

THE MARCH 1936

RADIO INDEX

The All-wave DX Log of the World



25^c

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

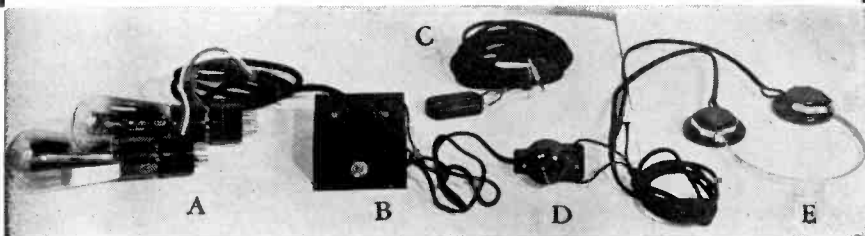
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Get Ready for "Old Man Static"

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

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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.

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The Radex Press, Inc. Conneaut, Ohio



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★ 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.

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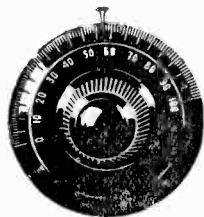
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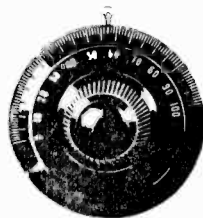
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March 1, 1936



RAD IN DEX

Reg. U. S. Patent Office



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TWELFTH YEAR

NUMBER 97

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In her own program twice a week.

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\$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 station 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 crystal 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

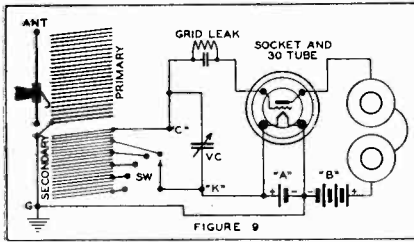
tuning pre-selector system consisting of coils and condensers.

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



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-megohm 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 fila-

ment 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.

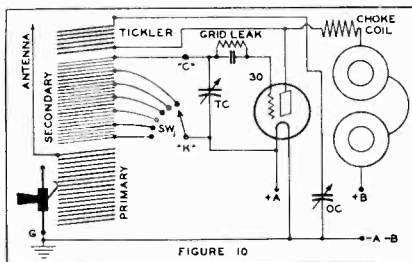
To the tuner portion of the circuit shown in Figures 5 and 9, we may add a third circuit. This tuner has a primary and secondary coil. Let us add a third or "tickler" coil. It is by means of this third coil that "regenerative" or "feed-back" action is obtained.

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.



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 com-

mercial 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 $\frac{1}{4}$ inch away and put on 65 turns of No. 28 wire, and also fasten the two ends. Next place the tickler winding by starting $\frac{1}{4}$ 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 short-wave channels. Last November the company Empresa 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 Mex-

ico.' 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 Ríkisutvarpid, which is the Icelandic name for State Broadcasting Service.

"The announcement 'Útvarp Reykjavík' has the same meaning as 'Broadcasting Reykjavík' 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, K1HO, 2994 and 5137 kcs.; Lucky Shot, K1IP, 3100 kcs.; Skwentla, K7EUB, 3600 kcs.; Iliamna, K7EGL, 3950 kcs. and Port San Juan, K1JR, 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, Alameda 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 megas., which tests with New Orleans. HHS, Puerto Plata, Dominican Republic, 6.425 megas., 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 KTO 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."



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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 shortwave 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 megas, 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-

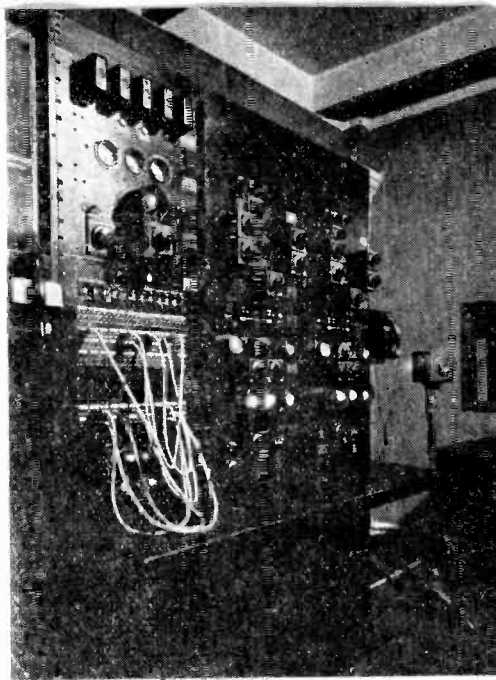
came "radio mad". Not much time had elapsed before the rest of the country was asking for a more powerful station as they, too, wished to hear Caracas.

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 sus-



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

taining hours exclusively for education and entertainment. It is indeed one of the most popular and widely-heard shortwave stations on the air.

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

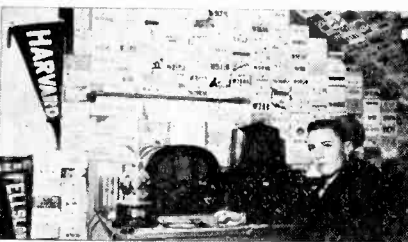
programs) are making a political issue of the treatment they have been receiving in contrast to the financial aid which the party in power has given to the National stations. This is probably the first time that a DX'er has been appealed to in a political contest. Special books have been printed and 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 short-wave 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 Ken-

neth 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, 595 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	WEGE	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 Brdsteq. 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 YVIRC, CPX, LR4, LR5, HJN, CX26, Lyons, Montpelier, Frankfort, Hamburg, Konigsberg, Bremen, IIMI, IITR, IITO, IINA, SBH, Copenhagen, PFBI, 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 keys."



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, YVIRC, 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 all-wave 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 War-

ren 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 RA-DEX 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—

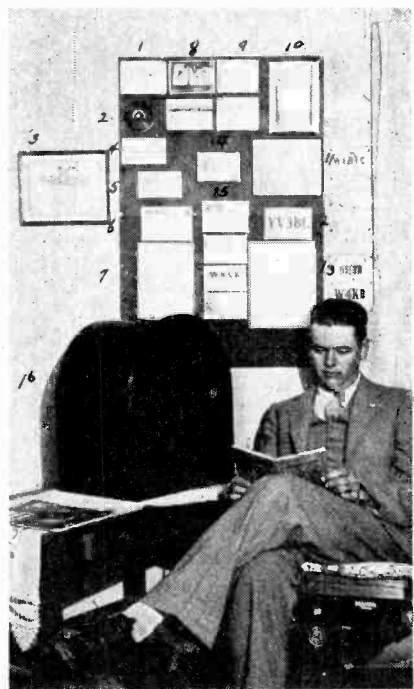
59; 1930—128; 1931—113; 1932—44; 1933—30; 1934—9; and 1935—229. This gives me a total of 612 verified, of which 64 are 2000-milers. The total mileage has increased to 515,304, but veries from locals have pulled the average mileage down to 842.

"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."

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?"



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.

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 sta-

tions, 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 kcvs 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 kcvs," informs James L. Steele, 34 Hili 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 kcvs. 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 kcvs 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. DeMeat, 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 Di-

vision, 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.

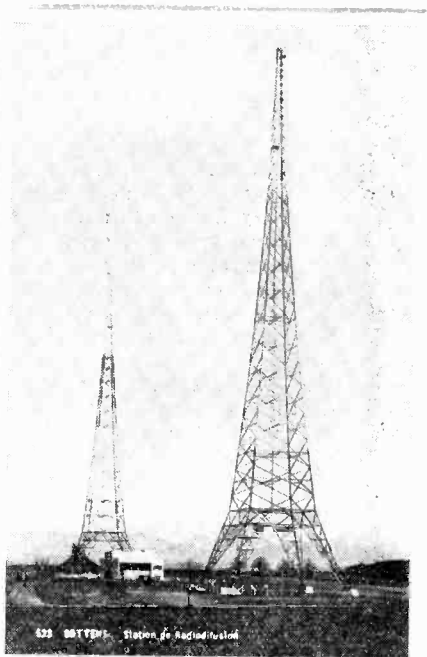
At 9:30, we transfer our attention to the Japanese stations, and suffice it to state that they come in at splendid volume until after midnight. Continuing westward, we jump to China and the East. XGOA and MTCY (100 KW) come in like locals after 2FC closes down. KZRM, in the Philippines, and HSPI and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

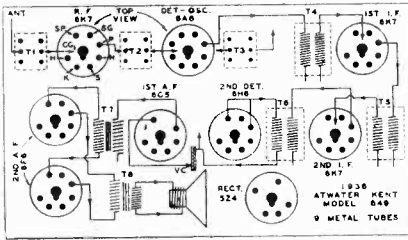
At 6:30 a.m., they begin to fade away and, as our National transmitters (the YA's) begin their breakfast sessions at 7:00, we are left to our own stations for the rest of the day, till perhaps another world tour is due to start shortly before the setting of the winter sun.



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

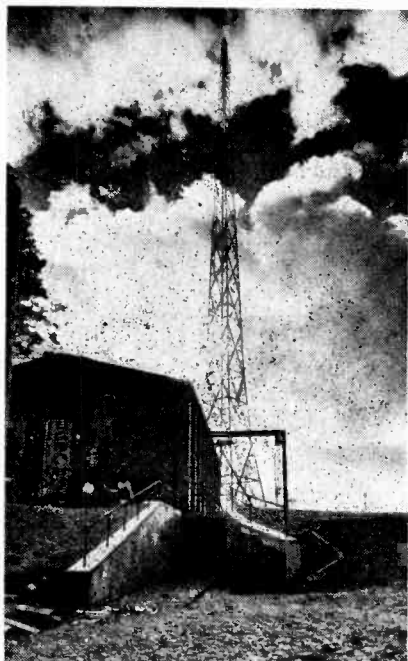
supposed to produce astounding results. The term "control-room reception" is a sales slogan, just as other radio manufacturers use phrases such as "high fidelity", "full range", "magic brain", etc. These descriptions, however, tend to identify different radios, just as such slogans as "it floats", "doesn't 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 super-heterodyne 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 balloons 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 NNRCCers 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.*

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. Cordaner, 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



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

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 W8DLG 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.

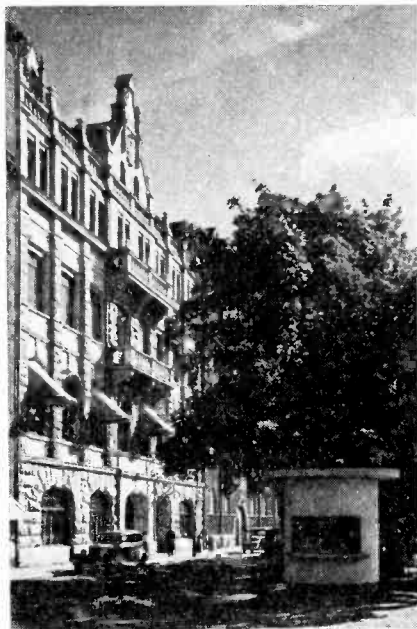
Two good catches here are HP1A and HI7G, the latter putting out a very good signal considering his power of 100 watts. Costa Rica is represented by TI3AV; Puerto Rico by K4SA. VP6YB is another frequently heard station, while VP9R is heard at good strength but rather bad quality.

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 mcs. YDU5, Padang, Sumatra, N.E.I., Amateur Radio Omroep Padang
- 2.382 change KNBH to KNHB
- 2.414 KGHS, Spokane, from 2.458 mcs. Wenatchee, Wash., new
- 2.422 KACA, Atchison, Kans., 50 w., new
- KACI, Eureka, Calif., new
- 2.490 KGHN, 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 NEXA, Mexico City, D. F., new
- 9.060 HJU, Buenaventura, Colombia, new
- 9.580 LRX, Buenos Aires, Argentina. Relays LRI, 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 LRI, new



Here is the Broadcasting House of Finland where the programs of Radio Helsinki, 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 recep-

tion 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 Reykjavik, 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?

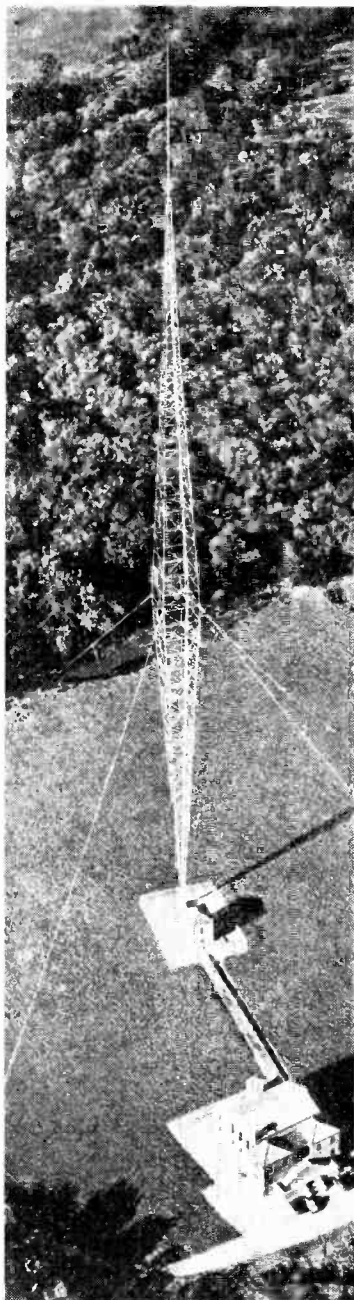
Theoretically, the sun has crossed the equator during the spring equinox. During this time, the sun's influence seems to exert a pull on all signals *away* from the path which they took during the time when the sun was south of the equator.

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 per-

haps 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 peculiarities 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.

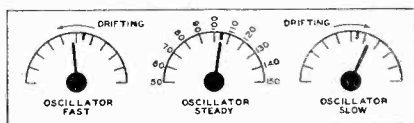
Following the r-f stage or pre-selector tube is the first detector or mixer tube. Connected to it is another tube called the oscillator. Older sets use these two tubes separately, but the newer receivers utilize the special dual-purpose mixer tubes, such as the 6A7 type. Whether the detector-oscillator 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.

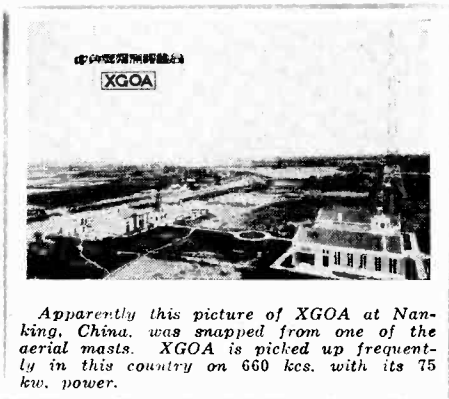
Oscillator At Fault

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



Apparently this picture of XGOA at Nanjing, 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.

down the scale a few kilocycles.

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	KPNF	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	KIUI	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	KIDW	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	I2M	1260	Manurewa, N. Z. URDXC
6:00-6:30	KFBI	1050	Ablene, 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

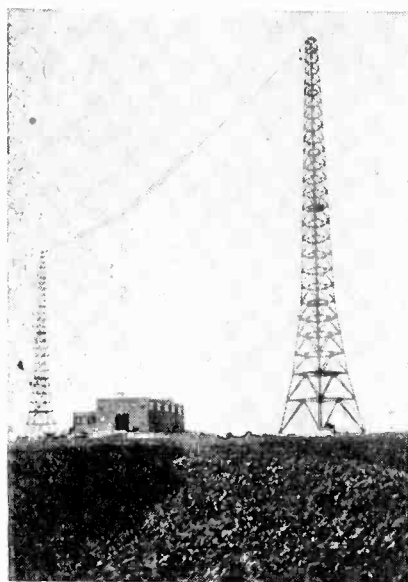
2:00-6:20	FCC		Frequency Checks
2:15-2:45	KPOF	880	Denver, Colo.
3:00-6:00	CMOX	1320	Havana, Cuba
March 20			
3:15-3:30	KGGM	1230	Albuquerque, N. M.
March 27			
1:00-1:15	KPRC	920	Houston, Texas
	WLLH	1370	Lowell, Mass.
2:15-2:30	WCSH	940	Portland, Me.
March 6, 13, 20, 27			
12:01-2:00	CFCN	1030	Calgary, 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	WBSB	1210	Chicago, Ill. NNRC

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



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

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-circuit 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 mfd. 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 characteristics 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 Portuguese 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 millimeters.

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.

Now in Book-Form

The Beginner's Story of Radio

by **B. Francis Dashiell**

Tears the Mystery away from Radio

Written in a surprisingly simple way and yet intriguingly interesting, this book explains just what goes on within the radio receiver when the dials are turned.

At last a real understanding of the modern marvel of Radio is possible for the ordinary listener. Don't fail to place this book in the hands of your son—it may decide his life's work.

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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)	
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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 WHDH
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 WRBM 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 WDCR 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 WYSR WTAM
WYXZ

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 WDRG WEAN WFBL
WGR WHK WJAS WJR WJSV WKRC
WNAC WOKO WQAM WSPD WTOG
WYVA

C — Buck Rogers 25th Century

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

R — Amos 'n' Andy

CRCT KSD KYW WBEN WCAE
WCSE WEAF WEEL 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 KFBC
KFPY KFRC KGB KHJ KLZ KMJ
KOIN KOL KSL KVI KWG WABC
WBMM WCAO WCAU WCCO WEAN
WFBL WFBM WGR WJAS WJSV
WKRC WNAC WOKO

R — Uncle Ezra's Radio Station

KYW WBEN WCAE WCSE WDAF

WEAF WEEL 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
WYXZ

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

C — Singing Sam
KFAB KMOX KRNT WABC WADC
WBMM WCAO WCAU WCCO WDRG
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
WBMM WBT WCAO WCAU WCCO
WDRG 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 WCSB WDBJ
WDNC WDOB WDRG WEAN WFBC
WFBL WGR WHEC WIP WIBX
WICC WJAS WJSV WLAC WLBB
WMAS WMRG WNAC WNBFB WNOX
WOKO WORC WPG WREC WSJS
WWL WYVA

R — Hammerstein's Music Hall

KSD KYW WBEN WCAE WCSE
WDAF WEAF WEEL WFBR WGY
WHIO WHJ WJAR WMAQ WOW
WRC WSAI WTAG WTAM WTIC
WWJ

B — Fibber McGee and Molly

KDKA KDYL KFI KFSB KFYZ
KGW KHQ KOA KOIL KOMO KPO
KPRC KSO KSTP KTBS KVOO
WAVE WBAL WBZ WBZA WCKY
WDAF WEBC WFAA WFIL WGAR
WHAM WIBA WIRE WJDX WJZ
WKY WLS WMAL WMC WMT

WOAI WREN WSB WSM WSMB
WSYR WTMJ WYXZ

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 WBMM WCAO WCAU
WDRG WEAN WFBL WFBM WGR
WGST WHAS WHEC WHK WJAS
WJR WJSV WKRC WMAS WNAC
WOKO WORC WSPD

R — Voice of Firestone

CFCF CRCT KFYZ KPRC KSD
KSTP KTBS KVOO KYW WAVE
WBEN WCAE WCSH WDAF WDAY
WEAF WEBC WEEL 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 WYXZ

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

C — Lux Radio Theatre
CFRB CRAC KDB KERN KFAB
KFBC KFPY KFRC KGB KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLD KRNT
KSL KTRH KTSa KTUL KVI KWG
WABC WADC WBMM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDRG 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 WCSE
WDAF WEAF WEEL WGY WHO
WHIO WIRE WJAR WMAQ WOW
WRC WSAI WTAG WTAM WTIC
WWJ

B — Sinclair Greater Minstrels

KDKA KDYL KFYZ KOA KOIL
KPRC KSO KSTP KTBS KTHS
KVOO KWK WBAL WBZ WBZA
WDAF 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 WTAR WWNC
WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Grace Moore

KDYL KFI KFSD KFYR KGH
KGR KGW KHQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KV00 KYW WAVE WBEN WCAE
WCSH WDAF WDAY WFAE WFCB
WEEI WFBF WFLA WGY WHO
WHIO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WLV
WMAQ WMC WOAI WOW WPTF
WRC WRVA WSB WSM WSMB
WSOC WTAG WTAM WTAR WTC
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
WHW WJAS WJR WJSV WKBW
WKRC WOKO WSPD WWL

R — Contented Program

CFCE CRCT KDYL KFI KGW KHQ
KOA KOMO KPO KPRC KSD KYW
WBEN WCAE WCSH WDAF WFAE
WEEI WFBF WFLA WGY WHO
WIOD WIS WJAR WJAX WKY
WMAQ WMC WOAI WOW WPTF
WRC WRVA WSAI WSB WSM
WTAG WTAM WTAR WTC WWJ
WWNC

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

C — Clyde Barrie and Orchestra

CFRB CKAC CFH KHJ KLRA
KRNT KSCJ KTRH KTSa KVR
KWKH WAAB WABC WACO WADC
WALA WBHM WBIG WBNS WBRG
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDDO WDRC WFBL
WFBM WFEA WGR WHAS WHEC
WHP WIBW WIBX WISN WJAS
WJSV WKBW WKRC WLAC WLZ
WMAS WMBD, WMBR WMMN
WNAX WNOX WOC WOKO WORC
WPG WQAM WREC WSBT WSJS
WSMK WSPD WTC

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

C — Dance Orchestra

CFRB CKAC KFAB WABC WADC
WCAO WCAU WDRC WFBL WFEA
WHEC WHK WIBX WJAS WKBW
WLZB 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
WBMM WBRG WCCO WFBM WGBT
WHAS WLAC WREC WSFA WWL

R — Amos 'n' Andy

KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD KTHS WBAW
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 WBRG WBT
WCAO WCAU WDAE WDBJ WDBO
WDBN WDDO WDRC WEAN WFBL
WFBM WFEA WGST WHAS WHEC
WHK WIBX WICC WJAS WJR
WJSV WKBW WKBW WKRC WLAC
WLZB WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTC

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 KGH L KGR KGU
KGR 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
WBMM WBNS WBRG WCAO WCAU
WDBO WDRC WEAN WFBL WFEA
WHP WICC WKBW WLZB 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
WBRG WCAO WDAE WDBJ WDBO
WDNC WDDO WFBL WGST WIBX
WJSV WKBW WLAC WLZB 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 WFAE
WFCB WEEI WFBF WGY WHIO
WIBA WIRE WJAR WMAQ WOW
WRC WSAI WTAG WTAM WWJ
C — Krueger Musical Toast
WABC WBIG WBT WDAE WDBJ
WDBO WDNC WDDO WDRC WEAN
WFBL WFEA WGR WGST WIBX
WICC WJAS WLZB WMAS WMBG
WMBR WNAC WNBC WNOX WOKO
WORC WQAM WTC

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
WBRG WBT WCAO WCAU WCCO
WDAE WDRC WEAN WFBL WFBM
WGR WGST WHAS WHK WISN
WJAS WJR WJSV WKBW WKRC
WLZB 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 WCAU WDRG
WEAN WFBL WFBM WGR WHAS
WHK WJAS WJR WJSV WKIC
WNAC WOKO WSPD

R — Leo Reisman and Orchestra

KFYR KPRC KSD KSTP KTBS
KV00 KYW WAVE WBAW WBEN
WCAE WCSH WDAF WDAY WFAE
WFCB WEEI WFBF WFLA WGY
WHIO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOC
WTAG WTAM WTAR WTC 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 CRMC KDB KERN KFAB
KFBK KPH KFPY KFRC KGB
KGGO KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTSa KTUL KVI KVR KWG
KWKH WABC WACO WADC WALA
WBIG WBNS WBRG WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDDO WDRC WEAN
WFBL WFBM WGR WGST WHAS
WHEC WHK WHP WISN WJAS
WICC WISN WJAS WIR WJSV
WKBW WKRC WLAC WMAS WMBG
WMBR WNAC WNAX WNOX WOC
WOKO WORC WQAM WREC WSFA
WSJS WSPD WTC WWL

R — Wayne King and Orchestra

KFYR KPRC KSD KSTP KTBS
KV00 KYW WAVE WBAW WBEN
WCAE WCSH WDAF WDAY WFAE
WFCB WEEI WFBF WGY WHIO
WIBA WIRE WJAR WJAX WMAQ
WMC WOAI WOW WPTF WRC
WTAG WTAM WTAR WTC WTMJ
WWJ

B — Edgar Guest, Welcome Valley 1

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 KHJ KGO KLRA KMBC
KMOX KOMA KRLD KRNT KSCJ
KTRH KTSa KTUL KWKH WABC
WACO WADC WALA WBAW WBIG
WBNS WBRG WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDDO WDRC WEAN WFBL WFBM
WFEA WGST WHAS WHEC WHK
WHP WIBW WIBX WICC WJAS
WJR WJSV WKBW WKBW WKRC
WLAC WLZB WMAS WMBD, WMBG

TUESDAY (Continued)

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

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

B — Ben Bernie and Orchestra
KDKA KOIL KPBC KSO KTBS KTBS KWOO KWK WBAL WBAP WBZ WBZA WFIL WFLL 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 KRLL KSCJ KSL KTRH KTSB KTUL KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WCSO WDAE WDJJ WDBO WDBC WDDO WDRC WFEA WFLB WFHM WFEA WGST WHAS WHEC WHK WHP WJBW WJBX WCCO WSN WJAS WJR WJSV WKBH WKBN WKRW WKRC WLAC WLBY WMAS WMBD WMBR WNAC WNAX WNBZ 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 KPBC KSD KSTP KTA KTBS KTBS KTBS KWOO KYW WAVE WBAP WBNB WCAE WCSH WDAF WDAY WDAF WEBC WEEL WFBR WFLA WGY WHO WHIO WIRA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WSM WPTF WRC WRVA WSB WSM WSBM 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 KRLL KRNT KSL KTRH KTSB KTUL KWKH WABC WACO WADC WBBM WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDDO WEAN WFLB WFHM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WLAC WMBG WMBR WNAC WOKO WQAM WIRC WTOC WWL

R — Swift Studio Party
CRCT KFI KFYR KGW KHQ KOA KOMO KPO KPBC KSD KSTP KTBS KTBS KYW WBAP WBNB WCAE WCSH WDAF WDAY WDAF WEBC WEEL WFBR WGY WHO WHIO WIRA WJAR WKY WLW WMAQ WOAI WSM 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

KFHC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLL KRNT KSL KVI KWG WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFLB WFHM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WNAC WOKO WSPD WWL

R — Jimmy Fidler; Hollywood Gossip
KDYL KFI KGW KHQ KOMO KPO KPBC KSD KTBS KTBS KYW WAPI WAVE WBNB WCAE WCKY WCSH WDAF WDAF WEEL 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 WDRB WFLB WFEA WHEC WHK WIRX WJAS WJAX WKBW WLHZ 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 WDBC WDDO WDRB WEAN WFLB WFHM WFEA WGST WHAS WHEC WHK WJAX WKBW WSN WJAS WJR WJSV WKBW WKRC WLAC WLBY WMAS WMBD WMBG WMBR WNAX WNOX WOC WOKO WORC WQAM WREC WSBT WJSV WSMK WSPD WTOC

C — Walter O'Keefe; Glen Gray
KDB KERN KFBK KFPY KFBK 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 KTBS

E-12:00 p.m., C-11:00, M-10:00, P-9:00
C — Fred Waring's Pennsylvanians
KDB KERN KFBK KFPY KFBK 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 WDRB WEAN WFLB WFHM 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 — Bozke 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 KFBK KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLL KRNT KSL KVI KWG WABC WACO WBBM WCAO WCAU WCCO WDRB WEAN WFLB 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 KPBC KSD KSTP KTA KTBS KTBS KYW WAVE WBNB WCAE WCSH WDAF WDAY WDAF WEBC WEEL WFAA WFBR WFLA WGY WHO WHIO WIRA 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 Ducey
CRCT KFI KFYR KGW KHQ KOA 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 KRLL KRNT KSCJ KTRH KTSB KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRB WEAN WFLB WFLB WFEA WGR WGST WHAS WHEC WHK WHP WJBW WJBX WCCO WSN WJAS WJR WJSV WKRC WLAC WLBY WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOC 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 KFBK KGB KGKO KGMB KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLL KRNT KSCJ KSL KTRH KTSB KTUL KVI KVOR KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDBC WDDO WDRB WEAN WFLB WFHM WFEA WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WLAC WLBY WMAS WMBD WMBG WMBR WNAC WNAX WNBZ 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
KTIS KV00 KYW WAVE WBEN
WCAE WCSH WDAF WDAY WEAF
WEGC WEEI WFAA WFBW WFLA
WGY WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOA1 WOV WPTF WRC WSB
WSM WSMB WSOB WTAG WTAM
WTAR WTTIC WTMJ WWJ WUNC
B - Corn Cob Pipe Club
KDKA KDYL KFI KGW KIQ KOA
KOIL KOMO KPO KSO KWK WBAL
WBZ WBZA WCKY WFIL WGAR
WHAM WHIO WIRE WJZ WML
WMA1 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 KIJ
KLRA KLZ KMBC KMJ KMOX
KOH KOIN KOL KOMA KRLL
KRNT KSCJ KSL KTRH KTSB
KTUL KVI KWG KWKH WABC
WACO WADC WALA WBBM WBG
WBNS WBRC WBT WCAO WCAU
WCCO WCOA WDAE WDBJ WDBO
WDDO WDRC WEAN WFBL WFBM
WFEA WGST WHAS WHC WHK
WHP WJBW WJX WJZ WJW
WJR WJSV WKBB WKWB WKRC
WLAC WLBY WMBD WMBG
WMHR WNAC WNOX WOC WOKO
WORC WOWO WPG WQAM WREC
WSPA WSPD WTCC WWL
B - Warden Lawes, Sing-Sing Drama
KDKA KDYL KFI KGW KIQ KOA
KOIL KOMO KPO KSO KWK WBAL
WBZ WBZA WCKY WENR WFIL
WGAR WHAM WIRE WJZ WMA1
WMT WREN WSYR WNYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C - Crime Crusade; Phil Lord
KFAB KLZ KMBC KMOX KOMA
KRLL KRNT KSL KTRH KTSB
KTUL KWKH WAAB WABC WBBM
WBNS WBRC WBT WCAO WCAU
WCB1 WCCO WDAE WDBJ WDBO
WDRC WEAN WFBL WFBM WGST
WHAS WHEC WHK WJAX WJR
WJSV WKBW WKRC WLAC WMBG
WMBR WOKO WORC WOWO
WQAM WREC WTOC WWL
B - John Charles Thomas
KDKA KDYL KFI KGW KIQ KOA
KOIL KOMO KPO KSO KWK WBAL
WBZ WBZA WCKY WENR WFIL
WGAR WHAM WIRE WJZ WML
WMA1 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 KRLL KRNT
KSL KVI KWG WABC WADC
WBBM WBNS WCAO WCAU WCCO
WDAE WDBO WDRC WEAN WFBL
WFBM WGST WHAS WHEC WHK
WJAX 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 WDDO
WDRC WEAN WFBL WFBM WFEA
WGST WHAS WHEC WHK WJAX
WJAX WJR WJSV WKBW WKRC
WLAC WLBY 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 KFOR KWG

E-12:00 p.m., C-11:00, M-10:00, P-9:00
R - Town Hall; Fred Allen
KDYL KFI KGW KIQ 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 WDDO WFBL WGST
WHEC WJAX WJSV WLAC WLBY
WMA1 WORC WQAM WREC WJSJ
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 WMA1 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 - Boake 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 WJAX WJR WJSV
WKRC WMA1 WNAC WOKO WSPD

R - Rudy Vallee's Variety Hour
CFCC CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KSD
KSTP KTAR KYW WBN WCAE
WCSH WDAF WDAY WEAF WEGC
WEEI WFBW WGY WHO WJAR
WLW WMAQ WOV WRC WTAG
WTAM WTTIC WTMJ WWJ

B - Pittsburgh Symphony
KDKA KOIL KPRC KSO KTBS
KWK WAPI WAVE WBAL WBAF
WBZ WBZA WCKY WENR WFAA
WFIL WFLA WGAR WHAM WTD
WIRE WIS WJAX WJDX WJZ WKY
WLS WMA1 WMC WOA1 WPTF
WREN WRVA WSB WSM WSMB
WSOC WSUN WSYR WTAR WUNC
WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C - The March of Time
KFAB KLZ KMBC KMOX KRLL
KRNT KSL WABC WADC WBBM
WBNS WCAO WCAU WCCO WDRC
WEAN WFBL WFBM WGST WHAS
WHEC WHK WJAX 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 KIQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KYW WAPI WAVE WBAF WBN
WCAE WCSH WDAF WDAY WEAF
WEGC WEEI WFBW WFLA WGY
WHO WHO WIBA WIOD WIRE WIS
WJR WJAX WJDX WKY WMAQ
WMC WOA1 WOV WPTF WRC
WRVA WSA1 WSB WSM WSMB
WSOC WTAG WTAM WTAR WTTIC
WTMJ WWJ WUNC

B - Death Day's Days
KDKA KOIL KSO KWK WBAL WBZ
WBZA WFIL WGAR WHAM WJZ
WLS WLW WMA1 WMT WREN
WSYR WXYZ

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

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 KLZ KMBC
KMJ KMOX KOIN KOL KOMA
KRLL KRNT KSL KTRH KTSB
KTUL KVI KWG WABC WBBM
WBNS WBRC WBT WCAO WCAU
WCCO WDBO WDRC WFBL WFBM
WGST WHAS WHK WISN WJAX
WJR WJSV WKBW WKRC WLAC
WMBG WNAC WNAX WOC WOKO
WQAM WREC WWL

R - Bing Crosby; Jimmy Dorsey
CFCC CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KTBS KTIS
KV00 KYW WAVE WBAF WBN
WCAE WCSH WDAF WDAY WEAF
WEGC WEEI WFBW WFLA WGY
WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOA1 WOV WPTF WRC
WRVA WSB WSM WSMB WSOB
WTAG WTAM WTAR WTTIC WTMJ
WWJ WUNC

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
WDRG WEAN WFBL WFBM WGST
WHAS WHEC WHK WJAS WJR
WJSV WKBW WKRC WNCN 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 WJAS WJSV WKBW
WKBW WLBZ WMAS WMOB 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 WBRB WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDDO WDRG WEAN WFBL
WFBM WFEA WGST WHAS WHEC
WHK WIBX WICC WJAS WJR
WJSV WKBW WKBW WKRC WLAC
WLBZ WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTOG

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
KTSK KVCOR KWKH WAAB WABC
WADC WALA WBRB WDAE WDBJ
WDBO WDNC WDDO WEAN WFBL
WFBM WGST WHAS WHEC WHK
WIBX WICC WJAS WKRC WLAC
WLBZ WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
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 WBRB
WBT WCAO WCAU WCCO WDRG
WEAN WFBL WFBM WGR WGST
WHAS WHK WJAS WJR WJSV
WKRC WMAS WMBG WNCN
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—Boaka 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 WDRG WEAN WFBL
WFBM WGR WHAS WHEC WHK
WIBX WICC WJAS WJR WJSV
WKRC WLBZ WMAS WMBD WNCN
WOC WOKO WORC WSPD

R—Cities Service Concert
CRCT KOA KPRC KSD KSTP KTBS
KTSH KYW WBEN WCAE WCHS
WDAF WDAF WNBC WVEI WFAA
WFBZ 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
KOMA 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
CFPC 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 WBRB WBT WCAO
WCAU WCCO WDRG WEAN WFBL
WFBM WGR WGST WHAS WHK
WJAS WJR WJSV WKRC WMAS
WMBG WNCN WOKO WSPD WWL

B—Red Nichols and Orchestra
KDKA KDYL KFI KFSD KGW KHQ
KOIL KOMO KPO KSO KTAR KWK
WBAL WBZ WBZA WPTL 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 KTSK KTVL KVI
KVCOR KWG KWKH WABC WADC
WBBM WBNS WBRB WBT WCAO
WCAU WCCO WDAF WDBJ WDBO
WDRG WEAN WFBL WFBM WFEA
WGST WHAS WHEC WHK WHP
WIBX WJAS WICC WJAS WJR
WJSV WKBW WKRC WLAC WLBZ
WMAS WMBD WMBG WMBR
WNCN WNAW WNOX WOKO WORC
WPG WQAM WREC WSPD WWL

R—Frank Munn; Bernice Claire
KSD KYW WBEN WCAE WCHS
WDAF WDAF WVEI WFBZ 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 WCHS WDAF WVEI WFBZ
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 KTSH
KWK WAPI WAVE WBAL WBZ
WBZA WCKY WDAY WNBC WENR
WFAA WFIL WFILA WGAR WHAM
WHIO WIBA WIOD WIRE WIS
WJAX WJDX WJZ WKY WMAL
WMC WMT WOAI WOOD WPTF
WREN WRVA WSB WSM WSNB
WSOC WSYR WTAR WTMJ WUNC
WVYZ

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
KTSK KTVL WAAB WABC WADC
WBBM WBNS WCAO WCAU WCCO
WDBJ WDRG WFBL WFBM WGST
WHAS WHK 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
WCHS WDAF WDAF WNBC WVEI
WFAA WFBZ WFLA WGY WHO
WIOD WJAR WJAX WKY WKLV
WMAQ WMC WOAI WOW WRC
WRVA WBS WSM WSNB WTAG
WTAM WTIC WTMJ WWJ WUNC

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 WBRB
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDDO WDRG WFBL
WFEA WGST WHEC WHK WIBX
WIBX WJAS WJR WKBW WLAC
WLBZ WMAS WMBD WMBG
WNBW WNAW WNOX WOC WOKO
WORC WPG WQAM WREC WSBT
WSJS WSMK WSPD WTOG

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 WBRB WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDDO WDRG WEAN WFBL
WFBM WFEA WGST WHAS WHEC
WHK WHX WICC WJAS WJR
WJSV WKBW WKRC WLAC WLBZ
WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTOG

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

B—Fred Waring's Pennsylvanians
KFI KFSD KGIL 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 KTSK KVCOR KWKH WAAB
WABC WACO WADC WALA WBBM
WBG WBRB WBT WCAO WCCO
WDAE WDBJ WDBO WDNC WDDO
WESG WPHL WFBM WGST WHEC

SATURDAY (Continued)

WHK WIBW WIBX WISN WJAS
WJR WJSV WKWB WKRC WLAC
WLZB WMBG WMBR WNOX WOKO
WORM WQAM WREC WSBT WSJS
WSMK WSPD WTOG

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 WRBE
WBT WCAO WCAU WCHA WDAE
WDBJ WDBO WDRG WEAN WFBG
WFBI WGBI WGR WGST WHEC
WHK WHF WIBX WICC WJAS
WMAS WMBG WMBR WNAC
WNBW WOKO WORC WORK WQAM
WRAK WSJS WTOG WVVV

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 WDBJ WDRG
WEAN WFBL WFBM WGR WGST
WHAS WHEC WHK WJAS WJR
WJSV WKRC WLAC WLBC WMBG
WMBR WNAC WOKO WORC WQAM
WREC WTOG WVLW

R — The Hit Parade
KDYL KFI KFSB KFYZ KGHIL
KGR KGU KGW KHQ KOA KOMO
KPO KPRC KSD KSTP KTAR KTBS
KWY WAPI WAVE WBAP WBEN
WCAE WCHS WDAF WDAY WFAF
WIBC WEBC WEVI WFBF 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 WVVJ WVNC

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

R — Chevrolet Program
KDYL KFI KFSB KFYZ KGHIL
KGR KGU KHQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KTHS KYW WAPI WAVE WBAP
WBEN WCAE WCHS WDAF WDAY
WEAF WEBC WEVI WFBF 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
WVVJ WVNC

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Shell Chateau; Al Jolson

KDYL KFI KFSB KFYZ KGHIL
KGR KGU KHQ KOA KOMO KPO
KSD KSTP KTAR KYW WBEN
WCAE WCHS WDAF WDAY WFAF
WIBC WEBC WEVI WFBF WFLA
WJAR WLW WMAQ WOV WRC
WTAG WTAM WTIC WTMJ WVVJ

B — National Barn Dance
KDKA KOIL KPRC KSO KTBS

KTHS KVOO KWK WAPI WAVE
WBAL WBAP WBZ WBZA WFJL
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 WDCN
WDDO WDRG WEAN WFBL WFBM
WFEA WHAS WHEC WHK WIBW
WIBX WICC WISN WJAS WJR
WJSV WKWB WKRC WLAC WLZB
WMAS WMBD WMBG WMBR
WNAC WNOX WOC WOKO WORC
WPG WQAM WREC WSBT WSJS
WSMK WSPD WTOG

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 WDCN WDDO WDRG WFBL
WFBM WFEA WGST WHAS WHEC
WHK WIBW WIBX WICC WISN
WJAS WJR WJSV WKWB WKRC
WLAC WLZB WMAS WMBD WMBG
WMBR WNAC WNOX WOC WOKO
WORS WPG WQAM WREC WSBT
WSJS WSPD WTOG

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
WDCN WDDO WDRG WFBM WFBM
WFEA WGST WHAS WHEC WHK
WIBW WICC WISN WJAS WJR
WJSV WKWB WKRC WLAC
WLZB WMAS WMBD WMBG
WMBR WNAC WNOX WOC WOKO
WORC WQAM WREC WSBT WSJS
WSMK WSPD WTOG

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

B — National Barn Dance
KDYL KFI KFSB KFYZ KGHIL
KGR KGU KGW KHQ KOA KOMO
KPO KSTP KTAR WDAY WIBC
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 WDCN WDDO WDRG WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WIBW WIBX WICC
WJAS WJR WKWB WKRC WLAC
WLZB WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTOG

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 WDCN
WDDO WEAN WFBL WFBM WGR
WIBW WIBX WICC WISN WJR
WKWB 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 WDCN WDDO WDRG WFBL
WFBM WFEA WGST WHAS WHF
WIBX WISN WJAS WJR WJSV
WKBN WKRC WLAC WLZB WMAS
WMBD WMBR WNAC WNAW
WNOX WOKO WORC WQAM WREC
WSBT WSMK WSPD WTOG

R — Major Bowes' Capitol Family
KDYL KFYZ KOA KPRC KSTP
KTBS KVOO WAPI WCAE WDAF
WDAY WFAF WIBC WFAA WFBF
WFLA WGY WHO WHIO WJAR
WJAX WKY WMAQ WMC WOAI
WRG 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

CFOP CHCT KDKA KDYL KFI
KFYR KGO KGW KHQ KOIL KOMO
KPRC KSO KVOO WAPI WBAL
WBZ WBZA WCKY WDAY WIBC
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 WDRG
WEAN WESG WFBL WFBM WFEA
WGR WHAS WIBX WJAS WJSV
WKBN WKRC WLZB WMBD WMBR
WNAC WOC WOKO WORC WPG
WQAM WREC WSJS WSMK WSPD
WTOG WVLW

E-1:00 p.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 WDDO WESG WFBM WGR
WHAS WHEC WHF WIBX WJAS
WJSV WKBN WKRC WLAC WLZB
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 KIRN WABC WBBM
WBNS WCAU WCCO WHAS WHK
WJAS WJR WJSV WKWB WKRC
WRC

E-2:00 p.m., C-1:00, M-12:00, P-11:00
C — Leslie Howard's Matinee

KFAB KRLD KLZ KMBC KMOX
KOMA KRLD KRNT KSL KTRH
KTUL WABC WADC WBBM WBNS
WBRC WBT WCAO WCAU WCCO
WDCN WEAN WFBL WFBM WHAS
WHEC WHK WJAS WJR WJSV

SUNDAY (Continued)

WKBW WKRC WLAC WNAC WOKO
WOWO WRFC WWL

B — Magic Key of RCA

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

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

C — Jose Manzanera and Orchestra
KFAB KMBC KMOX KOMA KRLD
KRNT KTRH KTSB KWBZ WBBM
WCAO WDCO WDAE WDCO WDAE
WDRG WEAN WFBL WFBN WHAS
WHK WISN WJAS WJR WJSV
WKBN WKRC WMBR WNAC
WOKO WQAM WRFC WSPD WWL

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

C — Philharmonic Symphony
CFRB CKAC KFII KGKO KLRA
KLZ KOMA KRLD KSCJ KSL
KTRH KTSB KVOR KWKH WABC
WAGO WADC WALA WBBM WBIG
WBNS WBRB WBT WCAO WCCO
WDAE WDBJ WDOB WDCO WDCO
WDRG WEAN WESG WFBL WFBN
WFLA WGST WHAS WHEC WHK
WIBW WBX WICC WISN WJAS
WJZ WKBN WKBW WKRO WLAC
WLZ WMAS WMHD WMGB
WMBR WNAC WNOX WOC WOKO
WORC WQAN WRFC WSBT WSJS
WSMK WSPD WTOC

R — Harry Reser and Orchestra

KSD KYW WBNB WCAE WCKY
WCSH WDAF WFAE WEEI WFBK
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 KVQO KWK WAPI
WAVE WBAL WBZ WBZA WDAY
WEBC WENR WFAA WFIL WFLA
WGRB WHAM WIOD WJAX WJZ
WKY WLW WMAL WMC WMT
WOAI WPTF WREN WRVA WSB
WSM WSMR WSYR WXYZ

E-3:15 p.m., C-2:15, M-1:15, P-12:15

B — Pine Mountain Merry-makers
KDKA KFYR KOIL KSO KSTP
KWK WBAL WBZ WBZA WDAY
WEBC WENR WFIL WGRB 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
KVQO KYW WAPI WAVE WBNB
WCAE WCKY WCSH WDAF WFAE
WEEI WFAA WFBK WFLA WGY
WJO WHIO WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMR 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 KNN KSFO KSTP KVOD
KWK WATR WCAO WCAU WDCR
WEAN WFBL WFLA WGRB WGR
WHB WHO WICC WISN WJAS
WJDX WJR WLZ WLLH WLW
WMAZ WNAC WNBH WOKO WOL
WORC 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 WDCR WEAN WFBL
WFBN WHAS WHEC WHK WJAS
WJR WJSV WKBW WKRC WOKO
WSPD

B — Roses and Drums

KDKA KOIL KSO KWK WBAL
WBZ WBZA WENR WFIL WGRB
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 WDCR WEAN WFBL WFBN
WGR WHAS WHEC WHK WBX
WICC WJR WJSV WMAZ WOKO
WORC WSPD WWL WWVA

C — Jose Manzanera and Orchestra

KDB KERN KFBK KFPY KPRC
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 WBNB WCAE WCSH
WDAF WFAE WEEI WFBK WGY
WJO 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 WGRB WHAM WJDX
WJZ WMAL WMC WMT WREN
WSB WSM WSMR WSYR WXYZ

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

C — Phil Spitalny and Orchestra
KFAB KFH KFPY KFRK KGB
KGKO KHJ KLRA KLZ KMBC
KMOX KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSB
KTUL KVI KVOR KWKH WAAB
WABC WADC WBBM WBIG WBNS
WBRB WBT WCAO WCAU WCCO
WDAE WDBJ WDOB WDCO WDCR
WEAN WFBL WFBN WFLA WGR
WGST WHAS WHEC WHK WHP
WIBW WBX WICC WISN WJAS
WJR WJSV WKBW WKRC WLAC
WLZ 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 KFRK KGB KHJ KLZ KMJ
KMOX KOIN KOL KRLD KRNT
KSL KVI KWG WAAB WABC
WBBM WBNS WBRB WBT WCAO
WCAU WCCO WDBJ WDCR WEAN
WFBL WHAS WHEC WHK WJAS
WJR WJSV WKBW WKRC WLAC
WWL WWVA

B — Campana's Grand Hotel

KDKA KDYL KFI KHQ KOA KOIL
KOMO KPO KSO WBAL WBZ WBZA

WKCY WENR WGRB 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 WDCR
WEAN WFBL WFBN 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
KTSB KTUL KWKH WABC WADC
WBBM WBNS WBRB WBT WCAO
WCAU WCCO WDCO WDCR WEAN
WFBL WFBN WGR WGST WHAS
WHEC WHK WICC WJAS WJR
WJSV WKRC WLAC WNAC WOKO
WOWO WREN WRFC WSPD WWL

B — Jack Benny; Johnny Green

CFCE CRCT KDKA KFYR KOIL
KPRC KSO KSTP KTBS KVQO KWK
WAVE WBAL WBZ WBZA WDAY
WEBC WENR WFAA WFIL WFLA
WGRB 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 KTSB
KWKH WABC WADC WALA
WBIG WBNS WBRB WBT WCAO
WCAU WCOA WDAE WDBJ WDOB
WDCO WDOB WDCR WEAN WFBL
WFBN WFLA WGR WGST WHAS
WHEC WHK WHP WISN WJAX
WJAS WJR WJSV WKBN WKRC
WLAC WLZ WMAS WMBR WNAC
WNBH WNOX WOKO WORC WQAM
WRCR WSBT WSPA WSJS WSMK
WSPD WTOC WWL WWVA

R — Fireside Recitals

KSD KYW WBNB WCAE WCSH
WDAF WFAE WFBK WGY WHIO
WIRE WJAR WMAQ WOC 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 KVQO KWK
WBAL WBZ WBZA WCKY WDAY
WEBC WFAA WFLA WGRB WHAM
WIBA WIOD WJAX WJDX WJZ
WKY WLS WMAL WMC WMT
WOAI WPTF WREN WRVA WSB
WSM WSMR WSYR WTMJ WWNC
WXYZ

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

R — Sunset Dreams; Morin Sisters

CFCE CRCT KSD KYW WBNB
WCAE WCSH WDAF WFAE WFBK
WGY WHO WHIO WIRE WJAR
WLW WMAQ WOAI WOW WOC
WRC WTAG WTAM WTIC WWJ

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

R — Major Bowes' Amateur Hour

CFCE CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KVQO KYW
WAVE WBNB WBZ WBZA WCAE
WCSH WDAF WDAY WFAE WFBK
WFAA WFBK 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
KFHK KFH KFPY KFRC KGB
KGKO KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTRSA KTUL KVI KVOR KWG
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBRB WBT
WCAO WCAU WCCO WCOA WDAE
WDJF WDBO WDNC WDOJ WDRC
WEAN WFBL WFBM WFEA WGST
WHAS WHEC WHK WHF WIBW
WIBX WICC WISN WJAS WJR
WJSV WKBH WKBN WKWB WKRC
WLAC WLWZ WMAS WMBD WMBR
WNAC WNAX WNOX WOC WOKO
WORC WOWO WQAM WRFC WSBT
WSFA WSJS WSMK WSPD WTC
WVL

R—Manhattan Merry-Go-Round

CFCE KDYL KFI KFJR KGW
KHQ KOA KOMO KPO KSD KSTP
KYW WBN WCAE WCSH WDAF
WDAY WEAF WECB WFBF 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

CFRC CRCT KDYL KFI KFJR
KGW KHQ KOA KOMO KPO KFRC
KSD KSTP KTBS KYW WAFI
WAVE WBN WCAE WCSH WDAF
WDAY WEAF WECB WEEI WFAA
WFBF WFLA WGY WHO WHIO
WIBA WIOD WIS WJAR WJAX
WJDX WKY WMAQ WNIC WOAI
WOW WPTF WRC WRVA WSAI

WSB WSM WSMB WSOC WTAG
WTAM WTAR 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
KPRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KSL KVI
KWG WAAB WABC WADC WBBM
WBNS WCAO WCAU WCCO WDRC
WBLF WFBM WHAS WHK WIBW
WJAS WJR WJSV WKBW WKRC
WOKO WSPD WWL

R—General Motors Concert

CFCE CRCT KDYL KFI KFSD
KFYR KGHF KGRF KGU KGW
KHQ KOA KOMO KPO KPRC KSTP
KTAR KTBS KTBS KYW WAFI
WAVE WBAP WBN WCAE WCSH
WDAF WDAY WEAF WECB WEEI
WFBF WFLA WGY WHO WHIO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WKY WMAQ WNIC
WOAI WOW WPTF WRC WSOA
WSAI WSB WSM WSMB WSOC
WTAG WTAM WTAR WTIC WTMJ
WJW WWNC

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

C—Freddie Rich and Orchestra

KLRA WABC WALA WBIG WBRB
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDOJ WDRC WGAN
WFEA WGST WICC WJSV WLAC
WLWZ WMAS WMBG WMBR WNAC
WORC WQAM WRFC WJSJ WTCO

C—Jack Hylton and Orchestra

KFAB KFH KLZ KMBC KMOX

KRNT KCSJ KVOR WBBM WCCO
WFBM WIBW WISN WJSV WKBU
WMBD WOC WOWO WWSB

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 WBN WCAE WEAF WEEI
WFBF WGY WJAR WMAQ WRC
WTAG WTAM WTIC WWJ

R—Sunset Dreams; Morin Sisters

KDYL KFI KFSD KGW KHQ KOA
KOMO KPO KPRC KTAR KTBS
KTBS WBAP WDAF WKY

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

B—Walter Winchell

KDYL KFI KFSD KGHF KGRF
KGW KHQ KOA KOMO KPO KPRC
KTAR KTBS KTBS WAFI 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 KGHF KGRF
KGU KGW KHQ KOA KOMO KPO
KTAR

B—Paul Whiteman's Musical Varieties

KECA KEN KFSD KGA KGO KJR
KPRC KTBS KTBS WAFI 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

Armed 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, 3:30 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 Thurs-
day, 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 Humber, 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 Manzanera, 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
 Carl-orundun 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 Merry-makers, 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
 Armda, 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
 Bruns Castagna, 10:30 p.m. Wednesday, C
 Charioteers, 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 Ducey, 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 LeKreunc, 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
 Fritz Scheff, 8:30 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 flooded 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.

ATLANTIC TIME

- 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.

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

EASTERN STANDARD TIME

7:00 a.m.	WBMC 1420	7:55 a.m.	WKJC 1200	WKZO 500	9:00 a.m.	WSOC 1210	9:55 a.m.
WBX 1200	WSAT 1330	WBNS 1430	WOR 710	WNBC 1350	WAIM 1200	9:15 a.m.	CKLW 1030
WJR 750	7:35 a.m.	WMBR 1370	WPR 630	WSAR 1450	WBEN 900	WBRE 1310	WOKO 1430
WNL 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.	7:45 a.m.	CRB 690	WTAG 580	WCAU 1170	WCSC 1360	9:30 a.m.	Red & Blue
WGMT 1310	WBIG 1440	CKLW 1030	WTIC 1040	WEHC 1420	WGAR 1450	KQV 1380	CBS
WKZO 500	WFIL 560	CMJH 1360	WVVA 1160	WPBC 1300	WIS 1010	WFDF 1310	WCAU 1170
WNAC 1230	WINS 1180	CMKM 1120	8:05 a.m.	WHK 1390	WJBK 1500	WHDL 1420	WDEL 1120
WNBX 1260	WKRK 550	WAAB 1410	WEEI 590	WOPI 1500	WKJC 1200	WIP 610	WELL 1420
WSAJ 1310 ¹	WLAW 700	WADC 1320	8:15 a.m.	8:45 a.m.	WLEU 1420	WKBZ 1500	WBX 1200
7:30 a.m.	WMAZ 1180	WCKY 1400	WASH 1270	WJEJ 1210	WMAZ 1180	WNEW 1250	WJSV 1460
WAAT 940	WFBR 1270	8:55 a.m.	WBOB 920	8:55 a.m.	JMHR 1370	9:45 a.m.	WKJC 1200
WBT 1080	WKBN 570	WIP 610	WNEA 780	WMPF 1310	WGBI 880		WNBH 1310

WHERE TO GET THE DAY'S NEWS

WNYC 810 WOR 710 ² WPAR 1420 WPTF 680 WSPA 920 10:45 a.m. WKZO 580 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 WNBC 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 WFLB 560 WFMD 900 WGAR 1450 WIBX 1200 WINS 1180 WIOD 1300 WIP 610	WIS 1010 12:55 p.m. WKJC 1200 1:00 p.m. CKCV 1310 ³ 12:03 p.m. WJFJ 920 12:15 p.m. WBZ 990 WBZA 990 WCAP 1280 WDAS 1370 WHAM 1150 WKBN 570 WOL 1310 WSOC 1210 WEEI 590 WHFC 1430 WHEC 1430 WNBI 1380 WOPI 1500 WKJC 1200 WWSA 1160 WBNC 1420 WNEL 1290 WRCM 1410 12:25 p.m. CFRR 690 12:30 p.m. WBEN 900 WBT 1080 ² WCAE 1220 WELF 1420 WFDF 1310 WIBM 1370 WJAS 1290 WKBC 1500 WKRC 550 WKZO 590 WOR 710 WQAN 880 WSPA 920 12:35 p.m. CJEL 530 WMBJ 1310 12:45 p.m. CKCV 1310 ³ CKTB 1200 WAAT 940 WADZ 1320 WCSI 940 WEAN 780 WGH 1310 WMFD 1370 WPAR 1420	WTBO 800 12:55 p.m. WBRE 1310 1:00 p.m. WKVC 1300 KDKA 980 WFBG 1310 WFBK 1500 WJSY 1460 WKJC 1200 WMBR 1370 WNBH 1310 WPRO 639 WSAR 1450 WSPD 1340 WTAG 580 WVIC 1040 1:10 p.m. WHDL 1420 WKJC 1200 WNEL 1290 WSPA 920 WSPD 1340 1:15 p.m. WCAU 1170 WMAZ 1180 WTFI 1450 1:20 p.m. WHBB 740 1:30 p.m. CHLW 1030 WBTM 1370 WJR 750 WNAC 1230 WPIR 880 WCNW 1500 1:45 p.m. WICC 800 WJAR 790 2:00 p.m. WCSC 1360 WKJC 1200 WKRC 550 WOR 710 2:15 p.m. WBT 1080 2:30 p.m. KQV 1380 WINS 1180 2:45 p.m. WAAB 1410 WEUR 830 2:55 p.m. WBAL 1060 WBNS 1430 WCAE 1220 WJR 750	3:00 p.m. WBRE 1310 WGBT 880 WINS 1180 WIP 610 WKJC 1200 WKRC 550 WOCL 1210 5:35 p.m. WWSA 1160 5:45 p.m. CRCO 580 WCMI 1310 WEHC 1420 WIOD 1307 WKOK 1210 WMAZ 1180 WNBH 1310 WBRE 1310 WHT 1080 5:55 p.m. CKLW 1030 WBNS 1430 WEEI 590 WJSV 1460 WMHR 1370 6:00 p.m. CJIC 890 KDKA 980 WAGM 1420 WBEN 900 WAIN 1200 WCSC 1360 WGAR 1450 WIS 1200 WIS 1010 WKJC 1200 WMBC 1420 WMNN 890 WNAC 1230 WPRO 630 WSOC 1210 WWSA 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 CFRR 690 WFBK 1300 WFBR 1270 WFDF 1310 WFLB 560 WHAM 1150 WJIBK 1500 WKRC 550 WNEW 1250 WOPI 1500 WOR 710 WSAI 1330 ⁸ WTAG 580 WVIC 1040 6:35 p.m. WEAN 780 WPTF 680 6:40 p.m. WIOD 1300 ⁸ WIP 610 6:45 p.m. CFCF 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 WLZB 620 WTBO 800 WRDO 1370 7:15 p.m. WBBR 1300 WBIG 1440 WBRE 1310 WEBR 1310 WIBX 1200 WMPG 1200 WNEP 1250	WNYC 810 WSYB 1500 WPTF 1450 7:30 p.m. WFAS 1210 ⁹ WMAZ 1180 7:45 p.m. WELF 1420 WEIT 500 ² WFBC 1300 WGBI 880 ⁶ 7:55 p.m. WBSN 1430 WKJC 1200 WWSW1500 ⁵ 8:00 p.m. WJIBK 1500 WYVA 1160 8:10 p.m. WIPM 1370 WIP 610 8:30 p.m. CKCO 1010 CRKY 1490 ² WFDF 1310 9:00 p.m. CKOC 1120 CMCD 980 WFBK 1300 WGBI 880 WJIBK 1500 WKJC 1200 WTAR 780 9:15 p.m. WOPI 1500 WBT 1080 ² 9:30 p.m. CMJK 780 ⁵ WMTB 1370 WXLN 1310 WMBR 1370 WMCA 570 9:45 p.m. WAAB 1410 WPAR 1420 WSYR 570 10:00 p.m. WBBR 1310 WCKY 1490 WCSC 1360 WGBI 880 WIS 1010 WJWR 750 WKWB 1500 WKJC 1200 WKRC 550	WLW 700 WNBH 1310 WNEI 1290 10:05 p.m. WBT 1080 WGAR 1450 WSBAR 1450 10:15 p.m. CKLW 1030 10:30 p.m. WBIG 1440 WBSN 1430 WOL 1310 WSPD 1340 WWSW1500 ⁵ 10:45 p.m. CHRC 580 WIPM 1370 11:00 p.m. CFCF 600 ⁵ CRKB 600 CRKY 1050 WBEN 900 WCAE 1220 WEEL 500 ² WFBR 1270 WFBK 1300 WHEC 1430 WIBX 1200 WJAS 1290 WKJC 1200 WLW 700 ⁵ WNAC 1230 WOR 710 WPIRO 630 WTAG 580 WTIC 1040 11:05 p.m. WMBR 1370 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 11:45 p.m. WCAU 1170 WCKY 1490
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CENTRAL STANDARD TIME

5:30 a.m. KFNF 890 6:15 a.m. KFEQ 680 WFAP 800 WFAA 800 6:30 a.m. KASA 1210 KMBC 950 WHO 1000 6:45 a.m. KWGB 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. WNSB 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 KRTO 560 WIBA 1280 WDSU 1250 XEFO 940 7:40 a.m. KQEP 680 7:45 a.m. KRGV 1260	KVOO 1140 WNSR 1430 WOAI 1190 7:50 a.m. KABR 1420 KFNF 890 8:00 a.m. KARK 890 KFAB 770 KI-YO 1310 KGF-W 1310 WDAY 940 WFBM 1230 WJJD 1130 WJTL 1370 WKBS 1500 WKBH 1380 WMBH 1420 WMFM 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 WHOW 1160 WTMJ 620 WTMV 1500 WIND 560 ² 9:05 a.m. WLL 890 WRNT 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	WHBU 1210 WHBY 1200 WIND 560 WKEU 1500 WNOX 560 WWOV 1160 WTMJ 620 WTMV 1500 WIND 560 ² 9:45 a.m. KMBC 950 WJBO 1420 ² KDLLR 1210 10:00 a.m. KFVS 1210 KLNC 1290 KVOZ 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 10:15 a.m. CJKG 630 WBOW 1310 WDDO 1280 WJMS 1420 10:25 a.m. WTCN 1250 10:30 a.m. KFOR 1210 KGDE 1210 WBEQ 1310 WIND 560 ² 10:40 a.m. KRQE 680 10:45 a.m. WKUU 1500 11:10 a.m. KFJZ 1370 KFNF 890	KSTP 1460 WHBU 1210 WSGN 1310 WTMV 1500 11:25 a.m. WDAF 610 11:25 a.m. WDAY 940 11:30 a.m. KRNT 1320 WMT 600 KSO 1430 11:45 a.m. KABR 1420 KASA 1210 KFAB 770 KGKB 1500 KVOO 1140 WBAA 890 WCCO 810 WDSU 1250
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WHERE TO GET THE DAY'S NEWS

WIND 560 11:55 a.m. KFAB 770 WOAI 1190	WAGF 1370 WIBA 1280 WJAG 1060 WKBH1380 ² WKEU 1500 WNRB 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 WLCB 1310 WLFN 1210 WNOX 560 WSFA 1410 WTCN 1250	KWTO 560 ² 1:30 p.m. WLBC 1310 WMBH 1420 1:45 p.m. KFDT 780 KGEX 630 WHEF 1500 2:00 p.m. WBHU 1210 WJDD 1130 WJTL 1370 WTMV 1500 2:15 p.m. KWBG 1420 WBAP 800 WFPA 800 WKEU 1500 WNAD1010 ⁶ 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 WBHU 1210 WTSN 1120 WLRB 1310 WSGN 1310 WTMV 1500 3:05 p.m. KFNF 890 3:15 p.m. WGBT 890 3:30 p.m. K800 1160 KSTP 1460	WGBF 630 ² WHO 1000 3:45 p.m. KABR 1420 KOIL 1260 WKEU 1500 WTAX 1210 4:00 p.m. KBTM 1200 WBHU 1210 WTMV 1500 4:15 p.m. KWTO 560 WHJ 860 WJAG 1060 4:30 p.m. KFAB 770 KGEX 630 KMBC 950 KSTP 1460 WDAF 610 WOC 1370 WTFM 620 5:00 p.m. KFEQ 680 KFJZ 1420 KFJZ 1370 KFNR 1310 KOMAI400 ⁵ K800 1110 WBHU 1210 WHO 1000 ⁹ WIRE 1400 WJDD 1130 WJTL 1370 WMBD 1440 WOI 640 WBSM 630 WTCN 1250 WTMV 1500 WCCO 810 WMC 780	5:20 p.m. KGGF 1010 5:30 p.m. CBS Red & Blue KASA 1210 ² KAFB 770 KFJB 1200 KPAC 1260 WOAI 1190 5:35 p.m. KVOO 1140 ² WENR 870 5:40 p.m. CKY 960 5:45 p.m. 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 ² WBHU 1200 WJBO 1420 WTAQ 1330 WTAX 1210 WTMV 1500 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 WDOE 1280 WHO 1000 WNR 1430 WSGN 1310 6:45 p.m. KRGV 1260 KBYO 1310 KMKC 1480 KNTN 1320 KGDE 1200 7:00 p.m. KGBK 1500 KWBG 1420 WAVE 940 WBOW 1310 WJTL 1370 WKBH 1380 WMBH 1420 WNAS 570 WTMV 1500 7:15 p.m. KFNF 890 WJMS 1420 7:30 p.m. WIND 560 7:45 p.m. WRTN 1370 WTD 900 KARK 890 KFIZ 1420 KVOO 1140 ²	WGN 720 WBHU 1210 WTMV 1500 WENT 910 ^a 8:15 p.m. KGBX 1230 8:30 p.m. KFJZ 1370 KFOR 1210 WIND 560 ^a WBRQ 1210 8:45 p.m. KFNF 890 KGBK 1500 WSGN 1310 9:00 p.m. KRGV 1260 KBYO 1310 KMKC 1480 KNTN 1320 K800 11430 KRTS 1450 WBHU 1200 WJTL 1370 WMT 600 WNR 1430 WNOX 560 WSFA 1410 WTCN 1250 9:15 p.m. KFPW 1210 KSD 550 WFBM 1230 9:30 p.m. KRNT1320 ² KRTS 1450 ² WDOE 1280 WGBF 630 ^c WBW 580 WOAI 1190 ² 9:45 p.m. WROK 1410	10:00 p.m. KPRC 920 KVOO 1140 ² WDAY 940 WENR 870 ⁹ WGST 890 WBHU 1210 WIBA 1280 WIRE 1440 WMBD 1440 WNR 1430 WNLB 1500 WTFM 620 WTVJ 520 XENT 910 KEWZ 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. KMBX 950 WBHU 1210 WJTL 1370 WTMV 1500 XENT 910 Midn't. KSTP 1460
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MOUNTAIN STANDARD TIME

6:00 a.m. KFKA 880 7:45 a.m. KGKY 1500 KLZ 560 8:00 a.m. Red & Blue ² CBS Net ² CHWC 1010 KFEL 920 KFVR 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 920 12:15 p.m. CFNB 1280 KGHL 780 KGVO 1260 KGHR 1360 KIUP 1370 XEAF 990	12:20 p.m. KOY 1390 12:25 p.m. KDFN 1440 12:30 p.m. KFKA 880 KGEE 1310 1:00 p.m. CFCN 1030 KFVR 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. KFKA 880 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. KFVR 1270 5:30 p.m. KDFN 1440 6:00 p.m. KFKA 880 KOY 1390 6:15 p.m. CHAB 1200 KGEE 1310 KGVO 1260 6:30 p.m. KGCX1310 ⁹ 6:45 p.m. KDFN 1440	7:00 p.m. KFEL 920 8:00 p.m. CHWC 1010 CJJC 690 KFVR 1270 XEVF 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. KTRM 540 KTRM 1310 KVOI 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. KTRM 620
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PACIFIC STANDARD TIME

6:00 a.m. KRBS 1070 KRKC 1120 6:30 a.m. KGIN 940 6:45 a.m. KRLC 1420 7:00 a.m. CBS Net Red & Blue ² KOPM 1100 KQW 1010 KRSC 1120 KUJ 1370	7:15 a.m. KERN 1370 KFBB 1490 KNMJ 580 7:30 a.m. CBS Net ² 7:45 a.m. KPPY 890 KRKD 1120 8:00 a.m. KIT 1310 KRSC 1120 KUJ 1370 8:15 a.m. KROW 930	8:30 a.m. CRCV 1100 KGFJ 1200 KKRO 1310 8:45 a.m. KGIN 940 KQWJ 1040 9:00 a.m. KFRC 610 KFXM 1210 KOOS 1390 KRSC 1120 KWG 1200 9:15 a.m. KOL 1270	8:30 a.m. KVOS 1200 KGDGM 1100 9:30 a.m. KJR 970 KMPC 710 9:45 a.m. KFI 840 KFOX 1250 9:51 a.m. KQW 1070 10:00 a.m. KJBS 1070 KQW 1070 KUJ 1370	10:15 a.m. KELW 780 10:20 a.m. KLX 880 11:00 a.m. KRSC 1120 11:15 a.m. KGIN 940 11:30 a.m. CJAT 910 KRKD 1120 11:45 a.m. KGHF 1200 Noon KFJR 1300	KFRG 610 KJBS 1070 KQW 1010 KROW 930 KRSC 1120 KUJ 1370 12:05 p.m. 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. KPPY 890 KTEM 1120 KOOS 1390 KPQ 1500 KRLC 1420 KTBX 740 KXRO 1310	12:45 p.m. CKOV 630 KFXM 1210 1:00 p.m. KGFJ 1200 KGIN 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
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WHERE TO GET THE DAY'S NEWS

KGFJ 1200 ²	4:00 p.m.	5:45 p.m.	XEMO 860	KLX 880	8:30 p.m.	9:30 p.m.	KFXM1210z
2:15 p.m.	KFRC 610	KOOS 1390z	6:30 p.m.	KRKD 1120	Red Net ²	KLX 880	KGB 1330
KGDM 1100	KRSC 1120	KGFJ 1200	CHWK 780	KRLC 1420	CKCD 1010	KUJ 1370	KHJ 900
3:00 p.m.	4:15 p.m.	5:50 p.m.	CKWX 1010	KRSC 1120		9:00 p.m.	KOMO 920
KJBS 1070	KOIN 940	CHWK 780	KFXM1210z	KUJ 1370		9:45 p.m.	10:30 p.m.
KQW 1010	KWJJ 1040	6:00 p.m.	KJR 970	KVOS 1200z		KIT 1310	KRCV 1100
KRSC 1120	4:45 p.m.	KJBS 1070z	KPQ 1500	KKRO 1310		KOL 1270	10:45 p.m.
3:15 p.m.	KGFJ 1200 ²	KROW 930	KQW 1010	8:00 p.m.		KVOS 1200	10:45 p.m.
KGFM 1200	5:00 p.m.	KFOK 1250	KREG 1500	KFPY 890		KYA 1230	KGFM 1200
3:30 p.m.	KFJR 1300	KQW 1010 ²	KUJ 1370	KRSC 1120		KVI 570z	KXA 760
CBS Net	KRSC 1120	KRSC 1120	6:45 p.m.	KRSC 1120		10:00 p.m.	11:00 p.m.
Red & Blue	KGDM 1100	KFXM 1210	7:00 p.m.	KUJ 1370		KFI 640	KFPY 890
3:45 p.m.	5:30 p.m.	6:15 p.m.	7:00 p.m.	8:15 p.m.		KFOX 1250	11:45 p.m.
KFPY 890	KELW 780	KECA 1430	KGFJ 1200	CBS Net ²		KFOX 1250	11:45 p.m.
KOIN 940	KMPC 710	KGFJ 1200 ²	KIT 1310	Blue Net ²		KFCR 610	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) <input style="width: 100px; height: 20px;" type="text"/>	2YA 5. Wellington, N. Z. Featherstone St., Mon. to Sat. 700-900; 1000-1100; Sun. 900-1215; 1300-1430; 1800-2200.	PRH2 25. Porto Alegre, Brz. (now building)	RW82 2.5 Frounze, U.S.R. (608)
LKH .7 Hamar, Nor. (519)		RW82 10. Sundsvall, Swe. (601)	
OFH 10. Viipuri, Fin. (527)		XMHA .6 Shanghai, Chn.	
RW34 10. Stalingrad, U.S.R. (522)		ZTC 10. Cape Town, S. Af.	
..... 1. Innsbruck, Aust. (519)	..... 100. Stuttgart, G. (574) Charlottenplatz No. 1 Daily 0000-2000 EST	4QN 7. Clevedon, Ausl.	
..... 5. Ljubljana, Yug. (527)	..... 10. Magnitogorsk, U.S.R. (571)		
..... .5 Tartu, Est. (517)			
530 (565.7) <input style="width: 100px; height: 20px;" type="text"/>		610 (491.5) <input style="width: 100px; height: 20px;" type="text"/>	
11BZ 1. Bolzano, I. (536)	580 (516.9) <input style="width: 100px; height: 20px;" type="text"/>	CX4 1. Montevideo, Uru. Direccion de Agronomia, Millan, 746; 10-12; 17-19	
..... 16. Wilno, Pol. (536)		11FI 20. Florence, I. EIAR Stazione di Firenze, Weekdays 130-1730; Sun. 310-1730 EST	
540 (555.2) <input style="width: 100px; height: 20px;" type="text"/>	CC58 .5 Temuco, Chile. Luis E. Brain.	JODK2 10. Seoul, Ko.	
HAL 120. Budapest, Hun. (546) Budapest VIII, Sandor Utca No. 7. Weekdays 0045-1815; Sun. 315-1900 EST	JFCK 1. Taichu, Formosa	KZRM 50. Manila, P. I. (618.5) Daily 600-2300	
	RW36 10. Archangel, U.S.R. (586)	RW18 1. Pratisorsk, U.S.R.	
	RW54 10. Khabarovsk, U.S.R.	RW22 10. Oufa, U.S.R. (617)	
	XQHA .25 Shanghai, Chn.	RW50 2.5 Aust Abakansk, U.S.R. (617)	
	YLZ 15. Riga, Lat. (583)	RW79 10. Murmansk, U.S.R.	
	3WV 10. Horsham, Ausl.	XGSS .015 Tsunshi, Chn.	
	..... 15. Grenoble, F. (583) Daily 300-1730 EST	2FC 3. Sydney, Ausl.	
RWS2 20. Tschita, U.S.R. (546)		96 Market St. Mon. to Fri. 830-930; 1100-1300; 1330-1530; 1630-1745; 1900-1000; Sat. 830-930; 1100-1830; 1900-1000; Sun. 1130-1345; 1630-1815; 1930-2400	
550 (545.1) <input style="width: 100px; height: 20px;" type="text"/>	590 (508.2) <input style="width: 100px; height: 20px;" type="text"/>	620 (483.6) <input style="width: 100px; height: 20px;" type="text"/>	
2CR 10. Cumnock, Ausl.	JOAK2 10. Tokyo, Jap. M. Tomabecio, EST. Daily 4 a. m. -7:30 a. m.	CB62 1. Santiago, Chl. Radio Chilena.	
..... 100. Beromunster, Sw. (556) Report to PTT, Berne, Speichergrasse No. 6. Weekdays 600-1630; Sun. 130-1630 EST	LS10 6. Buenos Aires, Arg. Radio Callao, Callao (666)	CT1AA 20. Lisbon, Por. (629) Emisora Nacional. Daily 700-1900 EST	
560 (535.4) <input style="width: 100px; height: 20px;" type="text"/>	RW35 10. Astrakhan, U.S.R. (598)	JOTK .5 Matsuyae, Jap. (625)	
11PA 4. Palermo, I. (565)	ZL 1. Hobart, Ausl.	LKT 20. Trondelag, Nor. (629)	
MTCY 100. Hsinking, Mch.	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	LV3 2. Cordoba, Arg.	
RW41 1.2 Syktyvkar, U.S.R. (563)	..... 120. Vienna, Aust. (592) Weln No. 1, Johanesgrasse No. 4B. Daily 310-1900 EST	RW31 10. Ivanovo, U.S.R. (625)	
RW42 10. Gorki, U.S.R. (565)		AZP .5 Invercargill, N. Z.	
XLHB .045 Shanghai, Chn.		R. T. Parsons, 155 Layard St. N. Mon., Wed. 1230-1330; 1830-2130; Thu., Tues., Thus., Fri. 1230-1330; 1900-	
ZUG 10. Grahamstown, S. Af.			
6WA 10. Minding, Ausl.			
..... 60. Athlone, IFS (565) Radio Atha Luain. Daily 830-1800 EST			
570 (526) <input style="width: 100px; height: 20px;" type="text"/>	600 (499.7) <input style="width: 100px; height: 20px;" type="text"/>		
CB57 5. Santiago, Chile, Soc. Nacional Agricultura	CNR 25. Rabat, Mor. (601) Radio Maroc, Office Cherifien des Postes et Telegraphes.		
XG0H .15 Changsha, Chn.			

FOREIGN B. C. STATIONS BY FREQUENCIES

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)
 SCK 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. Talhoku, For.
 LS4 7. Buenos Aires, Arg.
 MTFY 3. Harbin, Mnch. (674)
 RW23 1. Grozny, U.S.R. (676)
 YVGRV .35 Valencia, Vnz.
 ZCO 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 Supérieure des Postes et Telegraphes (Testing with 120 kw.) Daily 300-1800 EST

700 (428.3) []

JOKK .5 Okayama, J.
 PRA7 .25 Sao Paulo, Brz., Rua Tibirica 26 (706)
 RW48 .05 Elista, USR. (704)
 SBA 55. Stockholm, Swe. (704) Weekdays 145-1700; Sun. 7-17 EST
 VPB 1.75 Colombo, Cey. (705)
 XMHC .5 Shanghai, Chn.
 ZP15 Villarrica, Par.
 ZNR 7. Lawrence, Ausl.

710 (422.3) []

11RO 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. Kaigoorlie, 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)

FOREIGN B. C. STATIONS BY FREQUENCIES

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 Carocca 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 72L, 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)
RW16 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 Deodoro 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, Belgano 1841
RW51 1. Naltchik, USR. (794)
ZTB .5 Bloemfontaine, S. Af.
4YA 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 Radio 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
II1M1 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)
XLKH .055 Tientsin, Chn.
ZZH .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 Talcahuano, 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 Brdctsg. Com., P. O. Box 200.
2YC .2 Wellington, N. Z. Featherstone St. Mon. to Sat. 17-18; 19-220; Sun. 18-22

FOREIGN B. C. STATIONS BY FREQUENCIES

<p>..... 100. Berlin, G. (841) Radio Reichssender, Berlin Brdcastg. House Daily 0000-1800 EST</p>	<p>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</p>	<p>..... 60. Toulouse, F. (913) Villa Schmidt, Rue Monie. Daily 3-1930 EST..... .5 Limoges, F. (913)</p>
<p>850 (352.7) </p>	<p>..... 7. Graz, Aust. (886) Daily 310-19 EST</p>	<p>920 (325.9) </p>
<p>CX16 10. Montevideo, Uru. SADREP, Av. S. Marti- nez 13500</p> <p>EAJ3 3. Valencia, Sp.</p> <p>HSP1 2.5 Bangkok, Siam (856)</p> <p>JQFK 10. Hiroshima, J.</p> <p>LKA .35 Aalesund, Nor.</p> <p>LKB 1. Bergen, Nor.</p> <p>LKP 1. Porsgrund, Nor.</p> <p>PRB3 .25 Juiz de Fora, Brz. (857) Radio Soc. de Juiz de Fora, Parque Herald Simferopol, USR. (859)</p> <p>RW73 10. Nairobi, Ken. (858) Bombay, In. (855) XGOF .5 Tsinan, Chn. (852) XQHB .1 Shanghai, Chn. SRM 1. Renmark, Ausl. River Murray Brd- casters, Ltd., 29 Run- dle St., Adelaide</p> <p>..... 1. Sofia, Bul.</p> <p>..... 35. Strasbourg, F. (859) Radio Strasbourg PTT, 30 Rue du 22 Nov. Weekdays 545- 19; Sun. 1630-19 EST..... .05 Hangchow, Chn.</p>	<p>CBPR 1. Santiago, Chile. Otto Becker, Ahuamada 113</p> <p>CX18 1. Montevideo, Uruguay Difusora El especta- dor, Ltda., Olimar 1364</p> <p>MTEY 1. Mukden, Mnch.</p> <p>OFA 10. Helsinki, Fin. (895) XGKA .015 Kashing, Chn. (895) ZP9 1.5 Asuncion, Par. (898) ..... .5 Limoges, F. (895)</p>	<p>JQJK .5 Niigata, J.</p> <p>OKB 32. Brno, Cz. (922) Daily 0030-1730 EST</p> <p>PRC3 .25 Pelotas, Brz. Soc. Radio Pelotense</p> <p>PRF4 10. R'de Janeiro, Brz. (923). Soc. Anonima "Journal do Brasil"</p> <p>XHHX 1. Shanghai, Chn.</p> <p>ZZR .015 Nelson, N. Z. Trafalgar St. Tem- porarily silent.</p>
<p>860 (348.6) </p>	<p>900 (333.1) </p>	<p>930 (322.4) </p>
<p>PRA3 2.5 Rio de Janeiro, Brz. Radio Club de Brasil, Rua Betancourt da Silva 21</p> <p>XHHD .05 Shanghai, Chn.</p> <p>..... 16. Poznan, Pol. (868) Daily 1-18 EST</p> <p>..... .6 Paris, F. (868) AGEN</p>	<p>CB90 1. Valparaiso, Chile, El Murcurio de Val., Casino de Vina del Mar.</p> <p>JODK10 10. Seoul, Korea</p> <p>KZ1B 1. Manila, P. I. Daily 10-20</p> <p>LU2 2. Bahia Blanca, Arg. Radio Bahia Blanca- Sao Paulo, Brz. (CP, 60 kw) Radio Difusora Sao Paulo.</p> <p>XGOI .5 Shanghai, China.</p> <p>XGTM .1 Tengchow, Chn.</p> <p>2ZP .105 Wairoa, N. Z. E. A. Perry, 128 Queen St. Tue. 7-9; 18-2230; Wed. to Sat. 7-9; Sun. 730-930</p> <p>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</p> <p>4WK .05 Warwick, Ausl. King and Albion Sts. Daily 1230-1530; 19- 2330</p> <p>..... 100. Hamburg, G. (904) Radio Reichssender Hamburg. Daily 00- 18 EST</p>	<p>CB93 3. Santiago, Chile, Huke, Providencia 1022</p> <p>CX20 2. Montevideo, Uru. Radio Monecaro, Humberto I No. 3. 11-1430; 16-24</p> <p>JOAG .5 Nagasaki, J.</p> <p>PRD2 1. R'de Janeiro, Brz. (932) Soc. Radio Cru- ceiro do Sul; Rua Mariz e Barros 270</p> <p>RW55 1. Engels, USR. (932)</p> <p>VUG 1. Delhi, India</p> <p>XGON .2 Nanking, China.</p> <p>3UZ .65 Melbourne, Ausl. 45 Bourke St. Mon. to Thu. 830-1530; 1645-100; Fri. 830-16; 1645-100; Sat. 830- 1330; 1930-1330; Sun. 1130-1400; 1915-2330</p> <p>No. 2 15. Brussels, Belg. (932) Weekdays 7-19; Sun. 5-19 EST</p>
<p>870 (344.6) </p>	<p>910 (329.6) </p>	<p>940 (319) </p>
<p>JOAK1 10. Tokyo, J. M. Toma- becio, EST Daily 4 a.m.-7:30 a.m.</p> <p>LR6 26. Buenos Aires, Arg. La Nacion, Florida 347</p> <p>RW85 2. Igarca, USR. (871)</p> <p>XL1L .02 Suchow, Chn.</p> <p>2GB 1. Sydney, Ausl. "The Nation's Station", Adayr House, 29 Bligh St., Mon. to Sat. 830-1; Sun. 930- 1330; 1415-24</p> <p>..... 50. London, G.B. (877) London Regional. Weekdays 515-1930; Sun. 730-1745 EST</p>	<p>LR2 12. Buenos Aires, Arg. Radio, Bolivar 1356 Argentina</p> <p>RW30 10. Dnepropetrovsk, USR., (913)</p> <p>XL1M .05 Hanim, Chn.</p> <p>4RK 2. Rockhamton, Ausl. Relays 4QG. Same schedule as 4QG 800 kc.</p>	<p>JONK .5 Nagano, J. K. Yana- da, Dir. EST Daily 4-1930</p> <p>PRE4 .25 Rio de Janeiro, Brz. (941). Soc. Radio Culti- tura "A Voz do Es- pacao"</p> <p>SBB 10. Goteborg, Swc. (941) Weekdays 145-17; Sun. 3-17 EST</p> <p>XHHE 1. Shanghai, Chn.</p> <p>3ZR .4 Greymouth, N. Z. West Coast Radio Soc., Bright St., Cob- den. 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</p> <p>..... 12. Algiers Alg. (941) Radio PTT du Govt. Gen., Rue Berthe- zene, Alger, Algeria, N. Af. Daily 8-18 EST</p>
<p>880 (340.7) </p>	<p>..... 12. Buenos Aires, Arg. Radio, Bolivar 1356 Argentina</p> <p>RW30 10. Dnepropetrovsk, USR., (913)</p> <p>XL1M .05 Hanim, Chn.</p> <p>4RK 2. Rockhamton, Ausl. Relays 4QG. Same schedule as 4QG 800 kc.</p>	<p>..... 12. Algiers Alg. (941) Radio PTT du Govt. Gen., Rue Berthe- zene, Alger, Algeria, N. Af. Daily 8-18 EST</p>

FOREIGN B. C. STATIONS BY FREQUENCIES

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
- PRFS .5 Bahia, Brz. (959) Radio Commercial da Bahia
- RW40 1. Gomel, U.S.R. (959)
- RW54 1. Gomel, U.S.R. (959)
- XGOP .3 Pelping, 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 Funkstudie, 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 U.S.R. (968)
- RW67 2. Oukhta, U.S.R. (968)
- RW69 10. Odessa, U.S.R. (968)
- XHHF .1 Shanghai, Chn.
- YVIRC 5. Caracas, Venez. (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)
- 11GE 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, Calialo 1526. Daily 11-24
- PFEI 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", Apto 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, U.S.R. (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. 130 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 Militar de Chorrillos. Shanghai, Ch.
- XHHG .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 Femix, Santa Fe 1174
- PRC8 1. Rio de Janeiro, Brz. Radio Soc. Guanabara, Rua 1st de Mayo 123
- XGOL 1. Foochow, Chn.
- YV11RMO Maracaibo, Venez. (1034)
- 3DB .6 Melbourne, Ausl. 36 Filanders St. Mon. to Fri. 8-1; Sat. 8-130;

FOREIGN B. C. STATIONS BY FREQUENCIES

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.
 Shanghai, Chn.
 XHHH .1
 SPI 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
 2CA .5 Tien-tsin, Chn.
 Canberra, Ausl. Mon.
 to Fri. 14-15; 19-2330;
 Sat. 1930-2330; Sun.
 2130-2330
 50. Falkirk, G. B. Scot-
 tish National. Week-
 days 545-1815; Sun.
 1130-1745 EST

1060(282.8)

CB106 1. Santiago, Chl.
 Sud America, Gol-
 colea 0122. 11-13;
 17-18
 RW57 4. Tiraspol, USR. (1068)
 XHHI .1
 3YB .025 Shanghai, Chn.
 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. Ra-
 dio Tupy Sao Paulo
 Honan-tu, Chn.
 XGOX .2 Canton, Chn. (1071)
 XKRI .1 Bordeaux, F. (1077)
 30. 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 Cereal-
 istas, Pte. Roca 770
 OAX4F .05 Lima, Peru
 F. W. Castellano &
 Hno. Opens and
 closes "Anchors A-
 weigh" 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, Inde-
 pendencia 483
 CX28 3. Montevideo, Uru.
 EAJ7 10. Madrid, Sp. (1095)
 Union Radio Station
 EA7, Aptdo 745.
 Daily 3-19 EST
 PRC2 3. Porto Alegre, Brz.
 Radio Soc. Gaucha,
 Galerie Chaves
 PRC7 .25 Bello Horizonte, Brz.
 Soc. Radio Mineira
 Vinnitza, USR. (1095)
 RW75 10. XGOB .25 Loyang, Chn.
 IZB .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 Lancaster, 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, Inde-
 pendencia s/n 20-23
 L55 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. Normandle, F. (1113)
 Fcamp
 Daily 2-21 EST
001 Suchow, Chn.

1120(267.7)

CD112 .1 Osorno, Chile. David
 Arriagada, Baque-
 dano 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 Piratinga
 Shanghai, Chn.
 XLHM .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, Por-
 venir 2384. 9-24.
 PRD8 1. Nitheroy, Brz. (1132)
 Radio Club Flumi-
 nense
 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. Chi-
 lena Consolidada, E.
 Llanos 35
 H1TO 7. Turin, I.
 Weekdays 130-1730;
 Sun. 310-1730 EST
 Shanghai, Chn.
 XHHL .1 Newcastle, Ausl.
 2HD .5 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

FOREIGN B. C. STATIONS BY FREQUENCIES

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, Cb. (1154)
LR8 7. Buenos Aires, Arg.
Radio Paris, Cangallo
860
OAX4H Lima, Peru. Radio
Davila, Aptdo. 373
Tengchow, Chn.
XGGW .05 Kongsu, Chn.
XGOZ .1 Tsangchow, Chn.
XGY Y .015 Maracaibo, Venez.
(1153)
2WG .2 Wagga, Aus.
16 Fitzmaurice St.
Mon. to Sat. 930-1030;
1330-1530; 1930-24;
Sun. 2130-2330
2ZM 0.15 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
LTS .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,
Spelghergrasse No. 6
Weekdays 6-17; Sun.
430-1630 EST

1170(256.3)

CC117 .1 Concepcion, Chile.
Zenith, Rolando
Beckdorf, Av. Argenti-
nina 977
CX32 .5 Montevideo, Uru.

Radio Marconi, Gen.
Hornos 537, 10-2
Nagoya, J. (1175)
Sao Paulo. Radio
Cruceiro do Sul, Largo
da Misericordia 4
Campinas, Brz. (1175)
Radio Educadora di
Campinas
Wusih, Chn.
Narrabri, Ausl.
Masterton, N. Z.
W. D. Ansell, 7 Rimu
St. Daily 20-22. Re-
lays 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 Fern-
andez Co. 960
LKM .1 Tromsø, Nor. (1186)
RW20 10. Kharkov, U.S.R. (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;
1830-1015; 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 Poiping, 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 Lands-
trabe No. 33.
Daily 00-20 EST
..... 5. Freiburg, G. (1195)
..... 5. Kalserslautern (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, Cb., 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 Bandeir-
ante
XHHN .1 Shanghai, Chn.
YV3RC 3. Caracas, Vnz.
Bajos Pasaje Ramella
Lahore, India
VUL .1 Christchurch, N. Z.
3YL .5 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
OAA4R .025 Lima, Peru
OAA4D .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.
Fel-ping, Chn.
4AK 1. Oakley, 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, Cb.
LS8 20. Buenos Aires, Arg.
Radio Stentor, Flo-
rida 8
2NC 2. Newcastle, Ausl.
Reclays 2FC and 2BL.
Mon. to Fri. 830-1530;
1630-1745; 19-100;
Sat. 830-1030; 1130-

FOREIGN B. C. STATIONS BY FREQUENCIES

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. Bahla Blanca, Argentina. Radio Ge. San Martin, Calle Sarmento 60
LV-14 .5 La Rioja, Arg. Radio Provincia de La Rioja
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., "Gippstand'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 Brdcastg. Ignacio Nunez 2133. 9-14; 17-24
EAJ8 1. Sn. Sebastian, Sp. (1258)
HC2JB .03 Guayaquil, Ec.
MABS .035 Slangyuan, Chn.
OAX4L .1 Lima, Peru. Radio Miraflores, Calle Manco Capac 347
PYG8 .25 Bauru, Brz.
XLIE .05 Wush, Chn.
No. 3 1. Rome, I. (1258)
10. Kuldiga, Lat. (1258)

1260(238) []

CB126 1. Santiago, Chi. (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.
12M .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)
25M 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.
PRAS 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, Estacion

Radiodifusora DUSA, Calle de Plumeros.
PRC4 .05 Ampara, Brz. (1304)
XGOE 1. Nanning, Chn.
XQHC .5 Shanghai, Chn.
YVSRMO .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 Wush, 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, Chayas 4534; 8-24
HJ1ABA .1 Barranquilla, Cib., E. J. Pellet B., P. O. Box 751
PRE2 .5 R' de Janeiro, Brz. Soc. Radio Cajuti, Rua Conde de Bormflm 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.

FOREIGN B. C. STATIONS BY FREQUENCIES

..... 2. Manover, G.
 2. Madgeburg, G.
 2. Stettin, G.
 2. Flensburg, G.
 1.7 Lodz, Pol. (1339)

1340(223.7)

CB134 .5 Santiago, Chile. Radio Aliviol, Gumer-sindo 135
 CW19 .05 Rocha, Uruguay. Juan J. Arispuru y Abel Machado
 LKR .15 Rjukan, Nor. (1348)
 LT7 .5 Corrientes, Arg. Radio Provinciale 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)
 L56 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
 CW4L .05 San Jose, Uru. Radio San Jose 10-14; 18-23.
 OA4K .15 Lima, Peru
 PRC5 .1 Belem, Brz. (1364) Radio Club do Para Araraquara, Brs. (1364) Radio Cultura Araraquara, Ave. Feijo 25
 PRD4 .25 Porto Alegre, Brz.

Empresa Radiodi-fusora
 Shanghai, Chn.
 GXHD .2 Gunnedah, Ausl. P. O. Box 78. Mon. to Sat. 830-1030; 1330-1530; 1930-2330; Sun. 930-1130; 1530-1730; 1930-2330
 2MO .05
 4PM .1 Port Moresby, Ausl.
 No. 2 .1 Turin, I. (1366)

1370(218.8)

CX42 1. Montevideo, Uru. Colonial Brdctg. 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. Par-bury 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 .1 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 Shanghai, Chn.
 FFZ .25 Arequipa, Peru
 OA6D .15 R' de Janeiro, Brz.
 PRD5 1. Dpto. de Educacio da Prof. Largo da Carlo-ca 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, Cau-polican 370.
 CX44 .2 Montevideo, Uru. SADERP, Solis Grande 912. 8-2
 PRB5 .05 Franca, Brz. (1415) Radio Club Hertz Uberaba, Brz.
 PRE5 .25 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.
 1Z5 .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 Yteisradio 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 Yeldon, Wollongong Brdctg. 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-

FOREIGN B. C. STATIONS BY FREQUENCIES

guros Generales, Mo-
neda 1367
CB144A .1 Santiago, Chile. Na-
camento, J. Infanta
2290
CB144B .5 Santiago, Chile. Los
Cuatro Ases, Roman
Diaz 2000
CB144C .15 Santiago, Chile. Luis
Desmaras Los Leones,
Callela 2860
OA6U .05 Arequipa, Peru (1443)
PRG4 .25 Jabotical, Brz. Radio
Club Jabotical (1442)
XLHQ .03 Shanghai, Chn.
2QN Denliquin, Ausl.
4IP .05 Ipswich, Ausl.
 Spanish Common Wave (1447)

1450(206.8)

CX46 1.5 Montevideo, Uru.
Radio America, Cam-
lino 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. II-
ustro Municipalidad,
Baquedano 715
CW33 .075 Florida, Uruguay.
Omar F. Barreiro
HA4E 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-

..... 1.5 1530; 19-2330
1 Dresden, G. (1465)
1 Courtral, Belg. (1465)
1 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 Albany, Ausl. John
Dower, 47 York St.,
(Sydney), Mon. to
Fri. 1345-1515; 19-24;
Sat. 14-1515; 19-0030
Bundaberg, Ausl.
4BU .1

1490(201.2)

ON4CE .1 Chatelineau, Blg.
(1492)
XLKS .02 Kashing, Chn.
No. 1 .1 Wallonia, Belg. (1492)

2TM .05 Tamworth, Ausl.
1 Bincho, Big. (1492)
2 Nimes, F. (1492)
1 Courtral, 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 Cla., 18 de
Julio 1333
HJSABE . . Cali, Colombia
Jose Calderon N. Cla.
Radiodifusora Co-
lombiana, S. A. Aptd.
50
PRG6 .25 Cruzeiro, Brz.
Soc. Radio Mantiqu-
eira
VUP 2. Pashawar, 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.
0100-0430; 14-16; 2330-
0130
25 Hobart, Ausl.
25 Pietassari, Fin.
2 Radio Alcala, Sp.
 Belgium has several 100 watt sta-
tions on 1500.
1510(198.6)
YDA .5 Tandjongpriok, Java
1530(196.0)
SCJ .2 Karlskrona, Swe.

FOREIGN B. C. STATIONS BY LOCATIONS

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 50
PRC7 1090 250
 Campinas
PRE9 1175 250
 Cruzeiro
PRG6 1500 250
 Curitiba
PRB2 882 250
 Fortaleza
PRE9 1315 500
 Jabotical
PRG4 1442 250
 Jahu
PRG7 1330 250
 Juiz de Fora
PRB3 857 250

FOREIGN B. C. STATIONS BY LOCATIONS

Pietersaari 1500 250	Kaiserslautern 1195 1500	Firenze 11FI 610 20000	Parede CTIGL 1031 5000
Pori OFD 749 1000	Konigsberg 1031 10000 1348 2000	Genoa 1ICE 986 10000	ROUMANIA
Sortavala 749 200	Leipzig 785 120000	Milan 1IMI 814 50000 No. 2 1348 4000	Bucharest 823 12000
Tampere OFE 1420 700	Magdeburg 1330 2000	Naples 1INA 1104 1500	SPAIN
Turku 1429 500	Munich 740 100000	Palermo 1IPA 565 4000	Alcala 1500 200
Viiipuri OFII 527 10000	Nurnberg 1267 2000	Rome 1IRO 713 50000 No. 3 1258 1000	Barcelona EAJ1 795 7500 EAJ15 1022 3000
FRANCE	Stettin 1330 2000	Trieste 1ITR 1222 10000	Madrid EAJ2 731 3000 EAJ7 1095 10000
Bordeaux 1077 30000 968 3000	Stuttgart 574 100000	Turin 1ITO 1140 7000 No. 2 1357 200	Oviedo EAJ19 1022 700
Grenoble 583 15000	Trier 1195 2000	LATVIA	San Sebastian EAJ8 1258 1000
Lille 1213 60000	GREAT BRITAIN	Kuldiga 1258 10000	Seville EAJ5 731 5500
Limoges 895 500	Aberdeen 1285 1000	Madona 1104 50000	Valencia EAJ3 850 3000
Lyons YN 648 90000 RL 1393 25000	Belfast 977 1000	Riga YLZ 583 15000	SWEDEN
Marseilles 749 1600	Bournemouth 1474 1000	NORWAY	Falun SCC 1086 2000
Montpellier 1339 5000	Cardiff WR 804 50000 WN 1149 20000	Aalesund LKA 850 350	Goteborg SBB 941 10000
Nice 1249 2000	Daventry MR 1013 50000	Bergen LKB 850 1000	Horby SBII 1131 10000
Nimes 1492 200	Falkirk SN 1050 50000 SR 767 50000	Bodo LKD 686 500	Kariskrona SCJ 1530 200
Paris AGEN 868 600 FPTT 695 120000 ILLE 1348 800 PP 959 60000 Eiffel 1456 20000	London LN 1149 20000 LR 877 50000	Fredrikstad LKF 776 1000	Karistad SCK 1312 250
Radio-Normandie 1113 10000	Manchester NN 1149 20000 NR 668 50000	Hamar LKH 519 700	Malmo SBC 1312 1250
Rennes 1040 40000	Newcastle 1122 1000	Kristianssand LKK 1276 500	Motala 1389 15000
Strasbourg SPTT 859 35000	Plymouth 1474 300	Narvik 1222 300	Norrkoping SCO 1312 250
Toulouse 776 2000 913 60000	HOLLAND	Notodden LKN 1357 150	Stockholm SBA 704 55000
GERMANY	Hilversum PFBI 995 60000	Porsgrund LKP 850 1000	Sundsvall SBD 601 10000
Berlin 841 100000	HUNGARY	Rjukan LKR 1348 150	Trollhattan SCQ 1312 250
Bremen 1330 2000	Budapest HAL 546 120000	Stavanger LKS 1276 500	Swedish Common Wave 1402. See Index by Calls.
Breslau 950 100000	Magyarovar HAE-2 1321 1250	Tromsøe LKM 1186 100	SWITZERLAND
Cassel 1195 2000	Miskolc HAE-3 1438 1250	Trondelag LKT 629 20000	Basle 1375 500
Coblentz 1195 2000	Nyiregyhaza HAE 1122 6200	POLAND	Berne 1375 500
Cologne 658 100000	Pecs HAE-4 1465 1250	Cracow 1022 2000	Beremunster 556 100000
Dresden 1285 250	IRISH FREE STATE	Katowice 758 12000	Monte Ceneri 1167 15000
Flensburg 1330 2000	Athlone 565 60000	Lodz 1339 1700	Sottens 677 100000
Frankfurt 1195 25000	Cork 6CK 1240 1000	Lwow 795 16000	U. S. S. R.
Freiburg 1195 5000	Dublin 2RN 1348 500	Poznan 868 16000	Alexandrovsk RW38 662 2000
Gleiwitz 1231 5000	ITALY	Torun 986 24000	Archangei RW36 586 10000
Hamburg 904 100000	Bari 11BA 1059 20000	Warsaw No. 2 1384 2000	
Hanover 1330 2000	Bolzano 11BZ 536 1000	Wilno 536 16000	
		PORTUGAL	
		Lisbon CTIAA 629 20000	

FOREIGN B. C. STATIONS BY LOCATIONS

Astrakhan RW35 598 10000	Tcheboksary RW74 680 1200	Nanning XGOE 1300 1000	Trsangchow XKYY 1150 15
Dnepropetrovsk RW30 913 10000	Tchellabinsk RW68 824 1500	Ningpo XLIA 1320 15	Tainan XGF 833 7.5 XGOF 852 500 XOCL 1500 7.5
Elista RW48 704 2500	Tchernigov RW86 1013 5000	Pelping XGOP 950 300 XGOT 1220 500 XLKA 1194 30 810 100	Tsunshi XGSS 610 15 T'ung Hsien LUHO 750 20
Engels RW55 932 1000	Tchita RW52 546 20000	Pinghu XLPH 1210 15	Wuchow XHGS 730 50
Frounze RW82 608 2500	Tiraspol RW57 1068 4000	Poatung XGMK 1005 15	Wu-hu XDYF 1270 15 XGWH 830 30
Gornel RW40 959 1000	Vinnitza RW75 1095 10000	Shanghai FFZ 1400 250 XHHA 840 150 XHHB 740 100 XHHC 780 50 XHHH 860 50 XHHE 940 1000 XHHF 960 100 XHHG 1020 100 XHHI 1040 100 XHHJ 1060 100 XHHK 1080 200 XHHL 620 100 XHHM 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	Yunan-fu XGOY 698 250
RW40 959 1000	Urdjonikidze RW64 752 10000	Vladivostok RW28 635 300 RW32 635 10000	FORMOSA
RW54 959 1000	YUGOSLAVIA		Taichu JFCF 580 1000
RW42 565 10000	Belgrade 686 2500		Taihoku JFAK 670 10000
RW23 676 1000	Ljubljana 527 5000		Tainan JFBK 720 1000
Igarka RW85 871 2000	Zagreb 1086 700		INDIA
Ijevsk RW78 767 3000			Bombay VUB 855 3000
Iochar-Ola RW61 888 1000			Calcutta VUC 810 3000
Ivanovo RW31 625 10000			Delhi VUG 935 1000
Karaganda RW46 686.5 1200			Lahore VUL 1200 100
Kazan RW17 686 10000			Madras VUM 770 200
Kharkov RW20 1185 10000			INDO-CHINA
Kiev RW9 722 36000			Salgon F3ICD 840 12000
Krasnodar RW33 1050 1000			JAPAN
Kouibychew RW16 710 10000			Akita JOUK 645 300
Leningrad RW70 1040 10000			Asahigawa JOCG 655 300
Magnitogorsk 571 10000			Fukui JOFG 990 300
Makhatch RW27 689 4000	Canton XGOK 750 1000 XKRI 1071 100	China Chang-Chow XGDZ 1470 10 XLIK 1330 75 Chang-sha XGOF 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 Hanlm XGML 910 50 Honan-fu XGOX 1070 200 Hongkong ZBW 845 2000 Kiangyin XGSA 1335 10 Kashing XGKA 895 15 XGML 714.3 7.5 XLSK 1490 20 Kongsu XGOZ 1150 100 Loyang XGOB 1090 250 Nan-chang XGOC 1130 500 Nanking XGOA 660 75000 XGON 900 200	Lahore VUG 935 1000
Minsk RW10 1438 100000			VUL 1200 100
Moscow RW39 832 100000			Madras VUM 770 200
Mourmansk RW79 610 10000			INDO-CHINA
Naltchik RW51 794 1000			Salgon F3ICD 840 12000
Odessa RW13 968 10000			JAPAN
OUfa 968 10000			Akita JOUK 645 300
RW22 617 10000			Asahigawa JOCG 655 300
Oukhta RW67 968 2000			Fukui JOFG 990 300
Oust-Abakansk RW50 617 2500			Fukuoka JOLK 680 500
RW84 635 1200			Hakodate JOVK 680 500
Penza RW56 640 1200			Hamamatsu JODG 635 500
Petropavlovsk RW71 689 1200			Hiroshima JOFK 850 10000
Petrozavodsk RW29 648 10000			Kanazawa JOJK 710 3000
Pratigorsk RW18 610 1000			Kochi JORK 720 500
Saransk RW65 734 1000			Kokura JOSK 735 1000
Simferopol RW73 859 10000			Kumamoto JOGK 790 10000
Stalingrad RW34 522 10000			Kyoto JOOK 900 300
Stalino RW26 776 10000			
Syktvkar RW41 563 1200			
	CEYLON		
	Colombo VPB 705 1750		
	CHINA		
	Canton XGOK 750 1000 XKRI 1071 100	Nanning XGOE 1300 1000	Trsangchow XKYY 1150 15
	Chang-Chow XGDZ 1470 10 XLIK 1330 75	Ningpo XLIA 1320 15	Tainan XGF 833 7.5 XGOF 852 500 XOCL 1500 7.5
	Chang-sha XGOF 570 1000 XGTM 840 15	Pelping XGOP 950 300 XGOT 1220 500 XLKA 1194 30 810 100	Tsunshi XGSS 610 15 T'ung Hsien LUHO 750 20
	Chuching XGCK 990 7.5 Chunking XGOS 711 1000	Pinghu XLPH 1210 15	Wuchow XHGS 730 50
	Foo-chow XGOF 1030 1000 Hangchow XGOD 990 2000 XHHA 1370 50 850 50 1230 50	Poatung XGMK 1005 15	Wu-hu XDYF 1270 15 XGWH 830 30
	Hangkow XGOW 1010 5000 Hanlm XGML 910 50 Honan-fu XGOX 1070 200 Hongkong ZBW 845 2000	Shanghai FFZ 1400 250 XHHA 840 150 XHHB 740 100 XHHC 780 50 XHHH 860 50 XHHE 940 1000 XHHF 960 100 XHHG 1020 100 XHHI 1040 100 XHHJ 1060 100 XHHK 1080 200 XHHL 620 100 XHHM 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	Yunan-fu XGOY 698 250
	Kiangyin XGSA 1335 10 Kashing XGKA 895 15 XGML 714.3 7.5 XLSK 1490 20	Shuhing 1090	
	Kongsu XGOZ 1150 100	Siangyang MABS 1250 35	
	Loyang XGOB 1090 250	Suehow XLIB 1450 15 XLIL 870 20 1110 10	
	Nan-chang XGOC 1130 500	Taiyuan XGOT 1000 50	
	Nanking XGOA 660 75000 XGON 900 200	Tengchow XGGW 1150 50 XTGM 900 100	
		Tientsin XLKB 825 55 XHKA 1050 100 750 150 1280 100	

FOREIGN B. C. STATIONS BY LOCATIONS

<table border="0" style="width: 100%;"> <tr><td>Maebashi</td><td></td><td></td></tr> <tr><td>JOBG 970</td><td>500</td><td></td></tr> <tr><td>Matsuye</td><td></td><td></td></tr> <tr><td>JOTK 625</td><td>500</td><td></td></tr> <tr><td>Nagano</td><td></td><td></td></tr> <tr><td>JONK 940</td><td>500</td><td></td></tr> <tr><td>Nagasaki</td><td></td><td></td></tr> <tr><td>JOAG 930</td><td>500</td><td></td></tr> <tr><td>Nagoya</td><td></td><td></td></tr> <tr><td>JOCK-1 810</td><td>10000</td><td></td></tr> <tr><td>JOCK-2 1175</td><td>10000</td><td></td></tr> <tr><td>Niigata</td><td></td><td></td></tr> <tr><td>JOJK 920</td><td>500</td><td></td></tr> <tr><td>Okayama</td><td></td><td></td></tr> <tr><td>JOJK 700</td><td>500</td><td></td></tr> <tr><td>Osaka</td><td></td><td></td></tr> <tr><td>JOBK-1 750</td><td>10000</td><td></td></tr> <tr><td>JOBK-2 1085</td><td>10000</td><td></td></tr> <tr><td>Sapporo</td><td></td><td></td></tr> <tr><td>JOJK 830</td><td>10000</td><td></td></tr> <tr><td>Sendai</td><td></td><td></td></tr> <tr><td>JOHK 770</td><td>10000</td><td></td></tr> <tr><td>Shizuoka</td><td></td><td></td></tr> <tr><td>JOPK 780</td><td>500</td><td></td></tr> <tr><td>Tokushima</td><td></td><td></td></tr> <tr><td>JOXK 980</td><td>500</td><td></td></tr> <tr><td>Tokyo</td><td></td><td></td></tr> <tr><td>JOAK-1 870</td><td>10000</td><td></td></tr> <tr><td>JOAK-2 590</td><td>10000</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">JAVA</td></tr> <tr><td>Tandjongpriok</td><td></td><td></td></tr> <tr><td>YDAS 7510</td><td>500</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">KOREA</td></tr> <tr><td>Fuzan</td><td></td><td></td></tr> <tr><td>JBAK 1420</td><td>500</td><td></td></tr> <tr><td>Seoul</td><td></td><td></td></tr> <tr><td>JODK-1 900</td><td>10000</td><td></td></tr> <tr><td>JODK-2 010</td><td>10000</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">MANCHUOKUO</td></tr> <tr><td>Dairen</td><td></td><td></td></tr> <tr><td>JOAK 652</td><td>500</td><td></td></tr> <tr><td>Harbin</td><td></td><td></td></tr> <tr><td>MTFY 675</td><td>3000</td><td></td></tr> <tr><td>Hsinking</td><td></td><td></td></tr> <tr><td>MTCY 500</td><td>100000</td><td></td></tr> <tr><td>Mukden</td><td></td><td></td></tr> <tr><td>MTBY 890</td><td>1000</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">PHILIPPINES</td></tr> <tr><td>Manila</td><td></td><td></td></tr> <tr><td>KZEG 780</td><td>1000</td><td></td></tr> <tr><td>KZIB 900</td><td>1000</td><td></td></tr> <tr><td>KZRM 618.5</td><td>50000</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">SIAM</td></tr> <tr><td>Bangkok</td><td></td><td></td></tr> <tr><td>HSP-1 856</td><td>2500</td><td></td></tr> <tr><td>HS7PJ 750</td><td>10000</td><td></td></tr> <tr><td>..... 1200</td><td>.....</td><td></td></tr> </table>	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			JOJK 920	500		Okayama			JOJK 700	500		Osaka			JOBK-1 750	10000		JOBK-2 1085	10000		Sapporo			JOJK 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			YDAS 7510	500		KOREA			Fuzan			JBAK 1420	500		Seoul			JODK-1 900	10000		JODK-2 010	10000		MANCHUOKUO			Dairen			JOAK 652	500		Harbin			MTFY 675	3000		Hsinking			MTCY 500	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		<table border="0" style="width: 100%;"> <tr><td>..... 1429</td><td>500</td><td></td></tr> <tr><td>Cairo</td><td></td><td></td></tr> <tr><td>..... 620</td><td>20000</td><td></td></tr> <tr><td>..... 1348</td><td>500</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">KENYA</td></tr> <tr><td>Nairobi</td><td></td><td></td></tr> <tr><td>VQ7LO 858</td><td>600</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">MOROCCO</td></tr> <tr><td>Casablanca</td><td></td><td></td></tr> <tr><td>CNO 983</td><td>25</td><td></td></tr> <tr><td>Rabat</td><td></td><td></td></tr> <tr><td>CNR 601</td><td>25000</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">SOUTH RHODESIA</td></tr> <tr><td>Salisbury</td><td></td><td></td></tr> <tr><td>..... 681.8</td><td>1500</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">TUNISIA</td></tr> <tr><td>Tunis</td><td></td><td></td></tr> <tr><td>TUA 1275</td><td>500</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">UNION S. AFRICA</td></tr> <tr><td>Bloemfontaine</td><td></td><td></td></tr> <tr><td>ZTB 790</td><td>500</td><td></td></tr> <tr><td>Cape Town</td><td></td><td></td></tr> <tr><td>ZTC 600</td><td>10000</td><td></td></tr> <tr><td>Durban</td><td></td><td></td></tr> <tr><td>ZFD 750</td><td>1500</td><td></td></tr> <tr><td>Grahamstown</td><td></td><td></td></tr> <tr><td>ZUG 560</td><td>10000</td><td></td></tr> <tr><td>Johannesburg</td><td></td><td></td></tr> <tr><td>ZTF 645</td><td>10000</td><td></td></tr> <tr><td>Maritzburg</td><td></td><td></td></tr> <tr><td>..... 750</td><td>10000</td><td></td></tr> <tr><td>Pretoria</td><td></td><td></td></tr> <tr><td>ZTP 952</td><td>500</td><td></td></tr> </table> 1429	500		Cairo		 620	20000	 1348	500		KENYA			Nairobi			VQ7LO 858	600		MOROCCO			Casablanca			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			ZFD 750	1500		Grahamstown			ZUG 560	10000		Johannesburg			ZTF 645	10000		Maritzburg		 750	10000		Pretoria			ZTP 952	500		<table border="0" style="width: 100%;"> <tr><td>Cairns</td><td></td><td></td></tr> <tr><td>4CA 1470</td><td>100</td><td></td></tr> <tr><td>Canberra</td><td></td><td></td></tr> <tr><td>2CA 1050</td><td>500</td><td></td></tr> <tr><td>Clevedon</td><td></td><td></td></tr> <tr><td>4QN 600</td><td>7000</td><td></td></tr> <tr><td>Corowa</td><td></td><td></td></tr> <tr><td>2CO 670</td><td>1000</td><td></td></tr> <tr><td>Crystal Brook</td><td></td><td></td></tr> <tr><td>5CK 640</td><td>7500</td><td></td></tr> <tr><td>5PI 1040</td><td>2000</td><td></td></tr> <tr><td>Cumnock</td><td></td><td></td></tr> <tr><td>2CR 550</td><td>10000</td><td></td></tr> <tr><td>Denilquin</td><td></td><td></td></tr> <tr><td>2QN 1440</td><td>.....</td><td></td></tr> <tr><td>Geelong</td><td></td><td></td></tr> <tr><td>3GI 1350</td><td>50</td><td></td></tr> <tr><td>Goulburn</td><td></td><td></td></tr> <tr><td>2GN 1390</td><td>100</td><td></td></tr> <tr><td>Grafton</td><td></td><td></td></tr> <tr><td>2CF 1210</td><td>50</td><td></td></tr> <tr><td>Gunnedah</td><td></td><td></td></tr> <tr><td>2MO 1360</td><td>50</td><td></td></tr> <tr><td>Gympie</td><td></td><td></td></tr> <tr><td>4GY 1430</td><td>50</td><td></td></tr> <tr><td>Hamilton</td><td></td><td></td></tr> <tr><td>3HA 1010</td><td>300</td><td></td></tr> <tr><td>Hobart</td><td></td><td></td></tr> <tr><td>7HO 820</td><td>100</td><td></td></tr> <tr><td>7ZL 590</td><td>1000</td><td></td></tr> <tr><td>Horsham</td><td></td><td></td></tr> <tr><td>3HS 1370</td><td>50</td><td></td></tr> <tr><td>3WV 580</td><td>10000</td><td></td></tr> <tr><td>Invernell</td><td></td><td></td></tr> <tr><td>2LV 980</td><td>.....</td><td></td></tr> <tr><td>Ipswich</td><td></td><td></td></tr> <tr><td>4IP 1440</td><td>50</td><td></td></tr> <tr><td>Kalgoorlie</td><td></td><td></td></tr> <tr><td>6GF 720</td><td>2000</td><td></td></tr> <tr><td>6KG 1210</td><td>85</td><td></td></tr> <tr><td>Katoomba</td><td></td><td></td></tr> <tr><td>2KB 1160</td><td>100</td><td></td></tr> <tr><td>Kelso</td><td></td><td></td></tr> <tr><td>7NT 710</td><td>7000</td><td></td></tr> <tr><td>Launceston</td><td></td><td></td></tr> <tr><td>7LA 1100</td><td>300</td><td></td></tr> <tr><td>Lawrence</td><td></td><td></td></tr> <tr><td>2NR 700</td><td>7000</td><td></td></tr> <tr><td>Lismore</td><td></td><td></td></tr> <tr><td>2XN 1340</td><td>50</td><td></td></tr> <tr><td>Longford</td><td></td><td></td></tr> <tr><td>3GI 830</td><td>7000</td><td></td></tr> <tr><td>Mackay</td><td></td><td></td></tr> <tr><td>4MK 1160</td><td>100</td><td></td></tr> <tr><td>Maryborough</td><td></td><td></td></tr> <tr><td>4MB 1060</td><td>50</td><td></td></tr> <tr><td>Melbourne</td><td></td><td></td></tr> <tr><td>3AK 1500</td><td>200</td><td></td></tr> <tr><td>3AR 580</td><td>4500</td><td></td></tr> <tr><td>3AW 1280</td><td>600</td><td></td></tr> <tr><td>3DB 1030</td><td>600</td><td></td></tr> <tr><td>3KZ 1180</td><td>600</td><td></td></tr> <tr><td>3LO 770</td><td>3500</td><td></td></tr> <tr><td>3UZ 930</td><td>650</td><td></td></tr> <tr><td>3XY 1420</td><td>600</td><td></td></tr> <tr><td>3YB 1060</td><td>25</td><td></td></tr> <tr><td>Mildura</td><td></td><td></td></tr> <tr><td>3MA 900</td><td>50</td><td></td></tr> <tr><td>Minding</td><td></td><td></td></tr> <tr><td>6WA 560</td><td>10000</td><td></td></tr> <tr><td>Murray Bridge</td><td></td><td></td></tr> <tr><td>5MU 1450</td><td>100</td><td></td></tr> <tr><td>Narrabri</td><td></td><td></td></tr> <tr><td>2NZ 1170</td><td>2000</td><td></td></tr> <tr><td>Newcastle</td><td></td><td></td></tr> <tr><td>2HD 1140</td><td>500</td><td></td></tr> <tr><td>2KO 1410</td><td>500</td><td></td></tr> <tr><td>2NC 1230</td><td>2000</td><td></td></tr> </table>	Cairns			4CA 1470	100		Canberra			2CA 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1260</td><td>50</td><td></td></tr> <tr><td>Swan Hill</td><td></td><td></td></tr> <tr><td>3SH 1080</td><td>50</td><td></td></tr> <tr><td>Sydney</td><td></td><td></td></tr> <tr><td>2BL 740</td><td>3000</td><td></td></tr> <tr><td>2CH 1190</td><td>1000</td><td></td></tr> <tr><td>2FC 610</td><td>3000</td><td></td></tr> <tr><td>2GB 870</td><td>1000</td><td></td></tr> <tr><td>2KY 1020</td><td>1000</td><td></td></tr> <tr><td>2SM 1270</td><td>1000</td><td></td></tr> <tr><td>2UE 950</td><td>1000</td><td></td></tr> <tr><td>2UW 1110</td><td>1000</td><td></td></tr> <tr><td>Tamworth</td><td></td><td></td></tr> <tr><td>2TM 1300</td><td>50</td><td></td></tr> <tr><td>Toowoomba</td><td></td><td></td></tr> <tr><td>2GR 1000</td><td>500</td><td></td></tr> <tr><td>Townsville</td><td></td><td></td></tr> <tr><td>4TO 1170</td><td>200</td><td></td></tr> <tr><td>Ulverstone</td><td></td><td></td></tr> <tr><td>U7V 1460</td><td>300</td><td></td></tr> <tr><td>Wagga</td><td></td><td></td></tr> <tr><td>2WG 1150</td><td>200</td><td></td></tr> <tr><td>Warwick</td><td></td><td></td></tr> <tr><td>4WK 900</td><td>50</td><td></td></tr> <tr><td>Wollongong</td><td></td><td></td></tr> <tr><td>2WL 1430</td><td>50</td><td></td></tr> <tr><td colspan="3" style="text-align: center;">NEW ZEALAND</td></tr> <tr><td>Auckland</td><td></td><td></td></tr> <tr><td>IYA 650</td><td>10000</td><td></td></tr> <tr><td>1YX 880</td><td>150</td><td></td></tr> <tr><td>1ZB 1090</td><td>100</td><td></td></tr> <tr><td>1ZS 1420</td><td>50</td><td></td></tr> <tr><td>Balclutha</td><td></td><td></td></tr> <tr><td>4ZR 1340</td><td>4</td><td></td></tr> <tr><td>Christchurch</td><td></td><td></td></tr> <tr><td>3YA 720</td><td>10000</td><td></td></tr> <tr><td>3YL 1200</td><td>500</td><td></td></tr> <tr><td>3ZM 1470</td><td>60</td><td></td></tr> <tr><td>Cromwell</td><td></td><td></td></tr> <tr><td>4ZC 1280</td><td>7</td><td></td></tr> <tr><td>Dunedin</td><td></td><td></td></tr> <tr><td>4YA 790</td><td>500</td><td></td></tr> <tr><td>4YO 1140</td><td>150</td><td></td></tr> <tr><td>4ZB 1010</td><td>25</td><td></td></tr> <tr><td>4ZL 1220</td><td>100</td><td></td></tr> <tr><td>4ZM 1010</td><td>30</td><td></td></tr> <tr><td>4ZO 1010</td><td>25</td><td></td></tr> <tr><td>Gisbourne</td><td></td><td></td></tr> <tr><td>2ZJ 980</td><td>60</td><td></td></tr> <tr><td>2ZM 1150</td><td>15</td><td></td></tr> <tr><td>Greymouth</td><td></td><td></td></tr> <tr><td>3ZR 940</td><td>400</td><td></td></tr> <tr><td>Hastings</td><td></td><td></td></tr> <tr><td>2ZL 1240</td><td>50</td><td></td></tr> <tr><td>Invercargill</td><td></td><td></td></tr> <tr><td>4ZP 620</td><td>500</td><td></td></tr> </table>	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			IYA 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	
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FOREIGN B. C. STATIONS BY LOCATIONS

Manurewa		Napier			New Plymouth			Wairoa			
12M	1260	50	2ZH	820	65	2YB	760	100	2ZP	900	105
Masterton			Nelson			Palmerston N.			Wellington		
22D	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	685	SCS	1402
CB64	640	CX18	890	HAE4	1465	LKO	1181	OKP	633	RW18	610	SCT	1402
CB73	730	CX20	930	HAI	546	LKP	850	OKR	1004	RW20	1185	SCU	1240
CB76	760	CX22	970	HC2ET	1153	LKR	1348	ONACE	1492	RW22	617	SCV	1402
CB78	780	CX24	1010	HC2JB	1250	LKS	1276	ONACE	1500	RW23	676	SCW	1402
CB82	820	CX26	1050	HJN	681	LKT	910	ONAEB	1492	RW26	776	SPTT	859
CB84	840	CX28	1090	HJ1AB	1130	LR1	1070	ONARW	1500	RW27	689	TUA	1275
CB89	890	CX30	1120	HJ1ABM	1154	LR2	910	PFB1	995	RW28	635	VPB	705
CB90	906	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	VUM	1200
CB114	1140	CX44	1410	HSP1	856	LR9	1030	PRA7	706	RW34	522	VUM	770
CB116	1160	CX46	1450	HBZ	1059	LR10	790	PRA8	750	RW35	598	VUP	1500
CB118	1180	CX48	1490	HBZ	536	LR11	1390	PRA9	1000	RW36	586	XDYF	1270
CB120	1200	EJ11	795	HFI	610	LS1	710	PRA2	882	RW38	662	XGCK	990
CB124	1240	EJ12	731	HGE	986	LS2	1190	PRB3	857	RW39	832	XGDX	1470
CB126	1260	EJ13	850	HMI	814	LS3	630	PRB4	960	RW40	959	XGED	1340
CB130	1300	EJ14	1492	HNA	1104	LS4	670	PRB5	1415	RW41	563	XGF	813
CB132	1320	EJ15	731	HPA	565	LS5	1110	PRB6	1170	RW42	565	XGGW	1150
CB134	1340	EJ16	1492	HRO	713	LS6	1350	PRB7	800	RW46	686.5	XGKA	895
CB138	1380	EJ17	1095	HTO	1140	LS7	1130	PRB8	1000	RW48	704	XGMK	1005
CB139	1390	EJ18	1258	HTR	1222	LS8	1230	PRB9	1017	RW50	617	XGML	714.3
CB140	1400	EJ19	1492	HAK	1020	LS9	1270	PRC2	1090	RW51	794	XGOA	660
CB144	1440	EJ10	1492	JFAK	670	LS10	590	PRC3	920	RW52	546	XGOB	1090
CB144A	1440	EJ11	1500	JFBK	720	LS11	1430	PRC4	1304	RW54	580	XGOC	1130
CB144B	1440	EJ12	1492	JFBK	580	LT1	780	PRC5	1364	RW54	950	XGOD	990
CB144C	1440	EJ13	1492	JOAG	930	LT3	1080	PRC6	980	RW55	932	XGOE	1300
CB146	1460	EJ14	1500	JOAK-1	870	LT5	1160	PRC7	1090	RW56	640	XGOF	852
CB150	1500	EJ15	1022	JOAK-2	590	LT7	1340	PRC8	1030	RW57	1068	XGOH	570
CB144	580	EJ16	1492	JOBG	970	LT8	840	PRC9	1175	RW61	888	XGOI	900
CB58	640	EJ17	1492	JOBK-1	750	LT9	1200	PRD2	932	RW65	734	XGOK	750
CB59	960	EJ19	1022	JOBK-2	1085	LT10	1300	PRD3	1207	RW67	968	XGOL	1030
CC109	1090	EJ20	1492	JOCG	655	LT11	1260	PRD4	1364	RW68	824	XGON	930
CC117	1170	EJ21	1492	JOCK-1	810	LUH0	750	PRD5	1400	RW69	968	XGOP	950
CC136	1360	EJ23	1492	JOCK-2	1175	LU2	900	PRD7	1430	RW70	1040	XGOS	711
CC141	1410	EJ24	1492	JODG	635	LU6	1300	PRD8	1132	RW71	689	XGOT	1000
CC143	1430	EJ25	1502	JODK-1	900	LU7	1240	PRD9	769	RW73	859	XGOT	1220
CC103	1030	EJ26	1502	JODK-2	610	LV1	730	PRE2	1330	RW74	680	XGOW	1010
CD111	1110	EJ27	1492	JOFJ	990	LV2	880	PRE3	1220	RW75	1095	XGOY	698
CD112	1120	EJ29	1500	JOFK	850	LV3	620	PRE4	941	RW78	767	XGOZ	1150
CD121	1210	EJ30	1500	JOGK	790	LV5	1120	PRE5	1410	RW79	610	XGZA	1335
CD132	1320	EJ31	1492	JOHK	770	LV7	820	PRE6	740	RW82	608	XGSA	610
CD136	1360	EJ32	1500	JOIK	830	LV9	970	PRE7	788	RW84	635	XGSS	610
CNO	983	EJ33	1492	JOJK	710	LV10	1210	PRE8	1270	RW85	871	XGTM	840
CNR	601	EJ34	1492	JOKK	700	LV14	1240	PRE9	1315	RW86	1013	XGTM	900
CPX	1300	EJ35	1500	JOLK	680	MABS	1250	PRF2	725	SBA	704	XGYY	1150
CP4	1040	EJ36	1500	JONK	940	MTBY	850	PRF3	900	SBB	941	XHGS	730
CT1AA	629	EJ37	1500	JOOK	960	MTCY	960	PRF4	923	SBC	1312	XHHA	840
CT1GL	1031	EJ38	1500	JOPK	780	MTFY	675	PRF6	1050	SBD	601	XHHA	1370
CW19	1340	EJ39	1492	JOQK	920	OAX4A	750	PRF7	1380	SBH	1131	XHBB	740
CW23	820	EJ40	1500	JORK	720	OAX4B	1200	PRF8	950	SCA	1402	XHCC	780
CW25	1430	EJ41	1492	JOJK	735	OAX4C	1300	PRF9	1360	SCB	1402	XHDD	860
CW27	680	EJ42	1492	JOTK	625	OAX4E	980	PRG3	1280	SCC	1086	XHDE	940
CW29	1120	EJ43	1492	JOUK	645	OAX4F	1080	PRG4	1442	SCD	1402	XHFE	960
CW31	1160	EJ44	1492	JOVK	680	OAX4H	1150	PRG5	720	SCE	1402	XHGG	1020
CW33	1460	EJ45	1500	JOXK	980	OAX4I	1120	PRG6	1500	SCF	1402	XHHH	1040
CW35	1240	EJ46	1492	JQAK	652	OAX4L	1250	PRG7	1330	SCG	1402	XHHI	1060
CW37	1400	EJ47	1492	KEZG	780	OAAAR	1210	PRG9	1200	SCJ	1402	XHHJ	1080
CW39	1320	EJ48	1492	KZIB	900	OA4K	1360	PRH2	600	SCI	1402	XHHK	1420
CW41	1360	EJ49	1500	KZRM	618.5	OA4R	1277	PRH3	1120	SCJ	1530	XHHL	1140
CW43	1470	EJ51	1492	LKA	850	OA6D	1400	PRH4	1480	SCJ	1312	XHNN	1200
CW47	1480	EJ52	1492	LKB	850	OA6E	1350	PRH8	820	SCL	1402	XHNP	1260
CX4	610	EJ53	1492	LKD	686	OA6U	1443	PYG2	1070	SCM	1402	XHHQ	1280
CX6	650	EJ55	1492	LKF	776	OFA	895	PYG8	1250	SCN	1402	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	XHJU	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	4IF	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	1ZS	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	1080	4TO	1170	6WF	690
XLHQ	1440	YDA	1510	2BE	1470	2WL	1430	3TR	1240	4WK	900	7BU	1390
XLIA	1320	YZL	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	7LA	1100
XLIF	1170	YV3RC	1200	2CH	1190	2YC	840	3XY	1420	4ZC	1280	7NT	750
XLII	830	YV4RC	750	2CO	670	2ZO	1170	3YA	720	4ZL	1220	7UV	1460
XLIJ	1310	YV5RMO	1300	2CR	550	2ZF	960	3YB	1060	4ZM	1010	7ZL	590
XLIK	1330	YV11RMO	1034	2FC	610	2ZH	820	3YL	1200	4ZO	1010	7ZL	590

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

					Heard	Logged	Reported	Verified
540 kcys. (555.2)	<input type="checkbox"/>							
CJRM ak 1000 F			Moose Jaw, Sask.					
550 kcys. (545.1)	<input type="checkbox"/>							
CFNB ak 500 F (1)			Fredericton, N. B.					
KEFU 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)	<input type="checkbox"/>							
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)	<input type="checkbox"/>							
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)	<input type="checkbox"/>							
CFPR z 50			Prince Rupert, B.C.					

I CORRECTED THIS LIST

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				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)

KHO	ak	1000	N (2.5)	Spokane, Wash.			
WEEL	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.			
FON	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.			
WILB	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	1D	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.			
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NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

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)

CMCO z 250 Havana, Cuba
 KFEO 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.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

770 kcys. (389.4)

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

Heard | **Logged** | **Reported** | **Verified**

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.
KFOD	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

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

860 kcys. (348.6)

WABC	ak	5000	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.
GMBN	z	150	....	Havana, Cuba
GMO	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	ae	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. C.
WWJ	ak	1000	R (5)	Detroit, Mich.
XEAA	ak	200	....	Mexicali, L. C.

Heard | **Logged** | **Reported** | **Verified**

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

930 keys. (322.4)

Call	Class	Freq	Type	Location
CFAC	ak	100	F	Calgary, Alta.
CFCH	ak	100	F	North Bay, Ont.
CFCL	ae	100	F	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	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 keys. (319.0)

Call	Class	Freq	Type	Location
CMBC	cj	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.
WCSE	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 keys. (315.6)

Call	Class	Freq	Type	Location
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.
WRG	ak	500	R (1)	Washington, D. C.
YNVA	z	30	.....	Managua, Nic.

960 keys. (312.3)

Call	Class	Freq	Type	Location
CKY	ak	15000	F	Winnipeg, Man.
CMCD	ak	250	.....	Havana, Cuba
XEAW	ck	50000	.....	Reynosa, Tams.

970 keys. (309.1)

Call	Class	Freq	Type	Location
KJR	ak	5000	N	Seattle, Wash.
WCFL	ae	5000	B	Chicago, Ill.
WIBG	ak	100	D	Glenside, Pa.

980 keys. (306.0)

Call	Class	Freq	Type	Location
KDKA	ae	50000	B	Pittsburgh, Pa.

990 keys. (302.8)

Call	Class	Freq	Type	Location
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 keys. (299.8)

Call	Class	Freq	Type	Location
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 keys. (296.9)

Call	Class	Freq	Type	Location
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

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				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	.....	Carnaguey, Cuba			
KGGF	ak	1000	2	Coffeyville, Kans.			
KOW	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.			
CMGY	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	1Dn	Waukegan, Ill.			
WMBI	ak	5000	1Dn	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	1	New York, N. Y.			
WPG	ak	5000	1C	Atlantic City, N. J.			
XEL	z	250	.....	Mexico City, D. F.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1110 keys. (270.1)

CMCO	ak	250	.....	Havana, Cuba
KSOO	ak	2500	Dn	Stoux Falls, S. D.
WRVA	ae	5000	N	Richmond, Va.
XELO	z	10000	.....	Piedras Negras, Co.

Heard | Logged | Reported | Verified

1120 keys. (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 keys. (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 keys. (263.0)

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

1150 keys. (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 keys. (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 keys. (256.3)

CMBD	z	150	.....	Havana, Cuba
WCAU	ae	50000	C	Philadelphia, Pa.

1180 keys. (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 keys. (252.0)

CMKV	z	50	Santiago, Cuba
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NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
HJZ	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. Catharines, 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.			
KWVG	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.			
WBBC	ak	100	(.25)	Canton, Ohio			
WBHY	ak	100	(.25)	Green Bay, Wis.			
WBX	aej	100	(.3) C	Utica, N. Y.			
WIL	ak	100	(.25)	St. Louis, Mo.			
WIBC	ak	100	6	Bloomington, Ill.			
WIBL	ak	100	6	Decatur, Ill.			
WIBW	ak	100	1	New Orleans, La.			
WINO	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.			
CKKH	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			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				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	...	T 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.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1260 keys. (238.0)

Call	Class	Power	Band	Location
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.

Heard Logged Reported Verified

1270 keys. (236.1)

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 keys. (234.2)

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.
WBIA	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 keys. (232.4)

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 keys. (230.6)

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	ak	500	3	Portland, Ore.
WBRR	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 keys. (228.9)

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.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				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, Ill.			
WCMI	z	100	.....	Ashland, Ky.			
WDAH	ak	100	S	El Paso, Texas			
WEBR	ae	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	(.25)	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	.....	Torreón, Coah.			
XEX	ak	125	.....	Monterrey, N. L.			
XFA	z	5	.....	Aguascalientes, Ags.			

1320 keys. (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 keys. (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.			
WTAI	ak	1000	R(2.5)	Cincinnati, Ohio			
WTAQ	ae	1000	1	Eau Claire, Wis.			

1340 keys. (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.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
WSPD	ae	1000	C(2.5)	Toledo, Ohio			
XFD	z	350	.....	Jalapa, Ver.			
1350 keys. (222.1) <input type="text"/>							
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 keys. (220.4) <input type="text"/>							
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 keys. (218.8) <input type="text"/>							
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.			
KFGO	ak	100	.....	Boone, Iowa			
KEJM	ak	100	(.25)	Grand Forks, N. D.			
KEJZ	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	(.25)	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.			
XFZZ	z	100	.....	San Luis Potosi, SLP.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1380 keys. (217.3) Heard Logged Reported Verified

CMBX ak 500 Havana, Cuba
 KOH ak 500 C Reno, Nev.
 KOV 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 keys. (215.7)

CJRC ak 100 F Winnipeg, Man.
 CMJC z 150 Camaguey, Cuba
 HHH 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 keys. (214.2)

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.
 WEGE 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 keys. (212.6)

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 keys. (211.1)

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.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				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.			
WLAF	ak	100	(.25)	Lexington, Ky.			
WLBK	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			
WHCC	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.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1490 keys. (201.2)

KFBK ak 5000 C Sacramento, Calif.
WCKY ae 5000 B Covington, Ky.

1500 keys. (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.
KPO 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 I (.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 I Brooklyn, N. Y.
WMEX ak 100 (.25) Boston, Mass.
WNBK ae 100 C Binghamton, N. Y.
WOPJ 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 I (.25) Woodside, N. Y.
WWSW ae 100 (.25) Pittsburgh, Pa.

Heard | Logged | Reported | Verified

1510 keys. (198.6)

CFRC ak 100 ... Kingston, Ont.
CKCR ak 100 ... Waterloo, Ont.

1530 keys. (196.0)

WIXBS z 1000 ... Waterbury, Conn.
W9XBY ak 1000 ... Kansas City, Mo.

1550 keys. (193.4)

W2XR z 1000 ... Long Isl. City, N.Y.
W6XAL 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 Brdestg. 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	Burbank	Durango	GEORGIA	
Birmingham	KELW 780 500	KIUP 1370 100	Albany	
WAPI 1140 5000 N	Chico	Grand Junction	WGPC 1420 100	
WBRC 930 1000 C	KHSL 950 250	KFXJ 1200 100	Athens	
WSGN 1310 100	Del Monte	Greeley	WTFI 1450 500	
Decatur	KDON 1210 100	KFKA 880 500	Atlanta	
WMFO 1370 100	El Centro	Lamar	WATL 1370 100	
Dothan	KXO 1500 100	KIDW 1420 100	WGST 890 500 C	
WAGF 1370 250	Eureka	Pueblo	WSB 740 50000 N	
Gadsden	KIEM 1450 500	KGHF 1320 500	Augusta	
WJBY 1210 100	Fresno	Sterling	WRDW 1500 100	
Mobile	KMJ 580 1000 C	KGEK 1200 100	Columbus	
WALA 1380 500 C	Glendale	CONNECTICUT		
Montgomery	KIEV 850 100	Bridgeport	WRLB 1200 100	
WSFA 1410 500 C	Hollyweed	WICC 600 500 C	Griffin	
Selma	KFWB 950 1000	Hartford	WKUE 1500 100	
WHBB 1500 100	KMTR 970 1000	WDRG 1330 100 C	Macon	
Sheffield	KNX 1050 50000	WTIC 1040 50000 R	WMAZ 1180 1000	
WMSD 1420 100	Long Beach	WTHT 1200 100	Rome	
ALASKA		WNBG 1380 250	WRGA 1500 100	
Anchorage	KFOK 1250 1000	New Britain	Savannah	
KFQD 780 250	KGER 1360 1000	WNBC 1380 250	WTOG 1260 1000 C	
Juneau	Los Angeles	New Haven	Thomasville	
KINY 1310 100	KECA 1430 1000 N	WELI 900 50	WPAX 1210 250	
Ketchikan	KFAC 1300 1000	Storrs	HAWAII	
KGBU 900 500	KFI 640 50000 N	WCAC 600 500	Hilo	
ARIZONA		Waterbury	KHBC 1420 100	
Jerome	KFSG 1120 500	WATR 1190 100	Honolulu	
KCRJ 1310 100	KFVD 1000 250	WIXBS 1530 1000	KGMB 1320 1000 C	
Lowell	KGJ 1200 100	DELAWARE		
KSUN 1200 100	KHJ 900 1000 C	Wilmington	KGU 750 2500 N	
Phoenix	KRKK 1120 500	WDEL 1120 250	IDAHO	
KOY 1390 500	KTM 780 500	WILM 1420 100	Boise	
KRAR 620 1000 N	Modesto	DISTRICT OF COLUMBIA		
Tucson	KTRB 740 250	Washington	KIDO 1350 1000	
KGAR 1370 100	Oakland	WJSV 1460 10000 C	Idaho Falls	
KVOA 1260 500	KLS 1440 250	WMAL 630 250 B	KID 1320 250	
KUMA 1420 100	KLX 880 1000	WOL 1310 100	Lewiston	
ARKANSAS		WRC 950 500 R	KRLC 1420 100	
Blytheville	KPPC 1210 50	FLORIDA		
KLCN 1290 100	Sacramento	Clearwater	Nampa	
El Dorado	KFBK 1490 5000 C	WFLA 620 1000 N	KFXD 1200 100	
KELD 1370 100	San Bernardino	Daytona Beach	Pocatello	
Fayetteville	KFXM 1210 100	WMPJ 1420 100	KSEI 900 250	
KUOA 1260 1000	San Diego	Gainesville	Twin Falls	
Fort Smith	KFSD 600 1000 N	WRUF 830 5000	KTFI 1240 1000	
KFPW 1210 100	KBG 1330 1000 C	Jacksonville	ILLINOIS	
Hot Springs	San Francisco	WJAX 900 1000 N	Bloomington	
KTHS 1060 10000 N	KFRG 610 100 C	WMBR 1370 100 C	WJBC 1200 100	
Jonesboro	KGGC 1420 100	Lakeland	Carthage	
KBTM 1200 100	KGO 790 7500 N	WLAB 1310 100	WCAZ 1070 100	
Little Rock	KJBS 1070 500	Miami	Chicago	
KARK 890 250	KPO 680 50000 N	WIOD 1300 1000 N	WAAF 920 1000	
KGHI 1200 100	KSFO 560 1000	WQAM 560 1000 C	WBBM 770 50000 C	
KLRA 1390 1000 C	KYA 1230 1000 N	Orlando	WCFL 970 5000 B	
Pine Bluff	San Jose	WDBO 580 1000 C	WCRW 1210 100	
KOTN 1500 100	KQW 1010 1000	Pensacola	WENR 870 50000 N	
Texarkana	Santa Ana	WCOA 1340 500 C	WGES 1360 500	
KCMC 1420 100	KVOE 1500 100	St. Petersburg	WGN 720 50000	
CALIFORNIA		WAL 630 250 B	WJJD 1320 20000	
Bakersfield	Alamasa	WOL 1310 100	WLS 870 50000 N	
KERN 1370 100 C	KGIW 1420 100	WRC 950 500 R	WMAO 670 58000 N	
W6XAI 1550 1000	Colerado Springs	IDAHO		
Berkeley	KVOR 1270 1000 C	Boise	WJBC 1200 100	
KRE 1370 100	Denver	Idaho Falls	Carthage	
Beverly Hills	KFEL 920 500	KID 1320 250	WCAZ 1070 100	
KMPC 710 500	KLZ 560 1000 C	Lewiston	Chicago	
	KOA 830 50000 N	KRLC 1420 100	WAAF 920 1000	
	KPOF 880 500	Nampa	WBBM 770 50000 C	
	KVOD 920 500	KFXD 1200 100	WCFL 970 5000 B	
		Pocatello	WCRW 1210 100	
		KSEI 900 250	WENR 870 50000 N	
		Twin Falls	WGES 1360 500	
		KTFI 1240 1000	WGN 720 50000	
			WJJD 1320 20000	
			WLS 870 50000 N	
			WMAO 670 58000 N	
			WMBI 1080 5000	
			WBCB 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

<p>East St. Louis WTMY 1500 100 Harrisburg WEBQ 1210 100 Joliet WCLS 1310 100 Peoria WMBD 1440 500 C Quincy WTAD 900 500 Rockford WRCK 1410 500 Rock Island WHBF 1210 100 Springfield WCBS 1420 100 WTAX 1210 100 Tuscola WIDZ 1070 100 Urbana WILL 890 250 Waukegan WCBD 1080 5000</p>	<p>Shenandoah KFNF 890 500 KMA 930 1000 Sloux City KSCJ 1330 1000 C</p>	<p>MARYLAND</p> <p>Baltimore WBAL 760 2500 B WBAL 1060 10000 B WCAO 600 500 C WCBM 1370 100 WFBZ 1270 500 R Cumberland WTBO 800 250 Frederick WFMD 900 500 Hagerstown WJEF 1210 100</p>	<p>MINNESOTA</p> <p>Fergus Falls KGDE 1200 100 Hibbing WMFG 1210 100 Minneapolis WCCO 810 50000 C WDGJ 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</p>
<p>INDIANA</p> <p>Anderson WHRU 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 WKBY 1500 100 South Bend WFAM 1200 100 WSBT 1360 500 C Terre Haute WBOW 1310 100 West Lafayette WBAA 890 1000</p>	<p>KANSAS</p> <p>Abilene KFBI 1050 5000 Coffeyville KGCF 1010 1000 Dodge City KGNO 1340 250 Garden City KIUL 1210 100 Hutchinson KWBG 1420 100 Kansas City WLBZ 1420 100 Lawrence KFKU 1220 1000 WREN 1220 100 B Manhattan KSAC 580 500 Topeka WIBW 580 1000 C Wichita KFH 1300 1000 C</p>	<p>MASSACHUSETTS</p> <p>Boston WAAB 1410 500 C WBZ 990 50000 B WCOP 1120 500 WEI 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</p>	<p>MISSISSIPPI</p> <p>Clarksdale WMFN 1210 100 Gulfport WGCM 1210 100 Hattiesburg WPFB 1370 100 Jackson WJDZ 1270 1000 N Kosciusko WHEF 1500 100 Laurel WAML 1310 100 Meridian WCOC 880 500 Vicksburg WQBC 1360 1000</p>
<p>IOWA</p> <p>Ames WOI 640 5000 Boone KFGO 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</p>	<p>KENTUCKY</p> <p>Ashland WCM1 1310 100 Covington WCKY 1490 5000 B Lexington WLAP 1420 100 Louisville WAVE 940 1000 N WHAS 820 50000 C Paducah WPAD 1420 100</p>	<p>MICHIGAN</p> <p>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 WFDE 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 WBOE 1310 100 Muskegon WKBZ 1500 100 North Oak WEXL 1310 50</p>	<p>MISSOURI</p> <p>Cape Girardeau KFVS 1210 100 Columbia KFRU 630 500 Jefferson City WOS 630 500 Joplin WMBB 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 1000R KWK 1350 1000 B WEW 760 1000 WIL 1200 100 Springfield KGBX 1230 500 KWTO 560 5000</p>
	<p>LOUISIANA</p> <p>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 KTRS 1450 1000 N KWKH 1100 1000 C</p>		
	<p>MAINE</p> <p>Augusta WRDO 1370 100 Bangor WABI 1200 100 WLBZ 620 500 C Portland WCSH 940 1000 R Presque Isle WAGM 1420 100</p>		
			<p>MONTANA</p> <p>Billings KGHL 780 1000 N Butte KGIR 1340 1000 N Great Falls KFBB 1280 1000 Kallispell KGEZ 1310 100</p>

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Missoula KGVO 1260 1000 Wolf Point KGCC 1310 100	Auburn WMBO 1310 100 Binghamton WNBF 1500 100 Brooklyn WARD 1400 500 WBBC 1400 500 WBRR 1300 1000 WCNW 1500 100 WVGL 1400 500 WLTH 1400 500 WMBQ 1500 100 WVWF 1400 500 Buffalo WBEN 900 1000 R WBR 1310 100 WGR 550 1000 C WKBW 1480 5000 C WSVS 1370 50 WBNY 1370 100 Canton WCAD 1220 500 Chester WGNV 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 WVCA 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	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	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 KVUU 1140 25000 N
NEBRASKA	NORTH DAKOTA	OREGON	
Clay Center KMMJ 740 1000 Kearney KGFV 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	Bismarck KFYR 550 1000 N Devils Lake KDRL 1210 100 Fargo WDAY 940 1000 Grand Forks KFJM 1370 100 Mandan KGGU 1240 250 Minot KLPM 1240 250	Astoria KAST 1370 100 Corvallis KOAC 550 1000 Eugene KORE 1420 100 Klamath Falls KFJL 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	
NEVADA	OHIO	PENNSYLVANIA	
Reno KOH 1380 500 C	Akron WADC 1320 1000 C WJW 1210 100 Canton WHBC 1200 100 Cincinnati WKPC 1200 100 WKRC 550 1000 C WLW 700 50000 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	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 WHE 1430 500 C WBBO 1200 100 Hazleton WAZL 1420 100 Johnstown WJAC 1310 100 Lancaster WHAL 1500 100 Philadelphia KYW 1020 10000 R WGAA 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	
NEW HAMPSHIRE			
Laconia WLNJ 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 WGAM 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 KIUF 1310 100			
NEW YORK	NORTH CAROLINA		
Albany WABY 1370 100 WOKO 1430 500 C	Asheville WWNC 570 1000 N Charlotte WBT 1080 50000 C WSOC 1210 100 N Durham WDNC 1500 100 C		

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

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
WOK	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		
KS00	1110	2500
Vermillion		
KUSD	890	500
Watertown		
KWTN	1210	100
Yankton		
WNAX	570	1000 C

TENNESSEE

Bristol		
WOPI	1500	100
Chattanooga		
WDD	1280	1000 C
Jackson		
WTJS	1310	100
Knoxville		
WNOX	1010	1000 C

WROL	1310	100
Memphis		
WFBO	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	1560	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		
KFR0	1370	100
Lubbock		
KFY0	1310	100
Midland		
KRLH	1420	100
Palestine		
KNET	1420	100
Pampa		
KPDN	1310	100
Pecos		
KIUN	1420	100
Pert 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		
KRCV	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		
WNEX	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
KPPY	890	1000 C
KGA	1470	5000 N
KIHQ	590	1000 N
Tacama		
KMO	1330	250
KVI	570	1000 C
Walla Walla		
KUJ	1370	100
Wenatchee		
KPO	1500	100
Yakima		
KIT	1310	100

WEST VIRGINIA

Bluefield		
WHIS	1410	250
Charleston		
WCBS	580	500
Fairmont		
WMMN	890	500
Huntington		
WSAZ	1190	1000
Parkersburg		
WPAR	1420	100
Wheeling		
WWVA	1160	5000 C

WISCONSIN

Eau Claire		
WTAO	1330	1000
Fond du Lac		
KFIZ	1420	100
Green Bay		
WBHY	1200	100
Janesville		
WCLO	1200	100
LaCrosse		
WKBH	1380	1000
Madison		
WHA	940	1000
WIBA	1280	1000 N
Manitowish		
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		
WIBC	1290	1000 N

WYOMING

Casper		
KDFN	1440	500
Sheridan		
KWYO	1370	100

CANADA

ALBERTA

Calgary		
CFAC	930	100 F
CFCN	1030	10000
CJGJ	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

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

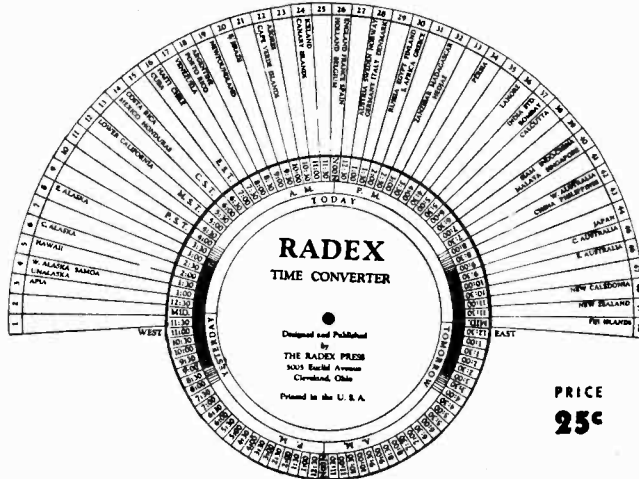
<p>Prince Rupert CFPR 580 50</p> <p>Trail CJAT 910 250 F</p> <p>Vancouver CJOR 600 500 CKCD 1010 100 CKFC 1410 50 CKMO 1410 100 F CKWX 1010 100 F CRCV 1100 500 F</p> <p>Victoria CFCT 1450 75</p> <hr/> <p style="text-align: center;">MANITOBA</p> <hr/> <p>Brandon CKX 1120 100 F</p> <p>Winnipeg CJRC 1390 100 F CKY 960 15000 F</p> <hr/> <p style="text-align: center;">NEW BRUNSWICK</p> <hr/> <p>Fredricton CFNB 550 500 F</p> <p>Moncton CKCW 1370 100 F</p> <p>St. John CHSJ 1120 500 F</p> <hr/> <p style="text-align: center;">N. W. TERRITORY</p> <hr/> <p>Aklavik CJCU 1210 50</p> <hr/> <p style="text-align: center;">NOVA SCOTIA</p> <hr/> <p>Glace Bay VAS 685 2000</p> <p>Halifax CHNS 930 1000 F</p> <p>Sydney CJCB 1240 1000 F</p> <p>Wolfville CKIC 1010 50</p> <p>Yarmouth CJLS 1310 100</p> <hr/> <p style="text-align: center;">ONTARIO</p> <hr/> <p>Brantford CKPC 930 100 F</p> <p>Chatham CFCO 630 100 F</p> <p>Cobalt CKMC 1210 50</p> <p>Fort William CKPR 930 100 F</p> <p>Hamilton CHML 1010 100 F CKOC 1120 500 F</p> <p>Kingston CRFC 1510 100</p> <p>Kirkland Lake CJKL 1310 100</p> <p>London CFPL 730 100 F</p> <p>North Bay CFCH 930 100 F</p> <p>Ottawa CKGO 1010 100 F CRCO 880 1000 F</p> <p>Prescott CFLC 930 100</p> <p>St. Catharines CKTB 1200 100 F</p> <p>Sault Ste. Marie CJIC 1500 100</p>	<p>Stratford CJCS 1210 50</p> <p>Sudbury CKSO 780 1000 F</p> <p>Timmins CKGB 1420 100</p> <p>Toronto CFRB 690 10000 C CKCL 580 100 F CRCT 840 5000 N</p> <p>Waterloo CKCR 1510 100</p> <p>Windsor CKLW 1030 5000 CRCW 600 500 F</p> <p>Wingham CKNX 1200 50</p> <hr/> <p style="text-align: center;">PRINCE EDWARD ISLAND</p> <hr/> <p>Charlottetown CFCY 630 1000 F CHCK 1310 50</p> <p>Summerside CHGS 1450 50 F</p> <hr/> <p style="text-align: center;">QUEBEC</p> <hr/> <p>Chicoutimi CRCS 950 100 F</p> <p>Hull CKCH 1210 100 F</p> <p>Montmagny VE9K 1185 10</p> <p>Montreal CFCF 600 400 N CHLP 1120 100 F CKAC 730 5000 C CRGM 910 5000 F</p> <p>New Carlisle CHNC 1410 500 F</p> <p>Quebec CHRC 580 100 F CKCV 1310 100 F CKCK 1010 1000 F CRCK 1050 1000</p> <hr/> <p style="text-align: center;">SASKATCHEWAN</p> <hr/> <p>Moose Jaw CHAB 1200 100 F CJRM 540 1000 F</p> <p>Prince Albert CKBI 1210 100 F</p> <p>Regina CHWC 1010 500 F CKCK 1010 500 F</p> <p>Saskatoon CFQC 840 1000 F</p> <p>Yerkton CJGX 630 1000 F</p> <hr/> <p style="text-align: center;">NEWFOUNDLAND</p> <hr/> <p>St. John's VOAC 1065 40 VOAS 940 100 VOGY 840 400 VONF 1195 500 VOWR 681 500</p> <hr/> <p style="text-align: center;">MIQUELON</p> <hr/> <p>St. Pierre FQN 609 250</p>	<p style="text-align: center;">CENTRAL AMERICA</p> <hr/> <p style="text-align: center;">COSTA RICA</p> <hr/> <p>Cartago TIFS 1441 7.5 TIGA 1014 30</p> <p>San Jose TIEP 850 500 TIFA 1050 75 TIGH 1000 500 TIRH 930 50</p> <hr/> <p style="text-align: center;">GUATEMALA</p> <hr/> <p>Guatemala City TGW 1210 10000 TGX 1400 250</p> <hr/> <p style="text-align: center;">HONDURAS</p> <hr/> <p>Tegucigalpa HRN 1270 100</p> <hr/> <p style="text-align: center;">NICARAGUA</p> <hr/> <p>Managua YNLF 1275 20 YNOP 1230 100 YNVA 950 30</p> <hr/> <p style="text-align: center;">PANAMA</p> <hr/> <p>Colon HP50 1440 25</p> <hr/> <p style="text-align: center;">EL SALVADOR</p> <hr/> <p>San Salvador RDN 680 500</p> <hr/> <p style="text-align: center;">MEXICO</p> <hr/> <p style="text-align: center;">AGUASCALIENTES</p> <hr/> <p>Aguascalientes XFA 1310 5 XFC 810 350</p> <hr/> <p style="text-align: center;">CHIHUAHUA</p> <hr/> <p>Chihuahua XEFI 1440 250</p> <p>Juarez XEFV 1210 100 XEJ 1020 1000</p> <hr/> <p style="text-align: center;">COAHUILA</p> <hr/> <p>Piedras Negras XELO 1110 10000 XEPN 590 50000</p> <p>Saltito XEAS 1160 100 XEOX 640 500</p> <p>Torreón XETB 1310 125</p> <p>Villa Acuna XERA 840 250000</p> <hr/> <p style="text-align: center;">D. F.</p> <hr/> <p>Mexico City XEAI 1240 100 XEB 1030 10000 XECW 1310 10</p>	<p>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</p> <hr/> <p style="text-align: center;">DURANGO</p> <hr/> <p>Durango XEE 1210 50</p> <hr/> <p style="text-align: center;">GUANAJUATO</p> <hr/> <p>Guajuato XEAZ 1420 7</p> <p>Leon XEKL 1240 500</p> <hr/> <p style="text-align: center;">JALISCO</p> <hr/> <p>Guadalajara XEA 1060 500 XED 1155 2500</p> <hr/> <p style="text-align: center;">LOWER CALIFORNIA</p> <hr/> <p>Coronado Island XEMZ 820</p> <p>Ensenada XEG 1270 200</p> <p>Mexicali XEAA 920 200 XEAO 560 250</p> <p>Tijuana XEAQ 1090 1000 XEC 1160 30 XEFL 1150 500 XEMO 860 5000 XEMZ 1210 250 XEOK 760 250 XESL 1160</p> <hr/> <p style="text-align: center;">MICHOACAN</p> <hr/> <p>Morelia XEI 1370 125</p> <hr/> <p style="text-align: center;">NUEVO LEON</p> <hr/> <p>Monterrey XEFB 1420 100 XEFJ 1230 100 XEI 1150 250 XET 690 500 XEX 1310 125</p> <hr/> <p style="text-align: center;">OAXACA</p> <hr/> <p>Oaxaca XEAJ 1310 15</p> <hr/> <p style="text-align: center;">PUEBLA</p> <hr/> <p>Puebla XETH 1210 100</p> <hr/> <p style="text-align: center;">SAN LUIS POTOSI</p> <hr/> <p>San Luis Potosi XEZZ 1370 100</p>
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p style="text-align: center;">SONORA</p> <p>Hermosillo XEBH 1000 500 Nogales XEAF 990 500</p> <hr/> <p style="text-align: center;">TAMAULIPAS</p> <p>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</p> <hr/> <p style="text-align: center;">VERACRUZ</p> <p>Jalapa XFB 1270 250 XFD 1340 350 Veracruz XETF 1220 12 XEU 1010 250</p> <hr/> <p style="text-align: center;">YUCATAN</p> <p>Merida XEFC 560 100</p>	<p>KEY 1000 10 XEZ 630 500</p> <p style="text-align: center;">WEST INDIES</p> <hr/> <p style="text-align: center;">CUBA</p> <p>Caibarien CMHD 1270 250</p> <p>Camaguey CMJA 1010 300 CMJC 1390 150 CMJE 1220 50 CMJF 1150 200 CMJK 780 250 CMJL 1340 100 CMJP 1430 100</p> <p>Cardenas CMGE 1370 50</p> <p>Ciego de Avila CMJH 1360 100 CMJI 1130 50 CMJO 1180 50</p> <p>Cienfuegos CMHJ 1160 100 CMHW 810 100 CMHX 760 500</p> <p>Cruces CMHK 1330 250</p>	<p style="text-align: center;">Havana</p> <p>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</p> <p style="text-align: center;">Holguin</p> <p>CMKF 1460 50</p>	<p style="text-align: center;">Manzanillo</p> <p>CMKM 1120 200</p> <p style="text-align: center;">Matanzas</p> <p>CMGC 1400 100 CMGF 1120 100 CMGI 1420 50</p> <p style="text-align: center;">Sagua la Grande</p> <p>GMHA 1070 50 Sancti Spiritus CMHB 1240 50</p> <p style="text-align: center;">Santa Clara</p> <p>CMHI 1210 150</p> <p style="text-align: center;">Santiago</p> <p>CMKC 1250 150 CMKD 1050 250 CMKR 1400 100 CMKV 1190 50</p> <hr/> <p style="text-align: center;">DOMINICAN REPUBLIC</p> <p>San Pedro de Macoris HHH 1395 15</p> <p style="text-align: center;">Santo Domingo</p> <p>HIJ 1195 15 HIX 800 700 HIZ 1300 10</p> <hr/> <p style="text-align: center;">HAITI</p> <p>Port-au-Prince HHK 920 1000</p>
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RADEX RADIO MAP of the WORLD

Showing all Countries and their Principal Cities
with Call Letters and Time Zones of each Country



PRICE
25¢

DIRECTIONS—Turn the dial to the desired hour, either A. M. or P. M., in the sector marked "TODAY" opposite your own zone, and the correct time in all other zones in the world will be shown. It will also be indicated which of the other zones are "Yesterday," and which are "Tomorrow." This section of multiple dialing and time is especially adapted to the New Zealand zone, if you desire to run in a New Zealand program, turn the hour of the program (say 9:00 p. m.) to the New Zealand zone and you will find that it is 4:30 A. M. same day in Eastern Standard Time or 11 P. M. yesterday in Hawaii.

Just turn the dial to the time in your zone and—Presto! Change—there is the time for every other place in the world.

No adding; no subtracting; no trying to figure which is yesterday, today or tomorrow. The dial does it all.

Big map of the world showing all principal cities and their time zones.

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THE RADEX PRESS INC.
CONNEAUT,
OHIO
U. S. A.

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930 Calgary, Alta.	100	CJLS 1310 Yarmouth, N. S.	100	CMBS 770 Havana, Cuba	150
CFCF 600 Montreal, Que.	400	CJOC 1230 Lethbridge, Alta.	100	CMBX 1380 Havana, Cuba	500
CFCH 930 North Bay, Ont.	100	CJOR 600 Vancouver, B. C.	500	CMBY 640 Havana, Cuba	150
CFCN 1030 Calgary, Alta.	10000	CJRC 1390 Winnipeg, Man.	100	CMBZ 1000 Havana, Cuba	250
CFCO 630 Chatham, Ont.	100	CJRM 540 Moose Jaw, Sask.	1000	CMCA 1350 Havana, Cuba	250
CFCT 1450 Victoria, B. C.	75	CKAC 730 Montreal, Que.	5000	CMCB 1230 Havana, Cuba	150
CFCY 630 Charlottetown, P.E.I.	1000	CKBI 1210 Prince Albert, Sask.	100	CMCD 960 Havana, Cuba	250
CFJC 880 Kamloops, B. C.	180	CKCD 1010 Vancouver, B. C.	100	CMCF 815 Havana, Cuba	250
CFLC 930 Prescott, Ont.	100	CKCH 1210 Hull, Que.	100	CMCG 1255 Havana, Cuba	250
CFNB 550 Fredericton, N. B.	500	CKCK 1010 Regina, Sask.	500	CMCJ 1200 Havana, Cuba	350
CFPL 730 London, Ont.	100	CKCL 580 Toronto, Ont.	100	CMCN 1500 Havana, Cuba	150
CFPR 580 Prince Rupert, B. C.	50	CKCO 1010 Ottawa, Ont.	100	CMCO 1110 Havana, Cuba	250
CFQC 840 Saskatoon, Sask.	1000	CKCR 1510 Waterloo, Ont.	100	CMCQ 680 Havana, Cuba	250
CFRB 690 Toronto, Ont.	10000	CKCV 1310 Quebec, Que.	100	CMCR 1410 Havana, Cuba	150
CFRC 1510 Kingston, Ont.	100	CKCW 1370 Moneton, N. B.	100	CMCU 1280 Havana, Cuba	150
CFRN 1260 Edmonton, Alta.	180	CKFC 1410 Vancouver, B. C.	50	CMCW 758 Havana, Cuba	150
CHAB 1200 Moose Jaw, Sask.	100	CKGB 1420 Timmins, Ont.	100	CMCX 660 Havana, Cuba	150
CHCK 1310 Charlottetown, P.E.I.	50	CKIC 1010 Wolfville, N. S.	50	CMCY 1030 Havana, Cuba	1000
CHGS 1450 Summerside, P.E.I.	50	CKLW 1030 Windsor, Ont.	5000	CMGC 1400 Matanzas, Cuba	100
CHLP 1120 Montreal, Que.	100	CKMC 1210 Cobalt, Ont.	50	CMGE 1370 Cardenas, Cuba	50
CHML 1010 Hamilton, Ont.	100	CKMO 1410 Vancouver, B. C.	100	CMGF 1120 Matanzas, Cuba	100
CHNC 1410 New Carlisle, Que.	500	CKNX 1200 Wingham, Ont.	50	CMGI 1420 Matanzas, Cuba	50
CHNS 930 Halifax, N. S.	1000	CKOC 1120 Hamilton, Ont.	500	CMHA 1070 Sagua la Grande, Cu.	50
CHRC 580 Quebec, Que.	100	CKOV 630 Kelowna, B. C.	100	CMHB 1240 Sancti Spiritus, Cuba	50
CHSJ 1120 St. John, N. B.	500	CKPC 930 Brantford, Ont.	100	CMHD 1270 Caibarien, Cuba	250
CHWC 1010 Regina, Sask.	500	CKPR 930 Fort William, Ont.	100	CMHI 1210 Santa Clara, Cuba	150
CHWK 780 Chilliwack, B. C.	180	CKSO 780 Sudbury, Ont.	1000	CMHJ 1160 Cienfuegos, Cuba	100
CJAT 910 Trail, B. C.	250	CKTB 1200 St. Catherines, Ont.	180	CMHK 1330 Cruces, Cuba	250
CJCA 730 Edmonton, Alta.	1000	CKUA 580 Edmonton, Alta.	500	CMHW 810 Cienfuegos, Cuba	100
CJCB 1248 Sydney, N. S.	1000	CKWX 1010 Vancouver, B. C.	100	CMHX 760 Cienfuegos, Cuba	500
CJ CJ 690 Calgary, Alta.	108	CKX 1120 Brandon, Man.	100	CMJA 1010 Camaguey, Cuba	300
CJCS 1210 Stratford, Ont.	50	CKY 960 Winnipeg, Man.	15000	CMJC 1390 Camaguey, Cuba	150
CJCU 1210 Aklavik, N. W. T.	50	CMBC 940 Havana, Cuba	500	CMJE 1220 Camaguey, Cuba	50
CJGX 630 Yorktown, Sask.	1000	CMBD 1170 Havana, Cuba	150	CMJF 1150 Camaguey, Cuba	200
CJIC 1500 St. Ste. Marie, Ont.	100	CMBG 1140 Havana, Cuba	200	CMJH 1360 Ciego de Avila, Cuba	100
CJKL 1310 Kirkland Lake, Ont.	180	CMBN 880 Havana, Cuba	150	CMJI 1130 Ciego de Avila, Cuba	50

NORTH AMERICAN B. C. STATIONS BY CALLS

CMJK 780	250	KALE 1300	500	KFJ1 1210	100
Camaguey, Cuba		Portland, Ore.		Klamath Falls, Ore.	
CMJL 1340	100	KARK 890	250	KFJM 1370	100
Camaguey, Cuba		Little Rock, Ark.		Grand Forks, N. D.	
CMJO 1180	50	KASA 1210	100	KFJR 1380	500
Ciego de Avila, Cuba		Elk City, Okla.		Portland, Ore.	
CMJP 1430	100	KAST 1370	100	KFJZ 1370	100
Camaguey, Cuba		Astoria, Ore.		Fort Worth, Texas	
CMK 1060	250	KBIX 1500	100	KKFA 880	500
Havana, Cuba		Muskogee, Okla.		Greeley, Colo.	
CMKC 1250	150	KBPS 1420	100	KFKU 1220	1000
Santiago, Cuba		Portland, Ore.		Lawrence, Kans.	
CMKD 1050	250	KBTM 1200	100	KFNF 890	500
Santiago, Cuba		Jonesboro, Ark.		Shenandoah, Iowa	
CMKF 1460	50	KCMC 1420	100	KFOR 1210	100
Holguin, Cuba		Texarkana, Ark.		Lincoln, Neb.	
CMKM 1120	200	KCRC 1360	250	KFOX 1250	1000
Manzanillo, Cuba		Enid, Okla.		Long Beach, Calif.	
CMKR 1400	100	KCRJ 1310	100	KFPL 1310	100
Santiago, Cuba		Jerome, Ariz.		Dublin, Texas	
CMKV 1190	50	KDB 1500	100	KFPW 1210	100
Santiago, Cuba		Santa Barbara, Calif.		Fort Smith, Ark.	
CMOA 790	150	KDFN 1440	500	KFPY 890	1000
Havana, Cuba		Casper, Wyo.		Spokane, Wash.	
CMOK 1470	150	KDKA 980	50000	KFQD 780	250
Havana, Cuba		Pittsburgh, Pa.		Aneorage, Alaska	
CMOX 1320	250	KDLR 1210	100	KFRC 610	1000
Havana, Cuba		Devils Lake, N. D.		San Francisco, Calif.	
CMQ 880	500	KDON 1210	100	KFRO 1370	100
Havana, Cuba		Del Monte, Calif.		Longview, Texas	
CMW 600	1000	KDYL 1290	1000	KFRU 630	500
Havana, Cuba		Salt Lake City, Utah		Columbia, Mo.	
CMX 920	650	KECA 1430	1000	KFSD 600	1000
Havana, Cuba		Los Angeles, Calif.		San Diego, Calif.	
CRCK 1050	1000	KELD 1370	180	KFSG 1120	500
Quebec, Que.		El Dorado, Ark.		Los Angeles, Calif.	
CRCM 910	5000	KELW 780	500	KFUO 550	500
Montreal, Que.		Burbank, Calif.		St. Louis, Mo.	
CRCO 880	1000	KERN 1370	100	KFVD 1000	250
Ottawa, Ont.		Bakersfield, Calif.		Los Angeles, Calif.	
CRCS 950	100	KEX 1180	5000	KFVS 1210	100
Chicoutimi, Que.		Portland, Ore.		Cape Girardeau, Mo.	
CRCT 840	5000	KFAB 770	10000	KFWB 950	1000
Toronto, Ont.		Lincoln, Neb.		Hollywood, Calif.	
CRCV 1100	500	KFAC 1300	1000	KFXD 1200	100
Vancouver, B. C.		Los Angeles, Calif.		Nampa, Idaho	
CRCW 600	500	KFBB 1280	1000	KFXJ 1280	100
Windsor, Ont.		Great Falls, Mont.		Grand Jet., Colo.	
FQN 609	250	KFBI 1050	5000	KFXM 1210	100
St. Pierre, Miq.		Abilene, Kans.		San Bernardino, Calif.	
HHK 920	1000	KFBK 1490	5000	KFXR 1310	100
Port-au-Prince, Haiti		Sacramento, Calif.		Oklahoma City, Okla.	
HIH 1395	15	KFDM 560	500	KFYO 1310	100
San Pedro de M., D.R.		Beaumont, Texas		Lubbock, Texas	
HIJ 1195	15	KFDY 780	1000	KFYR 550	1000
Santo Domingo, D. R.		Brookings, S. D.		Blrnmarek, N. D.	
HIX 800	700	KFEL 920	500	KGA 1470	5000
Santo Domingo, D. R.		Denver, Colo.		Spokane, Wash.	
HIZ 1300	10	KFEQ 680	2500	KGAR 1370	100
Santo Domingo, D. R.		St. Joseph, Mo.		Tucson, Ariz.	
HP50 1440	25	KFGQ 1370	100	KGB 1330	1000
Colon, Panama		Boone, Iowa		San Diego, Calif.	
HRN 1270	100	KFH 1300	1000	KGBU 900	500
Tegucigalpa, Hond.		Wichita, Kans.		Ketchikan, Alaska	
KABC 1420	180	KFI 640	50000	KGBX 1230	500
San Antonio, Texas		Los Angeles, Calif.		Springfield, Mo.	
KABR 1420	180	KFIO 1120	100	KGBZ 930	1000
Aberdeen, S. Dak.		Spokane, Wash.		York, Neb.	
KADA 1280	100	KFIZ 1420	100	KGCA 1270	100
Ada, Okla.		Fond du Lac, Wis.		Decorah, Iowa	
KALB 1420	100	KFJB 1200	100	KGCU 1240	250
Alexandria, La.		Marshalltown, Iowa		Mandan, N. D.	

NORTH AMERICAN B. C. STATIONS BY CALLS

KG CX 1310 100	KHBC 1420 100	KMPC 710 508
Wolf Point, Mont.	Hilo, T. H.	Beverly Hills, Calif.
KGDE 1200 100	KHJ 900 1000	KNTR 570 1000
Fergus Falls, Minn.	Los Angeles, Calif.	Hollywood, Calif.
KGDM 1100 1000	KHQ 590 1000	KNEL 1500 100
Stockton, Calif.	Spokane, Wash.	Brady, Texas
KG DY 1340 250	KHSL 950 250	KNET 1420 100
Huron, S. D.	Chico, Calif.	Palestine, Texas
KGEK 1200 100	KICA 1370 100	KNOW 1500 100
Sterling, Colo.	Clovis, N. M.	Austin, Texas
KGER 1360 1000	KID 1320 250	KNX 1050 58000
Long Beach, Calif.	Idaho Falls, Idaho	Hollywood, Calif.
KGEZ 1310 100	KIDO 1350 1000	KOA 830 50000
Kalispell, Mont.	Boise, Idaho	Denver, Colo.
KGFF 1420 100	KIDW 1420 100	KOAC 550 1000
Shawnee, Okla.	Lamar, Colo.	Corvallis, Ore.
KGFG 1370 100	KIEM 1450 500	KOB 1180 10000
Oklahoma City, Okla.	Eureka, Calif.	Albuquerque, N. M.
KGFI 1500 100	KIEV 850 100	KOH 1380 500
Corpus Christi, Texas	Glendale, Calif.	Reno, Nev.
KG FJ 1200 100	KINY 1316 100	KOIL 1260 1000
Los Angeles, Calif.	Juneau, Alaska	Council Bluffs, Iowa
KGFK 1500 100	KIRO 710 500	KOIN 940 1000
Moorhead, Minn.	Seattle, Wash.	Portland, Ore.
KGFL 1370 100	KIT 1310 100	KOL 1270 1000
Roswell, N. M.	Yakima, Wash.	Seattle, Wash.
KGFW 1310 100	KIUJ 1310 100	KOMA 1480 5000
Kearney, Neb.	Santa Fe, N. Mex.	Oklahoma City, Okla.
KGFX 630 200	KIUL 1210 100	KOQ 928 1000
Pierre, S. D.	Garden City, Kans.	Seattle, Wash.
KG GC 1420 100	KIUN 1420 100	KONO 1370 100
San Francisco, Calif.	Pecos, Texas	San Antonio, Texas
KG GF 1010 1000	KIUP 1370 100	KOOS 1390 250
Coffeyville, Kans.	Durango, Colo.	Marshfield, Ore.
KGGM 1230 250	KJBS 1070 508	KORE 1420 100
Albuquerque, N. M.	San Francisco, Calif.	Eugene, Ore.
KGHF 1320 500	KJR 970 5000	KOTN 1500 100
Pueblo, Colo.	Seattle, Wash.	Fine Bluffs, Ark.
KGHI 1200 100	KLCN 1290 100	KOY 1390 500
Little Rock, Ark.	Blytheville, Ark.	Phoenix, Ariz.
KGHL 780 1000	KLO 1400 500	KPAC 1260 500
Billings, Mont.	Ogden, Utah	Port Arthur, Texas
KGIR 1340 1000	KLPM 1240 250	KPDN 1310 100
Butte, Mont.	Minot, N. D.	Pampa, Texas
KG IW 1420 100	KLRA 1390 1000	KPLC 1500 100
Alamosa, Colo.	Little Rock, Ark.	Lake Charles, La.
KGKB 1500 100	KLS 1440 250	KPO 680 50000
Tyler, Texas	Oakland, Calif.	San Francisco, Calif.
KGKL 1370 100	KLUF 1370 100	KPOF 880 500
San Angelo, Texas	Galveston, Texas	Denver, Colo.
KGKO 570 250	KLX 880 1000	KPPC 1210 50
Wichita Falls, Texas	Oakland, Calif.	Pasadena, Calif.
KGKY 1500 100	KLZ 560 1000	KPQ 1500 100
Scottsbluff, Neb.	Denver, Colo.	Wenatchee, Wash.
KGMB 1320 1000	KMA 930 1000	KPRC 920 1000
Honolulu, T. H.	Shenandoah, Iowa	Houston, Texas
KGNC 1410 1000	KMAC 1370 100	KQV 1380 500
Amarillo, Texas	San Antonio, Texas	Pittsburgh, Pa.
KGNF 1430 1000	KMBC 950 1000	KQW 1010 1000
North Platte, Neb.	Kansas City, Mo.	San Jose, Calif.
KGNO 1340 250	KMED 1310 100	KRE 1370 100
Dodge City, Kans.	Medford, Ore.	Berkeley, Calif.
KGO 790 7500	KMIJ 580 1000	KRGV 1260 500
San Francisco, Calif.	Fresno, Calif.	Weslaco, Texas
KGU 750 2500	KMLB 1200 100	KRKD 1120 500
Honolulu, T. H.	Monroe, La.	Los Angeles, Calif.
KGVO 1269 1000	KMMJ 740 1000	KRKO 1370 50
Missoula, Mont.	Clay Center, Neb.	Everett, Wash.
KGW 620 1000	KMO 1330 250	KRLC 1420 100
Portland, Ore.	Tacoma, Wash.	Lewiston, Idaho
KGY 1210 100	KMOX 1090 50000	KRLD 1040 10000
Olympia, Wash.	St. Louis, Mo.	Dallas, Texas

NORTH AMERICAN B. C. STATIONS BY CALLS

KRLH 1420 Midland, Texas	100	KVOA 1260 Tucson, Ariz.	500	VAS 685 Glace Bay, N. S.	2000
KRMD 1310 Shreveport, La.	100	KVOD 920 Denver, Colo.	500	VESEK 1185 Montmagny, Que.	10
KRRR 1590 Roseburg, Ore.	100	KVOE 1500 Santa Ana, Calif.	100	VOAC 1065 St. John's, Nfld.	40
KRNT 1320 Des Moines, Iowa	500	KVOL 1310 Lafayette, La.	100	VOAS 940 St. John's, Nfld.	100
KROC 1310 Rochester, Minn.	100	KVOO 1140 Tulsa, Okla.	25000	VOGY 840 St. John's, Nfld.	400
KROW 930 Oakland, Calif.	1000	KVOR 1270 Colorado Spgs., Colo.	1000	VONF 1195 St. John's, Nfld.	500
KRSC 1120 Seattle, Wash.	100	KVOS 1200 Bellingham, Wash.	100	VOWR 681 St. John's, Nfld.	500
KSAC 580 Manhattan, Kans.	500	KVSO 1210 Ardmore, Okla.	100	WAAB 1410 Boston, Mass.	500
KSCJ 1330 Sioux City, Iowa	1000	KWBG 1420 Hutchinson, Kans.	100	WAAF 920 Chicago, Ill.	1000
KSD 550 St. Louis, Mo.	1000	KWG 1200 Stockton, Calif.	100	WAAT 940 Jersey City, N. J.	500
KSEI 900 Pocatello, Idaho	250	KWJJ 1040 Portland, Ore.	500	WAAW 660 Omaha, Neb.	500
KSFO 560 San Francisco, Calif.	1000	KWK 1350 St. Louis, Mo.	1000	WABC 860 New York, N. Y.	50000
KSL 1130 Salt Lake City, Utah	50000	KWKC 1370 Kansas City, Mo.	100	WABI 1200 Bangor, Maine	100
KSLM 1370 Salem, Ore.	100	KWKH 1160 Shreveport, La.	10000	WABY 1370 Albany, N. Y.	100
KSO 1430 Des Moines, Iowa	500	KWLC 1270 Decorah, Iowa	100	WACO 1420 Waco, Texas	100
KS00 1110 Sioux Falls, S. D.	2500	KWSC 1220 Pulman, Wash.	1000	WADC 1320 Akron, Ohio.	1000
KSTP 1460 St. Paul, Minn.	25000	KWTN 1210 Watertown, S. D.	100	WAGF 1370 Dothan, Ala.	250
KSUN 1200 Lowell, Ariz.	100	KWTO 560 Springfield, Mo.	5000	WAGM 1420 Presque Isle, Me.	100
KTAR 620 Phoenix, Ariz.	1000	KWYO 1370 Sheridan, Wyo.	100	WAIM 1200 Anderson, S. C.	100
KTAT 1240 Fort Worth, Texas	1000	KXA 760 Seattle, Wash.	250	WAIU 640 Columbus, Ohio	500
KTBS 1450 Shreveport, La.	1000	KXL 1420 Portland, Ore.	100	WALA 1380 Mobile, Ala.	500
KTFI 1240 Twin Falls, Idaho	1000	KXO 1500 El Centro, Calif.	100	WALR 1210 Zanesville, Ohio	100
KTHS 1060 Hot Springs, Ark.	10000	KXRO 1310 Aberdeen, Wash.	100	WAML 1310 Laurel, Miss.	100
KTM 780 Los Angeles, Calif.	500	KXYZ 1440 Houston, Texas	1000	WAPI 1140 Birmingham, Ala.	5000
KTRB 740 Modesto, Calif.	250	KYA 1230 San Francisco, Calif.	1000	WARD 1400 Brooklyn, N. Y.	500
KTRH 1290 Houston, Texas	1000	KYW 1020 Philadelphia, Pa.	10000	WASH 1270 Grand Rapids, Mich.	500
KTSA 550 San Antonio, Texas	1000	NAA 690 Arlington, Va.	1000	WATL 1370 Atlanta, Ga.	100
KTSM 1310 El Paso, Texas	100	RDN 680 San Salvador, E. S.	500	WATR 1190 Waterbury, Conn.	100
KTUL 1400 Tulsa, Okla.	500	TGW 1210 Guatemala, Gua.	10000	WAVE 940 Louisville, Ky.	1000
KTW 1220 Seattle, Wash.	1000	TGX 1400 Guatemala City	250	WAWZ 1350 Zarephath, N. J.	500
KUJ 1370 Walla Walla, Wash.	1000	TIEP 850 San Jose, C. R.	500	WAZL 1420 Hazleton, Pa.	100
KUMA 1420 Yuma, Ariz.	100	TIFA 1050 San Jose, C. R.	75	WBAA 890 West Lafayette, Ind.	1000
KUOA 1260 Fayetteville, Ark.	1000	TIFS 1441 Cartago, C. R.	7.5	WBAL 760 Baltimore, Md.	2500
KUSD 890 Vermillion, S. D.	500	TIGA 1014 Cartago, C. R.	30	WBAL 1060 Baltimore, Md.	10000
KVI 570 Tacoma, Wash.	1000	TIGH 1000 San Jose, C. R.	500	WBAP 808 Fort Worth, Texas	50000
KVL 1370 Seattle, Wash.	100	TIRH 930 San Jose, C. R.	50	WBAX 1210 Wilkes-Barre, Pa.	100

NORTH AMERICAN B. C. STATIONS BY CALLS

WBBC 1400	500	WCBS 1420	100	WBEQ 1210	100
Brooklyn, N. Y.		Springfield, Ill.		Harrisburg, Ill.	
WBBL 1210	100	WCCO 810	50000	WBRB 1310	100
Richmond, Va.		Minneapolis, Minn.		Buffalo, N. Y.	
WBBM 770	50000	WCFL 970	5000	WEDC 1210	100
Chicago, Ill.		Chicago, Ill.		Chicago, Ill.	
WBBR 1300	1000	WCHS 580	500	WEED 1420	180
Brooklyn, N. Y.		Charleston, W. Va.		Rocky Mount, N. C.	
WBBZ 1200	100	WCHV 1420	100	WEEL 590	1000
Ponca City, Okla.		Charlottesville, Va.		Boston, Mass.	
WBCM 1410	500	WCKY 1490	5000	WEEU 830	1000
Bay City, Mich.		Covington, Ky.		Reading, Pa.	
WBEN 900	1000	WCLO 1200	180	WEGL 1400	500
Buffalo, N. Y.		Janesville, Wis.		Brooklyn, N. Y.	
WBEO 1310	100	WCLS 1310	100	WEHS 1420	100
Marquette, Mich.		Joliet, Ill.		Cicero, Ill.	
WBIG 1440	500	WCMI 1310	100	WELI 900	500
Greensboro, N. C.		Ashland, Ky.		New Haven, Conn.	
WBNO 1200	100	WCNW 1500	100	WELL 1420	100
New Orleans, La.		Brooklyn, N. Y.		Battle Creek, Mich.	
WBNS 1430	500	WCOA 1340	500	WEMP 1310	100
Columbus, Ohio		Pensacola, Fla.		Milwaukee, Wis.	
WBNX 1350	250	WCOC 880	500	WENR 870	50000
New York, N. Y.		Meridian, Miss.		Chicago, Ill.	
WBNY 1370	100	WCOL 1210	100	WEOA 1370	100
Buffalo, N. Y.		Columbus, Ohio		Evansville, Ind.	
WBOQ 860	50000	WCOP 1120	500	WESG 850	1000
New York, N. Y.		Boston, Mass.		Elmira, N. Y.	
WBOW 1310	100	WCPO 1200	100	WEST 1200	100
Terre Haute, Ind.		Cincinnati, Ohio		Easton, Pa.	
WBRB 1210	100	WCRW 1210	100	WEVD 1300	1000
Red Bank, N. J.		Chicago, Ill.		New York, N. Y.	
WBRC 930	1000	WCSC 1360	500	WEW 760	1800
Birmingham, Ala.		Charleston, S. C.		St. Louis, Mo.	
WBRE 1310	100	WCSH 940	1000	WEXL 1310	50
Wilkes-Barre, Pa.		Portland, Me.		Royal Oak, Mich.	
WBT 1080	50000	WDAE 1220	1000	WFAA 800	50000
Charlotte, N. C.		Tampa, Fla.		Dallas, Texas	
WBTM 1370	100	WDAF 610	1000	WFAB 1300	1000
Danville, Va.		Kansas City, Mo.		New York, N. Y.	
WBZ 990	50000	WDAH 1310	100	WFAM 1200	100
Boston, Mass.		El Paso, Texas		South Bend, Ind.	
WBZA 990	1000	WDAS 1370	100	WFAS 1210	100
Springfield, Mass.		Philadelphia, Pa.		White Plains, N. Y.	
WCAC 600	500	WDAY 940	1000	WFBC 1300	1000
Storrs, Conn.		Faigo, N. D.		Greenville, S. C.	
WCAD 1220	500	WDBJ 930	1000	WFBG 1310	100
Canton, N. Y.		Roanoke, Va.		Altoona, Pa.	
WCAE 1220	1000	WDBO 580	1000	WFBL 1360	1000
Pittsburgh, Pa.		Orlando, Fla.		Syracuse, N. Y.	
WCAL 1250	1000	WDEL 1120	250	WFBM 1230	1000
Northfield, Minn.		Wilmington, Del.		Indianapolis, Ind.	
WCAM 1280	580	WDEV 550	500	WFBR 1270	500
Camden, N. J.		Waterbury, Vt.		Baltimore, Md.	
WCAO 600	500	WDGY 1180	1000	WFDF 1310	100
Baltimore, Md.		Minneapolis, Minn.		Flint, Mich.	
WCAP 1280	500	WDNC 1500	100	WFEE 1340	500
Asbury Park, N. J.		Durham, N. C.		Manchester, N. H.	
WCAT 1200	100	WDOO 1280	1000	WFIL 560	1000
Rapid City, S. D.		Chattanooga, Tenn.		Philadelphia, Pa.	
WCAU 1170	50000	WDRG 1330	1000	WFLA 620	1000
Philadelphia, Pa.		Hartford, Conn.		Clearwater, Fla.	
WCAX 1200	100	WDSU 1250	1000	WFMD 900	500
Burlington, Vt.		New Orleans, La.		Frederick, Md.	
WCAZ 1070	100	WDZ 1070	100	WGL 1500	100
Carthage, Ill.		Tuscola, Ill.		Lancaster, Pa.	
WCBA 1440	500	WEAF 660	50000	WGAR 1450	500
Allentown, Pa.		New York, N. Y.		Cleveland, Ohio	
WCBD 1080	5000	WEAN 780	500	WGBB 1210	100
Waukegan, Ill.		Providence, R. I.		Freeport, N. Y.	
WCBI 1370	100	WBCB 1290	1000	WGBT 630	500
Baltimore, Md.		Superior, Wis.		Evansville, Ind.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WGBI 880	500	WHLB 1370	100	WJEJ 1210	100
Scranton, Pa.		Virginia, Minn.		Hagerstown, Md.	
WGCM 1210	100	WHN 1010	1000	WJIM 1210	100
Gulfport, Miss.		New York, N. Y.		Lansing, Mich.	
WGES 1360	500	WHO 1000	50000	WJJD 1130	20000
Chicago, Ill.		Des Moines, Iowa		Chicago, Ill.	
WGH 1310	100	WHOM 1450	250	WJMS 1420	100
Newport News, Va.		Jersey City, N. J.		Ironwood, Mich.	
WGL 1370	100	WHP 1430	500	WJNO 1200	100
Fort Wayne, Ind.		Harrisburg, Pa.		W. Palm Beach, Fla.	
WGN 720	50000	WIBA 1280	1000	WJR 750	50000
Chicago, Ill.		Madison, Wis.		Detroit, Mich.	
WGNV 1210	100	WIBG 970	100	WJSV 1460	10000
Chester, N. Y.		Glenside, Pa.		Washington, D. C.	
WGPC 1420	100	WIBM 1370	100	WJW 1210	100
Albany, Ga.		Jackson, Mich.		Akron, Ohio	
WGR 550	1000	WIBU 1210	100	WJZ 760	50000
Buffalo, N. Y.		Poynette, Wis.		New York, N. Y.	
WGST 890	1000	WIBW 580	1000	WKAQ 1240	1000
Atlanta, Ga.		Topeka, Kans.		San Juan, P. R.	
WGY 790	50000	WIBX 1200	100	WKAR 850	1000
Schenectady, N. Y.		Utica, N. Y.		East Lansing, Mich.	
WHA 940	1000	WICC 600	500	WKBB 1500	100
Madison, Wis.		Bridgeport, Conn.		East Dubuque, Ill.	
WHAM 1150	50000	WIL 1200	100	WKHB 1380	1000
Rochester, N. Y.		St. Louis, Mo.		LaCrosse, Wis.	
WHAS 820	50000	WILL 890	250	WKBI 1420	100
Louisville, Ky.		Urbana, Ill.		Cleora, Ill.	
WHAT 1310	100	WILM 1420	100	WKBN 570	500
Philadelphia, Pa.		Wilmington, Del.		Youngstown, Ohio	
WHAZ 1300	500	WIND 560	1000	WKBO 1200	100
Troy, N. Y.		Gary, Ind.		Harrisburg, Pa.	
WHB 860	1000	WINS 1180	1000	WKBV 1500	100
Kansas City, Mo.		New York, N. Y.		Richmond, Ind.	
WHBB 1580	100	WIOD 1300	1000	WKBW 1480	5000
Selma, Alabama		Miami, Fla.		Buffalo, N. Y.	
WHBC 1200	100	WIP 610	1000	WKBZ 1500	100
Canton, Ohio		Philadelphia, Pa.		Muskegon, Mich.	
WHBF 1210	100	WIRE 1400	500	WKEU 1500	100
Rock Island, Ill.		Indianapolis, Ind.		Griffin, Ga.	
WHBI 1250	1000	WIS 560	1000	WKOK 1210	100
Newark, N. J.		Columbia, S. C.		Sunbury, Pa.	
WHBL 1410	500	WISN 1120	250	WKRC 550	1000
Sheboygan, Wis.		Milwaukee, Wis.		Cincinnati, Ohio	
WHBQ 1370	100	WJAC 1310	100	WKY 900	1000
Memphis, Tenn.		Johnstown, Pa.		Oklahoma City, Okla.	
WHBU 1210	100	WJAG 1068	1000	WKZO 590	1000
Anderson, Ind.		Norfolk, Neb.		Kalamazoo, Mich.	
WHBY 1280	100	WJAR 898	500	WLAC 1470	5000
Green Bay, Wis.		Providence, R. I.		Nashville, Tenn.	
WHDF 1370	100	WJAS 1290	1000	WLAK 1310	100
Calumet, Mich.		Pittsburgh, Pa.		Lakeland, Fla.	
WHDH 830	1000	WJAX 900	1000	WLAP 1420	100
Boston, Mass.		Jacksonville, Fla.		Lexington, Ky.	
WHDL 1420	100	WJAY 610	500	WLB 1250	1000
Olean, N. Y.		Cleveland, Ohio		Minneapolis, Minn.	
WHEB 740	250	WJBC 1200	100	WLCB 1310	100
Portsmouth, N. H.		Bloomington, Ill.		Muncie, Ind.	
WHEC 1430	500	WJBK 1508	100	WLBF 1420	100
Rochester, N. Y.		Detroit, Mich.		Kansas City, Kans.	
WHEF 1500	100	WJBL 1200	100	WLEL 980	2500
Kosciusko, Miss.		Decatur, Ill.		Stevens Point, Wis.	
WHFC 1420	100	WJBO 1420	100	WLBZ 620	500
Cicero, Ill.		Baton Rouge, La.		Bangor, Me.	
WHIO 1260	1000	WJBR 1420	100	WLEU 1420	100
Dayton, Ohio		Gastonia, N. C.		Erie, Pa.	
WHIS 1410	250	WJBW 1280	100	WLLH 1370	100
Bluefield, W. Va.		New Orleans, La.		Lowell, Mass.	
WHJB 620	250	WJBY 1210	100	WLNH 1310	100
Greensburg, Pa.		Gadsden, Ala.		Laconia, N. H.	
WHK 1390	1000	WJDX 1270	1000	WLS 870	50000
Cleveland, Ohio		Jackson, Miss.		Chicago, Ill.	

NORTH AMERICAN B. C. STATIONS BY CALLS

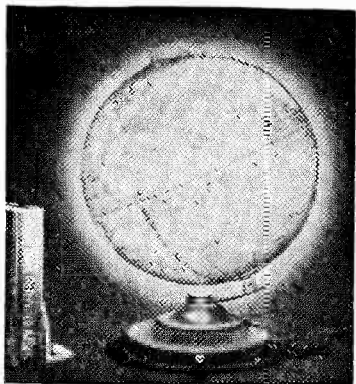
WLTH 1400 Brooklyn, N. Y.	500	WNBR 1430 Memphis, Tenn.	500	WPTF 680 Raleigh, N. C.	5000
WLVA 1200 Lynchburg, Va.	100	WNBX 1260 Springfield, Vt.	1000	WQAM 560 Miami, Fla.	1000
WLW 700 Cincinnati, Ohio	500000	WNBZ 1290 Saranac Lake, N. Y.	100	WQAN 880 Scranton, Pa.	250
WLWL 1100 New York, N. Y.	5000	WNEL 1290 San Juan, P. R.	1000	WQBC 1360 Vicksburg, Miss.	1000
WMAL 630 Washington, D. C.	250	WNEW 1250 Newark, N. J.	1000	WQDM 1370 St. Albans, Vt.	100
WMAQ 670 Chicago, Ill.	50000	WNOX 1010 Knoxville, Tenn.	1000	WRAC 1370 Williamsport, Pa.	100
WMAS 1420 Springfield, Mass.	100	WNRI 1200 Newport, R. I.	100	WRAW 1310 Reading, Pa.	100
WMAZ 1180 Macon, Ga.	1000	WNYC 810 New York, N. Y.	1000	WRAX 920 Philadelphia, Pa.	250
WMBC 1420 Detroit, Mich.	100	WOAI 1190 San Antonio, Texas	50000	WRBL 1200 Columbus, Ga.	100
WMBD 1440 Peoria, Ill.	500	WOC 1370 Davenport, Iowa	100	WRC 950 Washington, D. C.	500
WMBG 1210 Richmond, Va.	100	WOCL 1210 Jamestown, N. Y.	50	WRDO 1370 Augusta, Me.	100
WMBH 1420 Joplin, Mo.	100	WOI 640 Ames, Iowa	5000	WRDW 1500 Augusta, Ga.	100
WMBI 1080 Chicago, Ill.	5000	WOKO 1430 Albany, N. Y.	500	WREC 600 Memphis, Tenn.	1000
WMBO 1310 Auburn, N. Y.	100	WOL 1310 Washington, D. C.	100	WREN 1220 Lawrence, Kans.	1000
WMBQ 1500 Brooklyn, N. Y.	100	WOMT 1210 Manitowoc, Wis.	100	WRGA 1500 Rome, Ga.	100
WMBR 1370 Jacksonville, Fla.	100	WOOD 1270 Grand Rapids, Mich.	500	WRJN 1370 Racine, Wis.	100
WMC 780 Memphis, Tenn.	1000	WOPI 1500 Bristol, Tenn.	100	WROK 1410 Rockford, Ill.	500
WMCA 570 New York, N. Y.	580	WOR 710 Newark, N. J.	50000	WROL 1310 Knoxville, Tenn.	100
WMEX 1500 Boston, Mass.	100	WORC 1280 Worcester, Mass.	500	WRRT 1280 Dallas, Texas	500
WMFD 1370 Wilmington, N. C.	100	WORK 1320 York, Pa.	1000	WRUF 830 Gainesville, Fla.	5000
WMFF 1318 Plattsburg, N. Y.	250	WORL 920 Needham, Mass.	500	WRVA 1110 Richmond, Va.	5000
WMFG 1218 Hibbing, Minn.	100	WOS 630 Jefferson City, Mo.	500	WSAJ 1330 Cincinnati, Ohio	1000
WMFJ 1420 Daytona Beach, Fla.	100	WOSU 570 Columbus, Ohio	750	WSAJ 1310 Grove City, Pa.	100
WMFN 1210 Clarksdale, Miss.	100	WOV 1130 New York, N. Y.	1000	WSAN 1440 Allentown, Pa.	500
WMFO 1370 Decatur, Ala.	100	WOW 590 Omaha, Neb.	5000	WSAR 1350 Fall River, Mass.	1000
WMFR 1200 High Point, N. C.	100	WOWO 1160 Fort Wayne, Ind.	10000	WSAY 1210 Rochester, N. Y.	100
WMMN 890 Fairmount, W. Va.	500	WPAD 1420 Paducah, Ky.	100	WSAZ 1190 Huntington, W. Va.	1000
WMPC 1200 Lapeer, Mich.	100	WPAR 1420 Parkersburg, W. Va.	100	WSB 740 Atlanta, Ga.	50000
WMSD 1420 Sheffield, Ala.	100	WPAX 1210 Thomasville, Ga.	250	WSBC 1210 Chicago, Ill.	100
WMT 600 Cedar Rapids, Iowa	1300	WPAY 1370 Portsmouth, Ohio	100	WSBT 1360 South Bend, Ind.	500
WNAC 1230 Boston, Mass.	1900	WPEN 920 Philadelphia, Pa.	250	WSFA 1410 Montgomery, Ala.	500
WNAD 1010 Norman, Okla.	1300	WPFB 1370 Hattiesburg, Miss.	100	WSGN 1310 Birmingham, Ala.	100
WNAX 570 Yankton, S. D.	1300	WPG 1190 Atlantic City, N. J.	5000	WSIX 1210 Springfield, Tenn.	100
WNBC 1380 New Britain, Conn.	250	WPHR 880 Petersburg, Va.	500	WSJS 1310 Winston-Salem, N. C.	100
WNBF 1500 Binghamton, N. Y.	100	WPRO 630 Providence, R. I.	250	WSM 650 Nashville, Tenn.	50000
WNBH 1310 New Bedford, Mass.	100	WPRP 1420 Ponce, P. R.	100	WSMB 1320 New Orleans, La.	500

NORTH AMERICAN B. C. STATIONS BY CALLS

WSMK 1380	200	WWRL 1500	100	XEG 1270	200
Dayton, Ohio		Woodside, N. Y.		Ensenada, B. C.	
WSOC 1210	100	WWSW 1500	100	XEH 1150	250
Charlotte, N. C.		Pittsburgh, Pa.		Monterrey, N. L.	
WSPA 920	1000	WWVA 1160	5000	XEI 1370	125
Spartanburg, S. C.		Wheeling, W. Va.		Morelia, Mich.	
WSPD 1340	1000	WXYZ 1240	1000	XEJ 1020	1000
Toledo, Ohio		Detroit, Mich.		Juarez, Chih.	
WSPR 1140	500	WIXBS 1530	1000	XEK 990	100
Springfield, Mass.		Waterbury, Conn.		Mexico City, D. F.	
WSUI 880	500	W2XR 1550	1900	XEKL 1240	500
Iowa City, Iowa		Long Island City, N. Y.		Leon, Guan.	
WSUN 620	1000	WXAI 1550	1800	XEL 1100	250
St. Petersburg, Fla.		Bakersfield, Calif.		Mexico City, D. F.	
WVA 550	500	W9XB 1530	1000	XELO 1110	10000
Harrisonburg, Va.		Kansas City, Mo.		Piedras Negras, Coah.	
WVSV 1370	50	XEA 1060	500	XEMA 1080	50
Buffalo, N. Y.		Guadalajara, Jal.		Tampico, Tams.	
WVYB 1500	100	XEAA 920	200	XEMO 860	5000
Rutland, Vt.		Mexicali, B. C.		Tijuana, L. C.	
WSYR 570	250	XEAF 990	500	XEMX 1280	12
Syracuse, N. Y.		Nogales, Son.		Mexico City, D. F.	
WTAD 900	500	XEAI 1240	100	XEMZ 820	.....
Quincy, Ill.		Mexico City, D. F.		Coronado Isl., L. C.	
WTAG 580	500	XEAJ 1310	15	XEMZ 1210	250
Worcester, Mass.		Oaxaca, Oax.		Tijuana, L. C.	
WTAL 1310	100	XEAM 750	7.5	XEN 710	1000
Tallahassee, Fla.		Matamoros, Tams.		Mexico City, D. F.	
WTAM 1070	50000	XEAO 560	250	XENT 910	65000
Cleveland, Ohio		Mexicali, B. C.		Nuevo Laredo, Tams.	
WTAQ 1330	1000	XEAQ 1090	1000	XEOK 760	250
Eau Claire, Wis.		Tijuana, B. C.		Tijuana, L. C.	
WTAR 780	500	XEAS 1160	100	XEOX 640	500
Norfolk, Va.		Saltillo, Coah.		Saltillo, Coah.	
WTAW 1120	500	XEAW 960	50000	XEP 840	500
College Station, Tex.		Reynosa, Tams.		Mexico City, D. F.	
WTAX 1210	100	XEAZ 1420	7	XEPN 590	50000
Springfield, Ill.		Guanajuato, Gto.		Piedras Negras, Coah.	
WTBO 800	250	XEB 1030	10000	XERA 840	250000
Cumberland, Md.		Mexico City, D. F.		Villa Acuna, Coah.	
WTCN 1250	1000	XEBH 1000	500	XES 990	250
Minneapolis, Minn.		Hermosillo, Sonora		Tampico, Tams.	
WTEL 1310	100	XEC 1160	30	XESL 1160	.....
Philadelphia, Pa.		Tijuana, L. C.		Tijuana, L. C.	
WTFI 1450	500	XECW 1310	10	XET 690	500
Athens, Ga.		Mexico City, D. F.		Monterrey, N. L.	
WTHT 1200	100	XED 1155	2500	XETB 1310	125
Hartford, Conn.		Guadalajara, Jal.		Torreon, Coah.	
WTIC 1040	50000	XEE 1210	50	XETF 1220	12
Hartford, Conn.		Durango, Dgo.		Veracruz, Ver.	
WTJS 1310	100	XEFA 1180	500	XETH 1210	100
Jackson, Tenn.		Mexico City, D. F.		Puebla, Pue.	
WTMJ 620	1000	XEFB 1420	100	XETW 820	500
Milwaukee, Wis.		Monterrey, N. L.		Mexico City, D. F.	
WTMV 1500	100	XEFC 560	100	XEU 1010	250
East St. Louis, Ill.		Merida, Yuc.		Veracruz, Ver.	
WTNJ 1280	500	XEFE 850	250	XEW 890	50000
Trenton, N. J.		Laredo, Tams.		Mexico City, D. F.	
WTOC 1260	1800	XEFI 1440	250	XEWZ 1150	100
Savannah, Ga.		Chihuahua, Chih.		Mexico City, D. F.	
WTRC 1310	100	XEFJ 1230	100	XEX 1310	125
Elkhart, Ind.		Monterrey, N. L.		Monterrey, N. L.	
WVFW 1400	500	XEFL 1150	500	XEY 1000	10
Brooklyn, N. Y.		Tijuana, L. C.		Merida, Yuc.	
WVAE 1200	100	XEFO 940	5000	XEYZ 780	10000
Hammond, Ind.		Mexico City, D. F.		Mexico City, D. F.	
WWJ 920	1000	XEFV 1210	100	XEZ 630	500
Detroit, Mich.		Juarez, Chih.		Merida, Yuc.	
WWL 850	10000	XEFW 1310	250	XEZZ 1370	100
New Orleans, La.		Tampico, Tams.		San Luis Potosi, S.L.P.	
WWNC 570	1000	XEFZ 1370	100		
Asheville, N. C.		Mexico City, D. F.			

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<i>Page 106</i>		Mexico City, D. F.		
XFA	1310	XFX	610	1080
Aguascalientes, Arg.		Mexico City, D. F.		
XFB	1270	YNLF	1275	20
Jalapa, Ver.		Managua, Nicaragua		
XFC	810	YNOP	1230	100
Aguascalientes, Arg.		Managua, Nicaragua		
XFD	1340	YNVA	950	100
Jalapa, Ver.		Managua, Nicaragua		

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"The Beginners' Story of Radio" takes you on a tour through your own radio set, pointing out in language a young boy can understand, just what each part does and just what happens when you turn the dial. With this book available, no one can be excused for an ignorance of the elements of Radio.

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Price 50 cents postpaid.

THE RADEX Radio Map of the World, eleven by twenty-two inches in size, portrays the countries and principal cities of the world and shows their time zones. On the front cover is a dial marked with the hours of the day. You simply turn this dial to the hour in your zone and instantly the corresponding times for the whole world are shown. The hours where twilight, darkness and dawn occur are graphically shown. The dial also indicates where the time is yesterday, today or tomorrow. Thus if you set the dial for 3:00 a. m. in the Eastern Standard zone, the time is shown in Hawaii as 9:30 p. m. **YESTERDAY**. If set for 9:00 a. m. **EST**, the time in New Zealand is shown as 1:30 a. m. **TOMORROW**.

If you desire to hear a program in Germany which occurs at 6:00 a. m. their time, the dial shows that you must listen at midnight, **EST**. There are no mental calculations to make—no adding nor subtracting—the dial does it all.

The price of the Map of the World with Time-Converting Dial is only 25 cents postpaid.

IT IS so easy to forget to tune in a favorite program that we have prepared what we call the RADEX Radio "Slate." It consists of four pages of heavy Bristol board on which pencil entries may easily be made and erased. The eight columns are ruled into fifteen-minute periods with space for the program, the station and the dial number. All of the evening hours and those of Sunday afternoon are provided for. You merely enter the names of the programs you wish to hear, the station over which you receive it best and the dial number. The "Slate" then reminds you in the most convenient way possible, when and where to tune for the programs you do not want to miss.

Price, 10 cents each, two for 15 cents or four for 25 cents.

THE RADEX PRESS INC.
CONNEAUT, OHIO



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)

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