

N.S.E.

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

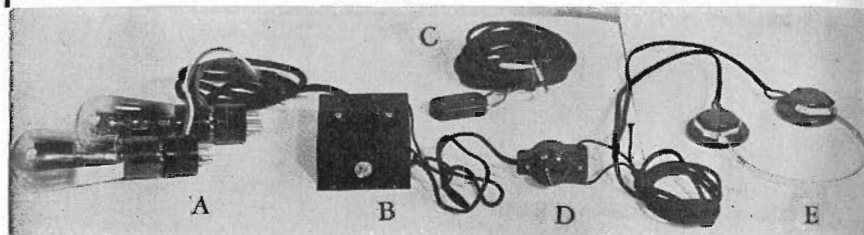
Get Ready for "Old Man Static"

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.

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Adapter with 2000-ohm phones.....	6.70
Adapter with the very best "Featherweight" 24,000-ohm phones	12.00

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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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- ★ nations strong!
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- ★ Reich Sport Field—with the magnificent new 23-
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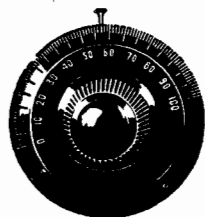
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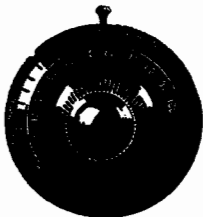
March 1, 1936



RADIO IN INDEX

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TWELFTH YEAR

NUMBER 97

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In her own program twice a week.

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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

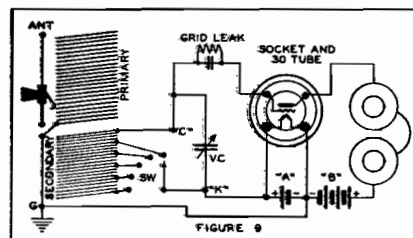
tuning pre-selector system consisting of coils and condensers.

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.

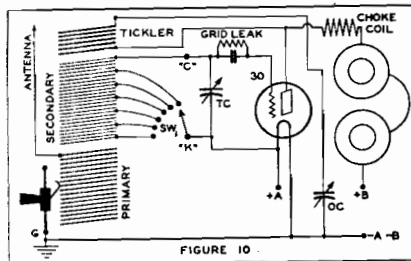
To the tuner portion of the circuit shown in Figures 5 and 9, we may add a third circuit. This tuner has a primary and secondary coil. Let us add a third or "tickler" coil. It is by means of this third coil that "regenerative" or "feed-back" action is obtained.

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 $\frac{1}{8}$ 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 bypass 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, unreported 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 32, 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 meg. 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 meg., 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 meg. VP3MR, the Georgetown, British Guiana station on 7080 kcs. comes in very well with its test programs. Incidentally, this call sign does not appear to be legal, because the prefix VP3- is assigned to Malta. British Guiana has VR-.

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

"Broadcasting Reykjavik"

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

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

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

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

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

More Latin-American Phones

Users of Lafayette receivers are invited to correspond with Russell W. Foss, 52 Linwood St., Lynn, Mass. Some of the new stations he has heard on his Lafayette are CMB2, Havana, 5780 kcs., testing with New York in the early evening. Three Zeesen, Germany, stations. DJJ, 10.042; DJP, 11.855, and DJH, 14.460 meg. 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 megs, which tests with New Orleans. HI1S, Puerto Plata, Dominican Republic, 6.425 megs, known as "La Voz de Espanola." HJU, Buenaventura, Colombia, 9080 kcs., broadcasts on Tuesdays and Saturdays from 8 until 10 or 11 p.m., EST.; this station, according to Mr. Gozen, expects to move to 9500 kcs. soon. VK3ME is reported to have shifted from 9503 to 9490 kcs. to avoid interference with GSB.

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

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

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

A Triangular Antenna

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

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

"A new General Electric receiver has been added to the Comet-Pro already in use, and the results of the first month's operation of this new receiver have been most gratifying," states J. G. Richard Heckscher, Devon, Pa. "The outstanding s.w. catches have been JVF, Nazaki, and KAY and 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., Williams-ville, N. Y., gives the frequency of CYQ as 2.318 megs., and the power as 400 watts. He says they test on the hour and the half hour, in addition to the usual police calls.

The Story of YV2RC

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

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

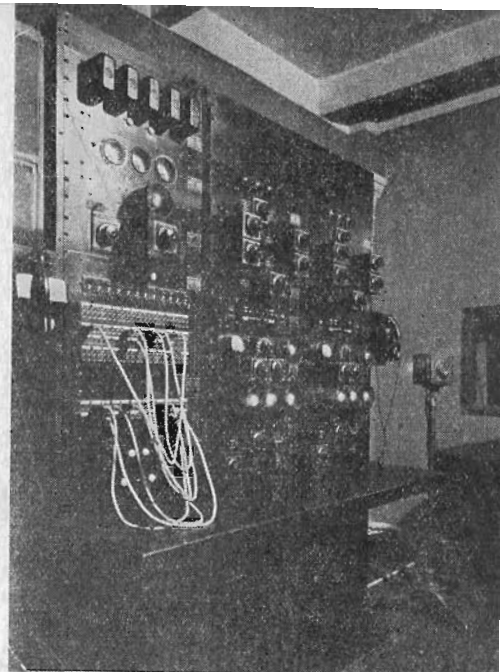
came "radio mad". Not much time had elapsed before the rest of the country was asking for a more powerful station as they, too, wished to hear Caracas.

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

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

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

Broadcasting Caracas is run on the same basis as stations in the United States, having commercial programs sponsored by business firms and 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

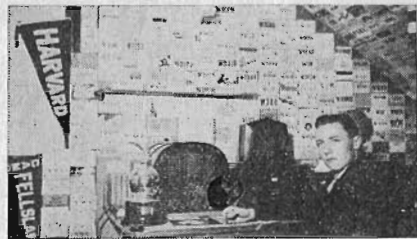
programs) are making a political issue of the treatment they have been receiving in contrast to the financial aid which the party in power has given to the National stations. This is probably the first time that a DX-er has been appealed to in a political contest. Special books have been printed and 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 Radfo 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, 505 S. Main St., Red Lion, Pa., sums up the situation neatly when he admits: "I log to the dictates of my conscience. I have counted WBZ and WBZA as two stations. Why? I cannot explain, but I

did and I do not intend to change. I do not count new calls nor changes in frequencies. Only when I feel that a complicated change of call, frequency and location justifies, do I log such changes. There are many cases when I have not counted a change, yet at some future date I may reverse the decision and decide to log the transmitter as a new catch. DXing is my own particular hobby, participated in for my own personal enjoyment, and I will indulge according to my own tastes, regardless of criticism."

Some New Mexicans

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

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

THE MONTH'S CHANGES

NEW		
1140	WSPR	Springfield, Mass.
1200	WJNO	W. Palm Beach, Fla.
	WTHT	Hartford, Conn.
1310	WLAK	Lakeland, Fla.
1400	WEGL	Brooklyn, N. Y.
1500	KBIX	Muskogee, Okla.
POWER		
560	WIS	Columbia, S. C., 1000 from 500
760	WBAL	Baltimore, Md., 2500 from 10000
890	WGST	Atlanta, Ga., 1000 from 500
930	KROW	Oakland, Calif., 1000 from 500
1090	XEAF	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 Brdstg. Co.

The Monthly Round Table

• • • By the DX EDITOR

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

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

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

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

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

DXers received a pleasant surprise early in the year with the appearance of a series of test programs from

foreign stations. According to Walter Birch, writing in the NRC bulletin, the Bureau of Standards arranged a number of test transmissions for the purpose of studying the field intensities of the stations and comparing the absorption of radio waves at broadcast frequencies.

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

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

What a CPC this Bureau of Standards would make!

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

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

"Besides these stations, my foreign log includes YV1RC, CPX, LR4, LR5, HJN, CX26, Lyons, Montpelier, Frankfurt, Hamburg, Konigsberg, Bremen, IIMI, IITR, IITO, IINA, SBH, Copenhagen, PFBI, EAJ7, and CTIGL."

"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 kcs."



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

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

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

"I have a 1935 Grunow 7-tube 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 aeriels: 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, CFRC 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 keys 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 keys, which no other DXer has reported hearing. The Aussies are terrible compared to last year, although 1YA and 3YA are good. XGOA comes in here very well, as does MTCY. Static this year has been the worst I have ever heard. In spite of it, I have added plenty of new ones, so reception must be considered improved over this time last year."

A Question . . .

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

. . . And An Answer

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

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

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

"In the December issue, you welcomed me into the Analytical Club," avers Nicholas J. Hock, The Scientific DXer, 20 Burnet St., Newark, N. J. "Thanks! Here are a few more statistics: verified in 1929—

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

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

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 16R.

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 kcys and heard a strong carrier which I believed to be XEAW. At 02:09, I tuned back again, hoping that XEAW had shut down. You may be able to appreciate my surprise to hear a fanfare and Poste Parisien coming on the air with clear French announcements. At 04:00, when I turned the set off,

they were still coming in, although somewhat weaker. Their signal was about R7, and never dropped below an R4 on even a severe fade. Receiving this station gave me my greatest thrill in all my DXing."

An S.O.S. Or Three

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

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

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

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



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

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

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

"I have been failing the DX game," admits Luther E. Grim, 505 S. Main St., Red Lion, Pa., "and have succumbed to the desires of long and pleasant sleep when once I hit the

hay. Somehow, the old game has lost its drawing power, although I do cling to some of its side-lines. Perhaps I will be able to shake the lackadaisical attitude before so very long. On scattered occasions, when I just happened to dial aimlessly, I have made several additions to my log, but the catches are nothing to write home about."

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

No West Coasters

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

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

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

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

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

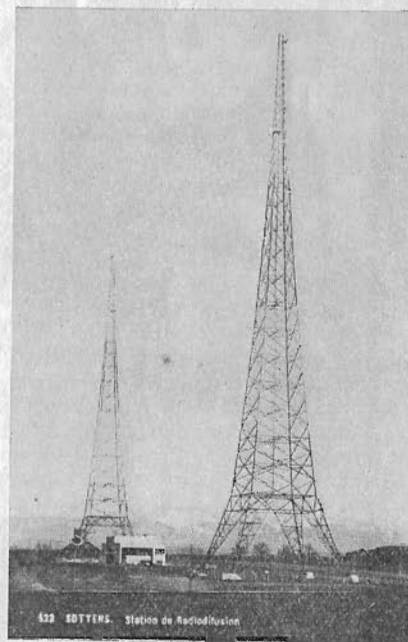
At 9:30, we transfer our attention to the Japanese stations, and suffice it to state that they come in at splendid volume until after midnight. Continuing westward, we jump to China and the East. XGOA and MTCY (100 KW) come in like locals after 2FC closes down. KZRM, in the Philippines, and HSPI and 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 VUD 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 617 kcs. and the power was boosted early this year to 100 kw. A good target for eastern tuners.

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 NNRCers will be greatly appreciated. Please be assured that we, of KFXM, have always and still do feel honored to be a member of your vast organization." *NNRC bulletin, January 20.*



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

Metal Tubes

Yes and No

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

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

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

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

Twenty Meter Reception in England

• • • By George W. Haylock

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

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

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

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

W2DSB, working duplex with F8DR in Paris, the Frenchman could be heard reasonably well through the American transmitter.

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

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

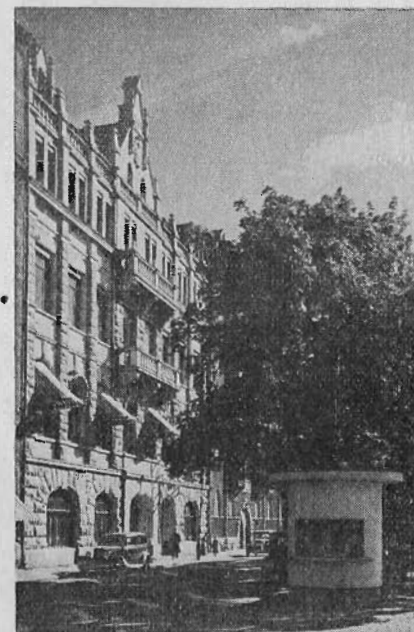
Two good catches here are HP1A and HI7G, the latter putting out a very good signal considering his power of 100 watts. Costa Rica is represented by TI3AV; Puerto Rico by K4SA. VP6YB is another frequently heard station, while VP9R is heard at good strength but rather bad quality.

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

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

THE MONTH'S CHANGES ON THE SHORTWAVES

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



Here is the Broadcasting House of Finland where the programs of Radio 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 fellowed 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?

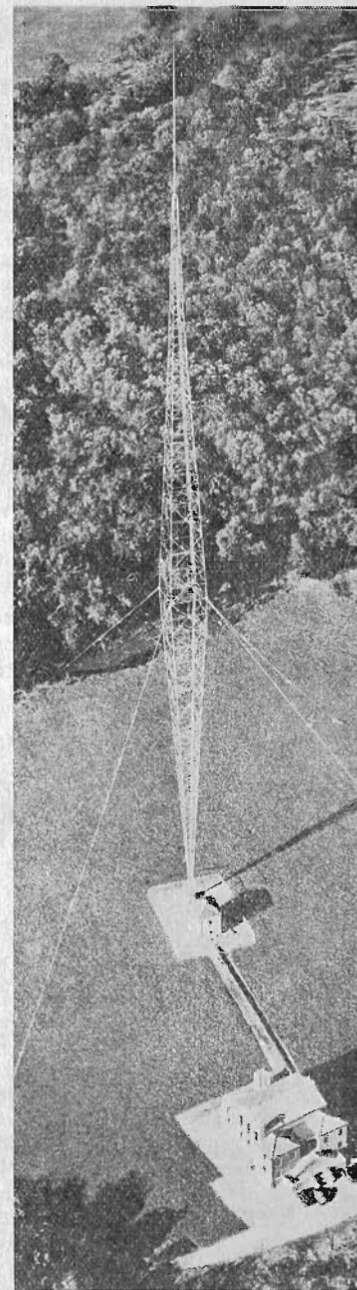
Theoretically, the sun has crossed the equator during the spring equinox. During this time, the sun's influence seems to exert a pull on all signals away from the path which they took during the time when the sun was south of the equator.

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.

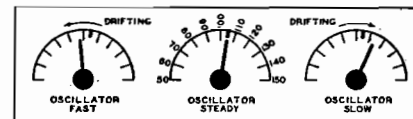
Following the r-f stage or pre-selector tube is the first detector or mixer tube. Connected to it is another tube called the oscillator. Older sets use these two tubes separately, but the newer receivers utilize the special dual-purpose mixer tubes, such as the 6A7 type. Whether the detector-oscillator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

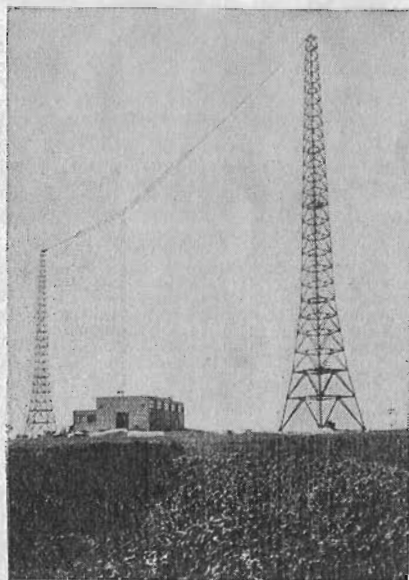
Sunday Mornings

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. CDXR
4:00-4:30	KFNF	890	Shenandoah, Iowa
4:00-5:00	WHAZ	1300	Troy, N. Y. CDXR
4:00-6:00	WTRC	1310	Elkhart, Ind. NNRC
March 22			
1:00-2:00	CMKC	1250	Santiago, Cuba IDA
1:00-5:00	CMBX	1380	Havana, Cuba UDXC
3:00-5:00	CFCT	1450	Victoria, B. C. CDXR
4:00-5:00	WGBF	630	Evansville, Ind. UDXC
	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	PCC		Frequency Checks
2:30-4:30	KID	1320	Idaho Falls, Idaho NNRC
3:00-4:00	KFRO	1370	Longview, Texas NNRC
March 23			
1:00-2:00	CMKC	1250	Santiago, Cuba IDA
March 30			
5:15-5:45	WALA	1380	Mobile, Ala.
March 2, 9, 16, 23, 30			
12:01-2:00	CMHW	810	Cienfuegos, Cuba
1:00-2:00	WGES	1360	Chicago, Illinois
Tuesday Mornings			
March 3			
3:00-4:00	WNEL	1290	San Juan, P. R.
March 10			
2:00-3:00	W1XBS	1530	Waterbury, Conn.
2:00-6:20	FCC		Frequency Checks
3:00-4:30	12M	1260	Manurewa, N. Z. URDXC
6:00-6:30	KFBI	1050	Abilene, Kans.
March 17			
1:00-4:00	WDAY	940	Fargo, N. D.
2:00-3:30	KIUL	1210	Garden City, Kans.
March 3, 10, 17, 24, 30			
1:00-2:00	WHEF	1500	Kosciusko, Miss.

3:00-4:00	KFXM	1210	San Bernardino, Cal.
5:00-5:15	WBNS	1430	Columbus, Ohio
Wednesday Mornings			
March 4			
1:00-1:30	WEBC	1290	Superior, Wisc.
March 11			
2:00-6:10	FCC		Frequency Checks
2:30-3:00	WHBQ	1370	Memphis, Tenn. NNRC
March 18			
2:00-2:30	KWTO	560	Springfield, Mo.
2:30-3:00	WCMI	1310	Ashland, Ky.
	WHBQ	1370	Memphis, Tenn. CDXR
March 25			
2:30-on	WOC	1370	Davenport, Ia. NNRC
2:30-4:00	KADA	1200	Ada, Okla.
3:00-4:00	WNEL	1290	San Juan, P. R.
March 4, 11, 18, 25			
12:01-1:00	WOWO	1160	Fort Wayne, Ind.
1:30-2:00	WRRB	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



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

March 13			
2:00-6:20	FCC		Frequency Checks
2:15-2:45	KPOF	880	Denver, Colo.
3:00-6:00	CMOX	1320	Havana, Cuba
March 20			
3:15-3:30	KGGM	1230	Albuquerque, N. M.
March 27			
1:00-1:15	KPRC	920	Houston, Texas
	WLLH	1370	Lowell, Mass.
2:15-2:30	WCSH	940	Portland, Me.
March 6, 13, 20, 27			
12:01-2:00	CFGN	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	WHO	820	Hobart, Tas. IDA
March 7, 14, 21, 28			
5:00-6:00	WMFO	1370	Decatur, Ala. NNRC
6:00-7:00	WHDL	1420	Olean, N. Y.
7:00-8:00	WSBC	1210	Chicago, Ill. NNRC

Image Frequencies

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

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

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

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

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

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

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

The Mystery Contest

(Continued from page 3)

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

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

Our Crystal Set

(Continued from page 6)

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

Additional coils may be made to cover shorter waves using less wire in the primary, secondary and tickler windings. If coils are wound on solid forms having bases fitted with 6 prongs, similar to tubes, they may

be plugged into tube sockets. This provides instant interchangeability when going from one wave band to another. Plug-in coils of this type may be purchased in sets, and usually six or seven such units will cover the entire range of short and broadcast waves.

(The next article in this series will deal with further refinements in the three-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.

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by B. Francis Dashiell

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COLUMBIA..... (C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

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

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

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

MONDAY

E-5:45 p.m., C-4:45, M-3:45, P-2:45
C — The Goldbergs
KFH KGKO KMBC KRLL KRNT
KSCJ KTRH KTSB KFOR KWKH
WAAB WABC WACO WBNS WBRC
WBT WCAO WCCO WHAS WBWB
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 KRLL KRNT
WAAB WABC WBBM WCAO WCAU
WCCO WFBL WHAS WHK WJAS
WJR WJSV WKBW WKRC WOKO

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

E-6:45 p.m., C-5:45, M-4:45, P-3:45
B — Lowell Thomas
CRCT KDKA WBAL WBZ WBZA
WFLA WIOD WJAX WJZ WLW
WMAL WOOD WRVA WSYR WTAM
WXYZ

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Myrt and Marge
WABC WADC WBT WCAO WCAU
WDAE WDBO WDRB WDCB WFBL
WGR WHK WJAS WJR WJSV WKRC
WNAC WOKO WQAM WSPD WTOG
WWVA

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

R — Amos 'n' Andy
CRCT KSD KYW WBBN WCAE
WCSH WEAF WEEL WFBW WGY
WJAR WLW WRC WTAM WTIC
WTIC WWJ

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

R — Uncle Ezra's Radio Station
KYW WBBN WCAE WCHS WDAF

WEAF WEEL WFBW WGY WHIO
WIRE WJAR WMAQ WOW WRC
WSAI WTAG WTAM

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

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

B — Lum and Abner
WBZA WENR WGR WJZ
WLW WSYR

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

E-7:45 p.m., C-6:45, M-5:45, P-4:45
C — Boake Carter
KMBC KMOX KOMA KRLL WABC
WBBM WBT WCAO WCAU WCCO
WDRB 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 WDCB WDBJ
WDNC WDDO WDRB WEAN WFBL
WFBM WGR WHEC WHP WJBZ
WICC WJAS WJSV WLAC WLWB
WMAW WMBG WNBC WNBW WNOX
WOKO WORC WPG WREC WSJS
WWL WWVA

R — Hammerstein's Music Hall
KSD KYW WBBN WCAE WCHS
WDAF WEAF WEEL WFBW WGY
WJO WHIO WJAR WMAQ WOW
WRC WSAI WTAG WTAM WTIC
WWJ

B — Fibber McGee and Molly
KDKA KDYL KFI KFSD KPFP
KPRC KSO KSTP KTBK KTHS
KVOO KWK WBAL WFLB WBZA
WDAF WDCB WFAA WFIL WGR
WHAM WIBA WIRE WJDX WJZ
WKY WLS WMAL WMC WMT

WOAI WREN WSB WSM WSMB
WSYR WTMJ WXYZ

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

R — Voice of Firestone
CFCT CRCT KDYL KFI KGW KHQ
KOA KOMO KPO KPRC KSD KYW
WBBN WCAE WCHS WDAF WDAF
WEAF WEBC WEEL WFAA WFBW
WFLA WGY WHS WJAR WJAX
WJDX WKY WMAQ WMC WOI
WOW WPTF WRC WRVA WSB
WSM WSMB WSOB WTAG WTAM
WTAR WTIC WTMJ WWJ WWNC

B — Evening in Paris
KDKA KOIL KSO KWK WBAL WBZ
WBZA WCKY WFIL WGR WHAM
WJZ WLS WMAL WMT WREN
WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Lux Radio Theatre
CFRB CKAC KDB KERN KFAB
KFBK KPFP KPRC KGB KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLL KRNT
KSL KTRH KTSB KTUL KVI KWG
WABC WADC WBBM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDRB WEAN WFBL WFBM
WGST WHAS WHEC WHK WICC
WISN WJAS WJR WJSV WKBW
WKRC WLAC WNAC WNAK WOKO
WORC WQAM WREC WSPD WWL

R — A. & P. Gypsies
KSD KYW WBBN WCAE WCHS
WDAF WEAF WEEL WFBW WGY
WJO WHIO WJAR WMAQ WOW
WRC WSAI WTAG WTAM WTIC
WWJ

B — Sinclair Greater Minstrels
KDKA KDYL KFI KFSD KPFP
KPRC KSO KSTP KTBK KTHS
KVOO KWK WBAL WFLB WBZA
WDAF WDCB WFAA WFIL WGR
WHAM WIBA WIRE WJDX WJZ
WJDX WJZ WKY WLS WLW WMAL

MONDAY (Continued)

WMC WMT WOAI WPTF WREN
WRVA WSB WSM WSMB WSOB
WSUN WSYR WTAR WTMJ WWCN
WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Grace Moore
KDYL KFI KFSD KPFP KGH
KGIR KGW KHQ KOA KOMO KPO
KPRC KSD KSTP KTBK KTHS
KVOO KWK WAVE WBBN WCAE
WCBH WDAF WDAY WEAF WEBC
WEEI WFBW WFLA WGY WHO
WHIO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WLW
WMAQ WMC WOI WOW WPTF
WRC WRVA WSB WSM WSMB
WSOC WTAG WTAM WTAR WTIC
WTMJ WWJ WWNC

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

B — Voice of Firestone
KDYL KFI KFSD KGH KGR KGU
KGW KHQ KOA KOMO KPO KTR

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

R — Contented Program
CFCT CRCT KDYL KFI KGW KHQ
KOA KOMO KPO KPRC KSD KYW
WBBN WCAE WCHS WDAF WEAF
WEEL WFBW WFLA WGY WHO
WIOD WIS WJAR WJAX WKY
WMAQ WMC WOI WOW WPTF
WRC WRVA WSAI WSB WSM
WTAG WTAM WTAR WTIC WWJ
WWNC

E-10:45 p.m., C-9:45, M-8:45, P-7:45
C — Clyde Barrie and Orchestra
CFRB CKAC KFH KHJ KLRA
KRNT KSCJ KTRH KTSB KFOR
KWKH WAAB WABC WACO WADC
WALA WBBM WBIG WBNS WBRG
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDDO WDRB WFBL
WFBM WFEA WGR WHAS WHEC
WHP WIBW WJBZ WISN WJAS
WJAS WKBW WKRC WLAC WLWB
WMAW WNBW WNOX WOC WORC
WPG WQAM WREC WSBT WSJS
WSMK WSPD WTOG

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

C — Myrt and Marge
KDB KERN KFAB KFBK KPFP
KPRC KGB KHJ KLRA KLZ KMBC
KMJ KMOX KOIN KOL KOMA
KRLL KSL KTRH KVI KWG WALA
WBBM WBBM WCCO WFBM WGST
WHAS WLAC WREC WWSA WWL

R — Amos 'n' Andy
KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD KTHS WBAF
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 KPRC KPFP KPRC
KGB KHJ KLZ KMJ KOIN KOL
KSL KVI KWG

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

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

R — Voice of Firestone
KDYL KFI KFSD KGH KGR KGU
KGW KHQ KOA KOMO KPO KTR

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

TUESDAY

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

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

E-6:30 p.m., C-5:30, M-4:30, P-3:30
C — Understanding Opera
KLRA WABC WADC WALA WBIG
WBRC WCAO WDAE WDBJ WDBO
WDNC WDDO WDRB WGST WJBZ
WJSV WKBW WLAC WLWB WMAW
WNOX WORC WQAM WREC WWSA
WWSJ 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
WGR WHAM WJZ WMAL WMT
WREN WSYR WXYZ

E-7:15 p.m., C-6:15, M-5:15, P-4:15
R — Peppy, The Sailor
KFYR KSD KSTP KYW WBBN
WCAE WCHS WDAF WDAY WEAF
WEBC WEEL WFBW WGY WHO
WIBA WIRE WJAR WMAQ WWJ
WRC WSAI WTAG WTAM WWJ

C — Krueger Musical Tact
WABC WEIG WBT WDAE WDBJ
WDBO WDNC WDDO WDRB WEAN
WFBL WFEA WGR WGST WJBZ
WICC WJSV WLWB WMAW WMBG
WMBR WNAK WNBW WNOX WOKO
WORC WQAM WTOG

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Kate Smith
KFAB KMBC KMOX KRLL KRNT

KTRH WABC WADC WBBM WBNS
WBRC WBT WCAO WCAU WCCO
WDAE WDRB WEAN WFBL WFBM
WGR WGST WHAS WHK WISN
WJAS WJR WJSV WKBW WKRC
WLWB WMAW WMBG WMBR WNAK
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 Munny; Lucy Monroe
KFAB KMBC KMOX KRNT WABC
WADC WBBM WCAO WCAU WDRB
WEAN WFBL WFBM WGR WHAS
WHK WJAS WJR WJSV WKRC
WNAC WOKO WSPD

R — Leo Reisman and Orchestra
KFYR KPRC KSD KSTP KTBK
KVOO KYW WAVE WBAF WBBN
WCAE WCHS WDAF WDAY WEAF
WEBC WEEL WFBW WFLA WGY
WHO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WOI WOW WPTF WRC
WRVA WSB WSM WSMB WSOB
WTAG WTAM WTAR WTIC WTMJ
WWJ WWNC

B — Eric Clive Clues
KDKA KOIL KSO WBAL WBZ
WBZA WFIL WGR WHAM WJZ
WLS WLW WMAL WMT WREN
WXYR WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Lawrence Tibbett
CFRB CKAC KDB KERN KFAB
KFBK KFH KPFP KPRC KGB
KGKO KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLL KRNT KSCJ KSL KTRH
KTSB KTUL KVI KFOR KWG
KWKH WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDDO WDRB WEAN
WFBL WFBM WGR WGST WHAS
WHEC WHK WHP WIBW WJBZ
WICC WISN WJAS WJR WJSV
WKBW WKRC WLAC WMAW WMBG
WMBR WNAK WNAK WNOX WOC
WOKO WORC WQAM WREC WWSA
WWSJ WSPD WTOG WWL

R — Wayne King and Orchestra
KFYR KPRC KSD KSTP KTBK
KVOO KYW WAVE WBAF WBBN
WCAE WCHS WDAF WDAY WEAF
WEEL WGY WHO WIBA WIRE
WJAR WJDX WKY WMAQ WMC
WOAI WOW WRC WSAI WSB WSMB
WTAG WTAM WTAR WTIC WTMJ
WWJ

B — Edgar Guest, Welcome Valley
KDKA KOIL KSO KWK WBAL WBZ
WBZA WFIL WGR WHAM WJZ
WLS WLW WMAL WMT WREN
WXYR WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Walter O'Keefe; Glen Gray
KFAB KFH KGKO KLRA KMBC
KMOX KOMA KRLL KRNT KSCJ
KTRH KTSB KTUL KWKH WABC
WACO WADC WALA WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDDO WDRB WEAN WFBL WFBM
WFEA WGST WHAS WHEC WHK
WHP WIBW WJBZ WICC WJAS
WJR WJSV WKBW WKBW WKRC
WLAC WLWB WMAW WMBD WMBG

THURSDAY (Continued)

E-4:30 p.m., C-9:30, M-9:30, P-7:30
C — Just Another Amateur; Phil Cook
 KDB KERN KFAB KFBK KFPY
 KFRG KGB KHJ KLZ KMBC KMJ
 KMOX KOIN KOL KRLL KRND
 KSL KYI KWG WABC WADW
 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 WIBX WJVS WWRB
 WKBW WLWZ WMAS WOKO WORC
 WPG WSBT WSPD

C — Myrt and Marge, See Monday
R — Amos 'n' Andy, See Monday

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

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
 KTSB KVRK KWKH WAAB WABC
 WADC WALA WBRC WDAE WDBJ
 WDNC WDOD WDRC WEAN WFBL
 WFBM WGST WHAS WHEC WIBX
 WICC WJVS WKBW WKRC WLAC
 WLWZ WMAS WMBG WMBR WOKO
 WORC WQAM WREC WSJS WSMK
 WSPD

B — Lowell Thomas, See Monday

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

C — Buck Rogers, See Monday

R — Amos 'n' Andy, See Monday

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Lazy Dan, Minstrel Man
 CKAC KFAB KMOX KOMA KRNT
 WABC WADC WBBM WBNS WBRC
 WBT WCAO WCAU WCCO WDRG
 WEAN WFBL WFBM WGR WGST
 WHAS WHK WJAS WJR WJSV
 WKRO 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 — Beaks Carter, See Monday

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Flying Red Horse Tavern
 KFAB KFBK KMOX KRNT
 WABC WADC WBBM WBNS WCAO
 WCAU WCCO WDRG WEAN WFBL
 WFBM WGR WHAS WHEC WHK
 WIBW WICC WJAS WJR WJSV
 WKRC WLWZ WMAS WMBD WNCN
 WOC WOKO WORC WSPD

R — Cities Service Concert
 CRCT KOA KPRC KSD KSTP KTBS
 KTHS KYW WBBN WCAE WCHS
 WDAF WEAF WEEB WEEI WFAA
 WFBZ WGY WHO WHIO WIOD
 WJAR WKY WMAQ WQAI WOV
 WRV WVA WSAI WTAT WTAM
 WTIC WTMJ WWJ

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

E-8:15 p.m., C-7:15, M-6:15, P-5:15
B — Wendell Hall
 CFCE KDKA KOIL KSO KWK
 WBAL WBZ WBZA WCKY WFIL
 WGBR WHAM WIRE WJZ WLS
 WML 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
 KFRG KGB KHJ KLZ KMBC KMJ
 KMOX KOIN KOL KOMA KRNT
 KSL KYI KWG WABC WADC
 WBBM WBNS WBRC 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 KFSB KGW KHQ
 KOIL KOMO KPO KSO KTKR KWK
 WBAL WBZ WBZA WFIL WGBR
 WHAM WJZ WLS WLW WML
 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 KFRG KGB KHJ
 KLRA KLZ KMBC KMJ KMOX
 KOIN KOL KOMA KRLL KRNT
 KSCJ KSL KTRH KTSB KTUL KVI
 KVRK KWG KWKH WABC WADC
 WBBM WBNS WBRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDRG WEAN WFBL WFBM WFEA
 WGST WHAS WHEC WHK WHP
 WIBW WIBX WICC WJAS WJR
 WJSV WKBW WKRC WLAC WLWZ
 WMAS WMBD WMBG WMBR
 WNCN WNAW WNOX WOKO WORC
 WPG WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

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

R — Frank Munn; Bernice Claire
 KSD KYW WBBN WCAE WCHS
 WDAF WEAF WEEI WFBZ WGY
 WJAR WLW WMAQ WOV WRC
 WTAT WTAM WWJ

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

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — True Story Court
 KDYL KFI KFSB KGW KOA KOMO

KPO KSD KTKR KYW WBBN
 WCAE WCHS WEAF WFBZ WGBR
 WGY WHO WHIO WJAR WMAQ
 WOV WRC WTAT WTAM WTIC
 WWJ

B — Fred Waring's Pennsylvanians
 KDKA KDYL KFI KFSB KOA KOIL
 KPRC KSO KSTP KTBS KTBS
 KWK WAPI WAVE WBAL WBZ
 WBZA WCKY WDAY WECB WENR
 WFAA WFIL WFLA WGBR WHAM
 WHIO WIBA WIOD WIRE WIS
 WJAX WJDX WJZ WKY WML
 WMC WMT WQAI WOOD WPTF
 WREN WRVA WSB WSM WSMB
 WSOB WSYR WTAR WTMJ WNNC
 WXYZ

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

R — Campana's First Nighter
 KDYL KFI KFSB KGW KHQ KOA
 KOMO KPO KPRC KSD KSTP
 KTKR KVOO KYW WBBN WCAE
 WCHS WDAF WEAF WEEB WEEI
 WFAA WFBZ WFLA WGY WHO
 WIOD WJAR WJAX WKY WKLV
 WMAQ WMC WQAI WOV WRC
 WRVA WSB WSM WSMB WTAT
 WTAM WTIC WTMJ WWJ WNNC

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

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

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

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

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 KRLL KSCJ KSL
 KTRH KTSB KVRK KWKH WAAB
 WABC WADC WBBM WBNS WDBJ
 WDBO WDNC WDOD WDRG WEAN
 WFBL WFBM WFEA WGST WHAS
 WHEC WHK WIBX WICC WJAS
 WJR WJSV WKBW WKRC WLAC
 WLWZ WMAS WMBG WMBR WNCN
 WNAW WNOX WOKO WORC WPG
 WQAM WREC WSBT WWSJ WWSM
 WSPD WTCO

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — True Story Court
 KDYL KFI KFSB KGW KOA KOMO

SATURDAY (Continued)

WHK WIBW WIBX WISN WJAS
 WJR WJSV WKBW WKRC WLAC
 WLWZ WMBG WMBR WNOX WOKO
 WORC WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

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

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Atlantic Family; Frank Parker
 WABC WADC WBIG WBNS WBRE
 WBT WCAO WCAU WCEA WDAE
 WDBJ WDBO WDRG WEAN WFBG
 WFBL WGBI WGR WGST WHEC
 WHK WHP WIBX WICC WJAS
 WMAS WMBG WMBR WNCN
 WNBW WOKO WORC WQAM WRC
 WRK WWSJ WTCO WXYZ

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

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

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 KRLL KRNT KSL KTRH
 KTSB KTUL KWKH WABC WBBM
 WBNS WBRC WBT WCAO WCAU
 WCCO WDAE WDBD WDBJ WDRG
 WEAN WFBL WFBM WGR WGST
 WHAS WHEC WHK WJAS WJR
 WJSV WKRC WLAC WLWZ WMBG
 WMBR WNAW WNOX WOC WOKO
 WORC WPG WQAM WREC WSBT
 WSJS WSPD WTCO

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 KRLL
 KSCJ KSL KTRH KTSB KVRK
 KWKH WABC WADC WADC WALA
 WBNS WBNS WBRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDNC WDOD WDRC WFBL WFBM
 WFEA WGST WHAS WHEC WHK
 WIBX WICC WISN WJAS WJR
 WJSV WKBW WKRC WLAC WLWZ
 WMAS WMBD WMBG WMBR
 WNCN WNAW WNOX WOC WOKO
 WORC WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

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

R — Chevrolet Program
 KDYL KFI KFSB KFYR KGHG
 KGIR KGW KHQ KOA KOMO KPO
 KPRC KSD KSTP KTKR KTBS
 KTHS KYW WAPI WAVE WBAW
 WBBN WCAE WCHS WDAF WDAY
 WEAF WEEB WEEI WFBZ WFLA
 WGY WIBA WIOD WIRE WIS
 WJAR WJAX WJDX WKY WLW
 WMAQ WMC WQAI WOV WPTF
 WRC WRVA WSB WSMB WSOB
 WTAT WTAM WTB WTIC WTMJ
 WWJ WNNC

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Shell Chateau; Al Jolson
 KDYL KFI KFSB KFYR KGHG
 KGIR KGW KHQ KOA KOMO KPO
 KSD KSTP KTKR KYW WBBN
 WCAE WCHS WDAF WDAY WEAF
 WEEB WEEI WFBZ WGY WIBA
 WJAR WLW WMAQ WOV WRC
 WTAT WTAM WTIC WTMJ WWJ

B — National Barn Dance
 KDKA KOIL KPRC KSO KTBS

KTHS KVOO KWK WAPI WAVE
 WBAL WBAP WBZ WBZA WFIL
 WGBR WHAM WIRE WJDX WJZ
 WKY WLS WML 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 KTSB KVRK KWKH WABC
 WADC WADC WALA WBBM WBIG
 WBNS WBRC WBT WCAO WCAU
 WCCO WDAE WDBJ WDBO WDNC
 WDOD WDRC WEAN WFBL WFBM
 WFEA WHAS WHEC WHK WIBW
 WICC WISN WJAS WJR WJSV
 WKBW WKRC WLAC WLWZ
 WMAS WMBD WMBG WMBR
 WNCN WNOX WOC WOKO WORC
 WPG WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

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 KRLL
 KRNT KSCJ KSL KTRH KTSB
 KVRK KWKH WABC WADC WADC
 WALA WBBM WBIG WBNS WBRC
 WBT WCAO WCAU WDAE WDBJ
 WDBO WDNC WDOD WDRG WFBL
 WFBM WFEA WGST WHAS WHEC
 WHK WIBW WIBX WICC WISN
 WJAS WJR WJSV WKBW WKRC
 WLAC WLWZ WMAS WMBD WMBG
 WMBR WNCN WNOX WOC WOKO
 WORC WPG WQAM WREC WSBT
 WSJS WSPD WTCO

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 KRLL
 KSCJ KSL KTRH KTSB KVRK
 KWKH WABC WADC WADC WALA
 WBNS WBNS WBRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDNC WDOD WDRC WFBL WFBM
 WFEA WGST WHAS WHEC WHK
 WIBX WICC WISN WJAS WJR
 WJSV WKBW WKRC WLAC WLWZ
 WMAS WMBD WMBG WMBR
 WNCN WNAW WNOX WOC WOKO
 WORC WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Church of the Air
 KFH KGKO KLRA KOMA KRLL
 KSCJ KSL KTRH KTSB KVRK
 KWKH WABC WADC WALA WBNS
 WBT WCAO WCCO WDAE WDBJ
 WDBO WDOD WESG WFBM WGR
 WHAS WHEC WIBX WJAS WJR
 WJSV WKBN WKRC WLAC WLWZ
 WMBD WMBR WOC WOKO WORC
 WPG WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

E-12:00 p.m., C-11:00, M-10:00, P-9:00
C — Musical Footnotes
 KMBC KMOX KRNT WABC WBBM
 WBNS WCAU WCCO WHAS WHK
 WJAS WJR WJSV WKBW WKRC
 WREC

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

E-12:00 p.m., C-11:00, M-10:00, P-9:00
C — Dance Orchestra
 CKAC KFH KLRA KMBC KMOX

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 KRLL KSCJ KSL KTRH
 KTSB KWKH WABC WADC WALA
 WBIG WBNS WBRC WBT WCCO
 WDBO WDNC WDOD WDRG WFBL
 WFBM WFEA WGST WHAS WJAS
 WIBX WISN WJAS WJR WJSV
 WKBN WKRC WLAC WLWZ WMAS
 WMBD WMBR WNCN WNAW
 WNOX WOKO WORC WQAM WREC
 WSBT WSMK WSPD WTCO

R — Major Bowes' Capitol Family
 KDYL KFYR KOA KPRC KSTP
 KTBS KVOO WAPI WCAE WDAF
 WDAY WEAF WEEB WEEI WFAA
 WFBZ WGY WHO WHIO WJAR
 WJAX WKY WMAQ WMC WQAI
 WRC WRVA WSAI WSBM WTAT
 WTAM WNNC

E-12:30 p.m., C-11:30, M-10:30, P-9:30
B — Radio City Music Hall
 CFCE CRCT KDKA KDYL KFI
 KFYR KGW KHQ KHQ KOIL KOMO
 KPRC KSO KVOO WAPI WBAL
 WBZ WBZA WCKY WDAY WEEB
 WGBR WHAM WIS WJDX WJZ
 WKY WML WQAI WREN WSMB
 WSYR WNNC

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 KRLL KSCJ KTRH
 KTSB KVRK WABC WADC WADC
 WALA WBIG WABC WCAO WCAU
 WCCO WDAE WDBJ WDBO WDRG
 WEAN WESG WFBL WFBM WFEA
 WGR WHAS WIBX WJAS WJR
 WKBN WLAC WLWZ WMBD WMBR
 WNCN WOC WOKO WORC WPG
 WQAM WREC WRSJ WSMK WSPD
 WTCO WWL

E-1:00 p.m., C-12:00, M-11:00, P-10:00
C — Church of the Air
 KFH KGKO KLRA KOMA KRLL
 KSCJ KSL KTRH KTSB KVRK
 KWKH WABC WADC WALA WBNS
 WBT WCAO WCCO WDAE WDBJ
 WDBO WDOD WESG WFBM WGR
 WHAS WHEC WIBX WJAS WJR
 WJSV WKBN WKRC WLAC WLWZ
 WMBD WMBR WOC WOKO WORC
 WPG WQAM WREC WSBT WWSJ
 WWSM WSPD WTCO

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

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

SUNDAY (Continued)

WKBW WKRC WLAC WNAC WOKO
WOWO WREC WWL
B — Magic Key of RCA
CFRC CRCT KDKA KDYL KFI
KFYR KGU KGW KHQ KOA KOIL
KOMO KPO KPRC KSO KSTP
KTBS KTHS KVOO KWK WAPI
WAVE WBAL WBZ WBZA WCKY
WDAY WECB WENR WFAA WFIL
WFLA WGAR WHAM WHIO WJAX
WIOD WIRE WIS WJAX WJDX
WJZ WKY WMAL WMC WMT
WOAI WPTF WREN WRVA WSB
WSM WSMB WSYR WWTAR
WTMJ WYWC WXYZ

E-2:30 p.m., C-1:30, M-12:30, P-11:30
C — Jose Manzanera and Orchestra
KFAB KMBC KMOX KOMA KRLL
KRNT KTRH WABC WADC WBBM
WBT WCAO WCAU WCCO WDAE
WDRG WEAN WFBL WFBM WHAS
WHK WISN WJAS WJR WJSV
WKBW WKRC WMBR WNAC
WOKO WQAM WREC WSPD WWL

E-3:00 p.m., C-2:00, M-1:00, P-12:00
C — Philharmonic Symphony
CFRB CKAC KFH KGKO KLRA
KLZ KOMA KRLL KSCJ KSL
KTRH KTS KFOR KWKH WABC
WACO WADB WALA WBBM WBIG
WBNS WBRC WBT WCAO WCCO
WDAE WDBJ WDBC WDNC WDOO
WDRG WEAN WESG WFBL WFBM
WFEA WGST WHAS WHEC WHK
WIBW WIBX WICC WISN WJAS
WJR WKBN WKBW WKRC WLAC
WLBZ WMAS WMBD WMBG
WMBR WNAC WNOX WOC WOKO
WORC WQAM WREC WSBT WSJS
WSMK WSPD WTOC

R — Harry Roser and Orchestra
KSD KYW WBBN WCAE WCKY
WCBS WDAF WEAF WEEI WFBW
WGY WHIO WIRE WJAR WMAQ
WOW WRC WTAG WTAM WTTT
WWJ

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

E-3:15 p.m., C-2:15, M-1:15, P-12:15
B — Pine Mountain Merry-makers
KDKA KFYR KOIL KSO KSTP
KWK WBAL WBZ WBZA WDAY
WECB WENR WFIL WGAR WHAM
WIBA WJZ WLW WMAL WMT
WREN WSYR WXYZ

E-3:30 p.m., C-2:30, M-1:30, P-12:30
R — Metropolitan Opera Auditions
KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD KTBS KTHS
KVOO KYW WAPI WAVE WBBN
WCAE WCKY WCSH WDAF WEAF
WEEI WFAA WFBW WFLA WGY
WHO WHIO WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOB
WTAG WTAM WTTT WTTT WTTT
WTTT WTTT WTTT WTTT WTTT

E-4:00 p.m., C-3:00, M-2:00, P-1:00
Rev. Charles E. Coughlin
KFEL KNX KSFO KSTP KVOO
KWK WATR WCAO WCAU WDRG
WEAN WFBL WFEA WGAR WGR
WHB WHO WICC WISN WJAS
WJDX WJR WLBZ WLH WLW
WMAS WNAC WNBH WOKO WOL
WOR WORC WOW WRDO

E-5:00 p.m., C-4:00, M-3:00, P-2:00
C — Abe Lyman and Orchestra
CFRB KFAB KMBC KMOX KRNT
WAAB WABC WADC WBBM WCAO
WCAU WCCO WDRG WEAN WFBL
WFBM WHAS WHEC WHK WJAS
WJR WJSV WKBW WKRC WOKO
WSPD

B — Roses and Drums
KDKA KOIL KSO KWK WBAL
WBZ WBZA WENR WFIL WGAR
WHAM WJZ WLW WMAL WMT
WREN WSYR WXYZ

E-5:30 p.m., C-4:30, M-3:30, P-2:30
C — Frank Crumit; Julia Sanderson
KFH KMBC KMOX KOMA KTUL
WAAB WABC WADC WBNS WCAO
WCAU WDRG WEAN WFBL WFBM
WGR WHAS WHEC WHK WIBX
WICC WJR WJSV WMAS WOKO
WORC WSPD WWL WYVA

C — Jose Manzanera and Orchestra
KDB KERN KFBK KFPY KFRC
KGB KHJ KLZ KMJ KOIN KOL
KSL KVI KWG

E-5:45 p.m., C-4:45, M-3:45, P-2:45
R — Richard Himber and Orchestra
KSD KYW WBBN WCAE WCSH
WDAF WEAF WEEI WFBW WGY
WHO WHIO WIRE WJAR WMAQ
WOW WRC WSAI WTAG WTAM
WTTT WTTT WTTT WTTT WTTT

B — Gabriel Heatter, News Review
KDKA KOIL KSO KWK WAPI
WAVE WBAL WBZ WBZA WCKY
WENR WFIL WGAR WHAM WJDX
WJZ WMAL WMC WMT WREN
WSB WSM WSMB WSYR WXYZ

E-6:00 p.m., C-5:00, M-4:00, P-3:00
C — Phil Spitalny and Orchestra
KFAB KFH KFPY KFRC KGB
KGKO KHJ KLRA KLZ KMBC
KMOX KOIN KOL KOMA KRLL
KRNT KSCJ KSL KTRH KTS
KTUL KVI KFOR KWKH WAAB
WABC WADC WBBM WBIG WBNS
WBRC WBT WCAO WCAU WCCO
WDAE WDBJ WDOB WDRG WEAN
WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WJAX WJDX WJZ WJZ
WJR WJSV WKBW WKRC WLAC
WLBZ WMAS WMBR WNAX WNOX
WOC WOKO WORC WPG WQAM
WREC WTOC WWL WYVA

E-6:30 p.m., C-5:30, M-4:30, P-3:30
C — Smiling Ed McConnell
KDB KERN KFAB KFBK KFH
KFPY KFRC KGB KHJ KLZ KMJ
KMOX KOIN KOL KRLL KRNT
KSL KVI KWG WAAB WABC
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDBJ WDRG WEAN
WFBL WHAS WHEC WHK WJAS
WJR WJSV WKBW WKRC WLAC
WLL WYVA

B — Compana's Grand Hotel
KDKA KDYL KFI KHQ KOA KOIL
KOMO KPO KSO WBAL WBZ WBZA

WCKY WENR WGAR WHAM WJZ
WMAL WMT WREN WSYR

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Voice of Experience
KMOX WAAB WABC WADC WBBM
WBT WCAO WCAU WCCO WDRG
WEAN WFBL WFBM WHAS WHEC
WHK WJAS WJR WKBW WKRC
WSPD WWVA

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Eddie Cantor
KFAB KFH KLRA KLZ KMBC
KMOX KOMA KRLL KRNT KTRH
KTS KLZ KWKH WABC WADC
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDRG WEAN
WFBL WFBM WGR WGST WHAS
WHEC WHK WICC WJAS WJR
WJSV WKRC WLAC WNAC WOKO
WOWO WREC WSPD WWL

B — Jack Benny; Johnny Green
CFRC CRCT KDKA KFYR KOIL
KPRC KSO KSTP KTBS KVOO KWK
WAVE WBAL WBZ WBZA WDAY
WECB WENR WFAA WFIL WFLA
WGAR WHAM WIBA WIOD WIS
WJAX WJDX WJZ WKY WLW
WMAL WMC WMT WOAI WPTF
WREN WRVA WSB WSM WSMB
WSOC WSYR WTTT WTTT WTTT
WTTT WTTT WTTT WTTT WTTT

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Phil Baker; Hal Kemp
KLRA KLZ KRLL KTRH KTS
KWKH WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCOA WDAE WDBJ WDOB
WDNC WDOB WDRG WEAN WFBL
WFBM WFEA WGR WGST WHAS
WHEC WHK WHP WIBX WICC
WJAS WJR WJSV WKBW WKRC
WLAC WLBZ WMAS WMBR WNAC
WNBF WNOX WOKO WORC WQAM
WREC WSBT WSPA WSJS WSMK
WSPD WTOC WWL WYVA

R — Fireside Recitals
KSD KYW WBBN WCAE WCSH
WDAF WEAF WFBW WGY WHIO
WIRE WJAR WMAQ WOW WRC
WSAI WTAG WTAM WTTT WTTT
WTTT WTTT WTTT WTTT WTTT
B — Ozzie Nelson; Robt. L. Ripley
KDKA KDYL KFI KFYR KGW
KHQ KOA KOIL KOMO KPO KPRC
KSO KSTP KTAR KVOO KWK
WBAL WBZ WBZA WCKY WDAY
WECB WFAA WFLA WGAR WHAM
WIBA WIOD WJAX WJDX WJZ
WKY WLS WMAL WMC WMT
WOAI WPTF WREN WRVA WSB
WSM WSMB WSYR WTTT WTTT
WTTT WTTT WTTT WTTT WTTT

E-7:45 p.m., C-6:45, M-5:45, P-4:45
R — Sunset Dreams; Morin Sisters
CFRC CRCT KSD KYW WBBN
WCAE WCSH WDAF WEAF WFBW
WGY WHO WHIO WIRE WJAR
WLW WMAQ WOAI WOOD WOW
WRC WTAG WTAM WTTT WTTT
WTTT WTTT WTTT WTTT WTTT

E-8:00 p.m., C-7:00, M-6:00, P-5:00
R — Major Bowes' Amateur Hour
CFRC CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KVOO KYW
WAVE WBBN WBZ WBZA WCAE
WCSH WDAF WDAY WEAF WECB
WFAA WFBW WFLA WGY WHO
WIOD WIS WJAR WJAX WJDX
WKY WLW WMAQ WMC WOAI
WOW WPTF WRC WRVA WSB

SUNDAY (Continued)

WBM WSMB WTAG WTAM WTTT
WTTT WTTT WTTT WTTT WTTT

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Ford Concert
CFRB CKAC KDB KERN KFAB
KFBK KFH KFPY KFRC KGB
KGKO KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLL KRNT KSCJ KSL KTRH
KTS KLZ KVI KFOR KWG
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WDAE
WDBJ WDOB WDRG WDRG
WEAN WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBX WICC WISN WJAS WJR
WJSV WKBW WKBW WKRC
WLAC WLBZ WMAS WMBD WMBR
WNAC WNBX WNOX WOC WOKO
WORC WQAM WREC WSBT
WSPA WSJS WSMK WSPD WTOC
WTTT WTTT WTTT WTTT WTTT

R — Manhattan Merry-Go-Round
CFRC CRCT KDYL KFI KFYR KGW
KHQ KOA KOMO KPO KSD KSTP
KYW WBBN WCAE WCSH WDAF
WDAY WEAF WECB WFBW WGY
WHO WHIO WIBA WJAR WMAQ
WOW WRC WSAI WTAG WTAM
WTTT WTTT WTTT WTTT WTTT
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 KFYR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTBS KYW WAPI
WAVE WBBN WCAE WCSH WDAF
WDAY WEAF WECB WEEI WFAA
WFBW WFLA WGY WHO WHIO
WIBA WIOD WIS WJAR WJAX
WJDX WKY WMAQ WMC WOAI
WOW WPTF WRC WRVA WSAI

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Freddie Rich and Orchestra
KLRA WABC WALA WBIG WBRC
WBT WCAO WCAU WDAE WDBJ
WDOB WDRG WDRG WDRG
WFEA WGR WGST WICC WJAS
WLAC WLBZ WMAS WMBR WNAC
WORC WQAM WREC WJAS WTOC

C — Jack Hytlen and Orchestra
KFAB KFH KLZ KMBC KMOX

WSB WSM WSMB WSOB WTAG
WTAM WTTT WTTT WTTT WTTT
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
WBZA WENR WFIL WGAR WHAM
WJZ WLW WMAL WMT WREN
WSAI WSYR WXYZ

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

R — General Motors Concert
CFRC CRCT KDYL KFI KFSD
KFYR KGHG KGR KGU KGW
KHQ KOA KOMO KPO KPRC KSTP
KTAR KTBS KTHS KYW WAPI
WAVE WBAW WBBN WCAE WCBH
WDAF WDAY WEAF WECB WEEI
WFBW WFLA WGY WHO WHIO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WKY WMAQ WMC
WOAI WOW WPTF WRC WRVA
WSAI WSB WSM WSMB WSOB
WTAG WTAM WTTT WTTT WTTT
WTTT WTTT WTTT WTTT WTTT

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — Freddie Rich and Orchestra
KLRA WABC WALA WBIG WBRC
WBT WCAO WCAU WDAE WDBJ
WDOB WDRG WDRG WDRG
WFEA WGR WGST WICC WJAS
WLAC WLBZ WMAS WMBR WNAC
WORC WQAM WREC WJAS WTOC

C — Jack Hytlen and Orchestra
KFAB KFH KLZ KMBC KMOX

KRNT KCSJ KFOR WBBM WOCO
WFBM WBW WISN WJSV WKBH
WMBD WOC WOWO WSBT

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Eddie Cantor
KDB KERN KFBK KFPY KFRC
KGB KHJ KMJ KOIN KOL KSL
KVI KWG

R — The Melody Master
KYW WBBN WCAE WEAF WEEI
WFBW WGY WJAR WMAQ WRC
WTAG WTAM WTTT WTTT WTTT

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

E-11:15 p.m., C-10:15, M-9:15, P-8:15
B — Walter Winchell
KDYL KFI KFSD KOHL KOIR
KGW KHQ KOA KOMO KPO KPRC
KTAR KTBS KTHS WAPI WAVE
WBAW 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 KGHG KGR
KGU KGW KHQ KOA KOMO KPO
KTAR

B — Paul Whiteman's Musical Varieties
KECA KEX KFSD KGA KGO KJR
KPRC KTBS KTHS WAPI WAVE
WBAW 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, 3:00 p.m. Sunday, C
Pittsburgh Symphony, 8:00 p.m. Thurs., B
Radio City Music Hall, 12:30 p.m. Sunday, B

DANCE BANDS

Victor Arden, 8:00 p.m. Thursday; 8:30 p.m. Friday, C
Ben Bernie, 9:00 p.m. Tuesday, B
Ray Block, 7:15 p.m. Tues. and Thurs., C
Jimmy Dorsey, 10:00 p.m. Thursday, R
Eddie Duchin, 9:30 p.m. Tues., R
Lud Gluskin, 10:30 p.m. Tuesday, C

Glen Gray, 9:00 and 11:30 p.m. Tuesday and Thurs
day, C
Johnny Green, 7:00 and 11:30 p.m. Sunday, B
Louis Greer, 7:00 p.m. Sunday, C
Lennie Hayton, 9:30 p.m. Thurs., C
Horace Heidt, 10:00 p.m. Thursday, C
Richard Himber, 5:45 p.m. Sun., R; 10:00 p.m. Fri., C
Carl Hoff, 8:00 p.m. Sat., R
Jack Hytlen, 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 Spittain, 6:30 p.m. Sun., C
 Rudy Vallee, 8:00 p.m. Thursday, R
 Fred Warling, 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., Thurs., Sat., C
 One Man's Family, 8:00 p.m. Wed., R
 Parties at Pickfair, 10:00 p.m. Tues., C
 Princess Pat Players, 9:30 p.m. Monday, B
 Irene Rich, 8:00 p.m. Friday, B
 Buck Rogers, 6:00 and 7:00 p.m. Mond., Wed., and Fri., C
 Roses and Drums, 5:00 p.m. Sunday, B
 True Story Court, 9:30 p.m. Friday, R
 Welcome Valley, 8:30 p.m. Tuesday, B

POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m. Monday, R
 Album of Familiar Music, 9:30 p.m. Sunday, R
 Along Rialto Row, 10:30 p.m. Saturday, C
 Atlantic Family, 7:00 p.m. Saturday, C
 Major Bowes, 11:30 a.m. and 8:00 p.m. Sunday, R
 Broadway Varieties, 8:30 p.m. Friday, C
 Camel Program, 9:00 and 11:30 p.m. Tues. and Thurs, C
 Carborundum Band, 7:30 p.m. Saturday, C
 Chesterfield Program, 9:00 p.m. Wed. and Sat., C
 Chevrolet Program, 9:00 p.m. Saturday, R
 Cities Service Concert, 8:00 p.m. Friday, R
 Contented Program, 10:00 p.m. Monday, R
 Corn Cob Pipe Club, 9:00 p.m. Wednesday, B
 Evening in Paris, 8:30 p.m. Monday, B
 Firetide 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, 8:15 p.m. Sunday, B
 Shell Chateau, 9:30 p.m. Saturday, R
 Sherwin-Williams Program, 3:30 p.m. Sunday, R
 Sinclear Minstrels, 9:00 p.m. Monday, B
 Swift Studio Party, 10:00 p.m. Tuesday, R
 Texaco Fire Chief, 9:30 p.m. Tuesday, R
 Town Hall Tonight, 9:00 and 12:00 p.m. Wednesday, R
 Uncle Ezra, 7:15 p.m. Mon., Wed., and Fri., R
 Voice of Firestone, 8:30 and 11:30 p.m., Monday, R
 Vox Pop, 9:00 p.m. Tuesday, R

SINGERS

Countess Olga Albani, 9:00 and 12:00 p.m. Sunday, B
 Armida, 7:15 and 11:15 p.m., Wednesday, C
 Clyde Barrie, 10:45 p.m., Monday, C
 Connie Boswell, 9:30 p.m. Wednesday, C
 Bruna Castagna, 10:30 p.m. Wednesday, C
 Charlottees, 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 Duesy, 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 Prie Bros., 8:30 p.m. Monday, C
 Lazy Dan, 7:15 p.m. Friday, C
 Pierre LeKreune, 7:15 and 11:15 p.m. Wed., C
 Elizabeth Lennox, 8:30 p.m. Friday, C
 Nino Martini, 9:00 p.m. Saturday, C
 Lucy Monroe, 8:00 p.m. Tuesday, C and 9:30 p.m. Sunday, R
 Grace Moore, 9:30 p.m. Monday, R
 Morin Sisters, 7:45 and 11:00 p.m. Sunday, R
 Frank Munn, 8:00 p.m. Tuesday, C; 9:30 p.m. Sunday and 9:00 p.m. Friday, R
 Donald Novis, 9:30 p.m. Tuesday, R
 Frank Parker, 7:00 p.m. Saturday, C
 Pickens Sisters, 8:30 p.m. Monday, B
 Lily Pons, 9:00 p.m. Wednesday, C
 Carmella Ponselle, 8:30 p.m. Friday, C
 Dick Powell, 9:00 p.m. Friday, C
 Eleanor Powell, 8:00 p.m. Friday, C
 Virginia Rea, 9:00 p.m. Saturday, R
 Lanny Ross, 9:00 p.m. Thursday, R
 Fritz Scheff, 8:00 p.m. Tuesday, C
 Oscar Shaw, 8:30 p.m. Friday, C
 Singin' Sam, 7:30 and 11:15 p.m. Monday, C
 Smiling Ed McConnell, 6:30 p.m. Sunday, C
 Kate Smith, 7:30 p.m. Tues., Wed., and Thurs., C
 Oliver Smith, 5 p.m. Sunday, C
 John Charles Thomas, 10:00 p.m. Wednesday, B
 Lawrence Tibbett, 8:30 p.m. Tuesday, C

TALKS

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

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

Special Program From KNX

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

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

Who Knows The "Chelsea"?

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

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

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

Where to Get the DAY'S NEWS

Daily except Sunday unless otherwise noted.

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

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

ATLANTIC TIME

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

EASTERN STANDARD TIME

7:00 a.m.	WMBC 1420	7:55 a.m.	WKJC 1200	WKZO 590	9:00 a.m.	WSOC 1210	9:55 a.m.
WIBX 1200	WSAI 1330	WBNS 1430	WOR 710	WNBC 1380	WAIM 1200	9:15 a.m.	CKLW 1030
WJR 750	7:35 a.m.	WMBR 1370	WPRO 630	WSAR 1450	WBEN 900	WBRE 1310	WOKO 1430
WNEL 1290	WICC 600	8:00 a.m.	WSPD 1340	8:30 a.m.	WBIG 1440	WBSO 920	10:00 a.m.
7:15 a.m.	7:45 a.m.	CFRB 690	WTAG 580	WCAU 1170	WCSC 1360	9:30 a.m.	Red & Blue
WCMI 1310	WBIG 1440	CKLW 1030	WTIC 1040	WEHC 1420	WGAR 1450	KQV 1380	CBS
WKZO 590	WFIL 560	CMJH 1360	WVVA 1160	WFBC 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	WKRC 550	WABC 1410	WEEI 590	WPKJ 1200	WIP 610	WELL 1420	WELL 1420
WSAJ 1310	WLW 700	WCKY 1320	8:15 a.m.	WLEU 1420	WKBZ 1600	WIBX 1200	WIBX 1200
7:30 a.m.	WMAZ 1180	WASH 1270	8:45 a.m.	WMAZ 1180	WNEW 1250	WJSV 1460	WJSV 1460
WAAT 940	WWSA 1190	WFBR 1270	8:55 a.m.	WMBR 1370	9:45 a.m.	WKJC 1200	WKJC 1200
WBT 1030	WSAZ 1190	WKBN 570		WMPF 1310	WGBI 880	WNBH 1310	WNBH 1310

WHERE TO GET THE DAY'S NEWS

WNYC 810	WIS 1010	WTBO 800	3:00 p.m.	WBBE 1310	CRCE 1050	WMCA 570	WNYC 810	WLW 700
WOR 710 ¹	WJW 1210	12:55 p.m.	WBBE 1310	WGBI 880	WBBB1210 ²	WKEI 590	WBYB 1500	WNEB 1310
WPAR 1420	WKJC 1200	WBBE 1310	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WPTF 680	WKOK 1210	1:00 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSPA 920	WLEU 1420	CKCV 1310 ³	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
18:15 a.m.	12:15 p.m.	KDKA 980	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WKZO 520	WWJ 920	WFBG 1300	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WLW 700	12:15 p.m.	WFBG 1300	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSAR 1450	WBIG 1440	WJBK 1500	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
18:30 a.m.	WBCA 900	WJVC 1450	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WBIG 1440	WCAP 1280	WJVC 1200	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WMAZ 1180	WDAS 1370	WMBR 1370	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
CBS Sun.	WHAM 1160	WNBH 1310	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
10:45 a.m.	WKNB 1370	WPRO 630	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WBT 1080	WOL 510	WSAR 1450	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
11:00 a.m.	WROC 1210	WSPD 1340	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
Red & Blue ¹	WEEI 590	WTAG 580	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
CMKM 1120	WHBC 1430	WTIC 1040	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WCKY 1490	WNBC 1380	1:10 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WGBI 880	WOPI 1500	WCAD 1220	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WKJC 1200	WWVA 1160	1:15 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WMBC 1420	12:20 p.m.	WCAU 1170	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WNEL 1290	WBCM 1410	WMAZ 1180	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSAR 1450	12:25 p.m.	WTFI 1450	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WTIC 1040 ²	CFRB 690	1:20 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
11:15 a.m.	12:30 p.m.	WHBC 740	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WMPG 1200	WBEN 900	1:30 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSPD 1340	WBT 1080 ²	CKLW 1030	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
11:30 a.m.	WCAE 1220	WTBT 1370	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WAGM 1420	WELL 1420	WJR 750	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WBNS 1430	WFDF 1310	WNAC 1230	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WDBO 580	WIBM 1370	WPHR 880	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSYB 1500	WJAS 1290	1:45 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
11:45 a.m.	WKBC 1500	WICC 600	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WNAC 1230	WKRC 550	WTAO 780	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WSYR 570	WKZO 590	2:00 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
11:55 a.m.	WOR 710	WCBC 1360	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
CFCF 800	WPAX 1210	WKJC 1200	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WBAL 1060	WQAN 880	WKRC 550	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
Neon	WSPA 920	WSPD 1340	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
CJIC 890	12:35 p.m.	2:15 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
CMJA 1010	CJUL 630	WBT 1080	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WBAZ 990	WMB0 1310	2:30 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WCBE 1220	12:45 p.m.	KQV 1380	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WDAA 1220	CKCV 1310 ³	WINS 1180	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WFBZ 1270	CKBT 1300	2:45 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WFIL 560	WALT 940	WAA 1170	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WFMD 900	WADC 1320	WMAZ 1180	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WQAR 1450	WCBS 940	WEEU 830	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WIBX 1200	WEAN 780	2:55 p.m.	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WINS 1180	WGH 1310	WBAL 1060	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WIOD 1300	WMFD 1370	WBNS 1430	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290
WIP 610	WPAR 1420	WCAE 1220	WGBI 880	WFLA 1210	WKEI 590	WKEI 590	WTFI 1450	WNEL 1290

CENTRAL STANDARD TIME

5:30 a.m.	7:05 a.m.	KVOO 1140	WAAW 660	WHBU 1210	KTBS 1450	WTAX 1210	KSTP 1460
KFNH 890	WSGN 1310	WNBR 1430	KASA 1210 ²	WHBR 1430	KTBS 1450	WTAX 1210	WHBU 1210
6:15 a.m.	7:15 a.m.	WOAI 1190	3:30 a.m.	WIND 580	WJBC 1200	10:05 a.m.	WSGN 1310
KFEQ 680	KGFF 1010	KABR 1420	KGKB 1500	WKEU 1500	WJBC 1200	10:05 a.m.	WSGN 1310
WBAF 800	KPAC 1260	KABR 1420	KLPM 1240	WNOX 560	WJBC 1200	10:05 a.m.	WSGN 1310
WFAA 800	WHO 1000	KFNH 890	KBD 550	WOWO 1160	WJBC 1200	10:05 a.m.	WSGN 1310
6:30 a.m.	WKEU 1500	6:00 a.m.	KSTP 1460	WTMJ 620	WJBC 1200	10:05 a.m.	WSGN 1310
KASA 1210	WHB 860	KFAB 770	WCCO 810	WTPM 1500	WJBC 1200	10:05 a.m.	WSGN 1310
KMBC 950	WOI 640	KFYO 1310	WGPC 1420	WIND 560 ²	WJBC 1200	10:05 a.m.	WSGN 1310
WHO 1000	7:30 a.m.	KGFW 1310	WJBO 1420	WILL 890	WJBC 1200	10:05 a.m.	WSGN 1310
6:45 a.m.	KFR0 1370	WDAY 940	WSPA 1410	WRTN 1370	WJBC 1200	10:05 a.m.	WSGN 1310
KWBG 1420	KGBZ 980	WFBM 1230	WTAQ 1330	WRTN 1370	WJBC 1200	10:05 a.m.	WSGN 1310
7:00 a.m.	KMBC 950	WJDD 1130	8:45 a.m.	KARK 890	WJBC 1200	10:05 a.m.	WSGN 1310
KABR 1420	KSTP 1460	WJTL 1370	KNOW 1500	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
KFJZ 1370	KWTO 560	WKBW 1380	KNOW 1500	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
KRNT 1320	WIBA 1280	WKBH 1430	9:00 a.m.	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
WCCO 810	WDSU 1250	WMBH 1430	Red & Blue	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
WIBW 580	XEFO 940	WMFN 1210	CBS	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
WMT 600	7:40 a.m.	WTMV 1500	KGCA 1270	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
WTAD 900	KFEQ 680	8:15 a.m.	EGDY 610	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
WTCN 1260	7:45 a.m.	KFMJ 1370	WDAF 1340	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310
KSO 1430	KRGV 1260	KGPK 1500	WGST 890	KFAB 770	WJBC 1200	10:05 a.m.	WSGN 1310

WHERE TO GET THE DAY'S NEWS

WIND 560	WAGF 1370	KWTO 560 ²	WGBF 630:	5:20 p.m.	KFRU 630	WGN 720	10:00 p.m.
11:55 a.m.	WIBA 1280	1:30 p.m.	WHO 1000	KGFF 1010	KFRU 630	WGN 720	KPRC 920
KFAB 770	WJAG 1080	WLBC 1310	5:45 p.m.	5:30 p.m.	WLBC 1310	WTVM 1500	KVOO 1140 ²
WOAI 1190	WKEB1300 ²	WMBH 1420	CBS	CBS	WMFN 1210	XENT 910 ²	WDAY 940
Neon	WKEU 1500	1:45 p.m.	KOIL 1280	Red & Blue	WGL 1370	5:15 p.m.	WENR 870
CJGC 630	WNRB 1430	KFDY 730	WKEU 1500	KASA 1210 ²	6:30 p.m.	KGKB 1230	WGST 890
KARK 890	12:35 p.m.	KGEX 680	WTFX 1210	KFAB 770	KASA 1210	6:30 p.m.	WHBU 1210
EGDY 1340	WJMS 1420	WHEF 1500	4:00 p.m.	KFJZ 1200	KDLR 1210	KFJZ 1200	WIBA 1280
KGEX 680	12:45 p.m.	2:00 p.m.	KBTM 1200	KPAC 1260	KFOR 1210	KFOR 1210	WTVM 1500
KGFB 1420	KBTM 1200	WHBU 1210	WHBU 1210	WOAI 1190	KWIL 1260	WIND 560 ²	WMBD 1440
KMBC 950	KFJZ 1420	WJDD 1130	WTVM 1500	5:35 p.m.	KWKC 1370	WEBQ 1210	WNRB 1430
KVOL 1310	KFR0 1370	WJTL 1370	4:15 p.m.	KVOO 1140 ²	WDDO 1280	WEOI 1190	WNOX 560
WGPC 1420	KFYO 1310	WTVM 1500	KWTO 560	WENR 870	WHO 1000	KFNH 890	WTVM 1500
WHB 880	KLPM 1240	2:15 p.m.	WBB 860	5:40 p.m.	WNRB 1430	KGEB 1500	WTVM 1500
WHBU 1210	KRGV 1260	KWBG 1420	WJAG 1060	5:45 p.m.	WSGN 1310	WSGN 1310	XENT 910
WISN 1120	KSTP 1460	WBAF 800	4:30 p.m.	KFAB 770	5:00 p.m.	9:00 p.m.	KEWZ 1150
WJDD 1130	WBOA 800 ²	WFAA 800	KFAB 770	KFYO 1310	KRGV 1260	KFYO 1310	10:05 p.m.
WJTL 1370	WBWA 1310	WKEU 1500	KGEX 680	WDAY 940	WKBH 1380	KGKL 1370	WCCO 810
WMBD 1440	WCCO 810	WNAD1010 ²	KMBC 950	WDSU 1250	WSFA 1410	KMBC 950	10:10 p.m.
WOC 1370	WHO 1000	2:20 p.m.	KSTP 1460	WFBM 1230	6:55 p.m.	KRNT 1320	Blue Net
WSIX 1210	WKBH 1380	WCCO 810	WDAF 610	WKEU 1500	KGDE 1200	KSO 1430	10:15 p.m.
WTVM 1500	WLBC 1310	2:25 p.m.	WOC 1370	WNOX 560	7:00 p.m.	KTBS 1450	CBS ²
WTRC 1310	WMFN 1210	WTCN 1250	WTMJ 620	WTRC 1310	5:50 p.m.	WHBY 1200	KLPM 1240
XEWZ 1150	WNOX 560	2:30 p.m.	5:00 p.m.	5:50 p.m.	KSTP 1460	WJTL 1370	KSTP 1460
12:15 p.m.	WSPA 1410	KSTP 1460	KFEQ 680	KSTP 1460	KFJZ 1200	WMT 600	WGBF 630 ²
KGFF 1010	WTCN 1250	KVOS 1420	KFJZ 1200	KFJM 1370	5:55 p.m.	WNRB 1430	WHO 1000
WBRC 930	1:00 p.m.	WDAY 940	KFJZ 1370	5:55 p.m.	WMT 600	WSFA 1410	WTCN 1250
WCLS 1310	CKY 960	WIND 560	KFXR 1310	WMT 600	WMBH 1420	WTCN 1250	10:30 p.m.
WFBM 1230	KCRC 1360	3:00 p.m.	KOMA1480 ²	6:00 p.m.	WNRB 1430	WTCN 1250	Red Net ²
WHBY 1200	KFOR 1210	KARK 890	KBOO 1110	KARK 890	WTVM 1500	WTVM 1500	WHO 1000 ²
WKBH 1500	KGKL 1370	KFJZ 1200	WHBU 1210	KFEQ 680	WTVM 1500	WTVM 1500	WRTN 1370
WKOK 1410	KRNT 1320	WHBU 1210	WHO 1000 ²	KVOL 1310	7:15 p.m.	KFPW 1210	10:45 p.m.
WOWO 1160	WCCB 1420	WISN 1120	WIRE 1400	KWTO 560 ²	KFNH 890	WFBM 1230	WIND 560
12:20 p.m.	WDDO 1280	WLBC 1310	WJDD 1130	WHBY 1200	WJMS 1420	9:30 p.m.	KRNT1320 ²
KFNH 890	WHBY 1210	WISN 1120	WJTL 1370	WJBO 1420	7:30 p.m.	KTBS 1450	KMBC 950
WRTN 1370	WMT 600	WTVM 1500	WMBD 1440	WTAQ 1330	WIND 560	WDDO 1280	WHBU 1210

WHERE TO GET THE DAY'S NEWS

KGPF 1200 ² 2:15 p.m. KGDM 1100 3:00 p.m. KJBB 1070 KQW 1010 KRSC 1120 3:15 p.m. KGPF 1200 3:30 p.m. CBS Net Red & Blue 3:45 p.m. KFPY 890 KOIW 940	4:00 p.m. KFRC 610 KRSC 1120 4:15 p.m. KOIN 940 KJBB 1070 4:45 p.m. KGPF 1200 ² 5:00 p.m. KFPY 1300 KRSC 1120 KGDM 1100 5:30 p.m. KELW 780 KMPC 710	5:45 p.m. KOOS 1390 ⁴ KGPF 1200 5:50 p.m. CHWK 780 KJBB 1070 ⁴ KROW 930 KFOK 1250 KQW 1010 ⁴ KRSC 1120 KFXM 1210 W6XAI 1550 5:15 p.m. KECA 1430 KGPF 1200 ² KIT 1310	XEMO 860 6:30 p.m. CHWK 780 KJBB 1070 KROW 930 KFOK 1250 KQW 1010 KRSC 1120 KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550 6:45 p.m. KELW 780 KMPC 710	KLX 880 KRSC 1120 KJBB 1070 KROW 930 KFOK 1250 KQW 1010 KRSC 1120 KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550 6:45 p.m. KELW 780 KMPC 710	8:30 p.m. Red Net ² 9:00 p.m. KECA 1430 KFSK 600 KJBB 1070 KQW 1010 KRSC 1120 KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550 9:15 p.m. KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550	9:30 p.m. KLX 880 KJBB 1070 KQW 1010 KRSC 1120 KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550 9:45 p.m. KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550	KFXM 1210 ⁴ KGB 1330 KHJ 900 KOMO 920 10:30 p.m. CRCV 1100 10:45 p.m. KQW 1010 KRSC 1120 KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550 11:00 p.m. KFPY 890 KJBB 1070 KQW 1010 KRSC 1120 W6XAI 1550
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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)	2YA 5.	Wellington, N. Z.	PRH2 25.	Porte Alegre, Brz.
LKH .7	Hamar, Nor. (519)	Featherstone St.,	Mon. to Sat. 780-980;	(new building)
OFH 10.	Viljuri, Fin. (527)	1000-1100; Sun. 980-	RW82 2.5	Fromze, U.S.R. (688)
RW34 10.	Stallingrad, U.S.R. (522)	1215; 1300-1430; 1800-	SBD 18.	Sundsvall, Swe. (601)
..... 1.	Innsbruck, Aust. (519)	2200.	XMHA .6	Shanghai, Chn.
..... 1.	Ljubljana, Yug. (527)	..... 100.	ZTC 10.	Cape Town, S. Af.
..... 5	Tartu, Est. (517)	Stuttgart, G. (574)	QKN 7.	Cleveland, Ausl.
		Charlottenplatz No. 1		
		Daily 8000-2900 EST		
		..... 10.		
		Magnitogorsk, U.S.R.		
		(571)		
530 (565.7)	580 (516.9)		610 (491.5)	
HIBZ 1.	Belzane, I. (536)		CX4 1.	Montevideo, Uru.
..... 16.	Wilno, Pol. (536)		Dirccion de Agrono-	mia, Millan, 746; 10-
			12-17-19	
540 (555.2)	CC58 .5	Temuco, Chile. Luis	11FI 20.	Florence, I. EIAR
HAL 120.	Budapest, Hun. (546)	E. Braln.	Staziene di Firenze.	Weekdays 130-1730;
RW34 10.	Budapest VIII, San-	JFCK 1.	Weekdays 130-1730;	Weekdays 130-1730;
..... 1.	der Utca No. 7.	Taichu, Formosa	Sun. 310-1730 EST	Sun. 310-1730 EST
..... 1.	Weekdays 0845-1815;	RW36 10.	Archangel, U.S.R. (586)	
..... 5	Sun. 315-1900 EST	RW54 10.	Khabarevsk, U.S.R.	
		XQHA .25	Shanghai, Chn.	
		YLZ 15.	Riga, Lat. (583)	
		3WV 19.	Hersham, Ausl.	
		..... 15.	Grenoble, F. (583)	
		Daily 300-1730 EST		
550 (545.1)	590 (508.2)		620 (483.6)	
2CR 10.	Cumneck, Ausl.		CB62 1.	Santiago, Chi.
..... 100.	Beromunster, Sw.		Radio Chilena.	
..... (556)	Report to PTT,		Lisbon, Por. (629)	
	Berno, Speichergrasse		Emisora Nacional.	
	No. 6.		Daily 700-1900 EST	
	Weekdays 600-1630;		Matsuy, Jap. (625)	
	Sun. 130-1630 EST		Trondelag, Nor. (629)	
			Cordeba, Arg.	
			Ivanovo, U.S.R. (625)	
			Invercargill, N. Z.	
			R. T. Parsons, 155	
			Layard St. N., Mon.,	
			Wed. 1230-1330; 1830-	
			2130; Tue., Thurs.,	
			Fri. 1230-1330; 1900-	
560 (535.4)	600 (499.7)		650 (461.3)	
HIPA 4.	Palermo, I. (565)		CX6 10.	Montevideo, Uru.
MTCY 100.	Huinking, Mch.		Estacion Oficial, Mar-	
RW41 1.2	Sykytykar, U.S.R. (563)		tin Fierro 2603, 12-	
RW42 10.	Gorki, U.S.R. (565)		14; 17-23	
XLHB .045	Shanghai, Chn.		Asahigawa, J. (655)	
ZUG 10.	Grahamstown, S. Af.		Pres. NBC, Hokkaido	
GWA 10.	Minding, Ausl.		Asahikawa Branch,	
..... 60.	Athlone, IFS (565)		EST Daily 11 p.m.-	
	Radio Atha Luain.		7:30 a.m.	
	Daily 830-1800 EST		JQAK .5	Dairen, Mch. (652)
			1YA 10.	Auckland, N.Z.

FOREIGN B. C. STATIONS BY FREQUENCIES

No. 1 15.	Brussels, Belg. la	700 (428.3)	JOKK .5	Okayama, J.
..... 20.	Rue du Bastion	PRA7 .05	Sao Paulo, Brz., Rua	Tibirica 26 (706)
..... 20.	Weekdays 655-1800;	RW48 2.5	Elizita, U.S.R. (704)	
..... 20.	Sun. 445-1900 EST	SBA 55.	Weekdays 145-1700;	
	Cairo, Egypt.		Sun. 3-17 EST	
	Jerusalem, Pal.		VPB 1.75	Coleombo, Cey. (705)
630 (475.9)			XMHC .5	Shanghai, Chn.
JODG .5	Hamamatsu, Jap.		ZP15 .	Villarrica, Par.
LS3 5.	Buenos Aires, Arg.		2NR 7.	Lawrence, Ausl.
OKP 120.	Praha, Cz. (633). The			
	Radio Journal, Praha,			
	Cz. Daily 0030-1730			
	EST			
RW28 .3	Vladivostok, U.S.R.			
RW32 10.	Vladivostok, U.S.R.			
TW84 1.2	Oust-Abakansk, U.S.R.			
3AR 4.5	Melbourne, Ausl.			
	120A Russel St., Mon.			
	to Fri. 830-1100; 1300-			
	1900; 1930-2400; Sat.			
	930-1100; 1300-1900;			
	1930-130; Sun. 1225-			
	1630; 1810-2230			
640 (468.5)				
CB64 1.	Vina del Mar, Chile.			
	La Union, Av. Por-			
	tales 528			
CC64 .1	Concepcion, Chile. El			
JOUK .3	Sur, Freyre 799			
RW29 10.	Akita, J. (645)			
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			
	Brdstg. Com., P. O.			
	Box 200.			
ZTJ 10.	Johannesburg, S. Af.			
5CK 7.5	Crystal Brook, Ausl.			
	Relays 5CL Mon. to			
	Fri. 9-10; 1230-1600;			
	17-1830; 1930-130; Sat.			
	9-1030; Sun. 1230-			
	1530; 17-19; 1945-0030			
	Shanghai, Chn.			
660 (454.3)				
XGOA 75.	Nanking, Chn.			
RW38 2.	Alexandrovsk U.S.R.			
..... 50.	Manchester, G. B.			
	(668) North Regional			
	Weekdays 515-1900;			
	Sun. 730-1745 EST			
670 (447.5)				
JFAK 10.	Taiheku, For.			
LS4 7.	Buenos Aires, Arg.			
MTFJ 3.	Harbin, Mch. (674)			
RW23 1.	Groznyi, U.S.R. (676)			
YV6RV .35	Valencia, Vnz.			
2CO 1.	Corewa, 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			
	Settens, Swi. (677)			
	Report to PTT Berno,			
	Speichergrasse No. 6.			
	Weekdays 630-1630;			
	Sun. 355-1630 EST			
680 (440.9)				
CW27 .15	Salto, Uruguay. Er-			
HJN .5	nesto Popelka			
JOLK .5	Bogota, Col. (681)			
JOVK .5	Fukuoka, J.			
LKD .5	Hakodate, J.			
RW17 10.	Bodo, Nor. (686)			
RW27 4.	Kazan, U.S.R. (686)			
RW46 1.2	Makhatch, U.S.R. (689)			
	Karaganda, U.S.R.			
	(686.5)			
RW71 1.2	Petrovsk, U.S.R. (689)			
RW74 1.2	Tchoboksary, 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 .05	Sao Paulo, Brz., Rua			
	Tibirica 26 (706)			
RW48 2.5	Elizita, U.S.R. (704)			
SBA 55.	Weekdays 145-1700;			
	Sun. 3-17 EST			
VPB 1.75	Coleombo, Cey. (705)			
XMHC .5	Shanghai, Chn.			
ZP15 .	Villarrica, Par.			
2NR 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, U.S.R.			
XGML .0075	Kashing, Chn. (714.3)			
XGOS 1	Chunking, Chn. (711)			
720 (416.4)				
JFBK 1.	Tainan, For.			
JORK .5	Kechi, J. Mr. Mat-			
	suo, 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, U.S.R. (722)			
XLHC .05	Shanghai, Chn.			
XLHD .05	Shanghai, Chn.			
3YA 10.	Christchurch, N. Z.			
	Gloucester St. Mon.			
	to Sat. 7-9; 10-23;			
	Sun. 9-1215; 13-1630;			
	1730-22			
6GF 2.	Kalgoorlie, Ausl.			
730 (410.7)				
CB73 1.	Santiago, Chile. Uti-			
	timas Noticias, Com-			
	pana 1258			
CX10 1.	Montevideo, Uru.			
	Internacional Brc-			
	dstg. Industria 2840;			
	11-15; 16-24			
EAJ2 3.	Madrid, Sp. (731)			
EAJ5 5.5	Radio-Espana			
	Seville, Sp. (731)			
	Daily 230-1630 EST			
JOSK 1.	Kokura, J. (735)			
LV1 1.	San Juan, Arg. Radio			
	Graffigna, C. de			
	Correo 44			
RW65 1.	Saransk, U.S.R. (734)			
XHGS .05	Wuchow, Chn.			
5CL 2.	Adelaide, Ausl.			
	Hindmarsh Square.			
	Samo Schedule as			
	5CK, 640 kc.			
..... 20.	Tallin, Est. (731)			
740 (405.2)				
OFD 1.	Peri, Fin. (749)			

FOREIGN B. C. STATIONS BY FREQUENCIES

PRE3 1.5 Uberaba, Brz.
XHHB 1. Shanghai, Chn.
2BL 3. Sydney, Ausl.
98 Mark St. Mon.
to Fri. 830-1100; 13-
19; 1930-2400; Sat.
830-11; 13-19; 1930-
18-2338
108. Munich, G., Funk-
haus Rundfunkplatz
No. 1
Daily 0000-1800 EST
Marselles, F. (749)
PTT Daily 245-17 EST
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 Caraca 45
PRA8 3. Pernambuco, Brz.
Ave. Cruz Cabuga 394
Urdonikidze, U.S.R.
(752)
XGOK 1. Canton, Chn.
YVARC .1 Caracas, Vnz.
ZTD 1.5 Durban, S. Af.
7MT 7. Kaise, Ausl. Same
schedule as 7ZL, 590
kc.
15. Tientsin, Chn.
12. Katowice, Pol. (758)
18. Maritzburg, S. Af.

760 (394.5)

CB76 10. Valparaiso, Chi. Co-
op. Vitalicia, Agus-
tina 1253, 9 Piso
PRD9 .25 Sorocaba, Brz. (769)
RW78 3. Ijevsk, U.S.R. (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
Sendal, J.
JOHK 10. Frederikstad, N. (776)
LKF 1. Stalino, U.S.R. (776)
RW26 10. Madras, Ind.
VUM .2 Melbourne, Ausl.
3LO 3.5 120A Russell 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)

CB76 1. Santiago, Chile. Co-
operativa Vitalicia,
Agustina 1253, 9 piso
JOPK .5 Shizuoka, J.
KZEG 1. Manila, P. I.
Daily 8-20
LT1 4. Rosario, Arg.
Radio Litoral, Cor-
deba 1049
PRE7 5. Sao Paulo, Brz. (788)
Radio Cosmos, Praca
Marechal Deodoro 52
XHHB .05 Shanghai, Chn.
Lelpel, 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 10.25 Kumamoto, J.
LR10 10.25 Buenos Aires, Arg.
Radio Cultura, Bel-
grano 1841
RW51 1. Naltchik, U.S.R. (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
Bldg. 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
IM1 50. Milan, I. (814)
Radio Milano, Corso
28, Ottobello 102, Mi-
lano 134
Weekdays 130-1730;
Sun. 1330-1730 EST
Nagoya, J.
JOCK1 10. Sao Paulo, Brz. (815)
Radio Educadora
Paulista, Rua Jose

VUC 3. Bonifacio 12.
Calcutta, Ind.
Poling, Chn.

820 (365.6)

CB82 1. Santiago, Chi. El
Diario Ilustrado,
Moneda 1158, 9-18;
12-14; 16-1830; 28-24
CW23 .25 Salto, Uruguay. Me-
doteo Liantada
LV7 1. Tucuman, Arg.
G. Acha Munoz y Cia.
Mendoza 437
PRH8 5. Rio de Janeiro, Brz.
Radio Ipanema
RW68 1.5 Tchellabinsk, U.S.R.
(824)
XLKB .055 Tientsin, Chn.
2ZH .065 Napier, N. Z.
C. B. Hansen & Co.,
59 Latham St., Mon.
Tue., Fri. 12-14; 19-
22; Wed. 12-14; 1830-
2238; Thu. 12-14; Sat.
10-17; 19-23; Sun. 12-
15; 1830-22
7HO 1. Hobart, Ausl.
82 Elizabeth St. Mon.
to Sat. 930-1830; 1930-
1530; 1900-0830; 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, Mal-
pu 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. Salgen, Indo.
Cie Generale de Telo-
graphie sans Fil, P.O.
Box, 238
LT8 .5 Rosario, Arg.
Julio Blomberg, Sar-
miento 958
PRA4 .05 Bahia, Brz. Radio
Sec. da Bahia
XGTM .015 Chang-sha, Chn.
XHHA .15 Shanghai, Chn.
ZBW 2. Hongkong, C. (845)
The Secretary, Hong
Kong Brcdst. Com.,
P. O. Box 200.
Wellington, N. Z.
Featherstone St.
Mon. to Sat. 17-18;
19-220; Sun. 18-22

FOREIGN B. C. STATIONS BY FREQUENCIES

100. Berlin, G. (841)
Radio Reichsender,
Berlin Brcdst. House
Daily 0000-1800 EST

850 (352.7)

CX16 10. Montevideo, Uru.
SADREP, Av. S. Mar-
tinez 13508
EAJ3 3. Valencia, Sp.
HSP1 2.5 Bangkok, Siam (856)
JOFK 10. Hiroshima, J.
LKA .35 Aalesund, Nor.
LKB 1. Bergen, Nor.
LKP 1. Porsgrund, Nor.
PRB3 .25 Juiz de Fora, Brz.
(857)
Radio Sec. de Juiz de
Fora, Parque Herald
Simforopol, U.S.R.
(859)
RW73 10. Nairobi, Ken. (858)
Bombay, Ind. (855)
VUB 3. Tsinan, Chn. (852)
XGOF 1. Shanghai, Chn.
XQHB 1. Renmark, Ausl.
SRM 1. River Murray Brcd-
casters, Ltd., 29 Run-
die St., Adelaide
1. Soňa, Bul.
35. Strasbourg, F. (859)
Radio Strasbourg
PTT, 30 Rue du 22
Nov. Weekdays 545-
19; Sun. 1630-19 EST
Hangchow, Chn.

860 (348.6)

PRA3 2.5 Rio de Janeiro, Brz.
Radio Club de Brasil,
Rua Botancourt da
Silva 21
XHHD .05 Shanghai, Chn.
16. Poznan, Pol. (868)
Daily 1-18 EST
Paris, F. (888) AGEN

870 (344.6)

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

880 (340.7)

LV2 2. Cordova, Arg.
Radio Central, San
Lorenzo 335
PRB2 .25 Curitiba, Brz. (882)
Radio Club Para-
naense

RW61 1. Iochan-Ola, U.S.R. (888)
VUD 20. Delhi, India. (882)
XHHV .1 Shanghai, Chn.
YVIRC .1 Caracas, Vnz. (882)
1YX .5 Auckland, N. Z.
Karangahape Road
Mon. to Sat. 17-18;
19-22; Sun. 18-22

890 (326.9)

GPB .5 Perth, Ausl.
Barrack St., Mon. to
Sat. 1830-12; 14-1530;
21-2; Sun. 2330-138
Graz, Aust. (886)
Daily 310-19 EST

890 (326.9)

CB89 1. Santiago, Chile. Otto
Becker, Ahuamada
113
CX18 1. Montevideo, Uruguay
Difusora El Especta-
dor, Ltda., Olimar
1356
MTBY 1. Mukden, Manch.
OFA 18. Helsinki, Fin. (895)
XGKA .815 Kashing, Chn. (895)
ZPS 1.5 Aunclon, Par. (898)
Limoges, F. (895)

900 (333.1)

CB98 1. Valparaiso, Chile. El
Murcurio de Val.,
Casino de Vina del
Mar.
JODK1 10. Seoul, Korea
KZIB 1. Manila, P. I.
Daily 10-28
LU2 2. Bahia Blanca, Arg.
Radio Bahia Blanca.
PRF3 5. Sao Paulo, Brz. (CP,
60 kw) Radio Difusora
Sao Paulo.
XGO1 .5 Shanghai, China.
XGTM .1 Tengchow, Chn.
ZTP .165 Wairos, N. Z.
E. A. Perry, 128 Queen
St. Tue. 7-9; 18-2230;
Wed. to Sat. 7-9; Sun.
730-930

910 (329.6)

3MA .05 Mildura, Ausl.
22 Deakin Ave. Mon.
to Thu. 9-10; 12-13;
1930-24; Fri. 9-10; 12-
13; 1930-0030; Sat.
9-10 1930-0030; Sun.
1230-1530; 1945-2330
4WK .85 Warwick, Ausl.
King and Albion Sts.
Daily 1230-1530; 19-
2330
100. Hamburg, G. (904)
Radio Reichsender
Hamburg. Daily 00-
18 EST
LR2 12. Buenos Aires, Arg.
Radio, Bolivar 1356
Argentina
RW30 10. Dnepropetrovsk,
U.S.R. (913)
Hanlin, Chn.
XLIM .85 Rockhampton, Ausl.
4RK 2. Relays 4QG. Same
schedule as 4QG 808
kc.

68. Toulouse, F. (913)
Villa Schmidt, Rue
Monie. Daily 3-1330
EST
Limoges, F. (913)

920 (325.9)

JOQK .5 Nilgata, J.
OKB 32. Brno, Cz. (922)
Daily 0030-1730 EST
PRC3 .25 Polotas, Brz.
PRF4 10. R'de Janeiro, Brz.
(923). Soc. Anonima
"Journal de Brasil"
XHHX 1. Shanghai, Chn.
ZZR .015 Nelson, N. Z.
Trafalgar St. Tem-
porarily silent.

930 (322.4)

CB93 3. Santiago, Chile.
Huke, Providencia
1822
CX20 2. Montevideo, Uru.
Radio Moncarlo,
Humberto I No. 3.
11-1430; 16-24
JOAG .5 Nagasaki, J.
PRD2 1. R'de Janeiro, Brz.
(932) Soc. Radio Cru-
ceiro do Sul; Rua
Mariz e Barras 270
RW55 1. Engels, U.S.R. (932)
VUG 1. Delhi, India
XGON .2 Nanking, China.
3UZ .65 Melbourne, Ausl.
45 Bourke St. Mon.
to Thu. 830-1530;
1645-1800; Fri. 830-16;
1645-1800; Sat. 830-
1330; 1930-1330; Sun.
1130-1400; 1915-2330
Weekdays 7-19; Sun.
5-19 EST

940 (319)

JONK .5 Nagano, J. K. Yana-
da, Dir. EST Daily
4-1938
PRE4 .25 Rio de Janeiro, Brz.
(941). Soc. Radio Cul-
tura "A Voz de Es-
pacao"
SBB 10. Goteborg, Swe. (941)
Weekdays 145-17;
Sun. 3-17 EST
XHHE 1. Shanghai, Chn.
3ZR .4 Greymouth, N. Z.
West Coast Radio
Sec., Bright St., Cob-
den. Mon. to Fri.
730-830; 15-17; 18-19;
1930-22; Sat. 730-830;
1930-17; 18-21; Sun.
12-1330; 1730-1830;
19-21
12. Algiers Alg. (841)
Radio PTT du Govt.
Gen., Rue Berthe-
zene, Alger, Algeria
N. Af.
Daily 8-18 EST

FOREIGN B. C. STATIONS BY FREQUENCIES

FOREIGN B. C. STATIONS BY FREQUENCIES

950 (315.6)

- LR3 31. Buenos Aires, Arg. Radio Belgrano, Belgrano 1841
- PP 60. Poste Parisien, 4 Rue du General-Foy. Daily 210-18 EST
- PRF8 .5 Bahia, Brz. (959) Radio Commercial da Bahia
- RW40 1. Gomel, U.S.R. (959)
- RW54 1. Gomel, U.S.R. (959)
- XG0P .3 Peking, Chn.
- ZTP 1. Pretoria, S. Af. (952)
- ZUE .5 Sydney, Ausl. Rex Shaw, 296 Pitt St., Mon. to Fri. 730-15; 16-1; Sat. 730-1230; 1500-130; Sun. 930-1330; 1815-003
100. Breslau, G. Schlesische Funktunde, 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)
- RW68 10. Odessa, U.S.R. (968)
- XHHF .1 Shanghai, Chn.
- YV1RC 5. Caracas, Venez. (961) Brdcast. 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
- SDN .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 Wushu, 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) EIAF

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

990 (302.8)

- JOFG .3 Fukui, J.
- LR4 16. Buenos Aires, Arg. Radio Splendid, Callao 1526. Daily 11-24
- PFB1 60. Hilversum, Hol. (995) Helr 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", Apt. 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 Talyuan, 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 SANTREP, Las Rozas 756
- PRB9 5. Sao Paulo, Brz. (1017) Radio Soc. Record, Praca da Republica 17 Tchornigov, U.S.R. (1013)
- RW86 5. Hangkow, Chn.
- XGOW 5. Hamilton, Ausl. 37 Gray St., "The Age Brdcast. Service", Mon. to Sat. 830-1030; 1330-1745; 1915-2400; Sun. 1230-1800; 2015-0030
- 3HA .3 Gray St., "The Age Brdcast. Service", Mon. to Sat. 830-1030; 1330-1745; 1915-2400; Sun. 1230-1800; 2015-0030
- 4ZB .025 Dunedin, N. Z. 180 Rattray St. Wed., Thu. 18-23; Sun. 10-12
- 4ZM .003 Dunedin, N. Z. McCracken & Wells, 17 George St. Mon., Wed., Thu., Fri. 9-1145; 13-14; Tue. 9-1145; 13-14; 18-23; Fri. 10-12; 13-14; Sat. 9-12; 17-22; Sun. 14-22
- 4ZO .025 Dunedin, N. Z. Mon. 12-13; 14-15; 20-23; Tue., Wed., Thu., 12-13; 14-15; 17-18; Fri. 12-13; 14-15; 17-18; 19-23; Sat. 12-13
50. Midland Regional Weekdays 545-1815; Sun. 1130-1745 EST

1020 (293.9)

- EJ15 3. Barcelona, Sp. (1022)
- EJ19 .7 Oviedo, Sp. (1022)
- JBAK .5 Fuzan, Korea
- OBJ .5 Lima, Peru. Escuela Militar de Chorrillos. Shanghai, Ch. 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
- Cracow, Pol. (1022)
2.

1030 (291.1)

- CD103 .1 Magallanes, Chile. Ramon Verde Sanchez, Mexicana 936
- CT1GL 5. Paredo, Por. (1031) Radio Club Portuense
- LR9 5. Buenos Aires, Arg. Radio Fenix, Santa Fe 1174
- PRC8 1. Rio de Janeiro, Brz. Radio Soc. Guanabara, Rua 1st de Mayo 123
- XGOL 1. Foochow, Chn.
- YV1RMO .1 Maracaibo, Venez. (1034)
- 3DB .6 Melbourne, Ausl. 36 Flinders St. Mon. to Fri. 8-1; Sat. 8-130;

- Sun. 1130-1330; 1530-24
100. Konigsberg, G. (1031) Daily 00-18 EST

1040 (288.3)

- CP4 10. La Paz, Bol. Carlos Lopez Vedula, Casilla 637
- CW25 .5 Durazno, Uru. Artola Evangelisti y Cia. 10-13; 18-23
- RW70 10. Leningrad, U.S.R. Shanghai, Chn.
- XHHH .1 Port Pirie, Ausl.
- SP1 2. 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
- IBA 20. Bari, I. (1059) EIAF Staziene di Bari Weekdays 130-1730; Sun. 335-1730 EST
- PRF6 .05 Bahia, Brazil. Radio Club da Bahia
- RW33 1. Krasnodar, U.S.R.
- XHKA .1 Tien-tsin, Chn.
- 2CA .5 Canberra, Ausl. Mon. to Fri. 14-15; 19-2330; Sat. 1930-2330; Sun. 2130-2330
50. Falkirk, G. B. Scottish National. Weekdays 545-1815; Sun. 1130-1745 EST

1060 (282.8)

- CB106 1. Santiago, Chi. Sud America, Goicolea 0122. 11-13; 17-18
- RW57 4. Tiraspol, U.S.R. (1068)
- XHHI .1 Shanghai, Chn.
- 3YB .025 Melbourne, Ausl. 430 Little Collins St. Mon. to Sat. 20-24; Sun. 2030-2330
- 4MB .05 Maryborough, Ausl. Wynne's Stn. Mon. to Fri. 10-1130; 1330-1530; 20-2330; Sat. 10-1130; 1330-1530
2. Paris, F. (1068) Radio-Cite

1070 (280.2)

- LR1 50. Buenos Aires, Arg. Radio El Mundo, Maipu 555
- PYG2 10. Sao Paulo, Brz. Radio Tupy Sao Paulo Honan-fu, Chn.
- XG0X .2 Canton, Chn. (1071)
- XKRI .1 Bordeaux, F. (1077)
30. Bordeaux - Lafayette Hotel des PTT, 220

- Chemin de Tendu Daily 300-1730 EST

1080 (277.6)

- JOBK2 10. Osaka, J. (1085)
- LT3 4.5 Rosario, Arg. Radio Soc. Rural de Cereales, Pte. Roca 770
- OAX4F .05 Lima, Peru F. W. Castelano & Hne. Opens and closes "Anchors Aweigh" Daily except Sun., 15-17 EST
- SCC 2. Falun, Swe. (1086)
- XHHJ .2 Shanghai, Chn.
- ZP7 .7 Asuncion, Par. (1083)
- 2AD .5 Armidale, Ausl.
- 3SH .05 Swan Hill, Ausl. Mon. to Sat. 14-15; 2030-24; Sun. 1345-1545; 1745-1930; 2045-2330
7. Zagreb, Yu. (1086)

1090 (275.1)

- CC109 .1 Rancagua, Chile. Jorge Romero, Independencia 483
- CX28 3. Montevideo, Uru.
- EJ7 10. Madrid, Sp. (1095) Union Radio Station EJ7, Apt. 745. Daily 3-19 EST
- PRC2 3. Porto Alegre, Brz. Radio Soc. Gaucha, Galeria Chaves
- PRC7 .25 Bello Horizonte, Brz. Soc. Radio Minheira Vinnitza, U.S.R. (1095)
- RW75 10. Loyal, Chn.
- XG0B .25 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. 5-46
- 11NA 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 80-1630; Sun. 200-1700 EST

1110 (270.1)

- CB111 1. Vina del Mar, Chile. Los Castanos, Av. Castanos 393
- CD111 .1 Magallanes, Chile. Radio Austral, Independencia s/n 20-23
- LS5 5. Buenos Aires, Arg.

- Radio Rivedavia, Callao 1526
- OKK 11.2 Moravka, Cz. (1113) Daily 0030-1730 EST
- 2UW 1. Sydney, Ausl., J. M. Prentice, Box 261D, GPO. "At the Cross Roads of Sydney". 24 hrs. daily.
10. Normandle, F. (1113) Fecamp
- .001 Suchow, Chn.

1120 (267.7)

- CD112 .1 Oserne, Chile. David Arriagada, Baquedano 715
- CW29 .05 Mercedes, Uru. Bautista Abbo. 1130-13; 1830-2230
- HAE 6.2 Nyiregyhaza, Hung. (1122)
- LV5 .7 San Juan, Arg. Radio Los Andes, G. Acha 362
- OAX41 .1 Lima, Peru. Radio Internacional
- PRH3 10. Sao Paulo, Brz. Radio Piratininga
- XLHM .05 Shanghai, Chn.
- XLHN .2 Shanghai, Chn.
- 4BC 1. Brisbane, Ausl., R. F. Roberts, 43 Adelaide St., Mon. to Fri. 8-0030; Sat. 8-11; 1330-0030; Sun. 830-1330; 1630-24
- .25 Alexandria, Eg. (1122)
1. Newcastle, G.B. (1122)

1130 (265.3)

- CX30 .5 Montevideo, Uru. Radio Nacional, Porvenir 2384. 9-24.
- PRD8 1. Niteroy, Brz. (1132) Radio Club Fluminense
- SBH 10. Herby, Swe. (1131) Weekdays 145-1700; Sun. 3-17 EST
- XGOC .25 Nan-chang, Chn.
- ZP1 1. Asuncion, Par. (1135)
- 6ML .5 Perth, Ausl. Lyric House, Murray St. Mon. to Fri. 1030-1230; 1430-16; 21-2; Sat. 1030-1230; 1430-16; 2130-2; Sun. 2230-130

1140 (263)

- CB114 1. Santiago, Chile. Chilena Consolidada, E. Llanes 35
- 11TO 7. Turin, I. Weekdays 130-1730; Sun. 310-1730 EST
- XHHI .1 Shanghai, Chn.
- 2HD .5 Newcastle, Ausl. Sat. 123. Mon. to Fri. 730-1530; 1630-1730; 19-24; Sat. 730-1530; 1630-1730; 19-1330; Sun. 1030-1330; 1630-1730; 1830-130

FOREIGN B. C. STATIONS BY FREQUENCIES

FOREIGN B. C. STATIONS BY FREQUENCIES

4YO 1.5 Dunedin, N. Z.
Mon. to Sat. 17-18;
19-22; Sun. 18-22
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, Cib. (1154)
LR8 7. Buenos Aires, Arg.
Radio Paris, Cargalle
860
OAX4H ... Lima, Peru. Radio
Davila, Aptdo. 373
XGGW .05 Tchengow, Chn.
XGOZ .1 Kongsu, Chn.
XGYY .015 Tsangchow, Chn.
YV7RMO .5 Maracalibo, Venz.
(1153)
2WG .2 Wagna, Aus.
16 Fitzmaurice St.
Mon. to Sat. 930-1030;
1330-1530; 1930-24;
Sun. 2130-2330
2ZM .015 Glisborne, N. Z.
Mon., Tue., Wed., Fri.,
Sat. 915-1015; Thu.
915-1815; 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. Para. 9-
1230; 16-23
LT5 .5 Resistencia, Arg.
Radio Chaco, Av. 9
de Julio
XHHU .1 Shanghai, Chn.
2KA .1 Katombor, 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; 1638-1830;
28-23
6BY .05 Bunbury, Ausl.
Bedford Hall
15. Mte. Ceneri, Sw.
(1167)
Report to PTT Berne,
Spelghergasse No. 6
Weekdays 6-17; Sun.
430-1630 EST

1170(256.3)

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

Radio Marconi, Gen.
Hornos 537, 18-2
Nageya, J. (1175)
Sao Paulo. Radio
Cruzeiro do Sul, Lar-
go da Misericordia 4
Campinas, Brz. (1175)
Radio Educadora di
Campinas
XLIF .03 Wueih, Chn.
2NZ 2. Naurabari, Ausl.
2ZD .005 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; 1338-1538;
1930-2345; Wed., Sat.,
9-10; 15-18; 1938-2345;
Sun. 2038-2338
18. Cophgen, Den. (1170)
Strats Radio Fenlon
Heilberggrade No. 7

1180(254.1)

CB118 1. Santiago, Chile. Ra-
dio Bayer, Portal Fer-
nandez Co. 960
LKM .1 Tromsø, Nor. (1186)
RW20 10. Kharkev, U.S.R. (1185)
XHHZ .15 Shanghai, Chn.
3KZ .6 Melbourne, Ausl., S.
Morgan, 64 Elizabeth
St., "The Brighton
Broadcasting Service".
24 Victoria St. Mon.
to Fri. 8-1538; 16-18;
1830-100; Sat. 8-1215;
1345-230; Sun. 16-18;
1930-24

1190(252)

LS2 30. Buenos Aires, Arg.
Radio Prieto, Bolivar
1356
OAX4H ... Lima, Peru. Radio
Zenith, Casa Davila
Peipung, Chn. (1194)
XLKA .03 Sydney, Ausl.
2CH 1. 77 York St., Mon. to
Fri. 838-15; 1638-0030;
Sat. 838-14; 1638-0030;
Sun. 12-14; 16-2338
25. Frankfurt, G. (1195)
Eschersheimer Land-
strasse No. 33.
Dunedin, N. Z. (1195)
Freiburg, G. (1195)
Kaiserslautern (1195)
Trier, G. (1195)
Cassel, G. (1195)
Coblenz, G. (1195)

1200(249.9)

CB120 1. Valparaiso, Chile.
Chilena Consolidada,
Edwards 383
HJ1ABE 1. Bogota, Cib., Uribe
y Moreno, P. O. Box
317.
Santa Fe, Argentina.
Radio Roca Soler
Lima, Peru
LT9 .5
OAX4B .25

PRD3 .25 Taubate, Brz. (1207)
Sec. Radio Bandelir-
ante
XHHN .1 Shanghai, Chn.
YV3RC 3. Caracas, Vnz.
Bajos Pasaje Ramella
Lahore, India
VUL .1 Christchurch, N. Z.
2YL .5 Mon. to Sat. 17-18;
19-22; Sun. 18-22
3KA .3 Adelaide, Ausl.
Richards Bldg., Mon.
to Fri. 830-1; Sat. 830-
2; Sun. 12-14; 17-18;
1845-1900
Praha, Cx. (1204)
Bangkok, Siam

1210(247.8)

CD121 .1 Osorno, Chile. Radio
Austral, E. Ramirez,
2930
CX34 .5 Montevideo, Uru.
Radio Artigas, Millan
2370, 10-16; 18-23
LV10 .5 Mendoza, Argentina.
Radio de Cuyo
OA4AR .025 Lima, Peru
OA4D .025 Lima, Peru
XLPB .015 Pinghu, Chn.
XLTC .015 Wueih, Chn.
2GF .85 Grafton, Ausl.
47 York St., Mon. 9-
10; 1338-1430; 1530-
2338; Tue. to Sat.
9-18; 1430-1538; 1930-
2330
6KG .085 Kalgoorlie, Ausl.
86 Palace Chambers.
Mon. to Fri. 1430-1630
22-2; Sat. 1730-2630;
2230-2; Sun. 2315-0130
Lille, F. (1213) Radio
PTT Nord (testing)
Daily 3-1730 EST

1220(245.8)

LT1R 18. Trieste, I. (1222)
Weekdays 130-1730;
Sun. 310-1730 EST
PRE3 18. Rio de Janeiro, Brz.
Radio Transmissora
Brasileira
PRG9 .5 Sao Paulo, Brazil.
Radio Excelsior.
XGOT .5 Pei-ping, Chn.
4AK .1 Oakay, Ausl.
Daily 19-0030
4ZL .1 Dunedin, N. Z.
243 Macandrew Rd.
Man., Thu., Sat. 8-9;
1930-23; Tue., Wed.,
Fri. 8-9; Sun. 838 1038
Narvik, Norway (1222)

1230(243.8)

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

1850; 19-100; Sun.
1230-1515; 1938-24
Shelwitz, G. (1231)
Hengchow, Chn.

1240(241.8)

CB124 .25 Valparaiso, Chile. A.
Garcia y Cia., Av.
Brasil 212
CW35 .25 Paysandu, Uru.
Buena Ventura y
Mahler. 9-13; 17-22
LU7 2. Bahia Blanca, Argen-
tina. Radio Ge. San
Martin, Calle Sa-
ramento 60
LV-14 .5 La Rioja, Arg.
Radio Provincia de
La Rioja
XHHY .1 Hastings, N. Z.
2ZL .05 John Holden, 689
Park Rd. Thurs.,
1838-23; Sun. 938-
1200
3TR .5 Sale, Ausl. A. Gil-
christ, Raymond St.,
"Gippsland's Radio
Station."
Mon. to Fri. 12-15;
19-24; Sat. 12-1430;
1938-24; Sun. 28-24
Cork, I. F. S.
Perth, Ausl.
St. George's Terrace.
Mon. to Fri. 1238-1438
2138-238; Sat. 1238-
1545; 2138-238; Sun.
17-1838; 2138-268
Juan Jose Pine, F.
(1248). Radio Cote d'
Azur.
2. Swedish Relay Sta-
tions.

1250(239.9)

CX36 .25 Montevideo, Uru.
Centenario Bldg.
Ignacio Munoz 2133.
9-14; 17-24
EAJ8 1. Sn. Sebastian, Sp.
(1258)
HC2IB .03 Guyaquil, Ec.
MAB5 .935 Siangyang, Chn.
OAX4L .1 Lima, Peru. Radio
Miraflores, Calle
Manos Capaz 347
PYQ8 .25 Osuru, Brz.
XLIE .95 Wueih, Chn.
No. 3 1. Renss, I. (1258)
10. Kuldiga, Lat. (1258)

1260(238)

CB126 1. Santiago, Chi. (1268)
Consorcio Espanol,
Gran Av. 2864.
9-18; 16-17; 21-22.
Parana, Arg.
Radio Provincia de
Entre Rios.
Shanghai, Chn.
Manurewa, N. Z.
W. Rodgers, Manney
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. 12-1438; 1938-
0038; Sat. 12-1438;
2038-2338; Sun. 2138-
2238
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
Airo, Pexos 435.
OA48 .1 Lima, Peru (1277)
PRE3 7. Rio de Janeiro, Brz.
Sec. Radio Nacional
Rua Buenos Aires 128.
Tunis, Tun. (1275)
TUA .5 Wu-hu, Chn.
XDYF .015 Asuncion, Par. (1275)
ZP4 .15 Sydney, Ausl. 46
Carrington St.,
"Double D Eucalypt-
us" Australia House.
Mon. to Sat. 838-1838;
1438-24; Sun. 1238-
24

1280(234.2)

PRG3 18. Rio de Janeiro, Brz.
XHMQ .08 Shanghai, Chn.
3AW .6 Melbourne, Ausl.
218 Exhibition St.
Mon. to Sat. 8-1130;
1238-1; Sun. 1145-14;
18-24.
4ZC .007 Cromwell, N. Z.
John I. Bilton, Low-
burn Ferry. Daily
19-21.
1. Aberdeen, G.B. (1285)
25 Dresden, G. (1285)
1. Tientsin, Chn.

1290(232.4)

CX38 .5 Montevideo, Uru.
PRA5 5. Sao Paulo, Brz. (1295)
Radio Club de Sao
Paulo, Rua 7 de Abril
Brisbane, Ausl.
Mon. to Fri. 838-0038;
Sat. 838-0138; Sun.
13-1538; 1838-24.
5. Dornbirn, Aust. (1294)
4.2 Klingenfurt, Aust.
(1294)
28. Linz, Austria (1294)
2. Voralberg, Aus.
(1294)

1300(230.6)

CB130 1. Santiago, Chile. Ma-
vie, Av. J. D. Canas
585
CPX 5. La Paz, Bol.
LT18 .1 Santa Fe, Arg.
Radio del Inst. Sec.
de la Univ. Nac. del
Litoral
LU6 .5 Mar del Plata, Arg.
Radio Atlantica.
Lima, Peru, Estacion

Radiodifusora DUSA,
Calle de Pissomera.
PRC4 .05 Ampara, Brz. (1304)
XGOE 1. Manning, Chn.
XQMC .5 Shanghai, Chn.
YV8RMO .15 Maracalibo, Vnz.
ZYM .05 Tannworth, Ausl.
Post St. Mon. to Sat.
838-1038; 1238-1838;
17-18; 19-2338; Sun.
1338-1838; 1638-1838;
2038-2338
5. Danzig, Dan. (1308)

1310(228.9)

LS7 18. Buenos Aires, Arg.
PRE3 .5 Fortaleza, Brz. (1315)
SBC 1.25 Malmo, Swe. (1312)
SCK .25 Karlstad, Swe. (1312)
SCO .25 Norrkoping, Swe.
(1312)
SCQ .25 Trollhattan, Swe.
(1312)
XL1J .05 Wueih, Chn.
SAD .3 Adalao, Ausl.
Weymouth St. Daily
9-0100

1320(227.1)

CB132 1. Valparaiso, Chile.
David Wallace, Es-
meralda 1111
CD132 .1 Valdivia, Chile. Car-
los Kahler, Isla Toja
CW39 .1 Paysandu, Uru.
Miguel Penna. 1038-
1238; 1738-2245
HAE2 1.25 Magyarovar, Hun.
(1321)
HJ1ABK .05 Bogota, Col.
XLIA .015 Ningpo, Chn.
3BA .05 Ballarat, Ausl.
Armstrong and Dana
Sts. Mon. to Fri. 8-
1145; 1338-1538; 2038-
24; Sat. 9-1145; 2038-
0038; Sun. 1438-1638;
28-2338

1330(225.4)

CX48 .5 Montevideo, Uru.
Radio Fenix, Chayes
4534; 8-24
HJ1ABA .1 Barranquilla, Cib., E.
J. Pellet B., P. O.
Box 751
PRE2 .5 R' de Janeiro, Brz.
Sec. Radio Cajuri,
Rua Conde de Rom-
fim 457
PRG7 .25 Jahu, Brz. Radio
Club Jahuense
XGSA .001 Kiangyia, Chn. (1335)
XL1K .075 Changchow, Chn.
2BH .1 Broken Hill, Ausl., 18
O'Connell St., Mon.
to Sat. 9-11; 20-0038;
Sun. 1238-15; 28-24
4RO .05 Rockhampton, Ausl.
Mon., Tue., Thu.,
Fri., Sat. 1238-2338;
Wed. 1238-2545; Sun.
2038-2338
5. Montpelier, F. (1339)
2. Bremen, G.

FOREIGN B. C. STATIONS BY FREQUENCIES

[illegible]

FOREIGN B. C. STATIONS BY LOCATIONS

[illegible]

FOREIGN B. C. STATIONS BY LOCATIONS

Megj das Cruces PRB8 1000 50	CB2 820 1000	OAX4E 980 50	Graz 886 7000
Nithery	CB3 890 1000	OAX4F 1080 50	Innsbruck 519 1000
PRD4 1132 1000	CB93 930 3000	OAX4H 1150 1000	Klangenfurt 1294 4200
Pulatas	CB97 970 1000	OAX4I 1190 1000	Linz 1294 15000
PRC3 920 250	CB101 1010 1000	OAX4J 1220 1000	Salzburg 1348 500
Pernambuco	CB106 1060 1000	OAX4K 1250 1000	Vienna 592 120000
PKA8 750 3000	CB114 1140 1000	OAX4L 1280 25	Vorarlberg 1294 2000
Petropolis	CB118 1180 1000	OAX4M 1310 150	
PRH4 1480 1000	CB126 1260 1000	OAX4N 1340 100	
Porto Alegre	CB134 1340 500	OAX4O 1370 1000	
PRC2 1890 3000	CB138 1380 5000	OAX4P 1400 250	
PRF9 1360 500	CB144 1440 100	OAX4Q 1430 1000	
PRH2 600 25000	CB148 1440 100	OAX4R 1460 1000	
Rio Claro	CB150 1500 1000	OAX4S 1490 1000	
PRF2 725 250		OAX4T 1520 1000	
Rio de Janeiro		OAX4U 1550 1000	
PR2 750 1500		OAX4V 1580 1000	
PR3 860 2500		OAX4W 1610 1000	
PR9 1000 1000		OAX4X 1640 1000	
PRB7 800 500		OAX4Y 1670 1000	
PRC6 980 1000		OAX4Z 1700 1000	
PRC8 1830 1000		OAX4A 1730 1000	
PRD2 932 1000		OAX4B 1760 1000	
PRD5 1400 1000		OAX4C 1790 1000	
PRE2 1330 500		OAX4D 1820 1000	
PRE3 1220 10000		OAX4E 1850 1000	
PRE4 940 250		OAX4F 1880 1000	
PRE8 1270 7000		OAX4G 1910 1000	
PRF4 923 10000		OAX4H 1940 1000	
PRG3 1280 10000		OAX4I 1970 1000	
PRH8 820 5000		OAX4J 2000 1000	
Santos		OAX4K 2030 1000	
PRB4 960 1000		OAX4L 2060 1000	
PRG5 720 750		OAX4M 2090 1000	
Sea Paulo		OAX4N 2120 1000	
PR4 1295 500		OAX4O 2150 1000	
PR6 815 10000		OAX4P 2180 1000	
PR7 706 50		OAX4Q 2210 1000	
PRB6 1170 1000		OAX4R 2240 1000	
PRB9 1017 5000		OAX4S 2270 1000	
PRE7 788 5000		OAX4T 2300 1000	
PRF3 900 5000		OAX4U 2330 1000	
PRG9 1220 500		OAX4V 2360 1000	
PRH3 1120 10000		OAX4W 2390 1000	
PYG2 1070 10000		OAX4X 2420 1000	
Sorocaba		OAX4Y 2450 1000	
PRD7 1430 250		OAX4Z 2480 1000	
PRD9 769 250		OAX4A 2510 1000	
Uberaba		OAX4B 2540 1000	
PRE5 1410 250		OAX4C 2570 1000	
PRE6 740 1500		OAX4D 2600 1000	
CHILE		OAX4E 2630 1000	
Concepcion		OAX4F 2660 1000	
CG4 660 100		OAX4G 2690 1000	
CG117 1170 100		OAX4H 2720 1000	
CG141 1410 100		OAX4I 2750 1000	
Curico		OAX4J 2780 1000	
CG96 960 100		OAX4K 2810 1000	
Magallanes		OAX4L 2840 1000	
CD103 1030 100		OAX4M 2870 1000	
CD111 1110 100		OAX4N 2900 1000	
CD136 1360 100		OAX4O 2930 1000	
Osnorbe		OAX4P 2960 1000	
CD112 1120 100		OAX4Q 2990 1000	
CD121 1210 100		OAX4R 3020 1000	
Rancagua		OAX4S 3050 1000	
CG109 1090 100		OAX4T 3080 1000	
CG136 1360 100		OAX4U 3110 1000	
San Antonio		OAX4V 3140 1000	
CB140 1400 100		OAX4W 3170 1000	
San Felipe		OAX4X 3200 1000	
CB146 1460 100		OAX4Y 3230 1000	
Santiago		OAX4Z 3260 1000	
CB57 570 5000		OAX4A 3290 1000	
CB62 620 1000		OAX4B 3320 1000	
CB73 730 1000		OAX4C 3350 1000	
CB78 780 1000		OAX4D 3380 1000	
		OAX4E 3410 1000	
		OAX4F 3440 1000	
		OAX4G 3470 1000	
		OAX4H 3500 1000	
		OAX4I 3530 1000	
		OAX4J 3560 1000	
		OAX4K 3590 1000	
		OAX4L 3620 1000	
		OAX4M 3650 1000	
		OAX4N 3680 1000	
		OAX4O 3710 1000	
		OAX4P 3740 1000	
		OAX4Q 3770 1000	
		OAX4R 3800 1000	
		OAX4S 3830 1000	
		OAX4T 3860 1000	
		OAX4U 3890 1000	
		OAX4V 3920 1000	
		OAX4W 3950 1000	
		OAX4X 3980 1000	
		OAX4Y 4010 1000	
		OAX4Z 4040 1000	
		OAX4A 4070 1000	
		OAX4B 4100 1000	
		OAX4C 4130 1000	
		OAX4D 4160 1000	
		OAX4E 4190 1000	
		OAX4F 4220 1000	
		OAX4G 4250 1000	
		OAX4H 4280 1000	
		OAX4I 4310 1000	
		OAX4J 4340 1000	
		OAX4K 4370 1000	
		OAX4L 4400 1000	
		OAX4M 4430 1000	
		OAX4N 4460 1000	
		OAX4O 4490 1000	
		OAX4P 4520 1000	
		OAX4Q 4550 1000	
		OAX4R 4580 1000	
		OAX4S 4610 1000	
		OAX4T 4640 1000	
		OAX4U 4670 1000	
		OAX4V 4700 1000	
		OAX4W 4730 1000	
		OAX4X 4760 1000	
		OAX4Y 4790 1000	
		OAX4Z 4820 1000	
		OAX4A 4850 1000	
		OAX4B 4880 1000	
		OAX4C 4910 1000	
		OAX4D 4940 1000	
		OAX4E 4970 1000	
		OAX4F 5000 1000	
		OAX4G 5030 1000	
		OAX4H 5060 1000	
		OAX4I 5090 1000	
		OAX4J 5120 1000	
		OAX4K 5150 1000	
		OAX4L 5180 1000	
		OAX4M 5210 1000	
		OAX4N 5240 1000	
		OAX4O 5270 1000	
		OAX4P 5300 1000	
		OAX4Q 5330 1000	
		OAX4R 5360 1000	
		OAX4S 5390 1000	
		OAX4T 5420 1000	
		OAX4U 5450 1000	
		OAX4V 5480 1000	
		OAX4W 5510 1000	
		OAX4X 5540 1000	
		OAX4Y 5570 1000	
		OAX4Z 5600 1000	
		OAX4A 5630 1000	
		OAX4B 5660 1000	
		OAX4C 5690 1000	
		OAX4D 5720 1000	
		OAX4E 5750 1000	
		OAX4F 5780 1000	
		OAX4G 5810 1000	
		OAX4H 5840 1000	
		OAX4I 5870 1000	
		OAX4J 5900 1000	
		OAX4K 5930 1000	
		OAX4L 5960 1000	
		OAX4M 5990 1000	
		OAX4N 6020 1000	
		OAX4O 6050 1000	
		OAX4P 6080 1000	
		OAX4Q 6110 1000	
		OAX4R 6140 1000	
		OAX4S 6170 1000	
		OAX4T 6200 1000	
		OAX4U 6230 1000	
		OAX4V 6260 1000	
		OAX4W 6290 1000	
		OAX4X 6320 1000	
		OAX4Y 6350 1000	
		OAX4Z 6380 1000	
		OAX4A 6410 1000	
		OAX4B 6440 1000	
		OAX4C 6470 1000	
		OAX4D 6500 1000	
		OAX4E 6530 1000	
		OAX4F 6560 1000	
		OAX4G 6590 1000	
		OAX4H 6620 1000	
		OAX4I 6650 1000	
		OAX4J 6680 1000	
		OAX4K 6710 1000	
		OAX4L 6740 1000	
		OAX4M 6770 1000	
		OAX4N 6800 1000	
		OAX4O 6830 1000	
		OAX4P 6860 1000	
		OAX4Q 6890 1000	
		OAX4R 6920 1000	
		OAX4S 6950 1000	
		OAX4T 6980 1000	
		OAX4U 7010 1000	
		OAX4V 7040 1000	
		OAX4W 7070 1000	
		OAX4X 7100 1000	
		OAX4Y 7130 1000	
		OAX4Z 7160 1000	
		OAX4A 7190 1000	
		OAX4B 7220 1000	
		OAX4C 7250 1000	
		OAX4D 7280 1000	
		OAX4E 7310 1000	
		OAX4F 7340 1000	
		OAX4G 7370 1000	
		OAX4H 7400 1000	
		OAX4I 7430 1000	
		OAX4J 7460 1000	
		OAX4K 7490 1000	
		OAX4L 7520 1000	
		OAX4M 7550 1000	
		OAX4N 7580 1000	
		OAX4O 7610 1000	
		OAX4P 7640 1000	
		OAX4Q 7670 1000	
		OAX4R 7700 1000	
		OAX4S 7730 1000	
		OAX4T 7760 1000	
		OAX4U 7790 1000	
		OAX4V 7820 1000	
		OAX4W 7850 1000	
		OAX4X 7880 1000	
		OAX4Y 7910 1000	
		OAX4Z 7940 1000	
		OAX4A 7970 1000	
		OAX4B 8000 1000	
		OAX4C 8030 1000	
		OAX4D 8060 1000	
		OAX4E 8090 1000	
		OAX4F 8120 1000	
		OAX4G 8150 1000	
		OAX4H 8180 1000	
		OAX4I 8210 1000	
		OAX4J 8240 1000	
		OAX4K 8270 1000	
		OAX4L 8300 1000	
		OAX4M 8330 1000	
		OAX4N 8360 1000	
		OAX4O 8390 1000	
		OAX4P 8420 1000	
		OAX4Q 8450 1000	
		OAX4R 8480 1000	
		OAX4S 8510 1000	
		OAX4T 8540 1000	
		OAX4U 8570 1000	
		OAX4V 8600 1000	
		OAX4W 8630 1000	
		OAX4X 8660 1000	
		OAX4Y 8690 1000	
		OAX4Z 8720 1000	
		OAX4A 8750 1000	
		OAX4B 8780 1000	
		OAX4C 8810 1000	
		OAX4D 8840 1000	
		OAX4E 8870 1000	
		OAX4F 8900 1000	
		OAX4G 8930 1000	
		OAX4H 8960 1000	
		OAX4I 8990 1000	
		OAX4J 9020 1000	
		OAX4K 9050 1000	
		OAX4L 9080 1000	
		OAX4M 9110 1000	
		OAX4N 9140 1000	
		OAX4O 9170 1000	
		OAX4P 9200 1000	
		OAX4Q 9230 1000	
		OAX4R 9260 1000	
		OAX4S 9290 1000	
		OAX4T 9320 1000	
		OAX4U 9350 1000	
		OAX4V 9380 1000	
		OAX4W 9410 1000	
		OAX4X 9440 1000	
		OAX4Y 9470 1000	
		OAX4Z 9500 1000	
		OAX4A 9530 1000	
		OAX4B 9560 1000	
		OAX4C 9590 1000	
		OAX4D 9620 1000	
		OAX4E 9650 1000	
		OAX4F 9680 1000	
		OAX4G 9710 1000	
		OAX4H 9740 1000	
		OAX4I 9770 1000	
		OAX4J 9800 1000	
		OAX4K 9830 1000	
		OAX4L 9860 1000	
		OAX4M 9890 1000	
		OAX4N 9920 1000	
		OAX4O 9950 1000	
		OAX4P 9980 1000	
		OAX4Q 10000 1000	
		OAX4R 10000 1000	
		OAX4S 10000 1000	
		OAX4T 10000 1000	
		OAX4U 10000 1000	
		OAX4V 10000 1000	
		OAX4W 10000 1000	
		OAX4X 10000 1000	
		OAX4Y 10000 1000	
		OAX4Z 10000 1000	
		OAX4A 10000 1000	
		OAX4B 10000 1000	
		OAX4C 10000 1000	
		OAX4D 10000 1000	

FOREIGN B. C. STATIONS BY LOCATIONS

Astrakhan RW35 598 10000	Tcheboksary RW74 680 1200	Nanning XGOE 1300 1000	Tsangchow XKYY 1150 15
Dnepropetrovsk RW30 913 10000	Tchellabinsk RW68 824 1500	Ningpo XLIA 1320 15	Tainan XGF 833 7.5
Elizta RW48 704 2500	Tchernigov RW86 1013 5000	Peiping XGOF 852 500	XOCL 1500 7.5
Engels RW55 932 1000	Tchita RW52 546 20000	XGOP 950 300	Teanshi XGSS 610 15
Frounze RW82 608 2500	Tiraspol RW57 1068 4000	XGOT 1220 500	T'ung Hsien LUHO 750 20
Gomel RW40 959 1000	Vinnitza RW75 1095 10000	XLKA 1194 30	Wuchow XHGS 730 50
RW54 959 1000	Urdjenikidze RW64 752 10000	..... 810 100	Wu-hu XDYF 1270 15
Gorki RW42 565 10000	Vladivostok RW28 635 300	XGMM 1005 15	XGWH 830 30
Groznyl RW23 676 1000	RW32 635 10000	Shanghai FFZ 1400 250	Wushih XHIB 970 75
Igarka RW85 871 2000		HHHA 840 150	XLIE 1250 50
Ijevsk RW78 767 3000		XHHB 740 100	XLIF 1170 30
Iochar-Ola RW61 888 1000		XHHH 780 50	XLIN 1390 50
Ivanovo RW31 625 10000		XHHI 940 1000	XLTC 1210 15
Karaganda RW46 686.5 1200		XHHJ 1060 100	XLW 1250 50
Kazan RW17 686 10000		XHHK 620 100	Yunan-fu XGOY 698 250
Kharkov RW20 1185 10000		XHHL 1140 100	
Kiev RW9 722 36000		XHHM 1200 100	
Krasnodar RW33 1050 1000		XHHP 1260 100	
Kouibychow RW16 710 10000		XHHQ 1280 80	
Leningrad RW70 1040 10000		XHHR 1340 50	
Magnitogorsk 571 10000		XHHS 1100 100	
Makhatch RW27 689 4000		XHHT 1500 100	
Minsk RW10 1438 100000		XHHU 1160 100	
Moscow RW39 832 100000		XHHV 880 100	
Mourmansk RW79 610 10000		XHHX 920 1000	
Nalchik RW51 794 1000		XHHY 1240 100	
Odessa RW13 968 10000		XHHZ 1180 150	
RW69 968 10000		XLHB 560 45	
Oufa RW22 617 10000		XLHC 720 50	
Oukhta RW67 968 2000		XLHD 720 50	
Oust-Abakansk RW50 617 2500		XLHE 1380 50	
RW84 635 1200		XLHF 1380 50	
Penza RW56 640 1200		XLHI 760 7.5	
Petrovavlovsk RW71 689 1200		XLHJ 760 100	
Petrozavodsk RW29 648 10000		XLHK 800 7.5	
Pratigorsk RW18 610 1000		XLHL 800 100	
Saransk RW65 734 1000		XLHM 1120 50	
Simferopol RW73 859 10000		XLHN 1120 200	
Stalingrad RW34 522 10000		XLHO 1400 100	
Stalino RW26 776 10000		XLHQ 1440 30	
Syktivkar RW41 563 1200		XLHA 600 600	
		XLHB 980 500	
		XLHC 700 500	
		XLHD 580 250	
		XLHE 850 100	
		XLHF 1300 1000	
		XLHG 1360 200	
		XLHI 1460 250	
		XLHJ 1480 200	
		XLHK 640 100	
		XLHL 1090 1000	
		XLHM 1250 35	
		XLHN 1450 15	
		XLHO 870 20	
		XLHQ 1110 10	
		XLHA 1000 50	
		XLHB 1150 50	
		XLHC 900 100	
		XLHD 825 55	
		XLHE 1050 100	
		XLHF 750 150	
		XLHG 1280 100	

FOREIGN B. C. STATIONS BY LOCATIONS

Maebashi JOBG 970 500	1429 500	Cairns 4CA 1470 100	Northam 6AM 980 1000
Matsuyo JOTK 625 500	620 20000	Canberra 2CA 1050 500	Oakey 4AK 1220 1000
Nagano JONK 940 500	1348 500	Cleveland 4CN 600 7000	Orange 2CZ 990 2000
Nagasaki JOAG 930 500		Crewa 2CO 670 1000	Perth 6IX 1240 500
Nagoya JOCK-1 810 10000		Crystal Brook 5CK 640 7500	6ML 1130 500
JOCK-2 1175 10000		5PI 1040 2000	6PR 880 500
Nitgata JOCK 920 500		Cumneck 2CR 550 10000	6WF 690 3500
Osaka JOKK 700 500		Denilquin 2ON 1440 1000	Port Moresby 4PM 1360 100
Sapporo JOIK 830 10000		Geelong 3GL 1350 50	Renmark 5RM 850 1000
Sendai JOHK 770 10000		Goulburn 2GN 1390 100	Reckhampton 4RK 910 2000
Shizuoka JOPK 780 500		Grafton 2GF 1210 50	4RO 1330 50
Tokushima JOKX 980 500		Gunnedah 2MO 1360 50	Sale 3TR 1240 500
Taiyuan JOKA-1 870 10000		Gympie 4GY 1430 50	Shepparton 3WR 1260 50
Taiyuan JOKA-2 590 10000		Hamilton 3HA 1010 300	Swan Hill 3SH 1080 50
		Hebart 7HO 820 100	Sydney 2BL 740 3000
		Horsham 3HS 1370 50	2CH 1190 1000
		Inverell 3WV 580 10000	2C 610 3000
		Ipswich 2IV 980 50	2GB 870 1000
		Kalgoorlie 4IP 1440 50	2KY 1020 1000
		Katherine 6KG 1210 85	2SM 1270 1000
		Katoomba 2KB 1160 100	2UE 950 1000
		Kelso 7NT 710 7000	2UW 1110 1000
		Launceston 7LA 1100 300	Tamworth 2TM 1300 50
		Lawrence 2NR 700 7000	Tasmania 2GR 1000 500
		Lismore 2XN 1340 50	Townsville 4TV 1170 200
		Longford 3GI 830 7000	Ulverston UUV 1460 300
		Mackay 4MK 1160 100	Wagga 2WG 1150 200
		Maryborough 4MB 1060 50	Warwick 4WK 900 50
		Melbourne 3AK 1500 200	Wellington 2WL 1430 50
		Mildura 3MA 900 50	
		Minding 6WA 560 10000	
		Murray Bridge 5MU 1450 100	
		Narrabri 2NZ 1170 2000	
		Newcastle 2ND 1140 500	
		2KO 1410 500	
		2NC 1230 2000	

FOREIGN B. C. STATIONS BY LOCATIONS

Manurewa	Napier	New Plymouth	Wairoa
1ZM 1260 50	2ZH 820 65	2YB 760 100	2ZP 900 105
Masterton	Nelson	Palmerston N.	Wellington
2ZD 1170 5	2ZR 920 15	2ZF 960 250	2YA 570 5000
		2ZO 1400 100	2YC 840 200

FOREIGN B. C. STATIONS BY CALLS

CB57	570	CX14	810	HAE2	1321	LKM	1186	OKB	922	RW16	710	SCR	1402
CB62	620	CX16	850	HAE3	1438	LKN	1357	OKK	1113	RW17	686	SCS	1402
CB64	640	CX18	890	HAE4	1465	LKO	1181	OKP	633	RW18	610	SCU	1402
CB73	730	CX20	930	HAL	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	678	SCW	1402
CB82	820	CX26	1050	HJN	681	LKT	629	ONAE8	1492	RW26	776	SPTT	859
CB84	840	CX28	1090	HJ1ABA	1330	LM1	1070	ONARW	1500	RW27	689	TUA	1275
CB89	890	CX30	1130	HJ1ABM	1154	LR2	910	PFB1	995	RW28	635	VPB	705
CB90	900	CX32	1170	HJ3ABD	1100	LR3	950	PP	959	RW28	725	VQ7LO	858
CB93	930	CX34	1210	HJ3ABE	1200	LR4	990	PRA2	750	RW29	648	VUB	855
CB97	970	CX36	1250	HJ3ABH	1005	LR5	830	PRA3	860	RW30	913	VUC	810
CB101	1010	CX38	1290	HJ4ABJ	1000	LR6	870	PRA4	840	RW31	625	VUD	800
CB106	1060	CX40	1330	HJ4ABK	1230	LR7	750	PRA5	1295	RW32	635	VUG	933
CB111	1110	CX42	1370	HSP1	856	LR8	1150	PRA6	815	RW33	1050	VUL	1200
CB114	1140	CX44	1410	H67PJ	750	LR9	1630	PRA7	706	RW34	522	VUM	770
CB116	1160	CX46	1450	HBA	1059	LR10	790	PRA8	750	RW35	598	VUP	1500
CB118	1180	CX48	1500	H8Z	536	LR11	1390	PRA9	1000	RW36	586	XDYF	1270
CB120	1200	EAJ1	795	IF1	610	LS1	710	PRB2	882	RW38	662	XGCK	990
CB124	1240	EAJ2	731	IG1E	986	LS2	1190	PRB3	857	RW39	832	XGDD	1470
CB126	1260	EAJ3	850	IG1M	814	LS3	630	PRB4	960	RW40	959	XGDD	1340
CB130	1300	EAJ4	1492	IG1N	1104	LS4	670	PRB5	1415	RW41	563	XGF	833
CB132	1320	EAJ5	731	IP1A	565	LS5	1110	PRB6	1170	RW42	565	XGGW	1150
CB134	1340	EAJ6	1402	IR10	713	LS6	1350	PRB7	800	RW46	586.5	XGKA	895
CB138	1380	EAJ7	1095	IT10	1140	LS7	1310	PRB8	1600	RW48	704	XGMK	1005
CB139	1390	EAJ8	1250	IT1R	1222	LS8	1230	PRB9	1017	RW50	617	XGML	714.3
CB140	1400	EAJ9	1492	JBAK	1020	LS9	1270	PRC2	1090	RW51	794	XGMA	660
CB144	1440	EAJ10	1492	JFAK	670	LS10	590	PRC3	920	RW52	546	XGOB	1090
CB144B	1440	EAJ11	1500	JFBK	720	LS11	1430	PRC4	1304	RW54	580	XGOC	1120
CB144C	1440	EAJ12	1492	JFCK	590	LT1	780	PRC5	1364	RW54	950	XGOD	990
CB146	1460	EAJ13	1492	JOAG	530	LT3	1080	PRC6	980	RW55	932	XGOE	1300
CB150	1500	EAJ15	1022	JOAK-1	970	LT5	1160	PRC7	1090	RW56	640	XGOF	852
CC58	580	EAJ16	1492	JOAK-2	970	LT7	1340	PRC8	1030	RW57	1068	XGOH	570
CC64	640	EAJ17	1492	JOBK-1	750	LT9	1200	PRC9	1175	RW61	808	XGOI	900
CC66	660	EAJ19	1492	JOBK-2	1085	LT10	1300	PRD2	1207	RW67	734	XGOK	750
CC109	1090	EAJ20	1492	JOCK	655	LT11	1260	PRD4	1364	RW68	968	XGOL	1030
CC117	1170	EAJ21	1492	JOCK-1	910	LUH0	750	PRD5	1400	RW60	824	XGON	930
CC136	1360	EAJ23	1492	JOCK-2	1175	LU2	900	PRD7	1430	RW70	1040	XGOS	950
CC141	1410	EAJ24	1492	JODG	635	LU6	1360	PRD8	1132	RW71	689	XGOT	1000
CC143	1430	EAJ25	1502	JODK-1	900	LU7	1240	PRD9	769	RW73	859	XGOT	1220
CD103	1030	EAJ26	1502	JODK-2	616	LV1	730	PRE2	1330	RW74	680	XGOW	1010
CD111	1110	EAJ27	1492	JOFK	990	LV2	600	PRE3	1220	RW75	1095	XGOW	1070
CD112	1120	EAJ29	1500	JOJK	850	LV3	620	PRE4	941	RW78	767	XGOY	690
CD121	1210	EAJ30	1500	JOJK	790	LV5	1120	PRE5	1410	RW79	610	XGOZ	1150
CD132	1320	EAJ31	1492	JOJK	770	LV7	820	PRE6	740	RW82	608	XGSA	1335
CD136	1360	EAJ32	1500	JOJK	830	LV9	970	PRE7	780	RW84	635	XGSS	610
CNO	983	EAJ33	1492	JOJK	710	LV10	1210	PRE8	1270	RW85	871	XGTM	840
CNR	601	EAJ34	1492	JOJK	700	LV14	1240	PRE9	1316	RW86	1013	XGTM	900
CPX	1300	EAJ35	1500	JOJK	680	MAB5	1260	PRF2	725	SBA	704	XGYY	1150
CP4	1040	EAJ36	1500	JOJK	940	MTBY	890	PRF3	900	SBB	941	XHGS	730
CT1AA	629	EAJ37	1500	JOJK	960	MTCY	500	PRF4	921	SBC	1312	XHHA	840
CT1GL	1031	EAJ38	1500	JOJK	700	MTFY	675	PRF6	1050	SBD	601	XHHA	1370
CW19	1340	EAJ39	1492	JOJK	920	OAX4A	750	PRF7	1300	SBH	1131	XHHE	740
CW23	820	EAJ40	1600	JOJK	720	OAX4B	1200	PRF8	960	SCA	1402	XHHC	780
CW25	1430	EAJ41	1492	JOJK	735	OAX4C	1380	PRF9	1360	SCB	1402	XHHD	800
CW27	680	EAJ42	1492	JOJK	625	OAX4E	900	PRG2	1280	SCC	1086	XHHE	940
CW29	1120	EAJ43	1492	JOJK	645	OAX4F	1080	PRG4	1442	SCD	1402	XHHE	960
CW31	1160	EAJ44	1492	JOJK	680	OAX4H	1180	PRG5	720	SCE	1402	XHHE	1020
CW33	1400	EAJ45	1500	JOJK	980	OAX4I	1120	PRG6	1500	SCF	1402	XHHH	1040
CW35	1240	EAJ46	1492	JOJK	652	OAX4L	1280	PRG7	1330	SCG	1402	XHHI	1060
CW37	1400	EAJ47	1402	KZEG	780	OA4AR	1210	PRG9	1200	SCH	1402	XHHJ	1080
CW39	1320	EAJ48	1492	KZIE	900	OA4K	1360	PRH2	000	SCI	1402	XHHK	1420
CW41	1360	EAJ49	1500	KZRM	610.5	OA4O	1277	PRH3	1120	SCJ	1530	XHHL	1140
CW43	1470	EAJ51	1492	LKA	890	OA6D	1400	PRH4	1400	SCK	1312	XHHN	1200
CW47	1480	EAJ52	1402	LKB	890	OA6E	1390	PRH0	820	SCL	1402	XHHP	1260
CX4	610	EAJ53	1492	LKD	686	OA6U	1443	PYG2	1070	SCM	1402	XHHQ	1280
CX6	650	EAJ55	1492	LKF	770	OFA	096	PYG8	1260	SCN	1402	XHHR	1340
CX8	690	FFZ	1400	LKH	510	OPD	749	RW9	722	SCO	1312	XHHS	1180
CX10	730	F31CD	840	LKI	845	OFE	1340	RW10	1435	SCP	1402	XHHT	1600
CX12	770	HAE	1122	LKK	1276	OFH	527	RW13	960	SCQ	1312	XHHU	1160

FOREIGN B. C. STATIONS BY CALLS

XHHV	880	XLIL	870	YV6RV	670	2GB	870	2ZJ	980	3ZM	1470	4ZP	020
XHHX	920	XLIM	910	ZBW	845	2GF	1210	2ZL	1240	3ZR	940	4ZR	1340
XHHY	1240	XLIN	1390	ZEK	640	2GN	1390	2ZM	1350	4AK	1220	5AD	1310
XHHZ	1380	XLKA	1194	ZP1	1135	2GZ	990	2Z0	1400	4AY	980	5CK	640
XHHA	1410	XLKB	825	ZP4	1275	2HD	1140	2ZP	900	4BC	1120	5CL	730
XHIB	970	XLKS	1490	ZP5	1465	2KA	1160	2ZR	920	4BH	1180	5DN	960
XHKA	1050	XLPH	1210	ZP9	898	2KO	1410	3AK	1500	4BK	1290	5KA	1280
XKRI	1071.4	XLTC	1210	ZTB	790	2KY	1020	3AR	630	4BU	1480	5MU	1450
XLHB	560	XMHHA	600	ZTC	600	2LV	980	3AW	1280	4CA	1470	5PI	1840
XLHC	720	XMHBB	980	ZTD	750	2MO	1360	3BA	1320	4GR	1800	5RM	850
XLHD	720	XMHCC	700	ZTJ	645	2NC	1230	3BO	970	4GY	1430	5AM	880
XLHE	1380	XOCL	1500	ZTP	952	2NR	700	3DB	1030	4IP	1440	5BY	1160
XLHF	1380	XOMO	1450	ZUG	560	2NZ	1170	3GI	830	4MB	1060	5CK	1240
XLHI	760	XQHA	580	1YA	650	2QN	1440	3GL	1350	4MK	1160	5GF	720
XLHJ	760	XQHB	850	1YX	880	2RN	1340	3HA	1010	4PM	1360	5IX	1240
XLHK	800	XQHC	1300	1ZB	1090	2SM	1270	3HS	1370	4QG	800	5KG	880
XLHL	800	XQHD	1360	1ZM	1260	2TM	1300	3KZ	1180	4QN	600	5ML	1130
XLHM	1120	XQHE	1460	1ZS	1420	2UE	950	3LO	770	4RK	910	5PR	880
XLHN	1120	XQHF	1480	2AD	1080	2UW	1110	3MA	900	4RO	1330	5WA	560
XLHO	1400	XQKA	1350	2AY	1480	2WG	1150	3SH	1080	4TO	1170	5WF	690
XLHQ	1440	YDA	1510	2BE	1470	2WL	1340	3TR	1240	4WK	900	5BU	1390
XLIA	1320	YLZ	583	2BH	1330	2XN	1340	3UZ	930	4YA	790	7HO	820
XLIB	1450	YN	648	2BL	740	2YA	570	3WR	1260	4YO	1140	7LA	1190
XLIE	1250	YVIRC	960	2CA	1050	2YB	760	3WV	580	4ZB	1010	7NT	750
XLIF	1170	YV3RC	1200	2CH	1100	2YC	840	3XY	1420	4ZC	1220	7UV	1460
XLII	830	YV4RC	750	2CD	670	2ZD	1170	3YA	720	4ZL	1010	7ZL	500
XLIJ	1310	YV5RMO	1300	2CR	550	2ZF	960	3YB	1060	4ZM	1010		
XLIK	1330	YV1RMO1034	2FC	610	2ZH	820	3YL	1200	4ZO	1010			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

540 keys. (555.2) Heard Logged Reported Verified

CJRM ak 1000 F Moose Jaw, Sask.

550 keys. (545.1)

CFNB ak 500 F (1) Fredericton, N. B.
 KFYO 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 Water

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 keys. (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 keys. (499.7)

CFCF	ae	400	FN	Montreal, Que.			
CJOR	ak	500		Vancouver, B. C.			
CMW	ak	1000		Havana, Cuba			
CRCW	ak	500	F (1)	Windsor, Ont.			
FQN	z	250	609	St. Pierre, Miq.			
KFSD	ae	1000	N	San Diego, Calif.			
WCAC	ak	500	2	Storrs, Conn.			
WCAO	ae	500	C (1)	Baltimore, Md.			
WICC	ae	500	2 C (1)	Bridgeport, Conn.			
WMT	ak	1000	B (2.5)	Cedar Rapids, Ia.			
WREC	ak	1000	C (2.5)	Memphis, Tenn.			

610 keys. (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 keys. (483.6)

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

630 keys. (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 keys. (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 keys. (461.3)

WSM	ae	50000	N	Nashville, Tenn.			
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NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				660 keys. (454.3)	<input type="text"/>	Heard	Logged	Reported	Verified
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CMCX	z	150		Havana, Cuba					
WAAW	ak	500	D	Omaha, Neb.					
WEAF	ak	50000	R	New York, N. Y.					

670 keys. (447.5)

WMAQ	ak	50000	N	Chicago, Ill.					
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680 keys. (440.9)

CMCO	z	250		Havana, Cuba					
KFEQ	ak	2500	D	St. Joseph, Mo.					
KPO	ak	50000	N	San Francisco, Cal.					
RDN	z	500		San Salvador, E.S.					
VAS	akn	2000	685	Glance Bay, N. S.					
VOWR	ck	500	681	St. John's, Nfld.					
WPTF	ae	5000	DnN	Raleigh, N. C.					

690 keys. (434.5)

CFRB	ak	10000	C	Toronto, Ont.					
CJGJ	aj	100	F	Calgary, Alta.					
NAA	akn	1000		Arlington, Va.					
XET	ak	500		Monterrey, N. L.					

700 keys. (428.3)

WLW	ak	500000	N	Cincinnati, Ohio					
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710 keys. (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 keys. (416.4)

WGN	ak	50000		Chicago, Ill.					
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730 keys. (410.7)

CFPL	ak	100	F	London, Ont.					
CJCA	ah	1000	F	Edmonton, Alta.					
CKAC	ck	5000	C	Montreal, Que.					

740 keys. (405.2)

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

750 keys. (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 keys. (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) **Heard** **Logged** **Reported** **Verified**

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

780 kcys. (384.4)

CHWK dk 100 F Chilliwack, B. C.
CKSO ak 1000 F Sudbury, Ont.
CMJK ak 250 Caraquey, Cuba
KELW ak 500 2 Burbank, Calif.
KFDY ae 1000 D Brookings, S. D.
KPOD 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.
WEU 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 Bimira, N. Y.
WEAR 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) **Heard** **Logged** **Reported** **Verified**

WABC ak 50000 C New York, N. Y.
WHB ak 1000 D Kansas City, Mo.
XEMO ak 5000 Tijuana, L. C.

870 kcys. (344.6)

WENR ak 50000 Na Chicago, Ill.
WLS ae 50000 Na Chicago, Ill.

880 kcys. (340.7)

CFJC ak 100 F Kamloops, B. C.
CMBN z 150 Havana, Cuba
CMQ ak 500 Havana, Cuba
CRCO ak 1000 F Ottawa, Ont.
KFKA ak 500 2 (1) Greeley, Colo.
KLX ae 1000 Oakland, Calif.
KPOF ae 500 2 Denver, Colo.
WCOC ae 500 (1) Meridian, Miss.
WGBI ae 500 1 Scranton, Pa.
WPHR ak 500 D Petersburg, Va.
WOAN ae 250 1 Scranton, Pa.
WSUI ae 500 (1) Iowa City, Iowa

890 kcys. (336.9)

KARK ak 250 (.5) Little Rock, Ark.
KFNF ak 500 2 (1) Shenandoah, Iowa
KFPY ak 1000 C Spokane, Wash.
KUSD ae 500 2 Vermillion, S. D.
WBAA ak 1000 D W. Lafayette, Ind.
WGST ak 1000 C Atlanta, Ga.
WILL ak 250 2 (1) Urbana, Ill.
WJAR ae 500 R Providence, R. I.
WMMN ak 500 (1) Fairmount, W. Va.
XEW ak 50000 Mexico City, D. F.

900 kcys. (333.1)

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

910 kcys. (329.6)

CJAT ak 250 F Trail, B. C.
CRGM 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
KVOB ak 500 a Denver, Colo.
WAAF ak 1000 D Chicago, Ill.
WORLD 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 Mexico City, L. C.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
930 kcys. (322.4)							
CFAC	ak	100	F	Calgary, Alta.			
CFCH	ak	100	F	North Bay, Ont.			
CFLC	ae	100	....	Prescott, Ont.			
CHNS	ae	1000	F	Halifax, N. S.			
CKPC	ae	100	F	Brantford, Ont.			
CKPR	ak	100	F	Fort William, Ont.			
KGBZ	ak	1000	2 (2.5)	York, Neb.			
KMA	ak	1000	2 (2.5)	Shenandoah, Iowa			
KROW	ak	1000	....	Oakland, Calif.			
TIRH	z	50	....	San Jose, C. R.			
WBRC	ak	1000	C	Birmingham, Ala.			
WDBJ	ae	1000	C	Roanoke, Va.			
940 kcys. (319.0)							
CMBC	dj	500	....	Havana, Cuba			
KOIN	ak	1000	C (5)	Portland, Ore.			
VOAS	ak	100	....	St. John's, Nfld.			
WAAT	ae	500	D	Jersey City, N. J.			
WAVE	bk	1000	N	Louisville, Ky.			
WCSH	ae	1000	R (2.5)	Portland, Maine			
WDAY	ae	1000	N (5)	Fargo, N. D.			
WHA	ak	1000	D (5)	Madison, Wis.			
XEFO	ak	5000	(XFO)	Mexico City, D. F.			
950 kcys. (315.6)							
CRCS	ak	100	F	Chicoutimi, Que.			
KFWB	ak	1000	(5)	Hollywood, Calif.			
KHSL	ak	250	D	Chico, Calif.			
KMBC	ae	1000	C (5)	Kansas City, Mo.			
WRC	ak	500	R (1)	Washington, D. C.			
YNVA	z	30	....	Managua, Nic.			
960 kcys. (312.3)							
CKY	ak	15000	F	Winnipeg, Man.			
CMCD	ak	250	....	Havana, Cuba			
XEAW	ck	50000	....	Reynosa, Tams.			
970 kcys. (309.1)							
KJR	ak	5000	N	Seattle, Wash.			
WCFL	ae	5000	B	Chicago, Ill.			
WIBG	ak	100	D	Glenside, Pa.			
980 kcys. (306.0)							
KDKA	ae	50000	B	Pittsburgh, Pa.			
990 kcys. (302.8)							
WBZ	ak	50000	BSy	Boston, Mass.			
WBZA	ak	1000	BSy	Springfield, Mass.			
XEAF	ak	500	....	Nogales, Sonora			
XEK	ak	100	....	Mexico City, D. F.			
XES	dk	250	....	Tampico, Tams.			
1000 kcys. (299.8)							
CMBZ	ak	250	....	Havana, Cuba			
KFVD	ak	250	Dn	Los Angeles, Calif.			
TIGH	z	500	....	San Jose, C. R.			
WHO	ak	50000	R	Des Moines, Iowa			
XEBH	z	500	....	Hermosillo, Sonora			
XEY	z	10	....	Merida, Yuc.			
1010 kcys. (296.9)							
CHML	ak	100	F	Hamilton, Ont.			
CHWC	ak	500	3F	Regina, Sask.			
CKCD	ak	100	....	Vancouver, B. C.			
CKCK	ak	500	3F	Regina, Sask.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
1020 kcys. (293.9)							
CKCO	ak	100	F	Ottawa, Ont.			
CKIC	ak	50	....	Wolfville, N. S.			
CKWX	ak	100	F	Vancouver, B. C.			
CMJA	ak	300	....	Camaguey, Cuba			
KGGF	ak	1000	2	Coffeyville, Kans.			
KOW	ak	1000	....	San Jose, Calif.			
TIGA	z	30	1014	Cartago, C. R.			
WIIN	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.			
1030 kcys. (291.1)							
KYW	ak	10000	R	Philadelphia, Pa.			
XEJ	ak	1000	....	Juarez, Chlh.			
1040 kcys. (288.3)							
CFCN	ak	10000	....	Calgary, Alta.			
CKLW	ag	5000	....	Windsor, Ont.			
CMCY	ak	1000	....	Havana, Cuba			
XEB	ak	10000	....	Mexico City, D. F.			
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			
KTHIS	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 kcys. (270.1)

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

1120 kcys. (267.7)

Call	Frequency	Class	City
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.
KRSD	aj 500 a (2.5)		Los Angeles, Calif.
KRSC	ak 100 D		Seattle, Wash.
WCOP	ak 500 D		Boston, Mass.
WDEL	ak 250 (.5)		Wilmington, Del.
WISN	ak 250 (1)		Milwaukee, Wis.
WTAW	ae 500		College Station, Tex.

1130 kcys. (265.3)

Call	Frequency	Class	City
CMJI	ak 50		Ciego de Avila, Cuba
KSL	ae 50000 C		Salt Lake City, Utah
WJJD	ak 20000 Dn		Chicago, Ill.
WOW	ag 1000 D		New York, N. Y.

1140 kcys. (263.0)

Call	Frequency	Class	City
CMBG	z 200		Havana, Cuba
KVOO	ak 25000 IN		Tulsa, Okla.
WAPI	ae 5000 IN		Birmingham, Ala.
WSFR	z 500 P		Springfield, Mass.

1150 kcys. (260.7)

Call	Frequency	Class	City
CMJF	z 200		Camaguey, Cuba
WHAM	ae 50000 B		Rochester, N. Y.
XED	ak 2500 1155		Guadalajara, Jal.
XEFL	z 500		Tijuana, L. C.
XEH	ak 250		Monterrey, N. L.
XEWZ	ak 100		Mexico City, D. F.

1160 kcys. (258.5)

Call	Frequency	Class	City
CMHJ	z 100		Glennfuegos, Cuba
WOWO	ae 10000 IC		Fort Wayne, Ind.
WWVA	ak 5000 IC		Wheeling, W. Va.
XEAS	z 100		Saltillo, Coah.
XEC	z 30		Tijuana, L. C.
XESL	z		Tijuana, L. C.

1170 kcys. (256.3)

Call	Frequency	Class	City
CMBD	z 150		Havana, Cuba
WCAU	ae 50000 C		Philadelphia, Pa.

1180 kcys. (254.1)

Call	Frequency	Class	City
CMJO	ak 50		Ciego de Avila, Cuba
KEX	ak 5000 2N		Portland, Ore.
KOB	ak 10000 2		Albuquerque, N.M.
VE9EK	ak 10 1185		Montmagny, Que.
WDGY	ak 1000 Dn (5)		Minneapolis, Minn.
WINS	ak 1000		New York, N. Y.
WMAZ	ak 1000		Macon, Ga.
XEFA	z 500		Mexico City, D. F.

1190 kcys. (252.0)

Call	Frequency	Class	City
CMKV	z 50		Santiago, Cuba

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

Call	Frequency	Class	City
HJ	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)

Call	Frequency	Class	City
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.
KGEJ	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.
KWGC	ak 100 C		Stockton, Calif.
WABI	ak 100		Bangor, Maine
WAIM	ak 100		Anderson, S. C.
WBBZ	ak 100		Ponca City, Okla.
WBNO	ak 100 1		New Orleans, La.
WCAT	ak 100 D		Rapid City, S. D.
WCAX	ak 100		Burlington, Vt.
WCLO	ak 100		Janesville, Wis.
WCPO	ak 100 (25)		Cincinnati, Ohio
WEST	ae 100 3 (25)		Easton, Pa.
WFAM	ak 100 8		South Bend, Ind.
WHBC	ak 100 (25)		Canton, Ohio
WHBY	ak 100 (25)		Green Bay, Wis.
WIBX	aej 100 (3) C		Utica, N. Y.
WIL	ak 100 (25)		St. Louis, Mo.
WJBC	ak 100 6		Bloomington, Ill.
WJBL	ak 100 6		Decatur, Ill.
WJBW	ak 100 1		New Orleans, La.
WJNO	z 100 P		W. Palm Beach, Fla.
WKBO	ak 100 3 (25)		Harrisburg, Pa.
WLVA	ak 100 (25)		Lynchburg, Va.
WMFR	ae 100 PD		High Point, N. C.
WMPC	ak 100 (25)		Lapeer, Mich.
WNRI	ak 100 (25)		Newport, R. I.
WRBL	ak 100		Columbus, Ga.
WWAE	ae 100 8		Hammond, Ind.
WTHT	z 100 DP		Hartford, Conn.

1210 kcys. (247.8)

Call	Frequency	Class	City
CJCS	z 50		Stratford, Ont.
CJCU	z 50		Aklavik, N. W. T.
CKBI	ak 100 F		Prince Albert, Sask.
CKCH	ak 100 F		Hull, Que.
CKMC	ak 50		Cobalt, Ont.
CMHI	ak 150		Santa Clara, Cuba
KASA	ck 100		Elk City, Okla.
KDLR	ak 100		Devils Lake, N. D.
KDON	z 100		Del Monte, Calif.
KFJJ	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.			
WGGB	ae	100	3	Freeport, N. Y.			
WGCM	ae	100	(.25)	Gulfport, Miss.			
WGNV	ak	100	3	Chester, N. Y.			
WHBF	ak	100	(.25)	Rock Island, Ill.			
WHBU	ak	100		Anderson, Ind.			
WIBU	ak	100	(.25)	Poynette, Wis.			
WJBY	ak	100		Gadsden, Ala.			
WJEJ	ae	100	D	Hagerstown, Md.			
WJIM	z	100	(.25)	Lansing, Mich.			
WJW	ae	100	(.25)	Akron, Ohio			
WKOK	ak	100		Sunbury, Pa.			
WMBG	ak	100	C(.25)	Richmond, Va.			
WMFG	z	100		Hibbing, Minn.			
WMFN	ak	100		Clarksdale, Miss.			
WOCL	ak	50		Jamestown, N. Y.			
WOMT	ak	100		Manitowoc, Wis.			
WPAX	ak	250	D	Thomasville, Ga.			
WSAY	z	100	DP	Rochester, N. Y.			
WSBC	ae	100	4	Chicago, Ill.			
WSIX	ak	100	Y	Springfield, Tenn.			
WSOC	ak	100	N(.25)	Charlotte, N. C.			
WTAX	ak	100		Springfield, Ill.			
XEE	z	50		Durango, Dgo.			
XEFV	ak	100		Juarez, Chih.			
XEMZ	z	250		Tijuana, L. C.			
XETH	ak	100		Puebla, Pue.			

1220 kcys. (245.8)

CMJE	z	50		Camaguey, Cuba			
KFKU	ae	1000	a(5)	Lawrence, Kans.			
KTW	ak	1000	S2	Seattle, Wash.			
KWSC	ae	1000	2(5)	Pullman, Wash.			
WCAD	ak	500	D	Canton, N. Y.			
WCAE	ak	1000	R(5)	Pittsburgh, Pa.			
WDAE	ae	1000	C(2.5)	Tampa, Fla.			
WREN	ak	1000	Ba(5)	Lawrence, Kas.			
XETF	ak	12		Veracruz, Ver.			

1230 kcys. (243.8)

CJOC	ak	100	F	Lethbridge, Alta.			
CMCB	ak	150		Havana, Cuba			
KGBX	ak	500		Springfield, Mo.			
KGGM	ak	250	(.5)	Albuquerque, N.M.			
KYA	ak	1000	N	San Francisco, Calif.			
WFBM	ae	1000	C	Indianapolis, Ind.			
WNAC	ak	1000	C(2.5)	Boston, Mass.			
XEFJ	ak	100		Monterrey, N. L.			
YNOP	z	100		Managua, Nic.			

1240 kcys. (241.8)

CJCB	ak	1000	F	Sydney, N. S.			
CMHB	z	50		Sancti Spiritus, Cuba			
KGCU	ak	250	1	Mandan, N. D.			
KLPM	ak	250	1	Minot, N. D.			
KTAT	ak	1000		Fort Worth, Texas			
KTFI	ae	1000		Twin Falls, Idaho			
WKAQ	ae	1000		San Juan, P. R.			
WXYZ	ak	1000	B	Detroit, Mich.			
XEAI	z	100		Mexico City, D. F.			
XEKL	z	500		Leon, Guan.			

1250 kcys. (239.9)

CMCG	ak	250	1255	Havana, Cuba			
CMKG	ak	150		Sanctiago, 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

				Heard	Logged	Reported	Verified
1260 kcys. (238.0)							
CFRN	ak	100	F	Edmonton, Alta.			
KGVO	ak	1000		Missoula, Mont.			
KOLB	ak	1000	B(2.5)	Council Bluffs, Ia.			
KPAC	ak	500	D	Port Arthur, Texas			
KRGV	ak	500		Weslaco, Texas			
KUOA	ak	1000	D	Fayetteville, Ark.			
KVOA	ak	500		Tucson, Ariz.			
WHIO	ae	1000	R	Dayton, Ohio			
WNBX	ak	1000		Springfield, Vt.			
WTOC	ae	1000	C	Savannah, Ga.			

1270 kcys. (236.1)

CMHD	dk	250		Calbarien, Cuba			
KGGA	ak	100	2D	Decorah, Iowa			
KOL	ae	1000	C(2.5)	Seattle, Wash.			
KVOR	ae	1000	C	Colorado Sp'gs, Colo.			
KWLC	ak	100	2D	Decorah, Iowa			
WASH	ak	500	aN	Grand Rapids, Mich.			
WFBR	ak	500	R	Baltimore, Md.			
WJDX	ae	1000	N(2.5)	Jackson, Miss.			
WOOD	ak	500	aN	Grand Rapids, Mich.			
XEG	z	200		Ensenada, L. C.			
XFB	ak	250		Jalapa, Ver.			
YNLF	z	20	1275	Managua, Nic.			

1280 kcys. (234.2)

CMCU	z	150		Havana, Cuba			
KFBF	ae	1000	(2.5)	Great Falls, Mont.			
WCAM	ae	500	1	Camden, N. J.			
WCAP	ae	500	1	Asbury Park, N. J.			
WDOD	ak	1000	C(5)	Chattanooga, Tenn.			
WIBA	ae	1000	N(5)	Madison, Wis.			
WORC	ak	500	C	Worcester, Mass.			
WRR	ak	500		Dallas, Texas			
WTNJ	ak	500	1	Trenton, N. J.			
XEMX	z	12		Mexico City, D. F.			

1290 kcys. (232.4)

KDYL	ak	1000	N	Salt Lake City, Utah			
KLCN	ak	100	D	Blytheville, Ark.			
KTRH	ak	1000	C(5)	Houston, Texas			
WEBC	ae	1000	N(5)	Superior, Wis.			
WJAS	ak	1000	C(2.5)	Pittsburgh, Pa.			
WNBZ	z	100	D	Saranac Lake, N. Y.			
WNEL	ak	1000	(2.5)	San Juan, P. R.			

1300 kcys. (230.6)

HIZ	z	10		Santo Domingo, D. R.			
KALE	ak	500	3C	Portland, Ore.			
KFAC	ak	1000		Los Angeles, Calif.			
KFH	ak	1000	C	Wichita, Kans.			
KFJR	ag	500	3	Portland, Ore.			
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 kcys. (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.			
KFYD	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
KGFV	ak	100	.....			Kearney, Neb.
KINY	ak	100	.....			Juneau, Alaska
KIT	ak	100	(.25)			Yakima, Wash.
KIUI	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.
WBOW	ae	100	.....			Marquette, Mich.
WBOW	ak	100	(.25)			Terre Haute, Ind.
WBRE	ak	100	.....			Wilkes Barre, Pa.
WCLS	ak	100	.....			Joliet, Ill.
WCMH	z	100	.....			Ashland, Ky.
WDAH	ak	100	S			El Paso, Texas
WEBR	neh	100	(.25)			Buffalo, N. Y.
WEMP	z	100	D			Milwaukee, Wis.
WEXL	ak	50	.....			Royal Oak, Mich.
WFBG	ae	100	3			Altoona, Pa.
WFDL	mk	100	.....			Flint, Mich.
WGHI	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			Plattsburgh, N. Y.
WNBH	ak	100	(.25)C			New Bedford, Mass.
WOL	ak	100	.....			Washington, D. C.
WRAW	ak	100	.....			Reading, Pa.
WROL	ak	100	(.25)			Knoxville, Tenn.
WSAJ	ae	100	.....			Grove City, Pa.
WSGN	ak	100	(.25)			Birmingham, Ala.
WSJS	ak	100	C			Winston-Salem, N.C.
WTAL	ak	100	.....			Tallahassee, Fla.
WTEL	ce	100	4			Philadelphia, Pa.
WTJS	ak	100	(.25)			Jackson, Tenn.
WTRC	ak	100	6(.25)			Elkhart, Ind.
XEJL	z	15	.....			Oaxaca, Oax.
XECW	z	10	.....			Mexico City, D. F.
XEFW	ak	250	.....			Tampico, Tams.
XETB	ak	125	.....			Torreon, Coah.
XEX	ak	125	.....			Monterrey, N. L.
XFA	z	5	.....			Aguascalientes, Ags.

1320 kcys. (227.1)

CMOX	ak	250	.....			Havana, Cuba
KGHF	ak	500	.....			Pueblo, Colo.
KGMB	ak	1000	C			Honolulu, T. H.
KID	ae	250	(.5)			Idaho Falls, Idaho
KRNT	ak	500	C(1)			Des Moines, Iowa
WADC	ae	1000	C(2.5)			Akron, Ohio
WORK	ak	1000	N			York, Pa.
WSMB	ak	500	N			New Orleans, La.

1330 kcys. (225.4)

CMHK	z	250	.....			Crucce, Cuba
KGB	ag	1000	C(2.5)			San Diego, Calif.
KMO	ak	250	.....			Tacoma, Wash.
KSCJ	aj	1000	1C(2.5)			Stour City, Iowa
WDRC	ae	1000	C(5)			Hartford, Conn.
WSAI	ak	1000	R(2.5)			Cincinnati, Ohio
WTAQ	ae	1000	1			Eau Claire, Wis.

1340 kcys. (223.7)

CMJL	z	100	.....			Camaguey, Cuba
HRN	z	50	.....			Tegucigalpa, Hond.
KGDY	ak	250	D			Huron, S. D.
KGIR	ak	1000	N(2.5)			Butte, Mont.
KGNO	ak	250	.....			Dodge City, Kans.
WCOA	ak	500	C			Pensacola, Fla.
WFEA	ae	500	C(1)			Manchester, N. H.

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 kcys. (222.1)

CMGA	z	250	.....				Havana, Cuba
KIDO	ak	1000	(.25)				Boise, Idaho
KWK	ak	1000	B(5)				St. Louis, Mo.
WAWZ	ae	500	1(1)				Zarephath, N. J.
WBNX	ae	250	1				New York, N. Y.

1360 kcys. (220.4)

CMJH	dk	100	.....				Ciego de Avila, Cuba
KCRC	ak	250	.....				Enid, Okla.
KGER	ak	1000	.....				Long Beach, Calif.
WCSC	ak	500	(1)				Charleston, S. C.
WBFL	ak	1000	C(5)				Syracuse, N. Y.
WGES	ae	500	1				Chicago, Ill.
WQBC	ak	1000	D				Vicksburg, Miss.
WSBT	ak	500	1				South Bend, Ind.

1370 kcys. (218.8)

CKCW	ak	100	F				Moncton, N. B.
CMGE	ak	50	.....				Cardenas, Cuba
KAST	ak	100	D				Astoria, Ore.
KELD	z	100	.....				El Dorado, Ark.
KERN	ak	100	.....				Bakersfield, Calif.
KFGQ	ak	100	.....				Boone, Iowa
KFJM	ak	100	(.25)				Grand Forks, N. D.
KFJZ	ae	100	.....				Fort Worth, Texas
KFRO	ak	100	D				Longview, Texas
KGAR	ae	100	(.25)				Tucson, Ariz.
KGPG	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(2.5)				Buffalo, N. Y.
WBTM	ak	100	(.25)				Danville, Va.
WCBM	ae	100	(.25)				Baltimore, Md.
WDOA	ae	100	(.25)				Philadelphia, Pa.
WGL	z	100	F				Evansville, Ind.
WHBO	ae	100	C				Fort Wayne, Ind.
WHDF	ak	100	.....				Memphis, Tenn.
WHLE	z	100	P				Calumet, Mich.
WIBM	ak	100	(.25)				Virginia, Minn.
WLLH	ak	100	(.25)				Jackson, Mich.
WMBR	ak	100	(.25)				Lowell, Mass.
WMPD	ak	100	C(2.5)				Jacksonville, Fla.
WMFO	ak	100	D				Wilmington, N. C.
WOC	ak	100	D				Decatur, Ala.
WPAY	ak	100	C(2.5)				Davenport, Iowa
WPFB	ak	100	.....				Portsmouth, Ohio
WODM	ae	100	.....				Hattiesburg, Miss.
WRAC	ak	100	(.25)				St. Albans, Vt.
WRDO	ae	100	.....				Williamsport, Pa.
WRJN	ak	100	(.25)				Augusta, Maine
WSVS	ak	50	D2				Racine, Wis.
XEFZ	ak	100	.....				Buffalo, N. Y.
XEI	ak	125	.....				Mexico City, D. F.
XZZZ	z	100	.....				Morelia, Mich.
							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
HIH ak 15 1395 San Ped. de Macoris
KLRA ae 1000 C(2.5) Little Rock, Ark.
KOOS ae 250 D Marshfield, Ore.
KOY ae 500 (1) Phoenix, 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.
WEGL z 500 P Brooklyn, N. Y.
WIRE ak 500 R(1) Indianapolis, Ind.
WLTH ak 500 2 Brooklyn, N. Y.
WVFW ak 500 2 Brooklyn, N. Y.

1410 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.
WLAP 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.
WPAK 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 keys. (209.7)

CMJP ak 100 ... Camaguey, Cuba
KECA ah 1000 (5) N Los Angeles, Calif.
KGNF ak 1000 D North Platte, Neb.
KSO ak 500 B (1) Des Moines, Iowa
WBNS ae 500 C (1) Columbus, Ohio
WHEC ae 500 C (1) Rochester, N. Y.
WHP ak 500 C (1) Harrisburg, Pa.
WNBR ae 500 (1) Memphis, Tenn.
WOKO aj 500 C (1) Albany, N. Y.

1440 keys. (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.
XEPI ae 250 ... Chihuahua, Chih.

1450 keys. (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 keys. (205.4)

CMKF z 50 ... Holguin, Cuba
KSTP ak 25000 N St. Paul, Minn.
WJSV ak 10000 C Washington, D. C.

1470 keys. (204.0)

CMOK z 150 ... Havana, Cuba
KGA ak 5000 N Spokane, Wash.
WLAC ak 5000 C Nashville, Tenn.

1480 keys. (202.6)

KOMA ak 5000 C Oklahoma City, Okla.
WKBW ck 5000 C Buffalo, N. Y.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1490 kcys. (201.2)	Heard	Logged	Reported	Verified
KFBK ak 5000 C Sacramento, Calif.				
WCKY ae 5000 B Covington, Ky.				
1500 kcys. (199.9)				
CJIC ak 100 Sault Ste. Marie, Ont.				
CMCN z 150 Havana, Cuba				
KBIX z 100 P Muskogee, Okla.				
KDB ak 100 G 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.				
WMBO 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.				

1510 kcys. (198.6)

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

1530 kcys. (196.0)

W1XBS z 1000 Waterbury, Conn.
W9XBY ak 1000 Kansas City, Mo.

1550 kcys. (193.4)

W2XR z 1000 Long Isl. City, N. Y.
W6XAI ak 1000 Bakersfield, Calif.

KEY TO SYMBOLS

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	k	Has no stamps.	m	Verifies for 5c.	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.
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.																							

As Shown in the Index by Frequencies and Dial Numbers

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
WGSN 1310 100	Del Monte	Grealey	WTPI 1450 500
Dothan	KDON 1210 100	KPKA 880 500	Atlanta
WMFO 1370 100	El Centro	Lamar	WATL 1470 100
WAGF 1370 250	KXO 1500 100	KIDW 1420 100	WGST 890 500 C
WJBY 1210 100	KIEM 1450 500	KGHE 1320 500	WSB 740 50000 N
WALA 1380 500 C	KMJJ 580 1000 C	KGEK 1200 100	Augusta
WSFA 1410 500 C	KIRV 850 100		WRDW 1500 100
WHBB 1500 100	KFWB 950 1000		WRBL 1200 100
WMSD 1420 100	KMTR 570 1000		Griffin
	Long Beach		WKEU 1500 100
	KFOX 1250 1000		Macon
	KGER 1360 1000		WMAZ 1180 1000
	Los Angeles		Rome
	KECA 1430 1000 N		WRGA 1500 100
	KFAC 1300 1000		WTOC 1260 1000 C
	KFI 640 50000 N		Thomasville
	KFSG 1120 500		WPAX 1210 250
	KFVD 1000 250		
	KGJF 1200 100		
	KHJ 900 1000 C		
	KRKD 1120 500		
	KTM 780 500		
	Modesto		
	KTRB 740 250		
	Oakland		
	KLS 1440 250		
	KLX 880 1000		
	KROW 930 1000		
	Pasadena		
	KPPC 1210 50		
	Sacramento		
	KFBK 1490 5000 C		
	San Bernardino		
	KFXM 1210 100		
	San Diego		
	KFSD 600 1000 N		
	KGB 1330 1000 C		
	San Francisco		
	KFRC 610 100 C		
	KGCC 1420 100		
	KGO 790 7500 N		
	KJBS 1070 500		
	KPO 680 50000 N		
	KSFO 560 1000		
	KYA 1230 1000 N		
	San Jose		
	KQW 1010 1000		
	Santa Ana		
	KVOE 1500 100		
	Santa Barbara		
	KDB 1500 100 C		
	Stockton		
	KGDM 1100 1000		
	KWG 1200 100 C		
	COLORADO		
	Alamosa		
	KGIW 1420 100		
	Colorado Springs		
	KVOR 1270 1000 C		
	Denver		
	KFEL 920 500		
	KLZ 560 1000 C		
	KOA 830 50000 N		
	KPOF 880 500		
	KVOD 920 500		
	CALIFORNIA		
	Bakersfield		
	KERN 1370 100 C		
	W6XAI 1550 1000		
	Berkeley		
	KRE 1370 100		
	Beverly Hills		
	KMPC 710 500		
	Burbank		
	KELW 780 500		
	Chico		
	KHSL 950 250		
	Del Monte		
	KDON 1210 100		
	El Centro		
	KXO 1500 100		
	KIEM 1450 500		
	KMJJ 580 1000 C		
	KIRV 850 100		
	KFWB 950 1000		
	KMTR 570 1000		
	Long Beach		
	KFOX 1250 1000		
	KGER 1360 1000		
	Los Angeles		
	KECA 1430 1000 N		
	KFAC 1300 1000		
	KFI 640 50000 N		
	KFSG 1120 500		
	KFVD 1000 250		
	KGJF 1200 100		
	KHJ 900 1000 C		
	KRKD 1120 500		
	KTM 780 500		
	Modesto		
	KTRB 740 250		
	Oakland		
	KLS 1440 250		
	KLX 880 1000		
	KROW 930 1000		
	Pasadena		
	KPPC 1210 50		
	Sacramento		
	KFBK 1490 5000 C		
	San Bernardino		
	KFXM 1210 100		
	San Diego		
	KFSD 600 1000 N		
	KGB 1330 1000 C		
	San Francisco		
	KFRC 610 100 C		
	KGCC 1420 100		
	KGO 790 7500 N		
	KJBS 1070 500		
	KPO 680 50000 N		
	KSFO 560 1000		
	KYA 1230 1000 N		
	San Jose		
	KQW 1010 1000		
	Santa Ana		
	KVOE 1500 100		
	Santa Barbara		
	KDB 1500 100 C		
	Stockton		
	KGDM 1100 1000		
	KWG 1200 100 C		
	COLORADO		
	Alamosa		
	KGIW 1420 100		
	Colorado Springs		
	KVOR 1270 1000 C		
	Denver		
	KFEL 920 500		
	KLZ 560 1000 C		
	KOA 830 50000 N		
	KPOF 880 500		
	KVOD 920 500		
	CALIFORNIA		
	Bakersfield		
	KERN 1370 100 C		
	W6XAI 1550 1000		
	Berkeley		
	KRE 1370 100		
	Beverly Hills		
	KMPC 710 500		
	Burbank		
	KELW 780 500		
	Chico		
	KHSL 950 250		
	Del Monte		
	KDON 1210 100		
	El Centro		
	KXO 1500 100		
	KIEM 1450 500		
	KMJJ 580 1000 C		
	KIRV 850 100		
	KFWB 950 1000		
	KMTR 570 1000		
	Long Beach		
	KFOX 1250 1000		
	KGER 1360 1000		
	Los Angeles		
	KECA 1430 1000 N		
	KFAC 1300 1000		
	KFI 640 50000 N		
	KFSG 1120 500		
	KFVD 1000 250		
	KGJF 1200 100		
	KHJ 900 1000 C		
	KRKD 1120 500		
	KTM 780 500		
	Modesto		
	KTRB 740 250		
	Oakland		
	KLS 1440 250		
	KLX 880 1000		
	KROW 930 1000		
	Pasadena		
	KPPC 1210 50		
	Sacramento		
	KFBK 1490 5000 C		
	San Bernardino		
	KFXM 1210 100		
	San Diego		
	KFSD 600 1000 N		
	KGB 1330 1000 C		
	San Francisco		
	KFRC 610 100 C		
	KGCC 1420 100		
	KGO 790 7500 N		
	KJBS 1070 500		
	KPO 680 50000 N		
	KSFO 560 1000		
	KYA 1230 1000 N		
	San Jose		
	KQW 1010 1000		
	Santa Ana		
	KVOE 1500 100		
	Santa Barbara		
	KDB 1500 100 C		
	Stockton		
	KGDM 1100 1000		
	KWG 1200 100 C		
	COLORADO		
	Alamosa		
	KGIW 1420 100		
	Colorado Springs		
	KVOR 1270 1000 C		
	Denver		
	KFEL 920 500		
	KLZ 560 1000 C		
	KOA 830 50000 N		
	KPOF 880 500		
	KVOD 920 500		
	CALIFORNIA		
	Bakersfield		
	KERN 1370 100 C		
	W6XAI 1550 1000		
	Berkeley		
	KRE 1370 100		
	Beverly Hills		
	KMPC 710 500		
	Burbank		
	KELW 780 500		
	Chico		
	KHSL 950 250		
	Del Monte		
	KDON 1210 100		
	El Centro		
	KXO 1500 100		
	KIEM 1450 500		
	KMJJ 580 1000 C		
	KIRV 850 100		
	KFWB 950 1000		
	KMTR 570 1000		
	Long Beach		
	KFOX 1250 1000		
	KGER 1360 1000		
	Los Angeles		
	KECA 1430 1000 N		
	KFAC 1300 1000		
	KFI 640 50000 N		
	KFSG 1120 500		
	KFVD 1000 250		
	KGJF 1200 100		
	KHJ 900 1000 C		
	KRKD 1120 500		
	KTM 780 500		
	Modesto		
	KTRB 740 250		
	Oakland		</

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

East St. Louis WTMV 1500 100 Harrisburg WEBQ 1210 100 Jelliet WCLS 1310 100 Peoria WMBD 1440 500 C Quincy WTAD 980 500 Rockford WROK 1410 500 Rock Island WHBF 1210 100 Springfield WCBS 1420 100 WTAX 1210 100 Tuscola WDZ 1070 100 Urbana WILL 890 250 Waukegan WCBF 1030 5000	Shenandoah KFNF 890 500 KMA 930 1000 Sioux City KSCJ 1330 1000 C
INDIANA	
Anderson WHBU 1210 100 Elkhart WTRC 1310 100 Evansville WEOA 1370 100 WGBF 630 500 Fert Wayne WGL 1370 100 C WOWO 1160 1000 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	KANSAS Abilene KFBI 1050 5000 Coffeyville KGGF 1010 1000 Dodge City KGNO 1340 250 Garden City KIUL 1210 100 Hutchinson KWBG 1420 100 Kansas City WLBK 1420 100 Lawrence KFKU 1220 1000 WREN 1220 100 B Manhattan KSAC 580 500 Topeka WIBW 580 1000 C Wichita KFH 1300 1000 C
LOUISIANA	
Alexandria KALB 1420 100 Baton Rouge WJBO 1420 100 Lafayette KVL 1310 100 Lake Charles KPLC 1500 100 Mer Rouge KMLB 1200 100 New Orleans WBNO 1200 100 WDSU 1250 1000 WJBW 1200 100 WSMB 1320 500 N WVL 850 1000 C Shreveport KRMD 1310 100 KTB 1450 1000 N KWKH 1100 1000 C	KENTUCKY Ashland WCM 1310 100 Covington WCKY 1490 5000 B Lexington WLAP 1420 100 Louisville WAVE 940 1000 N WHAS 820 5000 C Paducah WPAD 1420 100
IOWA	
Ames WOI 640 5000 Boone KFGQ 1370 100 Cedar Rapids WMT 600 1000 B Council Bluffs KOIL 1260 1000 B Davenport WOC 1370 100 C Decorah KGCA 1270 100 KWL 1270 100 Des Moines KRNT 1320 500 C KSO 1430 500 B WHO 1000 5000 R Iowa City WSUI 880 500 Marshalltown KFJB 1200 100	MAINE Augusta WRDO 1370 100 Bangor WABI 1200 100 WLBZ 620 500 C Portland WCSH 940 1000 R Presque Isle WAGM 1420 100

MARYLAND	
Baltimore WBAL 760 2500 B WBAL 1060 1000 B WCAO 600 500 C WCBM 1370 100 WFBZ 1270 500 R Cumberland WTBO 800 250 Frederick WFMD 900 500 Hagerstown WJEJ 1210 100	MASSACHUSETTS Boston WAAB 1410 500 C WBZ 990 5000 B WCOP 1120 500 WEHI 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 WMA 1420 100 C WSPR 1140 500 Worcester WORC 1280 500 C WTAG 580 500 R
MICHIGAN	
Battle Creek WELL 1420 100 Bay City WBCM 1410 500 Calumet WHDF 1370 100 Detroit WJBK 1500 100 WJR 750 5000 C WMBZ 1420 100 WWJ 920 1000 R WXYZ 1240 1000 B East Lansing WKA 850 1000 Flint WFDF 1310 100 Grand Rapids WASH 1270 500 N WOOD 1270 500 N Ironwood WJMS 1420 100 Jackson WIBM 1370 100 Kalamazoo WKZO 590 1000 Lansing WJIM 1210 100 Lapeer WMPC 1200 100 Marquette WBEO 1310 100 Muskegon WKBZ 1500 100 Royal Oak WEXL 1310 50	

MINNESOTA	
Fergus Falls KGDE 1200 100 Hibbing WMFG 1210 100 Minneapolis WCCO 810 5000 C WDGY 1180 1000 WLB 1250 1000 WTCN 1250 1000 Moorhead KGFK 1500 100 Northfield WCAL 1250 1000 Rochester KRCC 1310 100 St. Paul KSTP 1460 2500 N Virginia WHLB 1370 100	MISSISSIPPI Clarksdale WMFN 1210 100 Gulfport WGCM 1210 100 Hattiesburg WFPB 1370 100 Jackson WJDX 1270 1000 N Kosciusko WHEF 1500 100 Laurel WAML 1310 100 Meridian WCOC 880 500 Vicksburg WQBC 1360 1000
MISSOURI	
Cape Girardeau KFVS 1210 100 Jumbia KFRU 630 500 Jefferson City WOS 630 500 Joplin WMBH 1420 100 Kansas City KMBC 950 1000 C KWEC 1370 100 WDAF 610 1000 R WHB 860 1000 WYXBY 1530 1000 St. Joseph KFEQ 680 2500 St. Louis KFUO 550 500 KMOX 1090 5000 C KSD 550 1000 R KWK 1350 1000 B WEW 760 1000 WIL 1200 100 Springfield KGBX 1230 500 KWTO 560 5000	
MONTANA	
Billings KGHL 780 1000 N Butte KGIR 1340 1000 N Great Falls KFBB 1280 1000 Kalispell KGEZ 1310 100	

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Missoula KGVO 1260 1000 Wolf Point KGCC 1310 100	NEBRASKA Clay Center KMMJ 740 1000 Kearney KGFV 1310 100 Lincoln KFAB 770 1000 C KFOR 1210 100 C Norfolk WJAG 1060 1000 North Platte KGNF 1430 1000 Omaha WAAW 660 500 WOW 590 5000 R Scottsbluff KGGY 1500 100 York KGBZ 930 1000
NEVADA	
Reno KOH 1380 500 C	NEW HAMPSHIRE Laconia WLNH 1310 100 Manchester WFEA 1340 500 C Portsmouth WHEB 740 250
NEW JERSEY	
Asbury Park WCAP 1280 500 Atlantic City WPG 1100 5000 C Camden WCAM 1280 500 Jersey City WAAT 940 500 WHOM 1450 250 Newark WHBI 1250 1000 WNEW 1250 1000 WOR 710 5000 Red Bank WBRB 1210 100 Trenton WTNJ 1280 500 Zarephath WAWZ 1350 500	
NEW MEXICO	
Albuquerque KGGM 1230 250 KOB 1180 1000 Clovis KICA 1370 100 Roswell KGFL 1370 100 Santa Fe KIUF 1310 100	
NEW YORK	
Albany WABY 1370 100 WOKO 1430 500 C	

Auburn WMBO 1310 100 Binghamton WNBF 1500 100 Brooklyn WARD 1400 500 WBBC 1400 500 WBRR 1300 1000 WCNW 1500 100 WGL 1400 500 WLTH 1400 500 WMOB 1500 100 WVFX 1400 500 Buffalo WBEN 900 1000 R WEBR 1310 100 WGR 550 1000 C WKBW 1480 5000 C WSVS 1370 50 WBNY 1370 100 Canton WCAD 1220 500 Chester WGNV 1210 100 Elmira WESG 850 1000 C Freeport WGBB 1210 100 Jamestown WOGL 1210 50 Long Island City W2XR 1550 1000 New York WABC 860 5000 C WBNX 1350 250 WBQX 860 5000 WEAF 660 5000 R WEVD 1300 1000 WFB 1300 1000 WHN 1010 1000 WJZ 1180 1000 WJZ 760 5000 B WLW 1100 5000 WMA 570 500 WNYC 810 1000 WOV 1130 1000 Whiteland WHDL 1420 100 Plattsburg WMFF 1310 250 Rochester WHAM 1150 5000 B WHEC 1430 500 C WSAY 1210 100 Saranac Lake WNBZ 1290 100 Schenectady WGY 790 5000 R Syracuse WFB 1360 1000 C WSYR 570 250 B Troy WHAZ 1300 500 Utica WIBX 1200 100 C White Plains WFAS 1210 100 Woodside WWRL 1500 100	
NORTH CAROLINA	
Asheville WWNC 570 1000 N Charlotte WBT 1080 5000 C WSOC 1210 100 N Durham WDNC 1500 100 C	

Gastonia WJBR 1420 100 Greensboro WBIG 1440 500 C High Point WMFR 1200 100 Raleigh WPTF 680 5000 N Rocky Mount WEED 1420 100 Wilmington WMFD 1370 100 Winston-Salem WSJS 1310 100 C	NORTH DAKOTA Bismarck KFYR 550 1000 N Devils Lake KDLR 1210 100 Fargo WDAY 940 1000 Grand Forks KFJM 1370 100 Mandan KGGC 1240 250 Minot KLPM 1240 250
OHIO	
Akron WADC 1320 1000 C WJW 1210 100 Canton WHBC 1200 100 Cincinnati WCPO 1200 100 WKRC 550 1000 C WLW 700 5000 N WASI 1330 1000 R Cleveland WGAR 1450 500 B WHK 1390 1000 C WJAY 610 500 WTAM 1070 5000 R Columbus WAIU 640 500 WBNS 1430 500 C WCOL 1210 100 WOSU 570 750 Dayton WHIO 1260 1000 R WSMK 1380 200 C Portsmouth WPAY 1370 100 Toledo WSPD 1340 1000 C Youngstown WKBN 570 500 C Zanesville WALR 1210 100	
OKLAHOMA	
Ada KADA 1210 100 Ardmore KVSO 1200 100 Elk City KASA 1210 100 Enid KCRC 1360 250 Muskogee KBIX 1500 100 Norman WNAD 1010 1000 Oklahoma KFJR 1310 100	

KGFG 1370 100 KOMA 1480 5000 C WKY 900 1000 N Pena City WBBZ 1200 100 Shawnee KGGF 1420 100 Tulsa KTUL 1400 500 C KVOO 1140 2500 N	OREGON Astoria KAST 1370 100 Corvallis KOAC 550 1000 Eugene KORE 1420 100 Klamath Falls KFJ 1210 100 Marshfield KOOS 1390 250 Medford KMED 1310 100 Portland KALE 1300 500 C KBS 1420 100 KEEX 1180 5000 N KFR 1300 500 KGW 620 1000 N KOIN 940 1000 C KXII 1040 500 KXL 1420 100 Roseburg KRNR 1500 100 Salem KSLM 1370 100
PENNSYLVANIA	
Allentown WCBA 1440 500 WSAN 1440 500 Allentown WFBG 1310 100 Easton WEST 1200 100 Erie WLEU 1420 100 Glenside WIBG 970 100 Greensburg WHJB 620 250 Greene City WSAJ 1310 100 Harrisburg WHP 1430 500 C WBEO 1200 100 Hazleton WAZL 1420 100 Johnstown WJAC 1310 100 Lancaster WHAL 1500 100 Philadelphia KYW 1020 10000 R WCAU 1170 5000 C WDAS 1370 100 WFIL 560 1000 B WHP 610 1000 WPEN 920 250 WRAX 920 250 WTEL 1310 100 Pittsburgh KDKA 980 5000 B KQV 1380 500 WCAE 1220 1000 R	

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

WJAS	1290	1000 C
WWSW	1500	100
Reading		
WEEU	830	1000
WRAW	1210	100
Saratoga		
WGBI	880	500
WQAN	880	250
Schenectady		
WKOK	1210	100
White Plains		
WEAX	1210	100
WBRB	1310	100
Williamsport		
WRAK	1370	100
York		
WORK	1320	1000

PUERTO RICO

Ponce		
WPRP	1420	100
San Juan		
WKAQ	1240	1000
WNEI	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		
WFGC	1300	1000
Spartanburg		
WSPA	920	1000

SOUTH DAKOTA

Aberdeen		
KABR	1420	100
Brookings		
KFDY	780	1000
Huron		
KGDY	1340	250
Pierre		
KGFX	630	200
WCAT	1200	100
Siox Falls		
KSOO	1110	2500
Vermillion		
KUSD	890	500
Watertown		
KWTN	1210	100
Yankton		
WNAX	570	1000 C

TENNESSEE

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

WROL	1310	100
Memphis		
WBHO	1370	100
WMC	780	1000 N
WNER	1430	500
WREC	600	1000 C
Nashville		
WLAC	1470	5000 C
WLM	650	50000 N
Springfield		
WSIX	1210	100

TEXAS

Amarillo		
KGNC	1410	1000
Austin		
KNOW	1500	100
Beaumont		
KFDM	560	500
Brady		
KNEL	1500	100
College Station		
WTAW	1120	500
Corpus Christi		
KGFI	1500	100
Dallas		
KRLD	1040	10000 C
WFAA	800	50000 N
WRR	1280	500
Dublin		
KFPL	1310	100
El Paso		
KTSM	1310	100
WDAH	1310	100
Fort Worth		
KFJZ	1370	100
KTAT	1240	1000
WBAP	800	50000 N
Galveston		
KLUF	1370	100
Houston		
KPRC	920	1000 N
KTRH	1290	1000 C
KXYZ	1440	1000
Langview		
KFRQ	1370	100
Lubbock		
KFYO	1310	100
Midland		
KRLH	1420	100
Palentine		
KNET	1420	100
Pampa		
KPDN	1310	100
Pecos		
KIUN	1420	100
Port Arthur		
KPAC	1260	500
San Angelo		
KGKL	1370	100
KABC	1420	100
KMAC	1370	100
KONO	1370	100
KTSA	550	1000 C
WOAI	1190	50000 N
Tyler		
KGKB	1500	100
Waco		
WACO	1420	100 C
Weslaco		
KRGV	1260	500
Wichita Falls		
KGKO	570	250 C

UTAH

Ogden		
KLO	1400	500

Salt Lake City		
KDYL	1290	1000 N
KSL	1130	50000 C

VERMONT

Burlington		
WCAX	1200	100
Rutland		
WVSB	1500	100
St. Albans		
WODM	1370	100
Springfield		
WNBX	1260	100
Waterbury		
WDEV	550	500

VIRGINIA

Arlington		
NAA	690	1000
Charlottesville		
WCHV	1420	100
Danville		
WBTM	1370	100
Harrisonburg		
WSVA	550	500
Lynchburg		
WLVA	1200	100
Newport News		
WGH	1310	100
Norfolk		
WTAR	780	500 N
Petersburg		
WPHR	880	500
Richmond		
WBBL	1210	100
WMBG	1210	100 C
WRVA	1110	5000 N
Roanoke		
WDBJ	930	1000 C

WASHINGTON

Aberdeen		
KXRO	1310	100
Bellingham		
KVOS	1200	100
Everett		
KRKO	1370	50
Olympia		
KGY	1210	100
Pullman		
KWSC	1220	1000
Seattle		
KIRO	710	500
KJR	970	5000 N
KOL	1270	1000 C
KOMO	920	1000 N
KRSC	1120	100
KTW	1220	1000
KVL	1370	100
KXA	760	250
Spokane		
KFIO	1120	100
KFPY	890	1000 C
KGA	1470	5000 N
KHQ	590	1000 N
Tacoma		
KMO	1330	250
KVI	570	1000 C
Walla Walla		
KUJ	1370	100
Wenatchee		
KPO	1500	100
Yakima		
KIT	1310	100

WEST VIRGINIA

Bluefield		
WHIS	1410	250
Charleston		
WCHS	580	500
Farmington		
WMNN	890	500
Huntington		
WSAZ	1190	1000
Parkersburg		
WPAR	1420	100
Wheeling		
WWVA	1160	5000 C

WISCONSIN

Eau Claire		
WTAQ	1330	1000
Fond du Lac		
KFIZ	1420	100
Green Bay		
WBXY	1280	100
Danville		
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
Poynton		
WIBU	1210	100
Racine		
WRJN	1370	100
Shabeyson		
WHBL	1410	500
Ste ans Point		
WLBL	900	2500
Superior		
WBC	1290	1000 N

WYOMING

Casper		
KDPN	1440	500
Shoridan		
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
Lethbridge		
CJOC	1230	100 F

BRITISH COLUMBIA

Chilliwack		
CHWK	780	100 F
Kamloops		
CFJC	880	100 F
Kelowna		
CKOV	630	100 F

Prince Rupert		
CFPR	580	50
Trail		
CJAT	910	250 F
Vancouver		
CJOR	600	500
CKCD	1010	100
CKFC	1410	50
CKMO	1410	100 F
CKWX	1010	100 F
CRCT	1100	500 F
Victoria		
CFGT	1450	75

MANITOBA

Brandon		
CKX	1120	100 F
Winnipeg		
CJRC	1390	100 F
CKY	960	15000 F

NEW BRUNSWICK

Fredericton		
CFNB	550	500 F
Moncton		
CKCW	1370	100 F
St. John		
CHSJ	1120	500 F

N. W. TERRITORY

Aklavik		
CJGU	1210	50

NOVA SCOTIA

Gloucester		
VAS	685	2000
Halifax		
CHNS	930	1000 F
Sydney		
CJCB	1240	1000 F
Walfille		
CKIC	1010	50
Yarmouth		
CJLS	1310	100

ONTARIO

Brantford		
CKPC	930	100 F
Chatham		
CFCO	630	100 F
Cobalt		
CKMC	1210	50
Fort William		
CKPR	930	100 F
Hamilton		
CHML	1010	100 F
CKOC	1120	500 F
Kingston		
GRFC	1510	100
Kirkland Lake		
CJKL	1310	100
London		
GFPL	730	100 F
North Bay		
GFCH	930	100 F
Ottawa		
CKGO	1010	100 F
GRGO	880	1000 F
Prescott		
CFLC	930	100
St. Catharines		
CKTB	1200	100 F
Sault Ste. Marie		
CJIC	1500	100

Stratford		
CJCS	1210	50
Sudbury		
CKSO	780	1000 F
Timmins		
CKGB	1420	100
Toronto		
CFRB	690	10000 C
CKCL	580	100 F
CRCT	840	5000 N
Waterloo		
CKCR	1510	100
Windsor		
CKLW	1030	5000
CRGW	600	500 F
Wingham		
CKNX	1200	50

PRINCE EDWARD ISLAND

Charlottetown		
CFCY	630	1000 F
CHCK	1310	50
Summerside		
CHGS	1450	50 F

QUEBEC

Chicoutimi		
GRCS	950	100 F
Hull		
CKCH	1210	100 F
Montmagny		
VEEK	1185	10
Montreal		
CFCH	600	400 N
CHLP	1120	100 F
CKAC	730	5000 C
CRGM	910	5000 F
New Carlisle		
CHNC	1410	500 F
Quebec		
CHRC	580	100 F
CKGV	1310	100 F
CKCK	1010	1000 F
CRCK	1050	1000

SASKATCHEWAN

Moos Jaw		
CHAB	1200	100 F
CJRM	540	1000 F
Prince Albert		
CKBI	1210	100 F
Regina		
CHWC	1010	500 F
CKCK	1010	500 F
Saskatoon		
CFQC	840	1000 F
Yorkton		
CJGK	630	1000 F

NEWFOUNDLAND

St. John's		
VOAC	1065	40
VOAS	940	100
VOGY	840	400
VONF	1195	500
VOWR	681	500

MIQUELON

St. Pierre		
FON	609	250

CENTRAL AMERICA

COSTA

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

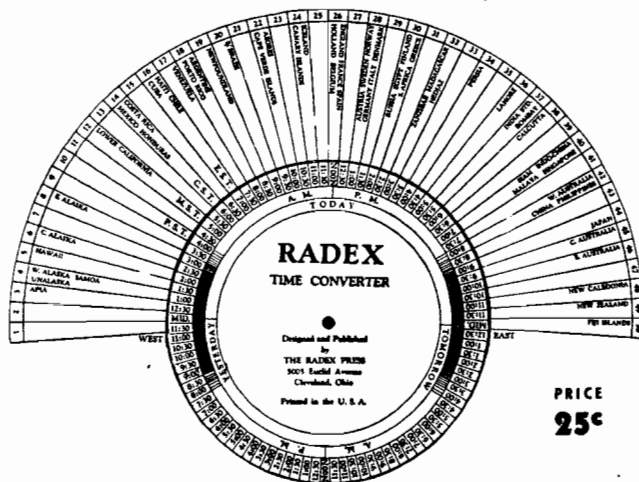
SONORA	KEY 1000 10 XEZ 630 500	Havana	Manzanillo
Hermosillo XEBH 1000 500 Nogales XEAF 990 500	WEST INDIES	CMBC 940 500 CMBD 1170 150 CMBG 1140 200 CMBN 880 150 CMBS 770 150 CMBX 1380 500 CMBY 640 150 CMBZ 1000 250 CMCA 1350 250 CMCB 1230 150 CMCD 960 250 CMCF 815 250 CMCG 1255 250 CMCJ 1200 350 CMCN 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	CMKM 1120 200 Matanzas CMGC 1400 100 CMGF 1120 100 CMGI 1420 50 Sagua la Grande CMHA 1070 50 Sancti Spiritus CMHB 1240 50 Santa Clara CMHI 1210 150 Santiago CMKC 1250 150 CMKD 1050 250 CMKR 1400 100 CMKV 1190 50
TAMAULIPAS	CUBA	DOMINICAN REPUBLIC	
Matamoros XEAM 750 7.5 Nuevo Laredo XEFE 850 250 XENT 910 65000 Reynosa XEAU 960 50000 Tampico XEFW 1310 250 XEMA 1080 50 XES 990 250	Calbarien CMHD 1270 250 Camaguey CMJA 1010 300 CMJC 1390 150 CMJE 1220 50 CMJF 1150 200 CMJK 780 250 CMJL 1340 100 CMJP 1430 100 Cardenas CMGE 1370 50 Ciego de Avila CMJH 1360 100 CMJI 1130 50 CMJO 1180 50 Cienfuegos CMHJ 1160 100 CMHW 810 100 CMHX 760 500 Cruces CMHK 1330 250	San Pedro de Macoris HHH 1395 15 Santo Domingo HIJ 1195 15 HIX 800 700 HIZ 1300 10 HAITI Port-au-Prince HHK 920 1000	
VERACRUZ			
Jalapa XFB 1270 250 XFD 1340 350 Veracruz XETF 1220 12 XEU 1010 250			
YUCATAN			
Merida XEFC 560 100			

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930 100 Calgary, Alta.	CJLS 1310 100 Yarmouth, N. S.	CMBS 770 150 Havana, Cuba
CFCE 600 400 Montreal, Que.	CJOC 1230 100 Lethbridge, Alta.	CMBX 1380 500 Havana, Cuba
CFCH 930 100 North Bay, Ont.	CJOR 600 500 Vancouver, B. C.	CMBY 640 150 Havana, Cuba
CFCN 1030 10000 Calgary, Alta.	CJRM 540 1000 Winnipeg, Man.	CMCZ 1000 250 Havana, Cuba
CFCO 630 100 Chatham, Ont.	CKAC 730 5000 Moose Jaw, Sask.	CMCA 1350 250 Havana, Cuba
CFCT 1450 75 Victoria, B. C.	CKCH 1210 100 Montreal, Que.	CMCB 1230 150 Havana, Cuba
CFCY 630 1000 Charlottetown, P.E.I.	CKBI 1210 100 Prince Albert, Sask.	CMCD 960 250 Havana, Cuba
CFJC 880 100 Kamloops, B. C.	CKCD 1010 100 Vancouver, B. C.	CMCE 815 250 Havana, Cuba
CFLE 930 100 Prescott, Ont.	CKCH 1210 100 Hull, Que.	CMCG 1255 250 Havana, Cuba
CFNB 550 500 Fredericton, N. B.	CKCK 1010 500 Regina, Sask.	CMCJ 1200 150 Havana, Cuba
CFPL 730 100 London, Ont.	CKCL 580 100 Toronto, Ont.	CMCN 1500 150 Havana, Cuba
CFPR 580 50 Prince Rupert, B. C.	CKCO 1010 100 Ottawa, Ont.	CMCO 1110 250 Havana, Cuba
CFQC 840 1000 Saskatoon, Sask.	CKCR 1510 100 Waterloo, Ont.	CMCQ 680 250 Havana, Cuba
CFRE 690 10000 Toronto, Ont.	CKCV 1310 100 Quebec, Que.	CMCR 1410 150 Havana, Cuba
CFRC 1520 100 Kingston, Ont.	CKCW 1370 100 Moncton, N. B.	CMCU 1280 150 Havana, Cuba
CFRN 1260 100 Edmonton, Alta.	CKFC 1410 50 Vancouver, B. C.	CMCW 750 150 Havana, Cuba
CHAB 1200 100 Moose Jaw, Sask.	CKGB 1420 100 Timmins, Ont.	CMCX 660 150 Havana, Cuba
CHCK 1310 50 Charlottetown, P.E.I.	CKIC 1010 50 Wolffville, N. S.	CMCY 1030 1000 Havana, Cuba
CHGS 1450 50 Summerside, P.E.I.	CKLW 1030 5000 Windsor, Ont.	CMGC 1400 100 Matanzas, Cuba
CHLP 1120 100 Montreal, Que.	CKMC 1210 50 Cobalt, Ont.	CMGE 1370 50 Cardenas, Cuba
CHML 1010 100 Hamilton, Ont.	CKMO 1410 100 Vancouver, B. C.	CMGF 1120 100 Matanzas, Cuba
CHNC 1410 500 New Carlisle, Que.	CKNX 1200 50 Wingham, Ont.	CMGI 1430 50 Matanzas, Cuba
CHNS 930 1000 Halifax, N.	CKOC 1120 500 Hamilton, Ont.	CMHA 1070 50 Sagua la Grande, Cu.
CHRC 580 100 Quebec, Que.	CKOV 630 100 Kelowna, B. C.	CMHB 1240 50 Sancti Spiritus, Cuba
CHSJ 1120 500 St. John, N. B.	CKPC 930 100 Brantford, Ont.	CMHD 1270 250 Calbarien, Cuba
CHWC 1010 500 Regina, Sask.	CKPR 930 100 Fort William, Ont.	CMHI 1210 150 Santa Clara, Cuba
CHWK 780 100 Chilliwack, B. C.	CKSO 780 1000 Sudbury, Ont.	CMHJ 1160 100 Cienfuegos, Cuba
CJAT 910 250 Trail, B. C.	CKTB 1200 100 St. Catharines, Ont.	CMHK 1330 250 Cruces, Cuba
CJCA 730 1000 Edmonton, Alta.	CKUA 580 500 Edmonton, Alta.	CMHW 810 100 Cienfuegos, Cuba
CJCB 1240 1000 Sydney, N. S.	CKWX 1010 100 Vancouver, B. C.	CMHX 760 500 Cienfuegos, Cuba
CJCJ 690 100 Calgary, Alta.	CKX 1120 100 Brandon, Man.	CMJA 1010 300 Camaguey, Cuba
CJCS 1210 50 Stratford, Ont.	CKY 960 15000 Winnipeg, Man.	CMJC 1390 150 Camaguey, Cuba
CJCU 1210 50 Aklavik, N. W. T.	CMBC 940 500 Havana, Cuba	CMJE 1220 50 Camaguey, Cuba
CJGX 630 1000 Yorktown, Sask.	CMBD 1170 150 Havana, Cuba	CMJF 1150 200 Camaguey, Cuba
CJIC 1500 100 S. Ste. Marie, Ont.	CMBG 1140 200 Havana, Cuba	CMJH 1360 100 Ciego de Avila, Cuba
CJKL 1310 100 Kirkland Lake, Ont.	CMBN 880 150 Havana, Cuba	CMJI 1130 50 Ciego de Avila, Cuba

RADEX RADIO MAP of the WORLD

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



PRICE
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DIRECTIONS—Turn the dial to the hour, either A.M. or P.M., in the center marked "TODAY" opposite your own zone, and the correct time in all other zones in the world will be shown. It will also be indicated which of the other zones are "Yesterday" and which are "Tomorrow". The position of multiple stations and dates is graphically shown. Or, if you desire to tune in a New Zealand program, turn the hour of the program (say 9:00 a.m.) to the New Zealand zone and you will find that it is 4:30 A.M. some 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.

Only a Quarter Postpaid to any country.

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

NORTH AMERICAN B. C. STATIONS BY CALLS

CMJK 780	250	KALE 1380	500	KFJI 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 1130	50	KASA 1210	100	KFJR 1300	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
Mansanillo, Cuba		Enid, Okla.		Long Beach, Calif.	
CMKR 1400	100	KCRJ 1310	100	KFPL 1310	100
Santiago, Cuba		Jerome, Ariz.		Dublin, Texas	
CMKV 1100	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	KFQB 700	250
Havana, Cuba		Pittsburgh, Pa.		Anchorage, 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 800	1000	KDYL 1290	1000	KFRU 630	500
Havana, Cuba		Salt Lake City, Utah		Columbia, Mo.	
CMX 920	650	KECA 1430	1000	KFSB 600	1000
Havana, Cuba		Los Angeles, Calif.		San Diego, Calif.	
CRCK 1050	1000	KELD 1370	100	KFSG 1120	500
Quebec, Que.		El Dorado, Ark.		Los Angeles, Calif.	
CRCM 510	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 1150	5000	KFVS 1210	100
Chicoutimi, Que.		Portland, Ore.		Cape Girardeau, Mo.	
CRCT 840	5000	KFAB 770	10000	KFWS 980	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 800	500	KFBB 1280	1000	KFXJ 1200	100
Windsor, Ont.		Great Falls, Mont.		Grand Jct., Colo.	
FQN 600	250	KFBI 1050	5000	KFXM 1210	100
St. Pierre, Miq.		Ablene, Kans.		San Bernardino, Calif.	
HHK 920	1000	KFBK 1400	5000	KFXR 1310	100
Port-au-Prince, Haiti		Sacramento, Calif.		Oklahoma City, Okla.	
HHH 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.		Bismarck, 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	100	KFI 640	50000	KGBX 1230	500
San Antonio, Texas		Los Angeles, Calif.		Springfield, Mo.	
KABR 1420	100	KFIO 1120	100	KGBZ 930	1000
Aberdeen, S. Dak.		Spokane, Wash.		York, Neb.	
KADA 1420	100	KFIZ 1420	180	KGCA 1270	100
Ada, Okla.		Fond du Lac, Wis.		Decorah, Iowa	
KALB 1420	100	KFJB 1208	100	KGCU 1240	250
Alexandria, La.		Marshalltown, Iowa		Mandan, N. D.	

NORTH AMERICAN B. C. STATIONS BY CALLS

KGCK 1310	100	KHBC 1420	100	KMPC 710	500
Wolf Point, Mont.		Hilo, T. H.		Beverly Hills, Calif.	
KGDE 1200	100	KHJ 900	1000	KMTR 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	
KGDY 1340	250	KHSL 950	250	KNET 1420	100
Huron, S. D.		Chico, Calif.		Palatine, 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	50000
Long Beach, Calif.		Idaho Falls, Idaho		Hollywood, Calif.	
KGEZ 1310	100	KIDO 1350	1000	KOA 830	50000
KallsPELL, 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 1150	10000
Oklahoma City, Okla.		Eureka, Calif.		Albuquerque, N. M.	
KGFI 1500	100	KIEV 850	100	KOH 1300	500
Corpus Christi, Texas		Glendale, Calif.		Reno, Nev.	
KGFJ 1200	100	KINY 1310	100	KOIL 1260	1000
Los Angeles, Calif.		Juneau, Alaska		Council Bluffs, Iowa	
KGFK 1600	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 1400	5000
Kearney, Neb.		Santa Fe, N. Mex.		Oklahoma City, Okla.	
KGFX 630	200	KIUL 1210	100	KOMO 920	1000
Pierre, S. D.		Garden City, Kans.		Seattle, Wash.	
KGGC 1420	100	KIUN 1420	100	KONO 1370	100
San Francisco, Calif.		Pecos, Texas		San Antonio, Texas	
KGGF 1010	1000	KIUP 1370	100	KOOS 1390	250
Coffeyville, Kans.		Durango, Colo.		Marshfield, Ore.	
KGGM 1230	250	KJBS 1070	500	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	
KGIW 1420	100	KLRA 1390	1000	KPLC 1500	100
Alamosa, Colo.		Little Rock, Ark.		Lake Charles, La.	
KGKB 3500	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 800	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	KMJ 580	1000	KRGV 1260	500
San Francisco, Calif.		Fresno, Calif.		Weslaco, Texas	
KGU 750	2500	KMLB 1200	100	KRKB 1120	500
Honolulu, T. H.		Monroe, La.		Los Angeles, Calif.	
KGOV 1260	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

KNLH 1420 100	KVOA 1260 500	VAS 685 2000
Midland, Texas	Tucson, Ariz.	Glance Bay, N. S.
KRMD 1310 100	KVOD 920 500	VESEK 1185 10
Shreveport, La.	Denver, Colo.	Montmagny, Que.
KRNR 1500 100	KVOE 1500 100	VOAC 1065 40
Roseburg, Ore.	Santa Ana, Calif.	St. John's, Nfld.
KRNT 1320 500	KVOL 1310 100	VOAS 940 100
Des Moines, Iowa	Lafayette, La.	St. John's, Nfld.
KROC 1310 100	KVOO 1140 25000	VOGY 840 400
Rochester, Minn.	Tulsa, Okla.	St. John's, Nfld.
KROW 930 1000	KVOR 1270 1000	VONF 1195 500
Oakland, Calif.	Colorado Spgs., Colo.	St. John's, Nfld.
KWSC 1120 100	KVOS 1290 100	VOWR 681 500
Seattle, Wash.	Bellingham, Wash.	St. John's, Nfld.
KSAC 500 500	KVSO 1210 100	WAAB 1410 500
Manhattan, Kans.	Ardmore, Okla.	Boston, Mass.
KSCJ 1330 1000	KWBG 1420 100	WAAF 920 1000
Sioux City, Iowa	Hutchinson, Kans.	Chicago, Ill.
KSD 550 1000	KWGC 1290 100	WAAT 940 500
St. Louis, Mo.	Stockton, Calif.	Jersey City, N. J.
KSEI 900 250	KWJJ 1040 500	WAAW 660 500
Pocatello, Idaho	Portland, Ore.	Omaha, Neb.
KSFO 560 1000	KWK 1350 1000	WABC 860 50000
San Francisco, Calif.	St. Louis, Mo.	New York, N. Y.
KSL 1130 50000	KWKC 1370 100	WABI 1200 100
Salt Lake City, Utah	Kansas City, Mo.	Bangor, Maine
KSLM 1370 100	KWKH 1190 10000	WABY 1370 100
Salem, Ore.	Shreveport, La.	Albany, N. Y.
KSO 1430 500	KWLC 1270 100	WACO 1420 100
Des Moines, Iowa	Decorah, Iowa	Waco, Texas
KSOO 1110 2500	KWSC 1220 1000	WADC 1320 1000
Sioux Falls, S. D.	Pullman, Wash.	Akron, Ohio
KSTP 1460 25000	KWTN 1210 100	WAGF 1370 250
St. Paul, Minn.	Watertown, S. D.	Dothan, Ala.
KSUN 1200 100	KWTO 500 5000	WAGM 1420 100
Lowell, Ariz.	Springfield, Mo.	Presque Isle, Me.
KTAR 620 1000	KWYO 1370 100	WAIM 1200 100
Phoenix, Ariz.	R Sheridan, Wyo.	Anderson, S. C.
KTAT 1240 1000	KXA 700 250	WAIU 640 500
Fort Worth, Texas	Seattle, Wash.	Columbus, Ohio
KTBS 1450 1000	KXL 1420 100	WALA 1380 500
Shreveport, La.	Portland, Ore.	Mobile, Ala.
KTFI 1260 1000	KXO 1500 100	WALR 1210 100
Twin Falls, Idaho	El Centro, Calif.	Zanesville, Ohio
KTHS 1060 10000	KXRO 1310 100	WAML 1310 100
Hot Springs, Ark.	Aberdeen, Wash.	Laurel, Miss.
KTM 700 500	KXYZ 1440 1000	WAPI 1140 5000
Los Angeles, Calif.	Houston, Texas	Birmingham, Ala.
KTRB 740 250	KYA 1230 1000	WARD 1400 500
Modesto, Calif.	San Francisco, Calif.	Brooklyn, N. Y.
KTRH 1290 1000	KYW 1420 10000	WASH 1270 500
Houston, Texas	Philadelphia, Pa.	Grand Rapids, Mich.
KTSA 590 1000	NAA 690 1000	WATL 1370 100
San Antonio, Texas	Arlington, Va.	Atlanta, Ga.
KTSM 1310 100	RDN 690 500	WATR 1190 100
El Paso, Texas	San Salvador, E. S.	Waterbury, Conn.
KTUL 1400 500	TGW 1210 10000	WAVE 940 1000
Tulsa, Okla.	Guatemala, Gua.	Louisville, Ky.
KTW 1220 1000	TGX 1400 250	WAWZ 1350 500
Seattle, Wash.	Guatemala City	Zarephath, N. J.
KUJ 1370 100	TIEP 850 500	WAZL 1420 100
Walla Walla, Wash.	San Jose, C. R.	Hazleton, Pa.
KUMA 1420 100	TIFA 1050 75	WBAA 890 1000
Yuma, Ariz.	San Jose, C. R.	West Lafayette, Ind.
KUOA 1260 1000	TIFS 1441 7.5	WBAL 760 2500
Payetteville, Ark.	Cartago, C. R.	Baltimore, Md.
KUSD 990 500	TIGA 1814 30	WBAL 1060 10000
Vermillion, S. D.	Cartago, C. R.	Baltimore, Md.
KVI 570 1000	TIGH 1800 500	WBAP 800 50000
Tacoma, Wash.	San Jose, C. R.	Fort Worth, Texas
KVL 1370 100	TIRH 930 50	WBAX 1210 100
Seattle, Wash.	San Jose, C. R.	Wilkes-Barre, Pa.

NORTH AMERICAN B. C. STATIONS BY CALLS

WBEC 1400 500	WCBS 1420 100	WBQ 1210 100
Brooklyn, N. Y.	Springfield, Ill.	Harrisburg, Ill.
WBEL 1210 100	WCCO 610 50000	WBRR 1310 100
Richmond, Va.	Minneapolis, Minn.	Buffalo, N. Y.
WBEM 770 50000	WCFL 970 5000	WBDC 1210 100
Chicago, Ill.	Chicago, Ill.	Chicago, Ill.
WBFR 1300 1000	WCHE 500 500	WEED 1420 100
Brooklyn, N. Y.	Charleston, W. Va.	Rocky Mount, N. C.
WBZ 1200 100	WCHV 1420 100	WEEI 590 1000
Ponce City, Okla.	Charlottesville, Va.	Boston, Mass.
WBCM 1410 500	WCKY 1490 5000	WEUU 830 1000
Bay City, Mich.	Covington, Ky.	Reading, Pa.
WBEH 900 1000	WCLO 1200 100	WGL 1400 500
Buffalo, N. Y.	Janesville, Wis.	Brooklyn, N. Y.
WBEO 1310 100	WCLS 1310 100	WEHS 1420 100
Marquette, Mich.	Joliet, Ill.	Cleora, 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 1250 250	WCOC 800 500	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.
WBOV 1310 100	WCPO 1200 100	WEST 1200 100
Terre Haute, Ind.	Cincinnati, Ohio	Easton, Pa.
WBRR 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 1000
Birmingham, Ala.	Charleston, S. C.	St. Louis, Mo.
WBRE 1310 100	WCSE 940 1000	WEXL 1310 50
Wilkes-Barre, Pa.	Portland, Me.	Royal Oak, Mich.
WBT 1000 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 900 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.	Fargo, N. D.	Greenville, S. C.
WCAD 1220 500	WDBJ 930 1000	WFEG 1310 100
Canton, N. Y.	Roanoke, Va.	Altoona, Pa.
WCAE 1220 1000	WDBO 500 1000	WFIL 1360 1000
Pittsburgh, Pa.	Orlando, Fla.	Syracuse, N. Y.
WCAL 1250 1000	WDEL 1120 250	WFRM 1230 1000
Northfield, Minn.	Wilmington, Del.	Indianapolis, Ind.
WCAM 1280 500	WDEV 550 500	WFRB 1270 500
Camden, N. J.	Waterbury, Vt.	Baltimore, Md.
WCAO 600 500	WDGY 1100 1000	WFDF 1310 100
Baltimore, Md.	Minneapolis, Minn.	Flint, Mich.
WCAP 1280 500	WDNC 1500 100	WFEA 1340 500
Asbury Park, N. J.	Durham, N. C.	Manchester, N. H.
WCAT 1200 100	WDOO 1200 1000	WFIL 560 1000
Rapid City, S. D.	Chattanooga, Tenn.	Philadelphia, Pa.
WCAU 1170 50000	WDRC 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	WGAL 1500 100
Carthage, Ill.	Tuscola, Ill.	Lancaster, Pa.
WCEA 1440 500	WEAF 660 50000	WGAR 1450 500
Allentown, Pa.	New York, N. Y.	Cleveland, Ohio
WCBD 1080 5000	WEAN 700 500	WGEE 1210 100
Waukegan, Ill.	Providence, R. I.	Freeport, N. Y.
WCBM 1370 100	WECB 1290 1000	WGBF 630 500
Baltimore, Md.	Superior, Wis.	Evansville, Ind.

NORTH AMERICAN B. C. STATIONS BY CALLS

WGSI 580	500	WHLE 1370	100	WJEJ 1210	100
Scranton, Pa.		Virginia, Minn.		Hagerstown, Md.	
WGCM 1210	100	WHN 1810	1000	WJIM 1210	100
Gulfport, Miss.		New York, N. Y.		Lansing, Mich.	
WGES 1260	500	WHO 1800	50000	WJJD 1110	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 1230	1000	WJR 750	50000
Chicago, Ill.		Madison, Wis.		Detroit, Mich.	
WGNV 1210	100	WISG 570	100	WJSV 1400	10000
Chester, N. Y.		Glenside, Pa.		Washington, D. C.	
WGPC 1420	100	WISM 1370	100	WJW 1210	100
Albany, Ga.		Jackson, Mich.		Akron, Ohio	
WGR 550	1000	WISU 1210	100	WJZ 700	50000
Buffalo, N. Y.		Poynette, Wis.		New York, N. Y.	
WGST 890	1000	WISW 560	1000	WKAQ 1240	1000
Atlanta, Ga.		Topeka, Kans.		San Juan, P. R.	
WGY 780	50000	WISX 1200	100	WKAR 850	1000
Schenectady, N. Y.		Utica, N. Y.		East Lansing, Mich.	
WHA 940	1000	WICC 800	500	WKBS 1500	100
Madison, Wis.		Bridgeport, Conn.		East Dubuque, Ill.	
WHAM 1150	50000	WIL 1200	100	WKBH 1350	1000
Rochester, N. Y.		St. Louis, Mo.		LaCrosse, Wis.	
WHAS 820	50000	WILL 600	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 1100	500	WIND 550	1000	WKBO 1200	100
Troy, N. Y.		Gary, Ind.		Harrisburg, Pa.	
WHS 840	1000	WINS 1150	1000	WKBY 1500	100
Kansas City, Mo.		New York, N. Y.		Richmond, Ind.	
WHBB 1500	100	WIOD 1300	1000	WKBW 1480	5000
Selma, Alabama		Miami, Fla.		Buffalo, N. Y.	
WHSC 1200	100	WIP 610	1000	WKBY 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	WJAC 1600	1000	WKZO 500	1000
Anderson, Ind.		Norfolk, Neb.		Kalamazoo, Mich.	
WHBY 1200	100	WJAR 890	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.	
WHBF 740	250	WJBC 1200	100	WLBC 1310	100
Portsmouth, N. H.		Bloomington, Ill.		Muncie, Ind.	
WHBF 1430	500	WJBK 1500	100	WLBF 1420	100
Rochester, N. Y.		Detroit, Mich.		Kansas City, Kans.	
WHEF 1500	100	WJEL 1200	100	WLEL 900	2500
Kosciusko, Miss.		Decatur, Ill.		Stevens Point, Wis.	
WHFC 1420	100	WJEO 1420	100	WLBZ 620	500
Cleora, Ill.		Baton Rouge, La.		Bangor, Me.	
WHIO 1260	1000	WJER 1420	100	WLEU 1420	100
Dayton, Ohio		Gastonia, N. C.		Erie, Pa.	
WHIS 1410	250	WJEW 1200	100	WLLH 1370	100
Bluefield, W. Va.		New Orleans, La.		Lowell, Mass.	
WHJB 620	250	WJFY 1210	100	WLNH 1310	100
Greensburg, Pa.		Gadsden, Ala.		Laconia, N. H.	
WHK 1380	1000	WJDX 1270	1000	WLS 870	50000
Cleveland, Ohio		Jackson, Miss.		Chicago, Ill.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WLTH 1400	500	WNSR 1430	500	WPTF 630	5000
Brooklyn, N. Y.		Memphis, Tenn.		Raleigh, N. C.	
WLVA 1200	100	WNEX 1200	1000	WQAM 580	1000
Lynchburg, Va.		Springfield, Vt.		Miami, Fla.	
WLW 700	500000	WNEZ 1200	100	WQAN 530	250
Cincinnati, Ohio		Sarasota Lake, N. Y.		Scranton, Pa.	
WLWL 1100	5000	WNEL 1200	1000	WQBC 1300	1000
New York, N. Y.		San Juan, P. R.		Vicksburg, Miss.	
WMAA 630	250	WNEW 1250	1000	WQDM 1370	100
Washington, D. C.		Newark, N. J.		St. Albans, Vt.	
WMAQ 670	50000	WNOX 1010	1000	WRAC 1570	100
Chicago, Ill.		Knoxville, Tenn.		Williamsport, Pa.	
WMAZ 1420	100	WNRI 1200	100	WRAW 1310	100
Springfield, Mass.		Newport, R. I.		Reading, Pa.	
WMAZ 1150	1000	WNYC 810	1000	WRAX 920	250
Macon, Ga.		New York, N. Y.		Philadelphia, Pa.	
WMEC 1420	100	WOAI 1150	50000	WRBL 1200	100
Detroit, Mich.		San Antonio, Texas		Columbus, Ga.	
WMEB 1440	500	WOC 1370	100	WRC 550	500
Peoria, Ill.		Davenport, Iowa		Washington, D. C.	
WMEG 1210	100	WOGL 1210	50	WRDO 1170	100
Richmond, Va.		Jamestown, N. Y.		Augusta, Me.	
WMEH 1420	100	WOI 640	5000	WRDW 1500	100
Joplin, Mo.		Ames, Iowa		Augusta, Ga.	
WMEI 1000	5000	WOKO 1430	500	WREC 600	1000
Chicago, Ill.		Albany, N. Y.		Memphis, Tenn.	
WMEB 1310	100	WOL 1310	100	WREN 1220	1000
Auburn, N. Y.		Washington, D. C.		Lawrence, Kans.	
WMEQ 1500	100	WOMT 1210	100	WRGA 1500	100
Brooklyn, N. Y.		Mantowoc, Wis.		Rome, Ga.	
WMEB 1370	100	WOOD 1270	500	WRJN 1370	100
Jacksonville, Fla.		Grand Rapids, Mich.		Racine, Wis.	
WMEC 700	1000	WOPI 1500	100	WRK 1410	500
Memphis, Tenn.		Bristol, Tenn.		Rockford, Ill.	
WMECA 570	500	WOR 710	50000	WROL 1310	100
New York, N. Y.		Newark, N. J.		Knoxville, Tenn.	
WMEEX 1500	100	WORC 1200	500	WRR 1280	500
Boston, Mass.		Worcester, Mass.		Dallas, Texas	
WMFB 1370	100	WORK 1220	1000	WRUF 830	5000
Wilmington, N. C.		York, Pa.		Gainesville, Fla.	
WMFF 1310	250	WORL 920	500	WRVA 1110	5000
Plattsburg, N. Y.		Needham, Mass.		Richmond, Va.	
WMFG 1210	100	WOS 630	500	WSAI 1330	1000
Hibbing, Minn.		Jefferson City, Mo.		Cincinnati, Ohio	
WMFJ 1420	100	WOSU 570	750	WSAJ 1310	100
Daytona Beach, Fla.		Columbus, Ohio		Grove City, Pa.	
WMFN 1210	100	WOV 1130	1000	WSAN 1440	500
Clarksdale, Miss.		New York, N. Y.		Allentown, Pa.	
WMFO 1370	100	WOW 890	5000	WSAR 1350	1000
Decatur, Ala.		Omaha, Neb.		Fall River, Mass.	
WMFR 1200	100	WOWO 1100	10000	WSAY 1210	100
High Point, N. C.		Fort Wayne, Ind.		Rochester, N. Y.	
WMHN 800	500	WPAD 1420	100	WSAZ 1190	1000
Fairmount, W. Va.		Paducah, Ky.		Huntington, W. Va.	
WMPC 1200	100	WPAR 1420	100	WSB 740	50000
Lapeer, Mich.		Parkersburg, W. Va.		Atlanta, Ga.	
WMSD 1420	100	WPAX 1210	250	WSBC 1210	100
Sheffield, Ala.		Thomasville, Ga.		Chicago, Ill.	
WMT 600	1000	WPAY 1370	100	WSBT 1350	500
Cedar Rapids, Iowa		Portsmouth, Ohio		South Bend, Ind.	
WNAC 1230	1000	WPEN 920	250	WSFA 1410	500
Boston, Mass.		Philadelphia, Pa.		Montgomery, Ala.	
WNAD 1010	1000	WPFB 1370	100	WSGN 1310	100
Norman, Okla.		Hattiesburg, Miss.		Birmingham, Ala.	
WNAX 570	1500	WPG 1100	5000	WSHX 1210	100
Yankton, S. D.		Atlantic City, N. J.		Springfield, Tenn.	
WNBC 1300	250	WPHR 830	500	WSJS 1310	100
New Britain, Conn.		Petersburg, Va.		Winston-Salem, N. C.	
WNBF 1500	100	WPRO 630	250	WSM 800	50000
Binghamton, N. Y.		Providence, R. I.		Nashville, Tenn.	
WNBH 1310	100	WPRP 1420	100	WSNB 1220	500
New Bedford, Mass.		Ponce, P. R.		New Orleans, La.	

WSMK 1380	200	WWRL 1800	100	XEG 1270	200
Dayton, Ohio		Woodside, N. Y.		Ensenada, B. C.	
WSOC 1210	100	WWSW 1800	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.		Moravia, Mich.	
WSPD 1340	1000	WXYZ 1240	1000	XEJ 1020	1000
Toledo, Ohio		Detroit, Mich.		Juarez, Chih.	
WSPR 1140	500	WIXBS 1830	1000	XEK 090	100
Springfield, Mass.		Waterbury, Conn.		Mexico City, D. F.	
WSUI 880	500	WZKN 1350	1000	XEKL 1240	500
Iowa City, Iowa		Long Island City, N. Y.		Leon, Guan.	
WSUN 620	1000	W6XAI 1850	1000	XEL 1100	250
St. Petersburg, Fla.		Bakersfield, Calif.		Mexico City, D. F.	
WSVA 580	500	W9XEY 1830	1000	XELO 1110	10000
Harrisonburg, Va.		Kansas City, Mo.		Piedras Negras, Coah.	
WSVS 1370	50	XEA 1000	500	XENWA 1080	50
Buffalo, N. Y.		Guadalajara, Jal.		Tampico, Tams.	
WSYB 1800	100	XEAA 920	200	XEMO 860	5000
Rutland, Vt.		Mexicali, B. C.		Tijuana, L. C.	
WSYR 570	250	XEAF 900	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 680	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.		Raynosa, Tams.		Mexico City, D. F.	
WTAX 1210	100	XEAZ 1420	7	KEPN 590	50000
Springfield, Ill.		Guajuato, Gto.		Piedras Negras, Coah.	
WTBO 600	250	XEB 1030	10000	XERA 840	250000
Cumberland, Md.		Mexico City, D. F.		Villa Acauna, Coah.	
WTCN 1250	1000	XEBH 1000	500	XES 090	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 1290	100	XED 1155	2500	XETS 1310	125
Hartford, Conn.		Guadalajara, Jal.		Torreón, Coah.	
WTIC 1040	50000	XEE 1210	50	XETF 1220	12
Hartford, Conn.		Durango, Dgo.		Versacruz, 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 1590	100	XEFC 560	100	XEU 1010	250
East St. Louis, Ill.		Merida, Yuc.		Versacruz, Ver.	
WTNJ 1280	500	XEFE 850	250	XEW 890	50000
Trenton, N. J.		Laredo, Tams.		Mexico City, D. F.	
WTOC 1260	1000	XEFI 1440	250	XEWZ 1150	100
Savannah, Ga.		Chihuahua, Chih.		Mexico City, D. F.	
WTNC 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.	
WWAE 1200	100	XKFO 940	5000	XEYZ 700	10000
Hammond, Ind.		Mexico City, D. F.		Mexico City, D. F.	
WWJ 920	1000	KEFV 1210	100	XEZ 630	500
Detroit, Mich.		Juarez, Chih.		Merida, Yuc.	
WWL 830	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.					

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[illegible]

The time shown in the Shortwave Clock is Eastern Standard. Readers living in other time zones can clip the two time lines above and paste them over the clock to agree with their own time. This strip is for CST. For MST, start with 10:00 and 22:00. For PST start with 09:00 and 21:00.

11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45
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A New Illuminated World Globe



A turn of the switch converts this globe into a glowing, luminous ball, making it easier to read the map.

The principal short wave stations throughout the world are shown in red. A beautiful, authentic and detailed map in bright colors.

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The Radex Press, Inc. Conneaut, Ohio



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XFA 1310	5	Mexico City, D. F.
Agua Calientes, Ags.		XFX 610 1000
XFB 1278	250	Mexico City, D. F.
Jalapa, Ver.		YNLF 1275 20
XFC 810	350	Managua, Nicaragua
Agua Calientes, Ags.		YNOP 1230 100
XFD 1340	350	Managua, Nicaragua
Jalapa, Ver.		YNVA 950 10
		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.

Send for it today.

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 8:00 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
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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 waiting. "I never had a chance and will never have one because I have no pull or a good education."

Friend—you may not be as bad off as I was—

but think it over—are you satisfied? Are you making as much money as you need? Would you sign a contract to stay where you are for the next ten years at the same salary? Those are the things you have to think about—because no one is going to make it his business to push you ahead—you must make it your own business.

Take my tip—write for their book, "Rich Rewards in Radio." It won't cost you anything except a postage stamp. It shows you a lot of things which I don't believe you know now about Radio—a lot of facts and figures on the opportunities in this new, fast-growing field. Where the jobs are, what they pay, how to get ready for them. Beginners as well as experienced men are making as much as \$500 to \$1,500 a year more as a result of N.R.I. training. And at the same time they send the book "Rich Rewards in Radio" they'll send you, without any cost or obligation, a Free Lesson to prove that their training is easy, practical, fascinating. The lesson they send "Radio Receiving Troubles—the Cause and Remedy" is valuable. And when you see how simple this lesson is to understand you'll know why many fellows with less than a grammar school education have mastered N.R.I. training and are now making good money as Radio Experts.

You are not placing yourself under any obligation by writing for this material as they will gladly send it to anyone who is ambitious and wants to get ahead. Mail the coupon in an envelope or paste it on a 1c postcard. Just address Mr. J. E. Smith, President, National Radio Institute, Dept. 6CO, Washington, D. C.

J. E. SMITH, President,
National Radio Institute
Dept. 6CO, Washington, D. C.

Dear Mr. Smith:

Without obligation, send me the sample lesson and your free book about spare time and full time Radio opportunities, and how I can train for them at home in spare time. (Please print plainly)

Name..... Age.....

Address.....

City..... State.....

14X1