras Negras, Coah.
XEMA 1080 50
Tampico, Tams.
XEMO 860 5000
Tijuana, L. C.
XEMX 1280 12
Mexico City, D. F.
XEMZ 820 ....
Coronado Isl., L. C.
XEMZ 1210 250
Tijuana, L. C.
XEN 710 1000
Mexico City, D. F.
XENT 910 65000
Nuevo Laredo, Tams.
XEOK 760 250
Tijuana, L. C.
XEOX 640 500
Saltillo, Coah.
XEP 840 500
Mexico City, D. F.
XEPN 590 50000
Piedras Negras, Coah.
XERA 840 250000
Villa Acuna, Coah.
XES 990 250
Tampico, Tams.
XESL 1160 . . .
Tijuana, L. C.
XET 690 500
Monterrey, N. L.
XETB 1310 125
Torreon, Coah.
XETF 1220 12
Veracruz, Ver.
XETH 1210 100
Puebla, Pue.
XETW 820 500
Mexico City, D. F.
XEU 1010 250
Veracruz, Ver.
XEW 890 50000
Mexico City, D. F.
XEWZ 1150 100
Mexico City, D. F.
XEX 1310 125
Monterrey, N. L.
XEY 1000 10
Merida, Yuc.
XEYZ 780 10000
Mexico City, D. F.
XEZ 630 500
Merida, Yuc.
XEZZ 1370 100
San Luis Potosi, S.L.P.

Continued on Page 112


00:00 00:15 00:30 00:45 01:00 01:15 01:30 01:45 02:00 02:15 02:30 02:45 03:00 03:15 03:30 03:45 04:00 04:15 04:30 04:45 05:00 05:15 05:30 05:45 06:00 06:15 06:30 06:45 07:00 07:15 07:30 07:45 08:00 08:15 08:30 08:45 09:00 09:15 09:30 09:45 10:00 10:15 10:30 10:45 11:00 11:15 11:30 11:45
CHNX, Halifax, 6.110
COCH, Havana, 9.428
CO9GC, Santiago, 6.150
Sunday
DJA, Berlin, 9.560
DJB, Berlin, 15.200
DJE, Berlin, 17.760
DJN, Berlin, 9.540
DJQ, Berlin, 15.280
HAS3, Budapest, 15.370
Sunday
HIH, San Pedro, 6.800
Sunday
HVJ, Vatican City, 5.970
Su
HVJ, Vatican Cy., 15.120
JVM, Nazaki, 10.740
JVT, Nazaki, 6.750
LCL, Jeloy, 6.130
PCJ, Hilversum, 15.220
Tuesday
Wednesday, Sunday
PHI, Hilversum, 11.730
except Tuesday, Wednesday
RNE, Moscow, 12.000
RV15, Khabarovsk, 4.273
VK2ME, Sydney, 9.585
Sunday
Sunday
Sunday
VK3LR, Melb'rne, 9.580
Friday
Monday, Tuesday, Wednesday, Thursday
VK3LR, Melb'rne, 9.580
Saturday
VK3ME, Melb'rne, 9.490
Weekdays
VPD, Suva, 13.075
W1XK, Millis, 9.570
W2XAD, Sch'tdy, 15.330
Sunday
W2XE, Wayne, 21.520
W8XAL, Cincin'ti, 6.060
W8XK, Pittsburgh, 6.140
W8XK, Pittsbgh., 15.210
W8XK, Pittsbgh., 21.540
W9XF, Chicago, 6.100
YDA5, Bandoeng, 6.120
YDB, Sourabaya, 4.470
Pontoise, 11.720
Pontoise, 11.880
Pontoise, 15.250


12:00 12:15 12:30 12:45 13:00 13:15 13:30 13:45 14:00 14:15 14:30 14:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 17:00 17:15 17:30 17:45 18:00 18:15 18:30 18:45 19:00 19:15 19:30 19:45 20:00 20:15 20:30 20:45 21:00 21:15 21:30 21:45 22:00 22:15 22:30 22:45 23:00 23:15 23:30 23:45
CEC, Santiago, 10.670
CHNX, Halifax, 6.110
CJRO, Winnipeg, 6.150
Sunday
CJRO, Winnipeg, 6.150
Weekdays
CJRX, Winnipeg, 11.720
Sunday
CJRX, Winnipeg, 11.720
Weekdays
COCD, Havana, 6.130
Weekdays
COCD, Havana, 6.130
Sunday
COCH, Havana, 9.428
COCO, Havana, 6.010
CO9JQ, Camaguey, 8.665
CRCX, Toronto, 6.090
CT1AA, Lisbon, 9.600
Tuesday, Thursday, Saturday
DJA, Berlin, 9.560
DJC, Berlin, 6.020
DJD, Berlin, 11.770
DJN, Berlin, 9.540
EAQ, Madrid, 9.862
Saturday
Daily
HAT4, Budapest, 9.125
Sunday
GSA, Daventry, 6.050
GSB, Daventry, 9.510
GSC, Daventry, 9.580
GSD, Daventry, 11.750
GSF, Daventry, 15.140
GSI, Daventry, 15.260
GSL, Daventry, 6.110
HBL, Geneva, 9.595
Sa.
HBP, Geneva, 7.797
Sa.
HCJB, Quito, 8.900
Daily except Monday
HC2ET, Guyaquil, 4.600
W., Sa.
HC2RL, Guyaquil, 6.635
Sunday
Tuesday
HIH, San Pedro, 6.800
Sunday
Weekdays
HIX, Trujillo, 5.980
Tuesday, Friday
HIZ, Trujillo, 6.315
Wkds.
Sa.
HJ1ABB, Bar'q'lla, 6.447
HJ1ABD, Car'gena, 7.280
HJ1ABE, Car'gena, 6.115
Wednesday


12:00
12:15
12:30
12:45
13:00
13:15
13:30
13:45
14:00
14:15
14:30
14:45
15:00
15:15
15:30
15:45
16:00
16:15
16:30
16:45
17:00
17:15
17:30
17:45
18:00
18:15
18:30
18:45
19:00
19:15
19:30
19:45
20:00
20:15
20:30
20:45
21:00
21:15
21:30
21:45
22:00
22:15
22:30
22:45
23:00
23:15
23:30
23:45
HJ1ABG, Bar'q'lla, 6.042
HJ1ABJ, S'ta M'ta, 6.006
HJ2ABD, Bucar'ga, 5.980
HJ3ABF, Bogota, 6.200
HJ3ABH, Bogota, 6.012
Sunday
HJ3ABH, Bogota, 6.012
Weekdays
HJ4ABA, Medellin, 11.720
HJ4ABD, Medellin, 6.060
HJ4ABE, Medellin, 5.900
HJ5ABC, Cali, 6.150
M., Tu., W., F
HJ5ABD, Cali, 6.490
Th., Sa., Su.
HP5B, Panama Cy., 6.030
HP5J, Panama Cy., 9.590
HRN, Tegucigalpa, 5.910
I2RO, Rome, 9.635
Monday, Wednesday, Friday
I2RO, Rome, 11.810
OAX4D, Lima, 5.780
Wednesday, Saturday
OAX4G, Lima, 6.230
ORK, Brussels, 10.330
Prado, Riobamba, 6.620
Thursday
PRF5, Rio de Jan., 9.505
RV59, Moscow, 5.996
TGWA, Gtmla. Cy., 6.000
Wkds.
Weekdays
TG1X, Gtmla. Cy., 9.450
Wkds.
Weekdays
TG2X, Gtmla. Cy., 5.940
TIEP, San Jose, 6.710
TIGPH, San Jose, 5.820
TIPG, San Jose, 6.385
Weekdays
TIRCC, San Jose, 6.558
daily
Su., Th.
TI5HH, San Ramon, 5.520
TI8WS, Punt'rnas, 7.550
VK3LR, Melb'rne, 9.580
Friday
W1XAL, Boston, 6.040
M., Tu., Th.
W1XAL, Boston, 11.790
Daily exc. Sa., Su
W1XK, Millis, 9.570
W2XAD, Sch'tdy, 15.330
Daily
W2XAD, Sch'tdy, 15.330
Saturday, Sunday

The time shown in the Shortwave Clock is Eastern Standard. Readers living in other time zones can clip the two time lines above and paste them over the clock to agree with their own time. This strip is for CST. For MST, start with 10:00 and 22:00. For PST start with 09:00 and 21:00.

A New Illuminated World Globe

A turn of the switch converts this globe into a glowing, luminous ball, making it easier to read the map.

The principal short wave stations throughout the world are shown in red. A beautiful, authentic and detailed map in bright colors.

This globe is over 28 inches in circumference.

Complete with lamp, switch, cord and plug
Price $4.95 postpaid in
U. S., Canada and Mexico

This handsome globe is nearly 38 inches at the equator. In eight brilliant colors. Seventeen inches high on bronze base.

A Manual of Facts tells how to get the greatest good from a globe. The scale of miles makes it easy to measure distances.

The largest and finest globe we have seen for

Only $3.95 postpaid

(In Canada and West of the Rockies, 50c more)

If you live in Ohio, add 3% for state tax.

The Radex Press, Inc. Conneaut, Ohio

QUICK INDEX TO ALL STATION DATA

NORTH AMERICAN B. C. STATIONS BY CALLS

Continued from Page 106

XFA	**1310**	**5**	**XFO**	**940**	**5000**
Aguascalientes, Ags.			Mexico City, D. F.		
XFB	**1270**	**250**	**XFX**	**610**	**1000**
Jalapa, Ver.			Mexico City, D. F.		
XFC	**810**	**350**	**YNLF**	**1275**	**20**
Aguascalientes, Ags.			Managua, Nicaragua		
XFD	**1340**	**350**	**YNOP**	**1230**	**100**
Jalapa, Ver.			Managua, Nicaragua		
			YNVA	**950**	**30**
			Managua, Nicaragua		

Sometimes I think there ought to be a law to make everyone do a little studying every week. I didn't think that a year ago because it looked like all the cards were stacked against me. But I am surely making good money now. Maybe my story will show you the way to larger earnings also.

I THOUGHT RADIO WAS A PLAYTHING

But Now My Eyes Are Opened, and I'm Making Over $40.00 a Week!

$40 a week! Man alive, a year ago I thought anyone making so much was just plain lucky.

Twelve months 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 twelve months later I would be making $40 a week in my own Radio business—I'd thought you were crazy.

But I am getting ahead of my story—let me tell you how it all started. I was hard up a year ago 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 show you how 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 the promises 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 little business of my own.

That business has since grown to the point where I am clearing an average of $40 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 other lines. Broadcasting Stations, Radio Manufacturers, Operating on Board Ship, Servicing Sets, Aviation Radio, Television, Short Wave, Automobile and Police Radio, Loud Speaker Systems are other fields their training covers. And to think, until the day I wrote for that book, I'd been wailing, "I never had a chance and will never have one because I have no pull or a good education!"

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 Receiving Troubles—the Cause and Remedy" is valuable. And when you see how simple this lesson is to understand you'll know why many fellows with less than a grammar school education 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. 6CO, Washington, D. C.

J. E. SMITH, President,
National Radio Institute
Dept. 6CO, Washington, D. C.

Dear Mr. Smith:

Without obligation, send me the sample lesson and your free 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