

THE MAY 1934

RADIO INDEX

THE ALL-WAVE RADIO MAGAZINE



25^c

30 cents
in Canada
Including
Tax

All the Broadcasting Stations
of the World
The Beginners' Story of Radio
How to Tune the Short Waves
Mail Addresses of S. W. Stations

No. 79

MAY DX CALENDAR

In addition to the special DX programs scheduled below, a large number of stations are still testing monthly for the Federal Radio Commission. A list by days and hours was published in March (page 47) and recent changes will be found on page 27 of this issue. Time is given in Eastern Daylight Saving.

SUNDAY MORNINGS May 6

1:00-2:00—WTOC, 1260, Savannah
WWAE, 1200, Hammond
4:00-5:00—KIT, 1310, Yakima

2:00-4:00—CMCU, 1100, Havana

May 6-13-20-27

11:00-12:00—CMBW, 1140, Havana
12:00-2:00—CMCD, 925, Havana
3:00-4:00—KPKM, 1500, Prescott
4:00-5:00—KGER, 1360, Long Beach
4:00-6:00—CFJC, 1120, Kamloops

May 13-20-27

12:00-2:30—WIBM, 1370, Jackson, Mich.

May 27

3:30-5:30—CKBI, 1200, Prince Albert

MONDAY MORNINGS May 7

4:45-5:00—KUJ, 1370, Walla Walla

May 7-14-21-28

1:30-2:00—KSOO, 1110, Sioux Falls

May 21

12:30-1:00—WGNV, 1210, Chester

TUESDAY MORNINGS May 1-8-15-22-29

5:00-6:00—WBNS, 1430, Columbus

May 15

2:00-3:00—KFYR, 550, Bismarck
4:00-5:00—WHBQ, 1370, Memphis

May 22

3:00-4:00—WSPA, Spartanburg, S. C.

WEDNESDAY MORNINGS May 2

3:30-5:00—CHWK, 780, Chilliwack
5:30-6:00—WCAL, 1250, Northfield

THURSDAY MORNINGS May 3

4:00-5:00—WRAW, 1310, Reading

May 24

3:00-6:00—XED, 1155, Guadalajara

FRIDAY MORNINGS May 4-11-18-25

10:00-11:00—CMK, 730, Havana
1:00-3:00—CFCN, 1030, Calgary
2:00-3:00—KOIL, 1260, Council Bluffs

SATURDAY MORNINGS May 5

2:00-3:00—WWAE, Hammond, Ind.

May 5-12-19-26

12:00-3:00—WGES, 1360, Chicago
5:00-6:00—XFAO, 560, Mexico

THE MONTH'S CHANGES IN STATION DATA

FREQUENCIES

630 KTRH Houston, Texas, from 1120
680 RDN San Salvador, from 660
WESG Elmira, N. Y., from 1040
780 XEYZ Mexico City, from 760
890 KFPY Spokane, Wash., from 1340
925 CMCD Havana, Cuba, from 915
1040 KWJJ Portland, Ore., from 1060
WTIC Hartford, Conn., from 1060
1060 KTHS Hot Springs, Ark., from 1040
1210 XEMZ Tijuana, B. C., from 630
1260 CFTP Edmonton, Alta., from 1120
1340 KGR Butte, Mont., from 1360
1370 KERN Bakersfield, Calif., from 1200
1500 WDNC Durham, N. C., from 1370

POWER

560 KWTO Springfield, Mo., 500 to 1000
630 KTRH Houston, Texas, 1000 to 500
1190 VONF St. John's, Nfld., 400 to 5000
1300 WEVD New York, N. Y., 500 to 1000

NEW

660 XEAL Mexico City
740 KTRB Modesto, Calif.
1140 CMCO Havana, Cuba
1190 WATR Waterbury, Conn.
1210 Lansing, Mich.
1370 KWYO Sheridan, Wyo.
1420 WLEU Erie, Pa.
1518 KFIS Ft. Klamath, Ore.

CALLS

680 RDN San Salvador, from RUS
1500 WDNC Durham, N. C., from WRAM

LOCATIONS

1420 WLAP Lexington, Ky., from Louisville

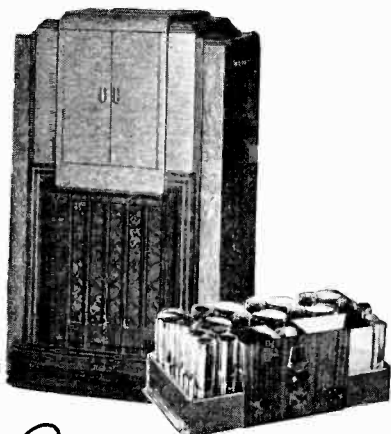
DELETED

580 CMDD Havana, Cuba
730 XER Villa Acuna, Coth.
750 XFOK Tijuana, B. C.

OWNERS

CMCG Havana, Cuba, E. Pereda, Los Casa Grande
KFIS Ft. Klamath, Ore., KFJI Broadcasters, Inc.,
(Klamath Falls, Ore.)
KICK Carter Lake, Iowa, Palmer School of Chiropractic
KTRB Modesto, Calif., Thos. R. McTammany and Wm.
H. Bates, Jr.
KTUL Tulsa, Okla., to Tulsa Broadcasting Co., Inc.
KWYO Sheridan, Wyo., Big Horn Broadcasting Co.
WATR Waterbury, Conn., Harold Thomas
WLEU Erie, Pa., Leo J. Omelian
WNR A Muscle Shoals, Ala., Muscle Shoals Broadcastg.
Corp., (Sheffield, Ala.)
XEAL Mexico City, Mex., Cia Panamericana de Radio
Apt. 1903

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England, France, Germany, Spain, Italy, Australia—the whole wide world—has been heard *regularly* by SCOTT owners for years! And for years SCOTT owners have also enjoyed finer reception of stations on the regular broadcast band.

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4450 Ravenswood Ave., Dept. RX-54 Chicago, Ill.

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

Name

Address

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

May 1, 1934



RADIO INDEX

Reg. U. S. Patent Office

FRED CLAYTON BUTLER

Editor and Publisher



B. FRANCIS DASHIELL
Technical Editor

PAGE TAYLOR
Short Wave Editor

TENTH YEAR

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Singing Star in "Rings of Melody" on the NBC

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ADDRESS ALL CORRESPONDENCE TO CLEVELAND OFFICE

The BEGINNERS'

STORY of RADIO

PART EIGHT

The Audio Amplification Circuit

• • • By B. FRANCIS DASHIELL

IN THE last chapter we took leave of the audio or low-frequency current just after it emerged from the plate of the detector tube. We now find that it is ready for further amplification and operation of the loud speaker. This current—an average of the many radio-frequency waves that pulse through the plate circuit, can readily be turned into mechanical motion and audible sound waves. That is why we call it an *audio current*. Its relatively slow wave motion has been pictured in "E," Part Seven.

The plate current from the detector is still very weak. Yet it is thousands of times stronger than the original antenna current, for it has been amplified by passing through one or more tube and radio-frequency transformer stages of amplification. (See "E," Part Five). But now we must increase the strength of the detected signal, and, this, too, is accomplished by amplification. The circuit used to increase the original a. f. current coming from the detector tube is called the *audio-frequency amplifier*, just as

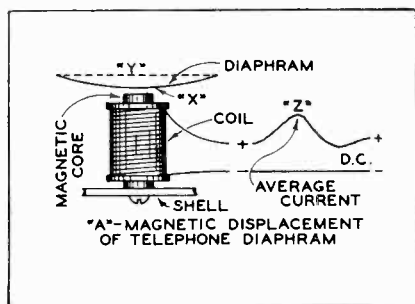
the circuit used to increase the original r. f. current from the antenna was called the radio-frequency amplifier.

We have learned about the *stages* of radio-frequency amplification, using r.f. transformers in the circuit *preceding* the detector; in this chapter we shall read about the stages of audio-frequency amplification using a. f. transformers, that are located in the circuit immediately *following* the detector.

Building Up the Signal

The characteristics of the current flowing from the detector are the same regardless of whether the receiver is a simple outfit or the most complicated superheterodyne circuit known to radio science. The variations or pulsations of potential may be small, weak, and irregular, but by sending the current through one or more stages of a. f. amplification (a stage consists of a transformer and a tube) we find that larger and more powerful variations in potential are obtained.

Fluctuations in an otherwise evenly flowing current in the plate circuit of a detector tend constantly to vary the magnetic strength of a magnet in a telephone that may be connected in series in the circuit. A vibrating motion is given the diaphragm of the telephone, and variations in current, resulting from a change in the shape of the transmitted r.f. carrier wave (see "E," Part Two), due to vibrations of the microphone in the broadcast studio, causes a similar variation or displacement of the telephone diaphragm. It is then only that audible sound can be heard.



The Phone Coil

This action may be better described by referring to "A." The signal from the detector is strong enough only to make itself heard when telephones are used. We see a coil of wire wound about a steel magnet; it is wound with thousands of turns of fine wire—number 40, and its resistance may fall between 1,000 and 2,000 ohms. Directly over the end of the magnetic core is a thin, iron disc called the *diaphragm*. The center of the diaphragm is continuously depressed toward the magnet, as indicated at "x." The slightest variation in current flowing through the coil changes the degree of magnetism in the core, and causes the pull on the diaphragm to change accordingly. A pulsation in plate current, shown at "z," will cause the diaphragm to move from "x" to "y." As a result a click is heard in the telephone. And a series of such clicks, having irregular spacing and intensity, will reproduce sounds.

Should the pulsations passing through the telephone coil vary, for instance, at a rate of 6,000 times a second, the diaphragm will also vibrate at the same rate. However, we quickly discover that there is a limit to the speed of mechanical vibration; the pitch of the sound goes higher and higher; inertia can no longer be overcome; and the diaphragm movement finally ceases. This, then, is the limit of mechanical and human reception of audio-frequency sound waves; only electrical vibrations or oscillations can continue on into the higher or radio frequencies.

Transformer Coupling

When the current output from the plate of a detector tube is amplified through the action of one or more a.f. stages placed in series, the amplification stages are said to be operated in *cascade*. The output of the first tube is *coupled* to the input of the second tube, and so on. Tubes can be grouped together in audio amplification by means of *transformer*, *resistance* and *impedance* coupling. But, since transformer coupling is almost

universally in use, let us study only its action and application to radio in this chapter. Transformer action has been described in detail in Part Three.

Audio transformers have ratios between the number of turns of wire in the secondary and primary windings of from 3 to 1 to about 10 to 1. But the ratio of sound amplification is much greater; for instance, a 3 to 1 transformer may give an audibility of twenty times the original, and two such transformer stages may give an amplification of 400 times. The secondary, which creates the amplified current, is wound with many thousand turns of wire so fine that about 300 strands are laid to each inch. The primary, which receives the current to be amplified, has fewer turns—in the case of the 3 to 1 transformer it has one-third the number of turns in the secondary. About 3000 turns comprise the average primary coil.

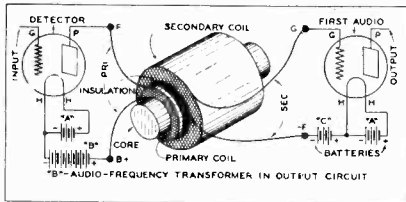
In the a.f. transformer the primary coil is wound over an iron core. The two terminals are marked B and P. A layer of insulating material then is placed over the primary coil. The secondary is wound on with many layers, and the two ends are brought out to the terminals marked -F and G. As indicated in "K" and "L" of Part Three: P is the plate connection to the tube; B goes to the positive "B" battery or d.c. plate supply; G connects to the grid of the tube; and -F attaches to the negative "A" or "C" battery. G will be the outside or ending wire of the secondary, and the inner or starting wire is the -F terminal. The inside end of the primary is marked P, and the ending wire goes to the "B" supply. However, in certain circuits, it may be necessary to reverse the primary connections for best results.

Use of the "C" Battery

In the foregoing it will be noted that the inner end of the secondary coil is connected to -F which is a negative A or C potential. Since we are dealing with the audio end of the receiver, where sound is being reproduced, we are particularly interested

in the quality of tone and sound. It becomes necessary, therefore, to connect a "C" battery into the grid circuit of the audio tube. Negative biasing of the control grid of an audio tube maintains the grid at a negative potential at all times with respect to the filament. The grid can never become positive; it only fluctuates more or less negative than its normal state when the pulsations of input signal are impressed upon the grid. This bias varies from 3 volts to as much as 60 volts for different tubes.

In illustration "B" we see a transformer coupling the detector tube to the first audio tube. This is the *first a.f. transformer*. The a.f. tubes in an audio circuit following the detector are named in the order of their arrangement—first, second, etc. The last is the output or power tube. The r.f. tubes in the radio-frequency circuit preceding the detector are also similarly numbered (see Part Five).



Action of the Transformer

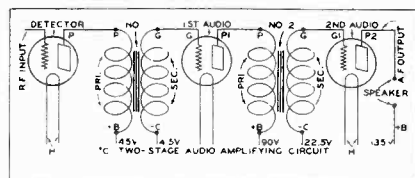
The *average fluctuations* of the rapidly vibrating plate current flow through the primary coil of the transformer shown at "B." A transformer will operate if pulsating or fluctuating direct-current passes through its primary. (This current has been pictured in "E" of Part Seven). An alternating current, then, is induced in the secondary, for we have learned that whenever a primary current is increased in potential value a voltage moving in one direction will be induced in the secondary. And, when the primary current is decreased in potential a voltage moving in the opposite direction will be induced in the secondary. This induced alternating current rises and falls in am-

plitude exactly in harmony with the changes in value of the fluctuating direct-current flowing in and out of the primary coil.

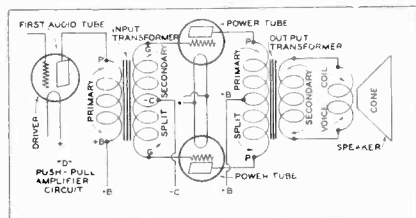
The output of the transformer's secondary coil, therefore, is an amplified current having the same pulsating characteristics as the primary current. Now, if the output from G, of the secondary, is connected to the grid of a second tube it provides a still greater control of a more powerful plate current. So, we see, at the right of the transformer, shown at "B," this second tube, or the *first audio tube*. The plate of this tube can be connected to a pair of headphones, and the volume of sound will be much greater than that heard when only a detector tube is used, as shown, for instance, at "F," in Part Seven. Or the plate can be attached to P of the primary of another, or *second audio transformer*—beginning a *second audio stage*—for further amplification and greater audibility.

The Complete Audio Circuit

At "C" is shown a diagram of an audio amplifying circuit. It is explained by symbols which have been previously described. The detector plate-current (P) actuates the primary of the audio transformer No. 1, the output of which is impressed upon the grid (G) of the first audio tube. The plate potential of this tube (P1) is maintained at a higher potential than that on the detector, and the amplified grid voltage will give greater control (at G) and more pronounced variations in the plate current. The output (from P1) of the first a.f. tube operates the primary of the second audio transformer No. 2. The induced voltage in the secondary of No. 2 is much greater than



that in the secondary of the preceding transformer (No. 1), and the voltage impressed on the grid (G1) of the second a.f. tube controls even a still greater plate potential (P2) which operates the loud speaker.



The Power Stage

Most receivers employ the *push-pull* method of audio amplification. At "D" is shown this form of coupling. Two power tubes are connected with their filaments in parallel. The a.f. transformer, shown at the left, is called the *input transformer*; its primary being connected to the plate output of the preceding first audio or *driver* tube, or it may be operated directly from the plate of the detector tube. The *split secondary*, however, has three terminals. One is a center tap (-C or -F); and the two ends (G) connect to the grids of the two power tubes. The plates of these two tubes connect to the outer ends of the *split primary* coil of the *output transformer*, shown at the right; and the center tap connects to the plate or B supply. The secondary of this output transformer feeds an alternating current directly into the loud speaker windings, and thus prevents the fine windings of the speaker voice coil from being burned out by the heavy surges of direct current.

Although two tubes are used in this type of circuit they really provide only single-tube audio amplification. This is because one tube remains idle while the other works. Both alternations to each cycle of the alternating current flowing from the secondary of the input transformer operate the grids of the two tubes alternately—one alternation pushes

while the other pulls. Amplification is not generally increased by the use of the push-pull method, and *twice* the signal input voltage is required. But there is a better reproduction with less hum, and the output circuit provides more than twice the flow of current (measured in milliamperes) of a single tube of similar type. There is little or no distortion even under full volume.

(We have discussed tuning and radio-frequency amplification in Part Five; the detection of signals in Part Seven; and the audio-frequency amplifying circuit in this chapter. Therefore, in the next chapter, we shall be prepared to put the three circuits together to construct a complete tuned radio-frequency receiver.)

Queries

1. In what two ways is the aerial current amplified?
2. Of what does one stage of amplification consist?
3. How is the audio current converted into sound?
4. Draw a diagram of an audio transformer with the proper terminal markings.
5. What is the purpose of negative biasing? How is it accomplished?
6. What is push-pull? How is it connected?
7. What is the purpose of push-pull amplification?
8. Explain the operation of phone receiving unit.
9. How is the ratio of transformers calculated?
10. What is a tuned radio frequency (t. r. f.) circuit?

The Summer Edition of the DX Log of the World is devoted entirely to the short wave stations. It lists several hundred stations by frequencies in megacycles, by wave-lengths in meters, and by calls and countries. On all the principal newsstands at 10 cents.

How to Tune *the* SHORT WAVES

• • • By PAGE TAYLOR

LAST month, for the benefit of our many new readers, we devoted a few paragraphs to a discussion of some radio expressions which are often heard when tuning a shortwave receiver. A letter from Mr. P. J. Soper, 256 Burroughs Terrace, Union, N. J., suggests that many of our new shortwave readers are old broadcast band DX'ers, and that they must master a new tuning technique before any satisfactory results are accomplished on the shortwaves. Mr. Soper writes:

"Since you published an item from a letter of mine, describing my home-made set, I have had twelve requests for data on construction of it, and other letters asking various questions regarding coils and seeking information about stations and their time on the air. I do not doubt that many of these listeners have very good sets, but not knowing just where and when to tune in, they miss much of what there is to hear, and blame the equipment they have.

"I believe the greatest blame for the disappointment that some fans experience should be put on the radio manufacturers who insert in their advertisements certain phrases, such as 'Consistent Foreign Reception,' 'Listen in to the Whole World,' and 'The World at Your Finger Tips,' and mention any number of countries, such as Fiji Islands, China, etc., as though it was the easiest thing in the world to sit down at a shortwave set and pick up any country at will. Real shortwave fans know how many things must be considered in shortwave reception, and the reason they have any amount of success is because they study the station lists, carefully calibrate their sets so they know where to tune for 31 or 49 meters, and keep a time chart handy to assist them in keeping a station schedule.

"Some listeners expect to hear the stations come in just as they do on the broadcast band, which is, perhaps, the greatest error a prospective shortwave fan can make. It is far better to approach the dials as a pessimist, and by patiently turning the dials a degree at a time, keeping the regeneration control very close to the oscillation point all the time (if a regenerative receiver is used, of course), until some station is heard. A fan only has to receive that first station to know just how the job must be done."

Locating the Bands

In an article, "Breaking Into the Short Waves," which appeared in this magazine in May, 1933 (No. 69), readers were advised not to tune shortwaves haphazardly, but it was mentioned that on the other hand, one must tune more or less blindly at first, until a few "local" stations are heard. Since, as a rule, shortwave relay broadcasting stations are heard in small groups at separate spots on the dials and not all over the dials, it is necessary first to locate these groups or "bands" by the local, or most easily tuned stations. At the present time, DJB near 9 am, seems to be the best station to locate the 19-meter band, while the 25-meter band is best located by GSD or GSE near 1 pm. W1XAZ will locate the 31-meter band, while the 48-49 meter band is easily found by several stations, such as VE9GW, W2XE or W8XAL. Whenever any of these or other stations are heard, their dial settings should be recorded along with the frequencies of the stations, which will be found in the station lists. After the various bands are located and about ten or twelve stations have been logged, a rough graph can be prepared which will point the way to more desirable stations.

Charting the Frequencies

On a sheet of graph paper, let the left hand margin represent "Frequency in Kilocycles" and the bottom margin, "Dial Settings." From left to right across the bottom allow one line to represent one degree on the dial, and from bottom to top on the left side let about five lines represent 1000 kilocycles, starting at 2000 kilocycles (2,000 megs.) at the bottom and continuing at 1000 kilocycle intervals to 20,000 kilocycles at the top. A station that has been heard can be located on the graph by placing a dot where the line representing the dial setting crosses the line representing its frequency. When all the stations are placed on the graph, curves should be drawn between the dots. To find a required station by means of these curves it is necessary only to determine at which point the curve crosses the line denoting the frequency of the desired station. This point will be very close to the dial setting for the station. After a large number of stations have been heard a new graph should be made, as it will be considerably more accurate than a rough one drawn from just a few stations.

Equipped with this graph the beginner has made an important step toward the interception of foreign programs. Before tuning, however, several general rules must be observed, not the least important of which is the fact that shortwave stations tune very sharply and careful manipulation of the tuning controls is required. By "carefully," we mean, as Mr. Soper says, *one degree at a time*. On regenerative receivers a whistle will indicate the presence of a station, while on superheterodynes a rushing sound is heard.

S. W. in Canada

Many reports have been received on the new Canadian station VE9DN. We are advised by the Canadian Marconi Company that VE9DN works on 6.005 megs. with 2000 watts, relaying the programs of CFCF. VE9DN is located in Drummondville,

Quebec. VE9DR, which ordinarily relays CFCF, has not been on the air for some time, owing to the fact that certain repairs are necessary. VE9DR was a 50-watt station and was situated in Montreal. The letter from the Canadian Marconi Company continues, "Station CJA2 operates on 9330 kcs. It should be noted that the call letters of this station have been changed to CGA4. This station is used for point-to-point service only, between Drummondville and London, England. Station CJA5, which used to operate on 8975 kcs., is no longer in use. All the shortwave stations which use CFA, CJA and CGA call letters are for point-to-point service and therefore we are not really interested in receiving reports on them."

The Commission Stations

Canadian Radio Commission programs are now being broadcast regularly over two shortwave stations at Winnipeg. Arrangements for this shortwave broadcasting were made by the Commission in order that coverage may be secured in parts of Canada not now satisfactorily served by long wave stations. The Winnipeg stations carrying the programs are CJRX, 11,720 kcs., and CJRO, 6,150 kcs. Through this combination of long and shortwave services the Commission is endeavoring to make its programs available in all parts of the country. Listeners should be able to hear one or both of these stations between six o'clock pm and midnight and on Saturday and Sunday afternoons. Reports from listeners on the character of shortwave reception in their districts from the Winnipeg stations would be appreciated by the Commission.

Mr. Maynard Marquardt, Chief Engineer of W9XAA, advises us that the 6080 kcs. frequency is the only one being used at the present time. W9XAA works on Sundays from 11:30 am to 9 am; on Tuesdays, Thursdays and Saturdays from 4 pm to midnight, and on Mondays, Wednesdays and Fridays, from 4:30 to

7 pm, EST. Letters to W9XAA should be addressed to Mr. Marquardt, The Chicago Federation of Labor, 666 Lake Shore Drive, Chicago, Ill. The transmitter is located on Navy Pier.

A Good Report

"DJB has been coming through as well as could be expected at this time of year," writes Mrs. L. R. Ledbetter, 605 Mattingly St., Vicksburg, Miss. "DJB, as well as the Pontoise station, fades away about 9 am. I know that DJA is operating but cannot say whether they broadcast regularly. I tuned them in at R5 volume at 5:30 pm and the next morning DJB announced their wavelengths as 19.71 and 31.3 meters. CT1AA is coming in again and their modulation is worse than any other, except I2RO, who just doesn't seem to have such a thing as modulation. G6RX still comes through but I can't get Caracas nor Morocco. HJ1ABB is certainly the most enjoyable of the S. A.'s . . . good modulation, very little fading, and really good musical selections with announcements in English often enough. PSK hasn't been so clear for me and their programs seem to consist of talks entirely. EAQ is fine, of course, but their broadcasts aren't much from a musical standpoint. I would like any tip that will help me hear one of the Russians. I find a muddle of code on 50 meters. Is RV59 above or below COC?" COC is not steady and has been reported on both sides of RV59.

Short Waves Crowded

From Roy E. Robinson, 133 Mitchell St., comes a letter that is typical of many we receive, concerning the congestion in the 48-49 meter band. "It seems to me the shortwave channels are rather cluttered up," he writes. "Take the 49 meter band with W4XB, W8XAL, W9XF, W9XAA, DJC, GSA, HIX, VE9GW, VE9HX, YV1BC, YV3BC, all going at once, and none of them can be tuned in satisfactorily. There are

several code stations that break up DJC and others. I find rather heavy code interference around GSC-DJA-GSB, and down around EAQ. Usually code spoils PHI. Why can't codes and relay stations be divided up so as to eliminate interference? Nearly all the stations seem to bunch around 49 meters while other channels are open. The announcer at RV59 was talking in English the other day and asked for reports, saying they answer all letters and wish suggestions for programs. I understood him to say to address 'Radio Center, Moscow.' Code was interfering so I couldn't get everything."

Identifying the Spanish Calls

"Last night I was listening to a station on s. w. but did not get the call letters," complains Harold Kricks, Sinking Spring, Pa. "I listened to this station from 7:15 until 10 pm, at which time he signed off. Call letters were given in Spanish every 15 minutes, but not once in



This smiling miss is June Joy whose voice is heard when Sam Robbins and his orchestra appear on the Columbia air lines. She's small, blue-eyed and raven-haired. Robbins and his orchestra are heard on a sustaining schedule from the McAlpin Grill in New York.

this length of time did he give them in English. It came in next to HJ1ABB." From program items Mr. Kricks mentions, the station has been identified as HJ5ABD, Cali, Colombia. For the convenience of s. w. listeners in English-speaking countries, many foreign stations announce in our language; this is merely an accommodation on their part and there is no reason why they must do so, any more than W3XAL should be obliged to announce in Spanish. The Spanish alphabet and the nine numerals are easily learned, and with a little practice it will be found that it is somewhat easier to understand call letters given in Spanish than in English, as the Spanish letters are pronounced more distinctly than ours. We will print the Spanish alphabet in the next issue of RADEX.

"Big Ben" Silent

The deep-throated tones of Big Ben will not be heard from the Daventry stations for a few months, according to an announcement from the station, heard by Clement Van Velsor, 1033 Sanford Ave., Irvington, N. J. It was announced that the bell was in need of an overhauling and cleaning up. In its place, "Big Tom, down the Thames," will be heard.

"I received KWE on 19.4 meters calling JYK in Tokio, Japan, one afternoon about 3 pm," reports James Owen, 1019 W. Webster, Springfield, Mo. "One evening on about 57.2 meters near 9 pm I heard a station which sounded like it might be an amateur, but when he turned the conversation over to the other station he said, "CFL to CFS." According to the May-June-July issue of the DX Log of the World, now on the newsstands, CFL is in Tabouret, P. Q., and CFS is in Toronto. CFS uses A1 emission only.

Amateur Abbreviations

W. G. Odenwalder, 32 6th Ave., New York City, asks our readers to help him identify a station he heard on a Saturday morning from 1:33 to

1:36 am, announcing as WMES, Lorain, Ohio, 2,550 kcs. "While the pen and paper are handy I would like to air a suggestion that has been bothering me," he adds. "Is it too much to assume that a good part of the RADEX subscribers are new to the field and consequently unfamiliar with the many expressions used? In view of this, I think a list of both professional and amateur abbreviations would be appreciated by the readers. Why not put it up to them for suggestions?"

In response to this request, some of the more common abbreviations and expressions are given in the article "Assorted Information" in the next issue of RADEX.

From a Novice

"I am a new addition to the ranks of s. w. listeners, having had my Philco allwave set less than three months," contributes R. P. Sloan, 1316 Washington Ave., Fort Worth, Texas. "Among the foreign stations I have listened to are GSA, GSC, and GSE at Daventry; EAQ, Madrid; DJA, Berlin; VK2ME, Sydney; HJ1ABB, Colombia; YV3BC and YV5BMO in Venezuela; PLV, Java, and COC. EAQ I receive with clock-like regularity and room-filling volume. DJA comes in well when I can get it at all. I have had difficulty lately in receiving the Daventry stations, although they came in well last month. VK2ME in Australia, I have heard four times, having listened for them that number of times only. On March 5 I heard XETE, Mexico City, conducting a test between 8:10 and 9:40 pm, saying they would soon be on the air transmitting the programs on XEAL of the Pan-American Radio Broadcasting Co. I would like to hear from owners of the same model set as mine, which is a Philco 44-B."

Joe Stokes of the KDKA DX Club, Hotel Wm. Penn, Pittsburgh, Pa., advises us that the KDKA DX Club is broadcast every Sunday night from 12:30 to 1 am, EST, on three frequencies, 980, 6140 and 11870 kcs.

The Army Calls

In response to our query on page 41 of the March issue of this magazine, G. B. Edelen, 211 East John St., Champaign, Ill., writing on stationery of the Military Department of the University of Illinois, says that all ground and mobile stations of the Army used for training purposes use signs of two letters followed by a number, the ROTC at the U. of I. having the call signs BC1, BC2, BF2, etc. "S. W. reception here in central Illinois has been rather poor this past month," his letter continues. "I am unable to receive any but the strongest Europeans, such as Daventry and the Old Reliable, EAQ, and I am just wondering if there are any tuners in close proximity to Champaign who are doing better. I am using a Model 7-D, U. S. Radio & Television 7-tube All waver, and would like to hear from other users of this set."

S. W. in California

"Shortwave reception has been rather poor out here in the west for the last month or two," advises Henry Espoy, 203 South Catalina St., Los Angeles, Calif. "I have succeeded in logging a few new ones, though. I received COC quite well in the evening a couple of weeks ago but I have not heard them since. There is a new South American station in Maracaibo, Venezuela, whose call letters were at first YV15BMO, but later they were changed to YV5BMO. It comes in well and they are on till about 7 or 7:30 pm daily. I have understood their frequency to be 6070 kcs. There is a new Mexico City station broadcasting on about 49.95 kcs. from 9 till 9:35 pm, when they sign off. They relay XEB in Mexico City, but they never give call letters. KTP on 8120 kcs. or KAZ in Manila often work with KWX or KWY at Dixon around 7 am. PLV-KWY often talk near 7 am. All the time mentioned is PST. The best European now is Radio Coloniale at Pontoise, the best So. American is HJ1ABB in Barranquilla, although



The Landt Trio and White, one of the most popular vocal combinations on the air, may be heard daily except Sunday at 9:15 a. m. over WEAJ and network. Left to right: Standing, Howard White and Dan Landt; sitting, Karl and Jack Landt.

LSX comes in very well with their tests with WEF. PSK is good at times."

News and Notes

Wm. J. Wood, 817 Lake St., Oak Park, Ill., reports that EAQ now signs off at 7 pm, having discontinued the IBC programs. He would like to hear from other owners of the G. E. All Wave receiver, model K-85.

Correspondence from owners of Midwest receivers is requested by C. E. Joynes, 209 Cimmaron Ave., La Junta, Colo. The strange station on 9340 kcs. playing phonograph records is XDC in Mexico City. Mr. Joynes has also heard EAQ, Pontoise, HJ1ABB, YV1BC, XETE, VK2ME and VK3ME.

"I have been a radio fan for 12 years but a shortwave fan for only a few months," writes Harold Lamb, Box 636, New Canaan, Conn. "I cannot understand how I have kept out of this thrill-getting pastime for so long a time. My set is a Philco 16-B. I get the English, German and Italian stations very well, as well as some South Americans. I am almost positive that I have had KFZ on 13,220 kcs. This station I heard signed off before LSX and WEF concluded their transmissions. I would like to correspond with anyone using the same type receiver as mine."

"YV5BMO, 49.39 meters, Maracaibo, Venezuela, announces as 'Ecos del Caribe,' works from 5:30 to 11 pm, gives one stroke on a gong and announces also in English," according to Chas. A. Perdicaro, 7225 New Utrecht Ave., Brooklyn, N. Y. "YNCRG, Granada, Nicaragua, the Granada Radio Club, 44.64 meters, tests after 6 pm. I understand that Amando Cespedes Marin of TI4NRH was operating YNCRG to get it started, but is returning home to put 4NRH back on the air again." Yes, Sr. Cespedes partially dismantled NRH, taking the power supply panel to Nicaragua to put YNCRG on the air. By the time this magazine is off the press, however, it is expected that TI4NRH will be back on the air. Sr. Cespedes built several of the Colombian amateur broadcasting stations, as well as NRH and YNCRG.

Wm. Goadby has moved to 45 East 85th St., New York City, and reports that because of the very severe man-made static he has practically discontinued tuning the broadcast band, using his 8 tube Victor Allwave set for the shortwaves. He peaked his aerial for 31 meters and finds that reception is improved in the 49 meter band as well as the 31 meter band. Mr. Goadby has heard a number of stations, among them IRM in Rome. He would like to correspond with someone who uses as Victor 8 tube.

Two readers report a Spanish-speaking station on 1550 kcs., transmitting every night near 9 pm. Dramas are featured often, and musical selections consist chiefly of Xylophone or marimba selections.

NBC studio pick-ups: John Charles Thomas was studying medicine at the Baltimore Medical School when the winning of a scholarship at the Peabody Conservatory of Music changed his plan for a career from surgery to singing . . . Eddie Cantor's eldest daughter, Marjorie, handles his fan mail. Marjorie took a course in a business college in order to qualify for the job.

The Gentle Art

WHAT a year it has been! All kinds of weather and all kinds of reception. But the logs have grown and hundreds have had the thrill that comes but once in a lifetime—the first station from over the big briny. Increased power, better sets and more accurate information regarding hours and frequencies of the foreigners are to be credited for the new hauls. All over the world our readers are adding up their logs and counting the profits. Here are some of the calculations:

"For a week or two reception was so terrible that it was only habit that prompted me to get up and DX," complains Warren E. Winkley, Hughson, Calif. "But now good reception has returned to these parts. In spite of the terrible weather conditions, I have been able to keep increasing my log. It's now at 522 with 107 verified and still growing, thanks to your tips. The Japanese stations are still a novelty to me and I like to sit and listen to them by the hour. The same goes for XGOA, 2YA, 2BL and 3YA. I heard 29 Japs last Saturday morning thus setting a new record for myself. I now need but one—JOUK on 680. It seems miraculous to me the way the 300-watters like JOJK, JOOK and JOFG come in. The following Antipodes stations come in very well: 4BC, 4BH, 4QG, 2CO, 3AR, 4RK, 2BL, 2GB, 2UE, 2YA, 3YA and 4YA. I listen to all the Japs and 'down-under' stations without either aerial or ground. About the Mexicans, XEMO in Tijuana, replacing XEAE, comes in terrifically strong but say they use only 1500 watts. Their schedule is 9 a. m. to 10 p. m. daily PST. For the few who haven't heard XEBC, they have their 'Tom and Jerry' program every night from midnight to 2 a. m. PST. XER has been off the air since Friday night, Feb. 23."

Somewhat similar news regarding the X stations comes from Wm. J.

of RADEXING

Ellis also of Hughson who adds: "The other evening I heard the new broadcast from KFQD at midnight PST. For about seven minutes they were like a local and then suddenly faded out to a whisper and never did come back as strong as at first." Just another of the peculiarities of radio.

The JO Announcements

D. L. Davis, Pearl City, Oahu, T. H., sends us a complete list of the —Japanese stations received with his verification and adds: "All 10 kw. JO stations come in here with good signal strength but JOHK, Sendai, on 770, has the most consistent and slightly best signal strength and quality. All JO stations announce very infrequently in English and then usually give only the call letters very quickly once and sometimes twice, and give the location in Japanese. Almost

always, on signing off, the call letters are quickly given once or twice in English. XGOA has a good strong signal and announces frequently in English; it broadcasts considerable English news, music and talks. A lady does most of the announcing and pronounces XGOA as X-HE-HO-A and at times adds 'Nan-king.' 2YA and 3YA are coming in fine on their new frequencies of 570 and 720 respectively. Since the middle of January, all signals both East and West have been stronger and with less fading but static has been unusually heavy here in Hawaii since that time so the strong signals are not of much help. KGU has been staying on the air until 10:45 p. m. Honolulu time on Saturday nights for the last few months. (That is 4:15 a. m. EST) I am using an RCA-Victor R-24-A, and for the last six months I have been trying everywhere to get a schematic diagram of this set."

His Two Cents' Worth

"This is the first letter I have ever written to any publication. There is something about your delightful magazine that makes a reader want to put in his two cents' worth. It is intimate and informal and I like it." This is the pleasant preamble to a letter from Norman Rogers, 3204 Hull Ave, Bronx, New York City. "Although, as a boy ten years ago when I owned a little two-tube Radiola III, I went in for DX in a haphazard sort of way, pulling in Porto Rico and numerous Texas and some California stations, it wasn't until three months ago when I bought a Philco Model 60 (five tubes) that I decided to make a hobby of DX. Now a Philco 60 isn't exactly the ideal set for DX work; for one thing, it tunes very broadly. WABC can be heard 84 to 89 on the dial. But thus far I have done fairly well. I haven't started writing for verifications as yet but I intend to begin doing so soon. To date I have logged 262 stations but, after next month's frequency tests, this total should jump to around 350. I would like to get in



Don Ameche, handsome young leading man of countless dramatic programs, is Master of Ceremonies for the Romantic Melodies program. You may hear him each Thursday night on an NBC-WJZ coast-to-coast 7:30 p. m. EDT.

touch with some DX fans in N. Y. C. especially those who are dabbling with the short waves. I will answer all letters."

From W. H. Turner, 144 Parrs Wood Road North, Withington, Manchester, England: "RADEX is fine. I have picked up more of your stations. Am now waiting for veri from XGOA, Nanking, China. It comes in just below Langenberg, a powerful station which operates on 455.9 m. 658 kc. Your best time for picking up XGOA would be around 6 p. m. as we have it around 11:30. I picked up one of your patrol calls last week, a flying squad. It came through on 189 m. There is a little station with a big noise here that would be a good catch for your DXers. It is Juan-les-Pins (Nice, France) 40.2 m. 1249 kc. 200 watts. Lady announcer in French and English. They give very good programs and will answer letters. I have their verification; it's well worth getting—a photo of the artists, views of Monte Carlo, with a short history of the latter in French. If there is anything the boys want to know about over here, I will write them."

Believe It or Not

This remarkable DX report comes from Mal B. Crabill, 2933 Sumner St., Lincoln, Nebr. "I turned my dial and a ten-watter in Los Angeles came rolling in. Then as I turned the dial Manila of the Philippine Islands followed in quick succession by France, Germany and Japan. Some amateur in New Zealand was ardently calling CQ. A ship somewhere on the Indian Ocean was broadcasting jazz for the novelty of it. Admiral Byrd had evidently forgotten to shut off his transmitter for I could hear the men talking and laughing among themselves. Then, being in an experimental mood, I removed the rectifying tube from my set and, much to my delight, a station in Madagascar came booming in. A bell was ringing, ringing—

"It was a good thing I woke up as the alarm had almost run down and

the frequency checks were to start in five minutes. I wondered why I didn't get as much kick that morning as I usually do, listening to stations checking frequencies."

"I have just returned from a DX trip," writes Nicholas J. Hock, 20 Burnet St., Newark, N. J. "At 1:12 a. m. EST, WFBR was explaining what happens 'When You're Away'; then five minutes later, WJW gave us a 'Louisiana Hay Ride.' WAVE was next with Johnny Burkhardt, vocalist. XEW gave way to 'There goes my Heart' at 1:36 by KSL. 'The Gypsy Love Song' went on the air waves through KNX at 1:38 while KRLD was advertising Peruna at 1:41. A sketch in Spanish was XEB's program at 1:42 and one minute later came WHO with 'Let's Fall in Love' but WRC said 'It Don't Mean a Thing' at 1:45 which was substantiated by XEW at 1:46 with 'Seven Years with the Wrong Woman.' Then came WLS, KOA, KGO, WBBM, WGN and W8XO. KPO came in at 1:59 then KFI which I left for LR-5 which was my first one from South America so I stuck with them from 2:04 to 3:00."

"Last Wednesday night (March 7) while dial roaming, I was on 780 and heard a man reading letters to the Hudson Bay country so I stayed there and presently he announced CKY Winnipeg," reports F. B. Ritts, Belle Fourche, So. Dak. CKY had just changed to 780 from 910 as announced in last month's issue. "Last Monday night while tuning in KSL, Salt Lake City, there was a very loud station interfering with them, staying till station announcement. You can imagine my surprise when he said KHJ, Los Angeles. Can you explain that?" As KHJ is on 900 and KSL on 1130, we give it up. Some of these harmonics just don't agree with our arithmetic. "I grounded the far end of my aerial," concludes Mr. Ritts, "and you can tell the RADEX world that it increased my power fifty per cent."

Gets Across at Last

"I was successful in logging my first TA on Saturday morning, March 24, when I heard station OFA, Helsinki, Finland, on 890 from 2:30 to 2:41 a. m. EST. I couldn't hold it any longer for it faded away. I distinctly heard the announcer give the call letters OFA, in English with a foreign accent, at 2:32 a. m. Then followed a musical selection till 2:36. At this time a man spoke but, due to fading, I couldn't make head or tail out of it. I'm mighty proud of this catch. My log now stands at 477 stations with 265 verified including LR-4 received in yesterday's mail. All these stations have been heard with an Atwater-Kent." This report from a new member of the "Trans-Atlantic Club" is by Robert W. Botzum, 633 Moss St., Reading, Pa.

"This last month has been terrible for radio reception," complains Luther E. Grim, 505 S. Main St., Red Lion, Pa. "At times when I wanted to listen even to popular programs, I have had to shut off the radio because of some interference that sounds like just plain static. Even the powerful W8XO cannot always fully override the noise. It is small wonder that my log is making little progress. However this month I did add VOAS, KICA and KGDM to raise my total to 658. During January I logged CFRC, CMBZ, CMCM, CMHI, CRCV and CJRM and—best of all—SBH, Heilsberg, Frankfort and IITO. The latter were heard on January 10th and I haven't heard one of them since. I heard PP and Radio Normandie on both their old and new frequencies."

"In the March issue you advise someone writing in that the German station he heard early in January on 832-835 was Stuttgart," points out Philip R. Nichols, P. O. Box 82, East Hartford, Conn. "I would like to question this because at least two of our members in Hartford and I myself wrote to the Stuttgart station on similar reception before Jan. 15 and we all have received polite refusals

stating that program reported did not check with theirs. They felt sure we received a German station and tried to find out which one but were unable to do so." Philip adds the tip: LR2 has been heard after XEW signed off, twice in the past month.

From Saskatoon in Saskatchewan

"Saskatoon, 'The Hub City of Canada' is close to the geographical center of Canada," points out Charles Hesterman, 610 3rd Ave., N. "We are about 2000 miles from each ocean. Stations from the East are very hard to receive—the 50,000-watt WEAFF is a great rarity to us. Yet I have managed to get a veri from Poste Parisien on 914 kcs. I have the following foreigners all verified: JOCK2, JOAK1, JOAK2, JOHK, JOIK, JOGK, JOQK, JOPK, 2CO, 2UE, 2BL, 3LO, 3AR, 2GB, 4BC, 4RK, 5CK, 5CL, 5DN, 2YA, 2ZP, 3YA, 7ZL, YV1BC, WKAQ, KGU, and have eight more out in the mails. Needless to say, I am very proud of



Nick Lucas, "The Crooning Troubadour," is now heard in his own quarter-hour programs through the Columbia system each Wednesday at 11:00 p. m. EDST and each Friday at 6:30 p. m.

my foreign list caught on a five-year-old Victor t. r. f."

"My 700th verification prompts this first letter to my Alma Mater, RADEX," writes Cyril R. Driscoll, 923 Riggs Ave., Watertown, N. Y. "Reception has been very poor this season, nevertheless, with my orphan Edison, I've been able to add with speaker volume CMJP, VOAS, LR-5, CX-26, Normandie, PP and 103 others to complete 37 states. Also have six TP's. Best catch out of 87 2000-milers is 10-AT. It took me three years to log stations that the beginner this year could have logged in a week through the FRC tests. Circles drawn every 100 miles on my RADEX Map of North America give me distance instantly."

"At 2:50 a. m. March 4, CST, I got CMPN, Havana, Cuba—number 712 in my log," announces F. W. Robinson, Marionville, Mo. "Not bad for a little, old RCA Radiola III, two tubes and phones, is it? By grounding my aerial and using only the lead in from switch to set, I can get up to about 1850 kcs. About half way between the police on 1712 and 1500, I recently picked up an announcer who gave the call three times 2-0-1-Q (two-oh-one-que) Madison, Toledo, Ohio, and another call I received sounded like WPGF. Who can throw any light on these two calls?" WPGF is the police call in Providence, R. I. on 1.71 megas.

Wm. J. Ellis, Hughson, Calif., takes his hat off to KGFJ which recently very courteously arranged with the sponsor of the Nite Owl program to allow KGFJ to remain silent between 12:30 and 1:00 a. m. PST to permit reception of a special DX program from YV3BC, Caracas, Venezuela. Mr. Ellis would like to see every DXer write a letter of appreciation to KGFJ. RADEX too doffs its turban to this station. Bill is learning to distinguish between the Chinese and Japanese languages. Seems to us like the difference between black and blacker. He logged XOST, ZBW and XGOD the a. m. of March 10.

"Here's a tip," proffers Wm. Wheatley, 124-22 Metropolitan Ave., Kew Gardens, N. Y. "If stations who should be on their regular tests by the FRC, aren't on, try for them the third week of the month. I picked up a few at this period and wrote to the FRC asking how come and they said that, owing to a storm or a breakdown at the plant, a station is sometimes unable to conduct its regular test and that the FRC makes a special test, usually the third week of the month."

Sleep vs DX

"It certainly is too bad that fellow with the brickbat had to lose two hours of valuable sleep. I for one have lost, over a period of some seven years, an average of about five hours a night," counters Joseph L. Hueter, 1610 N. 18th St., Philadelphia. "If one is a real DX fan he doesn't mind wasting a few hours trying for a station even if it doesn't come on the air. I now have 786 verifications covering every continent but Africa and it took plenty of time to get them to say nothing about the money for postage both ways. I have never worked the short waves and have received all the above stations on the regular broadcast band. I find that all but three or four stations in the U. S. will verify if the report is clearly and fully given and if it is correct. A stamp for return postage should always be enclosed."

"Have you had any reports of KIIQ in Los Angeles?" inquires A. E. Glover, 105 College Ave., Pullman, Wash. "On Jan. 14, I listened to them on 2340 with good volume and clarity but occasional fading, between the hours of 10 p. m. and midnight PST. They announced 'This is station KIIQ testing on 2340 kcs.' and requested reports on reception giving a phone number but for two hours they gave no location. Finally at 11:50 they gave station announcement and location. They played phonograph records. Haven't heard them since."

From John M. Wheeler, "Red-

court," Lee-on-the-Solent, Hampshire, England, comes this report of his DX work: "Although I use only three valves and my set is five years old, I have pulled in two Pacific-coasters, KFI and KNX with the latter verified. In all I have 40 U. S. stations, one Canadian and 12 in the Argentine. South Americans can be heard almost any night but the U. S. stations vary with the moon. One day I pulled in WPG at 9:45 p. m. (GMT) which is about the earliest it is possible to have trans-Atlantic reception."

"Reception continues good in northern Oklahoma," advises Frank Pieratt, 216 East Grand Ave., Ponca City, Okla. "In the past month have added 80 new b. c. stations in the U. S. and had the rare good luck to intercept Poste Parisien on Jan. 22 on about 960. Short wave reception has been way below par except on the 49-meter band where GSA, DJC and the South Americans are coming in fairly regularly. Have received two new SA's—LU5CZ in Buenos Aires on about 42.3 and OA4B on 20 m. in Lima, Peru. COC comes in fairly well at times."

Some Newsy Notes

"Here is something which might help some of your readers identify a couple of TP's," submits Theron Colegrove, "Sparks" aboard the Tug H. C. Cadmus. "2KY is actually on 1074 and 1YA on 652. They come in fairly well at times when KJBS and KPCB, respectively happen to fade away. My best reception this month was that of I1RO with fair speaker volume before sunset when we were only 800 miles from WOR. I1RO, who is on 713, is on until about 6:20 p. m., EST."

"Just to let you know that I've received Radio Normandie three times on its new frequency," postcards Eugene Giglio, R. D. 1, Rockville, Conn. "Received a verification from them in 20 days. Have had Poste Parisien about 12 or 15 times on 959 and am awaiting my verification. I use a Crosley a. c. 8-tube,



Lanny Ross is back on board Cap'n Henry's Maxwell House Show Boat after completing his first motion picture "Melody in Spring." Lanny will continue to sing with the Show Boat troupe over an NBC-WEAF nation-wide network each Thursday at 9:00 p. m. EDST, until it is time for him to return to Hollywood to begin work on his second picture.

more than four years old. I now have 763 stations; best catches, 2BL, 2YA, PP, Fecamp, 10-BI, 10-AB, KFPM, CKMO, VOAS, 10-BP, 10-BQ, and YV1BC. Only 47 stations left in the U. S. to log."

"On Feb. 12 at exactly 2:10 a. m., EST., I tried for Poste Parisien on 960. I didn't really think I would get them but I did and for three nights in succession, always at exactly the same time," reports Captain Horace L. Hall, 280 Broadway, Room 611, New York, N. Y. "First you hear bugles and trumpets at 2:10; then at 2:12 'Hillo, Hillo, Ici est Poste Parisien' and at 2:13 a gong is struck; then the program. I would like to know if any other fan in New York City gets this station."

"Are WKOK, WJEM, KGIX and WMEX on the air yet?" queries Joel H. Armantrout, 602 E. Magnolia St., Fitzgerald, Ga. Joel now has 699 stations logged, has recently joined the CDXR and would like correspond-

ents in the western provinces of Canada and foreign countries. He also asks for information regarding a station calling themselves W2XI, Radio Frequencies, Inc., New York City and a WDL at Fort Worth, Texas.

"Among my catches but not verified are SBH, Horby, Bordeaux-Lafayette, Stuttgart. I have heard these stations on both their old and new frequencies. I find there is not much difference in the reception; they come in just as well on either frequency. Has anyone received a veri from CX-26? My report has been out since Nov. 20, 1933." This report is from Charles Leboeuf, Box 222, North Grosvenordale, Conn.

"Some time ago there was a lot of discussion about the ability of small receivers to bring in DX," recalls John Kojan, Cleveland, O. "I built a two-tube s. w. receiver and now I have verifications from DJC, G6RX, YV1BC, YV3BC, LSX, PSK and EAQ."

"I am using a 5-tube battery t. r. f. set which I have had five years this summer," reports Harvey Scheirer, Jr., Fullerton, Pa. "I built the set with the help of a friend. I use a 100-foot outside aerial. I have a ground in the cellar and one outdoors. Both are pipes driven in the ground to a depth of five or six feet. I have 112 stations logged including such ones as KFI, KPO, KNX, KOA, KSL, XEPN and XER. I have not verified any of my receptions."

"Please arrange a DX program with some Rhode Island station," pleads J. R. Maloney, Ora Short St., Shelby, N. C. "I have all the states except R. I. I am using an 11-tube Majestic with a 150-foot aerial about 60 feet high. I have JOCK-2, JOAK-1, JOHK, 2YA, 2BL, 4QG, LR5, HJN, 5CK, 2CO, 4BC, 2ZM, 4ZP, OFH, HIX, VONF, VOGY, 2UE, and Stuttgart, Germany."

"Trans-Atlantic reception has been very poor in this country during February, but I'm hoping it will improve this month," reports Arthur C. Baker, 10 Lansdowne Rd., Sale, Cheshire,

England. "Could you find space to say that I will be pleased to correspond with any member of the American DX fraternity who would care to write to me?"

"On the morning of Jan. 27, about 2:15 AST., I heard a few minutes of a special program for RADEX from CP-4 on 1040," announces E. L. Peters, Box 65, Westport, Nova Scotia. "About the time I realized who he was, KRLD came on testing, followed shortly by WTIC. CP-4 was about R7-8 while he lasted. Fine courtesy program completely ruined by these two stations."

"Please publish this," implores Ernest H. Griebel, 8 Wayne St., Carbondale, Pa. "On March 8, about midnight, EST., I heard a station on 1200 or 1210 broadcasting a basketball game, but it was very faint, and I could not get the call. I heard it after WWAE signed off. Will some of our readers please tell me what station this was?"

Frank Sekach, 4812 Marlborough Ave., Detroit, Mich., wants a corner set aside for records on crystal sets. Outside the local stations he has received WLW, CJGC, WCCO, WHAS, WENR, KDKA, KMOX.

"With my four-tube Brunswick, I've logged 21 of the states besides three stations in Canada and three in Mexico," says Newell P. Hurd, 218 Broad Ave., Leona, N. J.

There has long been a crying need for a real Short Wave Log which would exclude the code stations but include all the principal s. w. voice stations of the world. We believe this need has been met in the Summer Edition of the DX Log of the World. Price 10 cents at all newsstands.

Neutralization *and* Alignment of RECEIVERS

3. Superheterodyne Circuit Alignment

• • • By B. FRANCIS DASHIELL

THE balancing condensers used for neutralization and alignment of tuned radio-frequency receivers are easily found. They are attached to the sections of the condenser gang unit with which they are associated. But in superheterodyne receivers the alignment condensers or trimmers may be found at different locations in the chassis. The intermediate-frequency transformer trimmers may be located within the transformer shielding, but such is not always the case. Because the aligning and trimming condensers may be found in various positions it is not possible to state definitely where they are located.

All superheterodynes are aligned more or less in a similar manner. But each make of radio possesses certain inherent differences in circuit arrangement. This adds to the difficulties of realigning superheterodyne and other complicated radio sets. All-wave receivers are not easily aligned. It is extremely difficult to make the condensers "track" perfectly on all the many wave bands within the limits of the receiver. The work of realigning such sets is best entrusted to some competent and well equipped service shop.

The I. F. Amplifier

Usually one or two stages of intermediate-frequency amplification will be found in a superheterodyne receiver. But there are a few sets that utilize a third stage. Each of these stages, if the receiver has tuning facilities for alignment, must be adjusted to a definite frequency response. A test oscillator that is tuned

to the peak or intermediate frequency of the receiver should be used. A visual tuning meter placed in series with the second detector plate indicates the degree of response to a maximum signal. Start with the grid circuit of the *second* detector and turn the adjusting screw within the shielded housing of the last i. f. transformer stage to obtain maximum response. Then continue toward the *first* detector. Both the plate and grid circuits may be tuned and they will require adjustment.

The signal from the oscillator is fed into the control grid of the first detector after the antenna and ground terminals of the set have been shorted with a large bypass condenser. The response of the output meter will fall off sharply as soon as the test oscillator is tuned to a slightly higher or lower frequency (less than 5 kilocycles) than the rated intermediate frequency of the set.

Oscillator Feed Back

In some circuits there is a small trimmer condenser placed in series with the plate of the first detector tube and one coil of the oscillator assembly. This condenser is for the purpose of regulating or balancing the oscillator feed back. It is well known that in most cases the oscillator tube becomes less and less sensitive with use, and will finally stop oscillating. A new tube then is needed, but the replacement calls for a readjustment of the circuit to the new tube's particular sensitivity.

Tune the receiver dial to a station around 600 kilocycles and turn the set screw of the trimmer counter-clock-

wise until the set goes dead. Turn back in a clockwise direction until the station again comes in. Add an additional turn. If the set is found to operate for *any* setting of the condenser it should then be adjusted to a minimum position. The volume control must be turned on full during the making of this adjustment.

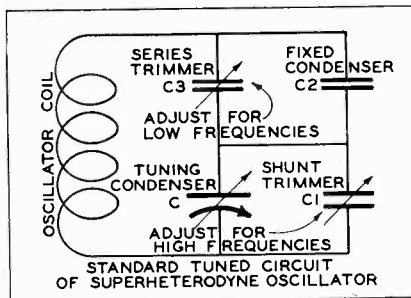
Oscillator Tracking Adjustment

In a superheterodyne receiver the oscillator frequency is always set *above* the station signal frequency. The spacing will be a certain fixed number of kilocycles no matter what station is being received, and this difference must remain at exactly the same number of kilocycles for every setting of the tuning dial throughout its entire range. The difference between the oscillator and the signal frequencies is, of course, the *intermediate* frequency of the set. For example, if the dial is tuned to a station on 1,000 kilocycles, for a receiver which has an i.f. peak of 175 kilocycles, naturally the oscillator must be adjusted to function at 1,175 kcs. Or, if the dial is tuned to 1,400 kilocycles, the oscillator must function at 1,575 kcs, for proper reception.

This adjustment, in the superheterodyne receiver, is quite difficult to maintain. Since all the condensers are on one shaft, the task may become exasperating, as many set owners have learned to their sorrow. The proper "tracking" of stations on their respective kilocycle readings between both extremes of the dial is one of the most common troubles met with in radio servicing.

Adjusting the Condensers

After all other sections of the receiver have been correctly adjusted we can then attempt the tracking alignment. There are several applications of the basic oscillator circuit, so, very few definite instructions can be given. A standard circuit is shown in the illustration. There may be many variations in different sets, but the general principle remains the same. However, carefully note that



in all oscillator grid circuits there is a "main" tuning condenser (C) "ganged" upon a single shaft that controls all the tuned circuits. It is *shunted* by a trimmer condenser (C1) of from $\frac{1}{8}$ th to $\frac{1}{16}$ th of its value. There is still another trimmer condenser (C3) in *series* with the combination (C and C1), and its value is so large and the amount of its adjustment so small that its capacity frequently is split into a fixed section (C2) and the series variable section (C3). The section C2, however, is not always found in this circuit.

The shunt (C1) and the series (C3) trimmers may be adjusted as follows: Set the receiver dial to 1,400 kilocycles and feed a test oscillator or station signal in the input (antenna and ground), then adjust the shunt condenser (C1) for maximum response of the visual tuning meter connected to the output. Set the receiver dial back to some station on 600 kilocycles and adjust the series or low frequency condenser (C3) for maximum response. The shunt condenser (C1) is for adjusting the high frequency tracking and need not be adjusted when using 600 kcs. The same may be said for the series condenser (C3), which is for adjusting the low frequency tracking, when adjustments are made at 1,400 kilocycles.

Instead of sandpaper for cleaning corrosion from tube pins, use an ordinary ink-eraser. This will clean off any sort of dirt and leave a nicely polished surface.

Come Behind *the* Scenes

• • • With "BETTY"

FROM stenography to stardom—that's the story of Vivien Ruth, nineteen, petite, and brunette, featured with the Happy Bakers over a CBS network every Monday, Wednesday and Friday, from 8:00 to 8:15 p. m., EDST.

A little more than two years ago, Vivien was engaged in secretarial work with a New Jersey business firm. An amateur broadcast over a local New Jersey station brought her to the foreground.

Vivien was born in Passaic, N. J. Her mother is a talented pianist and teacher. Educated in Passaic schools, Vivien was ambitious to become a physical education instructress. She had a natural interest in music and in December, 1930, she had an opportunity to sing over Station WODA, Paterson. The results were so promising that she was invited immediately to make her network debut over CBS the following month. Again she

scored and devoted the next two years to vocal studies, although she appeared numerous times as guest artist on various outstanding programs. Having completed her vocal studies she returned to New York and was at once selected as soloist with the Happy Bakers.

The truth about Ruth: Believes she could be an equally successful nurse or program director . . . has dozens of ardent hobbies . . . collects rare perfumes and specializes in cooking Italian spaghetti . . . is a great reader of history . . . favors sport clothes . . . likes mountains and mountain climbing . . . nominates Bing Crosby as her favorite radio artist, and Helen Hayes as her choice in the movies . . . and, appropriately enough, her favorite song is "Some Day I'll Find You" . . . all her friends call her "Rinky."

A Musical Miracle Man

George Gershwin was born in Brooklyn, N. Y., 35 years ago and wrote his first hit, "Swanee" when he was 21. He began his musical career by quitting high school to become a song plugger, at \$15 a week, in Broadway's old Tin Pan Alley.

Gershwin has written the music for nearly forty shows and revues, starting with "Half-Past Eight" and "La La Lucille" in 1919 down to the Pulitzer play prize-winner, "Of Thee I Sing." Among his most successful shows in the past decade have been "Lady Be Good," "Song of the Flame," "Oh, Kay!" "Strike Up The Band," and "Funny Face."

He is the author of hundreds of popular songs but, unlike other writers of jazz music, he has distinguished himself as a composer of modern orchestral music in the classical forms, notably "Rhapsody in Blue," which was introduced by Paul Whiteman at Aeolian Hall in 1923; "Concerto in F," which was first



Vivien Ruth



George Gershwin

played by the New York Philharmonic, and "An American in Paris."

His series of programs is heard over an NBC (Blue) network each Monday and Friday, at 7:30 p. m., EDST., under the sponsorship of the Health Products Corporation.

An Actress of the Air

A few years ago Elsie Hitz refused a choice stage part to devote all her time to radio, smiling at astonished friends who said she was throwing away a promising stage career on a doubtful gamble. But she had tried the new medium, found her voice was excellently suited to its peculiar demands, and decided to follow the hunch which led her to forsake the boards.

Radio drama has grown by leaps and bounds since then and has reached new heights of popularity. Elsie was a pioneer and her fortunes have grown along with it. Now her seemingly rash venture is more than justified, for thousands of listeners from coast to coast recognize her as radio drama's leading lady.

Elsie is the heroine of the south seas romance, "Dangerous Paradise,"

heard over an NBC (Blue) network each Wednesday and Friday at 8:30 p. m., EDST. Co-starred is Nick Dawson pictured with Elsie in the accompanying photograph.

Elsie made her stage debut at 14, earning \$45 a week as ingenue for a Cleveland stock company, while she was still in high school. The following year she migrated to New York as a Broadway ingenue and at 16 she had graduated to Broadway leads. After a season of leads with a Boston Stock Company, she returned to New York in 1925 and did her first microphone job when she was cast through a theatrical agency as Magnolia in a radio version of "Show Boat."

Elsie has been featured in such radio dramas as "True Story," "Love Stories," "Arabesque," "Joe Palooka," and "Magic Voice."

Elsie is slight, with light brown hair and large brown eyes . . . is five-foot-three, and weighs 107 pounds.

So popular has "Dangerous Paradise" proved over the air that the author, Carl Bixby, is preparing a narrative version of the scripts which



Elsie Hitz and Nick Dawson

the Macaulay Company will publish about the middle of May. In book form it will follow the identical plot used in the radio version and will tell what happened to Gail Brewster, an attractive young newspaper woman, played on the air by Miss Hitz, and Dan Gentry, enacted for the microphone by Nick Dawson, when fate brought them together on the coral beach of Horseshoe Island.

Bixby, an advertising man, was moved to write *Dangerous Paradise* when he decided that he could write a better radio sketch himself than those submitted to him.

WHAT'S *in a* NAME

Some radio names have been changed in the interest of romance, euphony, numerology, alliteration, dignity and appropriateness to the character being played. Others no doubt have been shortened to leave time for the announcements.

Who's Benny Kubelsky, for instance? Why none other than the suave Jack Benny. Do you long for the return to the air of Edward Iskowitz? Pardon, Eddie Cantor is the name.

Here are some more monickers you'd never recognize: Fred Allen (John F. Sullivan); Ed Wynn (Edwin Leopold); Milton Berle (Milton Berlinger); Tom Howard (Thomas J. Black); Joe Penner (Joseph Pinter); Groucho Marx (Julius Henry Marx); Chico Marx (Leonard Marx); Jack Pearl (John Perlman); Bert Lahr (Isadore Lahrheim); George Burns (Nat Bernstein); Al Jolson (Asa Yoelson); Willie Howard (Willie Lefkowitz).

George Givot grew up in an orphan asylum and never knew his real name, but took the name of a family that adopted him.

The band leaders, too, have taken out a few syllables: George Hall (George Flag Basselli); Little Jack Little (John Leonard); Jacques Renard (Jacob Stavinsky); Abe Lyman (Abe Simon); Ted Weems (William Theodore Weymes); Ben Bernie

(Benjamin Anselowitz); Leon Belasco (Leonid Semanovich Berlinsky); Will Osborne (William Oliphant); Ted Lewis (Leopold Friedman); Rudy Vallee (Hubert Prior Vallee); Glen Gray (Glen Gray Knoblauch); Al Katz (Albert George Katzenberger).

Some singers, also, who don't use the name on their birth certificates: Bing Crosby (Harry Lillis Crosby); Singin' Sam (Harry Frankel); Vera Van (Vera Webster); Shirley Howard (Shirley Gins); Sid Gary (Sid Garfunkel); Frank Luther (James Crow); Sophie Tucker (Sonia Abuza); Nick Lucas (Nicholas Lucanese); Helen Morgan (Helen Regan); Ramona (Ramona Davies); Tamara (Tamara Drasin); Jean Sargent (Jean Scull); Harried Hilliard (Peggy Snyder); Arthur (Street Singer) Tracy (Harry Rosenberg); Virginia Rea (Virginia Murphy); Alice Joy (Frances Harriet Holcombe); Gus Van (August von Glahn); Edith Murray (Edith Fernandez); Gypsy Nina (Helen Swan); Priscilla and Rosemary Lane (The Mullican Sisters).

Then there are the teams of Stoopnagle and Budd (F. Chase Taylor and Wilbur Hulick); Amos 'n' Andy (Freeman Gosden and Charles Correll). In fact, these changes extend to all branches of radio: David Ross was Samuel Misch until he became an announcer; Boake Carter should sign his name Harold T. H. Carter. Ann Leaf is Ann Leaf Kleinert; Irving Berlin, Israel Baline; Myrt, Myrtle Vail; Marge, Donna Damerel; Molly Goldberg, Gertrude Berg; Skippy, Franklin Wissing Adams; Baby Rose Marie, Rose Marie Curley; Kenneth Roberts, Saul Trochwon; Voice of Experience, Dr. M. Sayle Taylor.

Ted Fiorito, whose fingers ripple so smoothly over the keyboard when his band broadcasts on the Old Gold program, thinks that smooth ripple is worth \$300,000—that's the amount for which his hands are insured.

TALKING RADIO

• • • *with the Editor*

THE stations in Hilversum and in Huizen in the Netherlands have a plan for swapping wavelengths every few weeks. Adopting this same plan, RADEX and the DX Log of the World are this month trading places. The log of the broadcast stations of the world which regularly appears in our DX Log quarterly, will be found in this issue of RADEX instead. The May-June-July issue of the DX Log is being devoted entirely to the short waves. This exchange serves a double purpose. It gives those of our readers who do not get the DX Log, a complete list of the world stations on the broadcast band. And it enables us to issue a *real* Short Wave Log with each station listed both by frequency and by country or call letters. We feel sure this is going to be the best and most complete log of the short wave stations ever issued. It will appear on the newsstands late in April. The price will be ten cents.

Through the hearty cooperation of a special committee of the International DXers Alliance of Bloomington, Illinois, the log of the world broadcast stations is being brought right up to the minute. Many changes have taken place in Europe, South America, Asia and Australasia.

"At 7:10 a. m. Sunday EST (March 4) VK2ME, Sydney, Australia, announced after one record that it was 10:10 p. m. Now was it 10:10 p. m. Saturday, Sunday or Monday?" This inquiry is from a reader who asks that we do not use his name as he doesn't want to be swamped with letters. If our friend had had a RADEX Time Converter, he would have turned the dial to 7:10 a. m. EST and then seen at a glance that it was 10:10 p. m. the same day in Sydney, Australia. This Time Converter tells whether the time any-

where is yesterday, today or tomorrow and takes all confusing calculation out of time conversion. Mr. X goes on: "I had them very clear for perhaps half an hour then had to quit. Why is it I get London so much better when they are coming in than I do other countries? How is it possible to identify a foreign station? Why don't the amateurs give their home town?"

KIFS Regularly Licensed

Mr. L. E. Shatto, Technician of KFJI, Klamath Falls, Oregon, writes us regarding station KIFS, mention of which was made in a recent article on "outlaw" stations. KIFS is regularly licensed by the FRC to operate on 1518 with 50 watts power output. "At the time Mr. Lehman and Mr. Biller heard KIFS, we were making a test with Klamath Falls in accordance with the rules of the FRC and operating on 1518 kcs. with a plate power input of 100 watts. A program was sent to KFJI from Fort Klamath, Oregon, starting at 9 p. m. that evening as per authority of the FRC," says Mr. Shatto. We are not clear whether KIFS is for temporary use or not but its frequency is so close to the b. c. band that we are including this station in our lists.

"I wish you would augment your list of programs after the eastern stations sign off," suggests Barron Bridges, 527 Maplewood Ave., Ambridge, Pa. "That is, beginning at 11 p. m. list the programs of the 50 kw. stations of the Mountain and Pacific time belts and continue until the California stations sign off." We know it would please many readers if we were able to comply with Barron's request. We give the programs just as late as they are carried by the broadcasting systems. It is quite impossible for us to secure information

regarding the programs of individual western stations far enough in advance for it to appear in this magazine.

The British Programs

F. Wiseman, 65 Lovaine Place, Newcastle-on-Tyne, England, does not agree with Percy Dodson relative to the value of the British programs as entertainment. He sends us a number of newspaper clippings showing that there is no little dissatisfaction with the methods used by the British Commission, particularly in the matter of censoring the talks given by invited speakers. Mr. Wiseman sums up the difference thus: "The American sponsor is concerned with inducing the greatest number of listeners to tune in his program. He is therefore compelled to put on a program that appeals to the great majority of listeners who thereby get what they want. The BBC programs cater to the highbrow minority and we suffer from a surfeit of chamber music, religious services, dull talks, adult education, readings from classical literature, etc." The tax on each receiving set in Great Britain is about \$2.50 a year. We recall reading that the number of sets there had now reached 6,000,000. This provides the tidy sum of fifteen million dollars annually for the Broadcasting Commission. "This, in my opinion," says our correspondent, "is the main cause of the poor programs from the BBC stations. This tax assures the BBC its income without having to trouble whether the listener is satisfied or not." The development of a new idea is worrying the BBC no little. That is the formation of a broadcasting system in England with sponsored programs along the American plan. They cannot of course use any stations in Britain but they have formed a chain of powerful stations in other countries to broadcast programs in English of course, for the entertainment of the English people. One of the prominent stations used, we understand, is EAQ in Spain. This system is known as the Interna-

tional Broadcasting Club. It is known that a vast number of English listeners are tuning in these programs in preference to those provided by the BBC.

The New Zealander

Several good readers in New Zealand have sent us clippings regarding the new transmitter of 1YA to be erected near Henderson by the New Zealand Broadcasting Board. It will be twice the strength of 2YA, Wellington, and 20 times the present strength of 1YA. One mast, 500 feet high, takes the place of the usual two masts. This will be five times the height of the present 1YA masts. The mast, known as the BBC half-wave, will be insulated from the ground, a massive insulator carrying the 60-ton weight of the mast. Three radiating conductors will hang from the aerial at the top at equal distances around the mast and will be held at the bottom by anchorages some distance from the base. The great advantage of this type of aerial is that it radiates the maximum energy in a horizontal direction.

What a happy life 2ZR must have. That station in Nelson, N. Z., has a roving commission permitting it to work on any clear channel. If our readers hear it on some frequency other than 1110 they should not jump to the conclusion that RADEX tables are wrong.

Richard S. Croker, State Fisheries Laboratory, Terminal Island, Calif., doesn't agree with the complaints re-

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garding the all-night stations. "After all, I get a kick out of tuning in a distant station through interference. For instance, CKAC when XER was on was something to brag about. And I have heard KWG, KERN, CJOR, KASA and WCBS while KGFJ, 24 miles away, was going full blast. Much more of a thrill than tuning in clear channels." In other words, he thinks the fellow who objects to interference is like the golfer who wants a level field and no traps or bunkers.

Aerial Necessary

"I would like to disagree with A. M. Mitchell," says H. Arbic, Acton, Ont. "Aerials are necessary and they must be good too. You cannot get the small stations without an aerial of some kind. Again some stations exhaust all your volume. A DXer could not enjoy radio without the best aerial he can install. If I were satisfied with listening to CFRB, WBEN or WGR, I would not need any aerial. But if I wanted to listen to the string band on WRUF at 7 p. m., I would have to have an aerial. I have tested my Rogers 850 without an aerial of any kind at 9 p. m. I can reach anything with 5000 watts or more for 2250 miles, but there are other stations that are good and some are only 100 watts. If it were possible for me to get up 200 feet with an aerial, I certainly would go up away from interference."

R. D. Schofield of the Wilma Plunge, Missoula, Mont., has been appointed Director of the IDA official stamp exchange and readers of this magazine are invited to obtain stamps through him from all foreign countries. A ten-cent stamp will cost 12 cents, a five-center six cents, a three-center 3½ cents and a two-center 2½ cents. No order for less than a total of fifty cents will be accepted. No correspondence will be answered. Orders will be filled as rapidly as possible but there may be delays due to securing supplies from distant countries.

A technical tip is passed on to our

readers by J. J. Delaney, 51 Wilmot Street, Portland, Maine. "While trying to locate hum and distortion in a Stewart-Warner Model 102, which developed after running the set about five minutes, I found a burned-out electrolytic condenser. Replacing that, however, did not stop the noise. I tried replacing the 47 tube and the noise stopped. After an hour or so the set became distorted again without the hum. I then found that the .25 r. f. grid by-pass condenser had shorted to about 20,000 ohms. I replaced it and the set has been going fine."

Making A Game of It

Two ministers living about two blocks apart on the same street became interested in DX at the same time. They had been friendly rivals in all manner of sports, indoor and outdoor, and naturally they became competitors in DX and decided to make a game out of it. They worked out a schedule of credits varying from one point for a station of 5000 watts or more up to 500 miles distant, to twelve points for a station 100 watts or less from 500 to 1000 miles distant. The contest has been going on for a little over two months. In that time one has logged 406 stations for a score of 4775 points and the other 402 stations for a total of 4771 points. "It's a great game," writes one of the friends.

Says a clipping from Ray E. Everly, 102 West Washington St., Newton, Ill.: "A device has been perfected by G. W. Kendrick, Tufts College, Mass., that automatically takes the talk, including advertising chatter, out of radio programs." If this is true some programs are going to have long silent periods in them. But what effect will it have on the sponsors and ultimately on the radio programs?

"I've finally found a way to work a loop with a super," tips Robert Rosenberger, 17 Janssen Place, Kansas City, Mo. "It is very simple—use the loop on the aerial post and a very long aerial on the ground post (about

250 feet at least). I can choose the 100-watter that I want to hear and the others are excluded. I think it's worth trying."

Francis E. Andrew, Box 152, West Liberty, West Va., relays a suggestion by William J. Pryor, 131 N. 17th St., Wheeling, that those who have 400 or more stations on their log, mark the Index by Frequencies to indicate those stations not yet heard. This method provides a clear challenge to tune in these particular stations and saves much time in copying as gradually the list becomes smaller.

G. Lansing Mood, Secretary of the Globe Circlers Radio DX Club, 70 Clinton Place, Hackensack, N. J., writes us that that Club is now issuing a bulletin monthly and not semi-monthly. They issue tip cards weekly in addition to the eight-page monthly bulletin. The headquarters of the Club are at the above address.

Robert Pybus, 4 Highfield Rd., Chorlton-cum-Hardy, Manchester, England, a member of the special committee of the International DXers Alliance which edits the data in the DX Log of the World, sends us a fine report of the present broadcasting situation in Europe. The changes made appear in this issue.

"I received 16 letters from the States and three from Canada regarding my letter in the February RADEX," writes Frank Carr, 21 Lowther St., Wanganui, N. Z. Mr. Carr kindly offers to give any information or help to our readers with regard to stations in New Zealand.

Orchids to the Great Atlantic & Pacific Tea Company for limiting their advertising talks to 45 seconds on the A&P Gypsy program.

We have received so many reports of a Mexican on 660 that we assume the proposed XEAL is on the air and we are taking the risk of including it in our indices. XEAL is owned by Cia. Panamericana de Radio and their address is Apartado 1903, Mexico City, D. F., Mex.

Send 10 cents today for your copy of the S.W. DX Log of the World.

Station News

and Notes

IT IS probable that the frequency tests will be continued during the early part of the summer. A few changes in the revised schedule of these tests as published in our March issue are sent us by the National Radio Club. Eliminate the following stations: WABI Monday, 2:40-3:00; WNBX, 4:10-4:30; WESG, 4:30-4:50; WOOD-WASH, Wednesday 6:00-6:20; WHET, Tuesday 3:10-3:30; WAMC, 3:50-4:10; WAWZ, Saturday 4:10-4:30. Add WCHS, Monday 5:00-5:20; WSVS, 5:10-5:30; WNRA, Tuesday 3:10-3:30; WHET, 3:50-4:10; WAMC, 5:40 to 6:00; KFBB, Wednesday 4:00-4:20; WLAP, Friday 5:50-6:10; WCAP, Saturday 3:50-4:10; WTNJ, 4:10-4:30. KFQD, Monday 5:50-6:10 is now 600 kc. instead of 1230. WCAH, Saturday 4:10-4:30 is now WBNS.

The following new stations are contemplated in Mexico and may appear on the air at any time: XEE, Durango, 1010, 50 w.; XEMC, Yucatan, 630, 500 w.; XEZZ, San Luis Potosi; XEWZ, Mexico City, 1200, 100 w.; XEMA, Tampico, 1330, 50 w.; XEPR, Mexico City, 740, 250 w.; XEAL, Mexico City, 660, 1000 w.; XEOX, Saltillo, 620, 250 w. Several readers have reported a new Spanish-speaking station on about 665. Perhaps XEAL is already on the air.

We have received two lists of the stations in Mexico and find the following discrepancies: XEP on 970 and 780, XEW on 910 and 890, XEFE on 1000 and 985, XEFI on 1000 and 1260, XEFV on 1370 and 1400, XEYZ on 780 and 760. The lists show the following as not operating at present: XEC, XEP, XEFA, XEOK, XETW and XENT. Our old friends, XEF and XER, are missing on both lists. A reallocation is threatened in Mexico for May 15 and we expect to have the changes in the next issue of this magazine.

With VONF going to 5000 watts,

it looks as though a lot of our Radexers would soon add Newfoundland to their roster. VOAS, too, is reaching out. The latter station gives their time on the air as 11 a. m. to 12:30 p. m. and 4:00 to 5:30 p. m. daily with the exception of Sundays and holidays; and Saturday nights from 7:45 to 9:30. Newfoundland time is one and a half hours faster than EST.

Mr. Enrique Guerrero of Station XEB, Mexico City, writes Eugene L. Beebe, 210 Franklin St., W. Jackson, Mich., that he would like to hear regularly from listeners, that they will answer all letters and that they have facilities for reading and answering letters no matter what language they may be written in. "Our local station, WIBM," postscripts Mr. Beebe, "has just opened up a new station and studio right in the heart of the city with a new building of their own. Although they have not increased their power, they should have better tone quality and modulation with possibly a slightly stronger signal, due to the new equipment."

K. Judd, 68 Mayfield Ave., Orpington, Kent, England, sends us the schedule which he received with his verie from ZUE, Sydney. Monday, Tuesday, Thursday and Friday 3:00 to 10:00 p. m. and 11:30 p. m. to 8 a. m. Wednesday 3 to 8 p. m. Saturday 3 p. m. to 9 a. m. and Sunday 3 p. m. to 9, 10 p. m. to 2 a. m. and 3 a. m. to 8 a. m. All times in EST. Mr. Judd has heard within the last few days before writing, KGU, Honolulu, and KIFH, Juneau, Alaska, stations which many DXers in America have striven for in vain.

It is certainly going to be bad news to those interested in "goat-glands" to know that the Mexican government has ordered XER-XEF at Villa Acuna dismantled. A paper in Wichita reports that Dr. John R. Brinkley, operator of the now-silenced XER, has purchased a yacht and may take his broadcasting activities to the high seas *a la* RXKR. The little mat-

ter of securing registry for the yacht remains.

"Beginning March 1, our radio transmissions will take place only on Sundays from 12:30 to 2 a. m. GMT," says a verification from FQN, Miquelon Island, to Stuart B. Leland, 82 St. John's Place, New Canaan, Conn. This information is confirmed in a letter we received from Leon Briand, St. Pierre, Miquelon. This is 8:30 to 10 p. m. AST.

"WAMC is deleted; it was burned down in March, 1933. WBHS and WENC are moving and are off the air at present. WKFI hasn't tested and the time allotted to WENC is being used by WPFB. WHEF is off the air. WJEM and WLEC are not operating yet." These tips come to Ray E. Everly, Newton, Ill., from various correspondents.

"WSPA, Spartanburg, N. C., is giving special programs every Tuesday and Friday morning at 5:00 to 5:30 a. m. EST. WNBW, Carbondale, has removed its transmitter and will not broadcast any more as they cannot renew their license." This gossip comes from Ernest Griebel, Jr., 8 Wayne Street, Carbondale, Pa.

"Our local station CFCT, broadcasts DX programs every weekday at midnight to 1 a. m. PST and on Sunday mornings from midnight to 2 a. m.," tips Fred Knight, Portage and Essen Roads, L. C. 41, Victoria, B. C.

KMAC, San Antonio, Texas, broadcasts NNRC tips every morning at 1:30 EST, and WKBB, East DuBuque, Ill., at 1 a. m. EST., writes A. W. Opel, Executive Secretary of the NNRC.

Stations WARD, WBBC, WLTH and WVFW are under the ban of Examiner Ralph Walker who has recommended their deletion. It remains to be seen whether the FRC approves his recommendation.

The new KTRB in Modesto, Calif., has been heard testing on 740, or so some readers believe. KOTN, Pine Bluff, Ark., has also been heard with a test.

The FRC has authorized a mix-up on the 1040 and 1060 channels for a

period of 90 days beginning April 29. KTHS, Hot Springs, on 1040 and WTIC, Hartford, on 1060, are to trade frequencies. KTHS will operate simultaneously with WBAL and WTIC with KRLD. KTHS will suspend from local sunset to 8 p. m. CST and WBAL will suspend from sunset in Hot Springs to 9 p. m. EST after which time it will synchronize with WJZ on 760 as heretofore. WESG is moved from 1040 to 680 with daytime hours. KWJJ is moved from 1060 to 1040. WJAG remains on 1060.

An ALL WAVE Portable



THIS attractive receiver covers the frequencies from 15 to 560 meters and is said to be the first all-wave compact superheterodyne set. There are four tuning bands which may be selected by means of a switch. These are: 15 to 35 m., 30 to 85 m., 80 to 210 m., and 200 to 560 m. It is intended for use on 110 to 120 volts a. c. A ground connection is not necessary but an outdoor antenna as high as possible is recommended with a length of from 50 to 75 feet including lead-in. Six tubes are used: Oscillator, 6D6; first detector, 78; i. f. stage 78; second detector, 77; output, 42; rectifier, 80.

Our illustration shows this receiver with the front cover removed. The dimensions are 16 by 13 by 8 inches and the weight is about 14 pounds. The portable lists at \$52.50. The manufacturer is the Freed Television and Radio Corp., Long Island City, N. Y.

Growing up with Radio in ENGLAND

By H. BEADLE*

MY experience in radio began about six years ago with a one-valve set. I had heard a few sets but had never troubled about them until the old folks purchased a set. After logging stations by roaming around generally, I thought I really must have one of my own so I bought an old two-valve set, tore it down and built up a modern one-valve b. c. receiver.

With this set I heard all Europe on phones. Next came a two-valve set to put the locals on the speaker. By this time the radio bug had begun to bite and my interest has never waned. Then I began to hear of the short waves so I built a three-valve all-wave set. It worked on the broadcast bands (we have two of them in Europe—220 to 550 m. and 1000 to 2000 m.) by means of a dual-range coil worked by a switch. By taking out this dual-range coil and inserting a s. w. coil, one could or should be able to hear s. w. stations.

Well, I was quite a while hearing nothing but Morse until Feb. 18, 1931, when I picked up an American station at 6:45 p. m. I never identified that station but on Feb. 20, I picked up W2XAF on 31.48 m. What a thrill! Heard market reports, news and Jim Brown program for the Brown Wire Co., then Uncle Abe and David. This whetted my appetite for more. Next night I picked up the same station at 10:40 and listened to them until 1:30 the next morning.

Next came good old PCJ then Zee-sen. The next USA station was W8XX on March 8, 1931 closely followed by W1XAZ. (That was the first time I ever heard the letter "z" pronounced "zee.") By this time the short waves had got me properly and I wound coils and started to pick up English hams. By the way, I think there have never been such good conditions for recep-

tion of USA s. w. stations as that spring of 1931.

Roaming Europe

I now have a four-valve radio and a three-valve s. w. set. I can roam Europe with my b. c. set but the thrills of radio come through the s. w. set. Have heard five continents up to now and need only Asia to complete the lot. Among the s. w. stations which I have heard are the following: Prague OKIMP, HVJ, Zeesen, W1XAL, most of the Daventry stations, PRBA, OER2, OXY, W3XAL, W2XE, YV11-BMO, W8XK, W3XL, RW-72, LCL, Radio Nations, CNR, SR-1, W2XAF, W1XAZ, VK2ME, CT1AA, EAQ, FYA, 2RO, RNE and W2XAD. Zeesen, Rome and HVJ have been heard on all their wavelengths. I had never been able to pick up VK2ME till the beginning of last October. Since then and up to Christmas, he was receivable at various strengths every Sunday from 2:30 to 4:30 p.m. GMT. Have now verified him.

Thanks to the short waves, I have been able to hear such outstanding broadcasts as the inauguration of President Roosevelt and the landing of the Italian Air Armada at the World's Fair, Chicago. The inauguration ceremony was heard over W2XAD and it was a splendid transmission.

The USSR station on 25.16 m. is, as Mr. Roy Robinson says—Radio Station RNE and the address Gorki St. No. 17, Moscow, USSR. For U. S. fans, I might mention that whilst listening to the long-wave Moscow station, they announced that there were broadcasts on 25 meters, Sundays at 3.0 Moscow time, (12 noon GMT) and 6.0 p. m. Moscow time (3.0 p.m. GMT) You see Moscow time is three hours ahead of GMT. Actually I have never heard them give the call RW-59, attributed to the 50 m. station. They always say "Hello. Hello. This is Moscow calling." Political talks are given over the 50 m. transmitter in English on Sundays, Mondays, Wednesdays and Fridays from 9.0 p.m. (21.00 GMT) to 10.00 (22.00) GMT.

I am getting to the end now but I might mention in passing that I heard W3XL calling DENNE (Graf Zeppelin) whilst she was over the U. S. and also that I have a verification from the German liner "Bremen"! Best 73s to the US short wave fans.

*13 Chandos St., Keighley, Yorkshire, England.

Broadcasters' View of DX Question

"I HAVE read with interest your article entitled 'Bad Practices in Verification May Destroy DX,'" comments A. C. Pritchard, General Manager of WWL. "May I heartily endorse all that was said in that article? Our station receives mail from every state in the Union, from Central and South America, Australia and New Zealand, from Canada of course, and recently quite a lot from Europe. Many hundreds of these letters are requests for verifications but comparatively few of them enclose a postage stamp to cover the cost of a reply.

"This practice seems to have grown in the last year or two and has become such a burden that we are forced this year to announce over the air that we will not send verifications or DX stamps unless postage or currency are sent to cover the cost.

"Many of the letters we receive are most interesting and encouraging but a great many, as stated in your article, give little or no information on which to base a verification. It has been our practice, where obvious effort has been made to give us helpful details, to answer even though return postage has not been sent us.

"I have often wondered whether people who write to a radio station and expect a reply realize the tremendous amount of clerical work involved as well as the cost. It was most encouraging to learn that such a publication as yours and also so many of your correspondents are thinking along this line."



This attractive young lady is Claire Willis who is currently featured as the vocalist during sustaining programs by Pancho and his orchestra over the WABC-CBS net. Last year Claire's voice was heard with the Travellers Quartet.

too, are defective. Of course, the a.v.c. control tube and its component parts of the circuit should be tested.

Combining Two Sets

I wish to use the speaker in my Majestic 90 receiver in connection with a Midwest set that is operated in an adjacent room. Please tell me how to run the necessary wires.

You cannot connect the speaker of the Majestic to the output of the Midwest. The difference in impedance in the speakers, and the matching of the outputs of the two sets, makes the scheme impracticable. A magnetic speaker, however, can be placed at a distance and connected to the Midwest in the same manner as a pair of headphones.

Philco 70 Cuts Off

My Philco 70 seems to cut on and off and grow weak at times after it has commenced operating. How can I overcome this trouble?

There are a number of reasons why this occurs. A poor tube somewhere

in the circuit will give such symptoms. A loose or expanding contact or joint in the wiring might also cause this cutting off. All points should be examined carefully. All resistors are possible sources of the same trouble. The cutting off of reception may be due to defective coupling condensers that couple the audio stages of this receiver. We suggest looking at the condenser in the cathode circuit of the oscillator tube. This condenser is a .09 mfd., and in the diagram it will be found numbered No. 12. There is another No. 12 in the cathode circuit of the first detector. It may be replaced with a .1 mfd.

Open Antenna Coil

There is a loss of volume in my Rogers 850 receiver. But when I attach the antenna wire to the grid cap of the first 58 tube the signal again becomes strong.

It is likely that the antenna or first radio section of the receiver is not working properly. When you attach the antenna to the grid top with good results it shows that the coil part of the circuit between the grid cap and the antenna proper does not permit the antenna current to flow. This also causes a different dial reading and the set seems out of tune. The antenna coil or first tuning circuit must be tested and repaired.

Amateur Transmitter Interferes

There is an amateur radio station in my vicinity. It causes terrible interference in my receiver, yet some of my nearby friends never notice the same trouble. Why is this?

We think the trouble is a matter of harmonic interference. Your receiver may be peaked with its intermediate frequency at a certain setting that falls within some heterodyne combination created by the transmitter. There are hundreds of mathematical combinations that can occur. Some receivers, for instance, when peaked at 270 kcs., fall within the harmonic range of the U. S. Airways radio beacons and cause all kinds of trouble. While the amateur is oper-

ating most likely on a frequency higher than the range limits of your receiver and true harmonics are impossible, there often is reported the presence of "half" harmonics. If you investigate the intermediate frequencies of your receiver and those of your neighbors you will find that yours is different, and that there is a mathematical relationship, in even fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, etc.), to the frequency used by the amateur. If you can change the trimmer condensers in your set so that the intermediate stages will be peaked at a slightly different frequency, you might eliminate this interference. You have not indicated the type of receiver in use.

Receiver "Pounds"

I have a Radiola 82. When it is turned on it pounds and hammers for about 15 or 20 minutes, and then settles down and acts normally for an indefinite period. Once, after a long night of DX work the set had a hot odor like scorched paper. It has not been right since. Suddenly the volume increases greatly, and after an adjustment has been made for this, it just as suddenly drops down until it cannot be heard until another adjustment is made. What can be wrong?

We are inclined to believe that one half of the primary of the output transformer has been burned out. This, if the case, will naturally increase the voltage of the other tube and B lead to the push-pull second audio tube, and undoubtedly has resulted also in burning out the series screen resistor of 14,300 ohms that supplies all the screens of the set. This resistor will not work well until it is heated sufficiently. Perhaps some other screen or plate bypass condenser is giving trouble.

Set Goes Dead

I have a Scott 601 receiver. Some times it goes dead after having been turned on for a short time. When turned off, or the dial rotated to zero and back several times, it starts oper-

ating. In a short time it again snaps off. The makers advised me to try the 45-volt wire on the power pack on the 90-volt tap on the pack. I did this and the set does not cut off now, but there is a great decrease in the selectivity with the wire so attached. What do you think about using this new connection?

It is probable that the by-pass condenser on the voltage divider connecting the 45-volt tap to the ground has become shorted. By placing the lead on the 90-volt tap you obtain more than enough voltage which accounts for the decreased selectivity you complain of. This is due to the increased gain in the receiver brought about by higher plate voltage. Check the condenser in question.

Converter Dead on Low Waves

I am using a Stewart Warner short-wave converter with a Westrand 9-tube set. I can not receive any stations past 10,000 kcs. They should be received from there up to 16,000 kcs. Once in a while I get a lot of whistling. The receiver seems to be strong and powerful, selective and sensitive, but when connected to the converter it just does not bring in the stations on the lower waves.

You can hardly expect consistent operation of this character between 10,000 and 16,000 kilocycles. Many of us are apt to judge short wave reception by our broadcast receiving experience, which is rather unfair. The shorter the waves the more difficult it is to tune them in. And you must admit that when you get down to 18 meters wave length it takes just about a perfect short-wave receiver to get results. There is little in the way of recommendation. Be sure the tubes are in perfect condition. Try several different ones in the detector socket of the converter, for the detector tube is critical in this position. The whistling noises are more or less natural for they appear with interference or regeneration effects within or between the converter and broadcast receiver.

Using an Auto Radio

I have a Chevrolet Auto Radio, and I wish to use it for home reception as it seems very powerful. How can I adapt it to a. c. operation? Who makes the set?

We would not suggest any changes in the tubes or battery arrangement of this circuit, as it is built around the characteristics of these tubes. Its present operation on a battery is quiet. But, if a filament transformer were used to heat the tubes it would be necessary to install hum resistors and center tap windings to prevent annoying hum. It is doubtful whether hum could be entirely eliminated.

This receiver is manufactured by the United Motors Service, Detroit, Michigan.

"B" Eliminator Hums

There is a hum in my Atwater Kent receiver which has been converted to use the -30 series of tubes with a "B" eliminator. What can I do to get the hum out of this outfit?

The hum is caused by the eliminator. Apparently it is not filtering or choking the a. c. ripple from the rectified current. Or hum will be produced when the B voltage falls to a low potential. Try connecting headphones or speaker to the output of the eliminator and see whether hum can be heard. If so, have the eliminator examined and tested for defective filter chokes and condensers. The rectifying tube must also be tested, as it may need replacing.

Using RADEX S.W. Converter

I have built your short-wave converter, but now find that the tubes in my receiver operate on 6.3 volts. Can I use that type of tube in the converter?

It will not be necessary to use different tubes. All you need do is insert a small resistor in series with the leads to the filaments or heaters of the converter tubes to reduce the potential to 2.5 volts. Use a 3-ohm resistor in series with one of the leads.

Using 2A3 Tube

I wish to use a 2A3 in place of the -45 in my Remler 17 receiver. Also, can I use phones with this tube?

The 2A3 is a heavy duty -45 tube. In a push-pull circuit, two 2A3s may be substituted for two -45s. A 2A3 should not be used in a set employing a single -45 without changing the circuit and the output transformer. In your set the change is not recommended. If you use headphones with your receiver (the -45 tube or the 2A3) a single fixed condenser of about 0.25 mfd. capacity and 300 volts test may be used between the phone cord and the plate of the -45 tube. The other cord tip of the headset is grounded.

A DXer's Diary

By ELMER L. MERTEN*

September 5. The list of monthly tests was very welcome but as the static stays pretty late here in Colorado, I can't do much until October when the blanket of interference begins to lift.

October 9. The Japs are starting to come in pretty well and also the Aussies and Zedders. I hope to pull in some of the South Americans later in the season. One catch of which I am proud is WOCL, 50 watts, Jamestown, N. Y. It came in very well.

November 27. Was very fortunate this month with the tests. At last I succeeded in pulling in WCSH, Portland, Maine, a new state. I now need only Vermont, Rhode Island and Delaware. A very interesting thing happened. I picked up WEEU in Reading, Pa., and JOIK in Sappora, Japan, came in so strong that it interfered with reception very seriously. I listened to station 2YA in Wellington, heard them give the reports on cricket matches and the racing results. Also heard a lawyer give his argument to the jury over 2BL, Sydney.

December 3. I heard a station on 830 kcs. announce as LR5, Buenos

Aires. Looked in the new RADEX and, sure enough, there was the notice in the DX Calendar. Five minutes later I heard the call from CHGS, Summerside, P. E. I., 100 watts. The Australians are not coming in so well and 2YA is gone.

January 15. Someone in my neighborhood has a bum heating pad and it is ruining my DX. In between bursts I have been lucky. Picked up CRCS, Chicoutimi, Quebec, 100 watts, and, best of all, I heard CHNC, New Carlisle, Quebec, 100 watts, 2000 miles, while WEDC was on in Chicago. Heard the call three times. I find that I have 215 stations of 100 watts or less.

February 20. One morning this month, I tuned in at least twenty stations in Japan, also XGOA and JODK-2, Korea. The Jap stations came in with full volume on at least eight of them with the same program in English. Heard them give the prices of the New York stock exchange in English. Listened to XGOA until 6:30 MST. Picked up an unknown on about 1350; hope it was France, will try it again.

March 15. Saturday morning I picked up a station on 950 speaking Spanish. I clearly heard the call "Ellay Errey Tres, Buenos Aires" three times. Then I got one on 780 which I am quite sure was LT1, Rosario, but as I wasn't positive, I didn't log it. Heard WTAR on 780 later and JOPK almost drowned it out. My log now totals 630 stations from all continents except Europe and Africa, my farthest being 2BL, Sydney, and my best catch, considering power, CHNC at New Carlisle. I have received every station in the U. S. west of the Mississippi except KGY, KMED, KGGC, KSUN, KFKU, KLCN and I'd like to know when is the best time to get these. I also have them all in Illinois, Indiana, West Virginia, Kentucky and Louisiana and I need one more in Michigan, Wisconsin, Tennessee, Florida and

South Carolina and two in Ohio, Mississippi, Alabama and North Carolina.

Editor's Note. Mr. Merten uses a Stewart-Warner, Model 801, which is five years old with no repairs except a little graphite and carbon-tetrachloride on the ribbon of the volume control when it gets noisy. His aerial is 100 feet long, south to north, with a water-pipe ground.

TUNING S. W. *from the Atlantic*

THE short wave stations of the U. S. do not seem to "get out" over the Atlantic as might be expected, especially those below 25 meters. W8XK on 25 m. was not nearly so good for me in December when I was outbound on this voyage as when homeward-bound in August and September. W8XK on the 49 m. band is useless (or was in December) because of being mixed up with RKK, a powerful code station.

The two NBC stations at Boundbrook, N. J., W3XL and W3XAL, were broadcasting on Friday and Saturday evenings respectively when I crossed in December. They were very satisfactory. I checked them as far as Port Said, Egypt. They were strong and clear. The difference in time prevented my trying them after that.

I could give quite a few instances of freak reception but I keep no log and only use my radio—a LaFayette Model 1020 all-wave—for my own entertainment. While in this port (Calcutta, India) I listen to two stations regularly—PHI, Holland, 25.57 m. who is on at this time from 1:00 to 3:00 p. m. GMT daily except Tuesday and Wednesday, and GSE, 25.3 meters. GSE is more satisfactory for me now than GSB on 31.55 m.

Gets News Daily

The most satisfactory reception from any of the BBC's Daventry sta-
(Continued on page 41)

*315 E. Fountain Street, Colorado Springs, Colo.

More News *from the* DX WORLD

• • • Brief Reports *from* our Readers

SO MANY of the letters we receive are interesting enough to reproduce in full but lack of the necessary space makes this manifestly impossible. We can only cull the most interesting portion of each letter. Even at that we get two and three months behind due to the great number of newsy and chatty letters we receive. Here is this month's grist from the DX mill:

"My log of up-to-date stations as checked in the December issue totals 570 on the b. c. b. and 203 on the short waves, with over 2500 amateur stations," reports Clyde I. Boyer, 5713 N. 7th St., Philadelphia, Pa. "On the b. c. b. I have logged every state in the U. S., 30 in Cuba, 1 Porto Rico, 18 Mexico, 48 Canada, 2 Australia, 1 Peru, 1 Venezuela, 1 France, 1 Hawaii, 1 Argentine, and thanks to your DX Calendar I picked up LR5 on Dec. 3. I use a Philco Model 112 11-tube and a Midwest converter."

"Have had fair luck this season," believes Fred Roe, Brookings, S. Dak. "Got a verification from 2YA the other day and I'm expecting one from LR5. The rest of my log includes 22 Californian stations with 14 verified, and about half a dozen Mexicans and Canadians. The east coast doesn't come in so good, although I did listen to WHAM about 3:00 p. m. the other day. Am using an aerial about 40 feet high with a Tobe filtered lead-on. It's okay, best results I've ever had. My total log is 290, with 152 verified."

"On Thursday, Jan. 18, I purchased a 6-tube Majestic table radio Model 461, and am so pleased with it that I couldn't resist telling you," enthuses J. Brent Frey, 4410 Wentworth Road, Baltimore, Md. "In eight days I had logged 105 stations. Among these were KFI, KFSD, KNX, KMPC, KGB

and KGO; XER-XEF, XED, XEFO, XENT, XEAE, XEW and XEBC. I have had CMQ, Havana, and CFRB, CKCR, and CKLW in Canada. These are my prize catches, although I have heard several stations in the region around Utah."

"To date I have 136 stations logged in North America, and two outside," writes 15-year-old Charles Kilbury, 416 N. First St., Yakima, Wash. "Have only been DXing since September and my best catches are KGEZ, KGU, WOR, XEYZ, CKLW, CKY, XEAW, KGDM. I have every station 50,000 watts and above in the continent, except WBOQ. I also have all between 10,000 and 50,000 in the U. S., except WJSV and WBAL. I have no aerial, as I tore it down last October so I could make a better one."

"I received a Philco 16-B for Christmas and have been DXing for a little over a month. I am thoroughly satisfied with the set. I have picked up 180 stations in the U. S., Canada and Mexico. On the s. w. I have received EAQ, GSB, HC2RL, HJ1ABB, LSX and Pontoise. I have all the channels except 1510 which I probably never will be able to get." Thus writes Henry Morgan, 710 Linwood Place, St. Paul, Minn.

Here is another who has just celebrated his first anniversary of DX—R. G. Ludwig, 1463 Fernwood Ave., Toledo, Ohio. "I have verified nearly 400 stations including all states except Wyoming and all provinces except New Brunswick. My best catches include 4QG, HJN, Poste Parisien, KGU, LR5, HHK, WKAQ, KFPM, CMGF, KPCB, WIBG and 10-BQ. I use two sets, a Zenith 9-tube and a Radiotrope 10-tube."

"I now have 624 stations in my log," reports Lee F. Blodgett, 917 1/2 W. Montgomery St., Creston, Iowa.

"I have 46 states of the U. S., eight states in Mexico, eight provinces in Canada and Venezuela, Argentine, Puerto Rico, Hawaii, New Zealand, Australia, Japan and Cuba. I have 402 of them verified. I would appreciate any tips I can get on Maine and Rhode Island. I use an 8-tube Earl, Model 22."

"Poste Parisien comes in fine on 961 kc. (not 959) at 2:10 a. m. with their bugle calls," says Don W. Reynolds, 34 Chambers St., Newburgh, N. Y., who adds: "I have Newfoundland, every province in Canada, Argentina, France, Germany, Mexico, Cuba, HIX, FQN, HAL-2,—all on a 5-tube set. I have every state but Wyoming. I now have a 50-foot cage antenna and an inverted L separated by a knife switch."

"Monday morning, Feb. 5, after 1 a. m., I received Gleiwitz, Germany, IITR and IMI in Italy and SBH in Horby, Sweden," says Ed. Olson, 36 Second St., Natick, Mass. "I have also received Fecamp, France, PP Paris, and Frankfurt, Germany, as well as YV1BC and LR-5. It seems to be impossible for me to pull in a T-P station, Alaska or Hawaii. My total log on the b. c. band is 479. I have all states but Wyoming and Nevada."

"I am giving some of the best stations that I have heard on my Scott receiver," contributes Robert Base, 4105 Alto Road, Baltimore, Md. "HHK, 5CK, CFQC, CKY, WCAT, WDAH, KTSM, 2CO, KLX, KXA, KOOS, KRSC, KWG, KLS, CX26, VE9CK, LR5, KRE, KGDM, Poste Parisien, and KMO. My total stations received now total 675 with 513 verified, 55 of which are 2000 miles or more away. I have received 7 in Australia and one in New Zealand but none from Japan."

"On a 5-tube Lafayette Midget in four days," remarks William Reeder, 729 Belvidere Ave., Plainfield, N. J., "I received 95 stations on the b. c. b. and three police stations. My antenna is 45 feet long with a radiator for a ground. Best catches are KSL, KFI,

KPO, WOAI and CFLC (100 watts). I do all my DXing between 5:00 and 8:30 p. m. and never have listened past 10:00 p. m."

"When I last wrote you I had a total of 180 stations," comments John E. Hawkins, Sallisaw, Okla. "My total is now 356, which includes 116 of 100 watts or less. My best ones are KIEM, KERN, KFXM, KWG, KPCB, KJBS, WRRL, WGNV, CJOC, KSUN, 10-BP and WKAQ. I have heard 43 states and would appreciate a tip from anyone on Maine, New Hampshire, Vermont, Delaware and Rhode Island."

"For the past two years I have been DXing with a 7-tube Airline," says James B. Crusan, 424 Smithfield St., Mt. Pleasant, Pa., "and my log contains 534 stations. Can any of your readers tell me what station broadcasts on approximately 540 kcs. between 10:00 and 11:00 p. m. EST nightly? I would also like to have some information concerning KDKA's new DX club. I would like to hear from other DXers using Airline receivers."

"I have logged 323 stations, 60 in the last 18 days," reports Vernon Parker, U. S. Dam 53, Grand Chain, Ill. "I have an RCA Victor Model R7. My best catches are KPCB, and WNBW, a 10-watter. I have logged 25 California stations, and all 9 of the Los Angeles stations. I live close to the mouth of the Ohio River. The only states that I haven't logged are Maine, Maryland, Vermont, Rhode Island and Idaho. Most of my DXing is done down under the river bank at the U. S. Ohio River Dam 53."

"Would like to hear from others with a set like mine," requests Ray G. Garrett, 124 South D. St., Hamilton, Ohio. "I have a Crosley Fiver, one year old, and have logged 225 stations. I have two in Cuba, CMBZ and CMCW, of 150 watts each; four in Mexico, and five in Canada. Best catches are KGIR, KOH, KQW, KROW, WSVS and XEFO. W8XO (WLW) testing with 500,000 watts

spoils my chances each night after 2:00 a. m."

"I haven't been DXing very long, but I have pulled in quite a number of good catches," admits Seymour R. Parker, Meadow View Farm, Hadley, Mass. "My best are CMBZ, KFAB, KFI, KFOX, KGA, KGNO, KHJ, KJB, KNX, KOA, KOY, KPO, KRKD, KROW, KVOR, WDAF, WEBC, WEDC, WEXL, WIBA, WIBM, WJBK, WOAL, WOS, WOW, WPFB, XEPN and XER. I use a Crosley Dual-six super, and it sure can pull them in. At present have 155 stations but have not bothered for verifications."

"I have 407 veris. up to this date and am striving hard for my N. N. R. C. Super Ace this season," remarks Jack Land, 359 Van Buren St., Toledo, Ohio. "Here are some of my latest catches: KTUL, WAVE, CKCR, XEAC, 10-PB, CMW, CMCW, CMJP, CMBZ, CMCN, KOY, KMPD, KQW, KPCB, KLCN, WSAJ, WPEN, WMAS and CKPC. XEAC said recently that they had 2000 verification cards printed and am I glad, as I want one. WCAE, Pittsburgh, is testing daily in the morning."

"I would like to hear from E. M. Weisharr," pleads Morton Meehan, 563 Adams Ave., Elizabeth, N. J. "I do not know his address. WGY sent his verification to me, and possibly they sent mine to him. From April, 1932, to Jan. 29 I have verified 174 stations and at present have 37 more requests out. My best verified catches are WBBZ, 10-BQ, KGCA, CHGS and KWSC. Stations from the midwest are coming in great this year."

"In 1933 I received my most distant station and also the most distant Southern station, LR5, Buenos Aires, 7600 miles from here," writes Frank Wheeler, 406 Eagle Point, Lakeside, Erie, Pa. "I also received the most distant Northern station, CJCA. I now have all states but Wyoming, and all provinces in Canada, but can't get Newfoundland. I now have 42 Pacific Coast stations."

"Please send me your DX Log of

the World," urges Frank A. Kunkel, Box 47, Stanhope, N. J. "I want to keep posted on the foreigners, especially Europe. Have logged four so far, P. P., Normandie, Stuttgart and Heilsberg. Am awaiting veris from the last named three; also LR5, CX26, HJN, KGU and TGW. The last named was heard Sunday morning, Jan. 14, on about 1130 kcs., at 4:00 o'clock."

"I have never seen anything in RADEX about the little five-tube Erla," remarks Harold Shippy, 19 Hillcrest Ave., Wethersfield, Conn. "I think it is a mighty fine set and it sure brings in the stations. I am 14 years old and have been DXing about a year. To date my log stands at 300 stations. For an aerial I use 75 feet of wire across the attic, and use a radiator for a ground."

"I have raised my log from 400 to 552 since September," reports David Greensides, 831 Princess St., Regina, Sask. "I have now logged 429 in the U. S., 36 in Canada, 21 in Mexico, 18 in Japan, 7 in Cuba, 9 in Australia,



Andre Kostelanetz, nationally-known CBS conductor, in a new three-a-week series for Chesterfield. Mondays, Wednesdays and Saturdays, at 9:00 p. m. EDT

one in New Zealand, two in South America and one in Porto Rico. I have 17 police, 7 amateurs and two ships at sea. I use a Model D50, 5-tube Sonora."

"I am an early evening DXer," says John J. Swatko, 216 5th Ave., Homestead, Pa. "In the evening hours and Sunday mornings, I have heard 406 stations of which 291 are verified. I use an old R-32 Victor. My antenna is 72 feet long and 38 feet high, running north and south." John would like to hear from any owner of the same set who has tried a wave-trap.

Quick work and fast is reported by Leo Lukasik, 150 Germain St., Buffalo, N. Y. "I bought your magazine last month and started DXing the same day. I have received 201 stations to date. On the short waves I have received GSE, GBB, EAQ, DJB, XDA, WOB and GBU. I am using a new RCA-Victor Globe Trotter, Model 121."

Charles Streuber, 532 W. Glenoaks Blvd., Burbank, Calif., sends us his complete log which is of course too long to print. We note nine stations in Australia, two in Alaska, two in China, two in Cuba, 24 in Japan, Formosa and Korea, two in Germany, two in Great Britain, two in Uruguay and one in Czechoslovakia. A very fine record.

Robert Osborne, Stellarton, Nova Scotia, tells us he has now received 60 European stations. It looks as though radio signals are following the airplane route from Europe to North America. His latest are the Germans on 1348, 1330 and 1267, Copenhagen, Poznan, Katowice, Vienna, and Florence.

"I started DX in April, 1933, and since then I have logged 429 stations," summarizes H. Henry Searles, 349 Broadway, Rochester, N. Y. "I was able to receive and verify LR-5 in Buenos Aires on Dec. 5 on my Regal International Model J. Other good catches are WKAQ, 10-BQ, KLUF, KFDV, CMJK, XEAE and XED."

"Since writing you a year ago I have raised my log from 380 to 460 stations," records Dick Stubbs, Okanagan Mission, B. C. "Among the new ones I have LR5, WKAQ, WCSC, CKNC and WHEB as my best. The T-P's do not seem to be as good here this season as last, but just recently I heard JOBG and JOXK."

"Since November I have received 276 stations," remarks Frank Block, Nemaocolin, Pa. "Would have had more, but haven't tried the frequency checks, except for two hours in two nights when I got 34 out of 37. I own a Philco 91-X and would like to correspond with others owning this same model."

"I purchased a Marconi 8-tube set last September," advises M. Edison MacLeod, Glencoe Station, P. E. I., "and have to date a total of 257 stations in Canada, West Indies, Mexico, and 42 of the United States. Among my best catches, all received on loud speaker, are WSVS, WNBZ, WEXL, CMCD, CMC, WKAQ, XEB and XEFO."

"Have been DXing on a large scale for about two weeks," records Byron Bair, 33 Park Ave., New London, Ohio, "during which time I have logged 94 stations (35 verified) on the b. c. b., 55 police, and about 75 amateur phone stations. I use a Crosley Model 168. My best catches are XER, XEPN, KFI, KNX, KFNF, KFSD, KMA, KWKC and KTUL."

"Using a Philco Model 62 with 6 tubes, I have logged to date 624 stations, verifying 485," reports George Wills, 16 Albert St., St. Catharines, Ont. "Best verified are YV1BC, HJN, HIX, KGU, JOAK, JOCK, JOIK, 2YA, 3LO, 4QG, 2BL, VONF, WKAQ, KFPM and VE9EK. I've sent to CX26 and Poste Parisien and expect answers soon."

James Boyle, 4942 Ellis Ave., Chicago, Ill., has been DXing for three weeks and wants to know if he is doing all right. Here's his list: 40 in U. S., 4 in Canada, 4 in Mexico, one in Hawaii. "Some of my best ones," says James, "are KGMB, KFI,

KOA, CFRB, WAPI, WDAE, WDAY and XEPN. My radio is a Philco 5-tube." Okay, Jimmy!

"In five weeks with my 4-tube Crosley 169, I have logged 180 stations including four in Mexico, ten in Canada and three in California," reports Robert Hoffman, 306 West School Lane, Germantown, Philadelphia.

"I am not as great a DXer as some of those in RADEX," admits Jesse Brant, 431 S. Front St., Milton, Pa., "but I have over 300 stations and every one of the channels. My best are KNX, KFI, KEX, XEAW, XENT, and 10-BP."

S. W. from the Atlantic

(Continued from page 36)

tions is GSA on 49.6 m. from 4:00 to 6:00 p. m. GMT. Since December 17th, when we made Alexandria, Egypt, as our first port of call, I have failed to get the new broadcast at 5:00 to 5:15 p. m. only when I was not on board the ship at the time, which was not very often.

The ports we have made since then are Port Said, Port Suez, Port Sudan in Egypt; Aden in Arabia; Karachi, Bombay, in India. At this moment, here in Calcutta, Henry Hall and the BBC dance orchestra are furnishing good dance music. The reception is most excellent—no static at all. I believe the distance from Calcutta to London by airline is almost 5000 miles. Taking it day after day, I call it good, consistent reception. GSB at times is interfered with by PLV who sends the call PLV-PMD at times.

There are other stations that are received out here regularly. I do not follow them closely as the language used is not English and, excepting music, their programs are not understood. On the broadcast band the station in Colombo, Ceylon, and XGOA, Nanking, China, are easily received here each night.

William S. Vincent,
New Orleans, La.

The National Radio Club

WHILE not the largest radio club, the National is by no means the smallest. Our members are scattered from coast to coast in the U. S. and Canada. This club was organized Sept. 1, 1933, by some of the members of the disbanded Buffalo Evening News DX Club together with several members of other clubs. Robert H. Weaver, 603 W. Market St., York, Pa., was elected president. On Jan. 16, 1934, the popular Atlantic Radio Club merged with this new organization followed on Feb. 5, 1934, by the Central DX Club, La Grange, Ill.

The cost of membership is \$1.25 per year and club stationery and stickers can be purchased at a nominal cost. Each week during the DX season, a four-page bulletin is mailed to every member of the club, containing the latest DX news and tips. During its brief existence, the National Radio Club has arranged for no less than 150 special programs.

Keith L. Freas, 73 Delwood Road, Kenmore, N. Y., has charge of the Singleton and Eliminator contest. This is an interesting contest and the club members are finding thrills in trying to outdo the others in verifying stations.

Cooperation with and courtesy to the other clubs and stations are two rules which are never forgotten. The NRC will be ready to back any project to prevent the clashing of DX activities.

The above article is by Luther E. Grim, 505 S. Main St., Red Lion, Pa., newly appointed publicity manager of the NRC.

Bill Brenton, who was doing freelance announcing on Columbia last year while he continued his graduate studies, is again a regular member of the announcing staff, replacing Louis Dean, who has joined a large eastern advertising agency.

A Great Japanese Radio Engineer

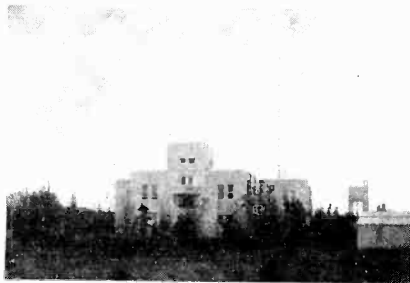
An intimate view of Hidewo Kikutani, a well-known Japanese radio engineer, as expressed to the Shortwave Editor of RAVEK by W. H. REEKS, Corresponding Secretary of the Chicago Short Wave Radio Club.

“**T**HAT which we call a rose by any other name would smell as sweet,” and Kikutani, which in English means “Chrysanthemum Valley,” by any other name would continue to be a Japanese gentleman of the highest order. As “Chrys,” by which name he is affectionately known among his American friends and which he good-naturedly insists upon being called, an introduction might be necessary, but as Hidewo Kikutani he is known the world over by those interested in shortwave radio transmission, as engineer-in-chief of J1AA, the short-wave station of the Department of Communications of the Japanese Government.

Chrys has the keenest appreciation of humor and wit, and can give and take a joke with a smile that frequently develops into hearty laughter—that infectious sort of laughter that one reads about but seldom hears and in which others are impelled to join, leaving a “keep smiling” sign on their faces for hours afterwards.

When at work or in serious vein, Chrys takes on an air of profound earnestness, which perhaps accounts in part for his success as Chief-Engineer of his Government’s radio stations during the past ten years, having taken charge at a very early age, and for the well-deserved promotion that awaits him upon his return to Tokio next July after visiting the important broadcasting and communication organizations of the world.

Perhaps if listeners realized that all correspondence addressed to J1AA in the past was answered by Chrys personally, if a reply was forthcoming, they would understand why all reception reports could not be acknowledged, especially as he was



This is the extremely modern home of the Kemikawa Radio Sending Station, J1AA, located at Kemikawa-Cho, Chiba-Ken, Japan, of which Hidewo Kikutani is Engineer-in-Chief.

exceedingly busy practically all of the time with matters of major importance. Those who have received confirmation of reception from the Kemikawa Sending Station will agree that Chrys writes English perfectly and that he excels the average American in penmanship. Those who have post card photographs from the station will undoubtedly prize them the more highly when they learn that all such views were not only taken by Chrys with his own cameras, but also developed and printed by him.

Suffice it to say that Mr. Kikutani is one hundred per cent a gentleman; courteous, good-natured, witty, humorous, but withal, dignified. One can but recognize in him a splendid representative of Japan’s one hundred millions, who have just recently celebrated the 2,594th year of a dynasty of unbroken succession, and we welcomed him most cordially in Chicago, where for one week he was the guest of the Chicago Short Wave Radio Club, as a messenger of international good-will from the Land of the Rising Sun.

Harsh, raspy or fuzzy tone in the Dynacone speaker may be traced either to loose parts of the speaker or to hardened damping blocks at the ends of the armature in the unit. Replace these with new ones cut from thin rubber such as a bathing cap. Reassemble unit and adjust properly.

WHAT'S ON THE AIR TONIGHT?

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

COLUMBIA.....(C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

TIME: ED Eastern Daylight; E Eastern; C Central; M Mountain.
For Pacific Time subtract one hour from Mountain.

While these programs are correct at the time of going to press changes are made from time to time. Due to change to Daylight Saving Time on April 29, some of the stations listed will be unable to carry particular features.

MONDAY

ED-6:00 p.m., E-5:00, C-4:00, M-3:00
C — Buck Rogers in 25th Century
CKLW WAAB WABC WADC WBT
WCAO WCAU WDRG WEAN WHK
WJSV WKBW WOKO

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

ED-6:15 p.m., E-5:15, C-4:15, M-3:15
C — Bobby Benson; Sunny Jim
WAAB WABC WCAU WDRG WEAN
WFBL WGR WHC WHK WLBZ
WMA5 WOKO WORC

ED-6:30 p.m., E-5:30, C-4:30, M-3:30
R — Irene Beasley, Songs
KGO KOA WAPI WBEN WCKY
WEAF WFBR WGY WHO WJDX
WMC WOC WSAI WSD WSM WSMB
WSPD WTAR WTOG

C — Sam Robbins and Orchestra
CKLW KLRA KLZ WAAB WADC
WBIG WBRC WCAO WDAE WDBJ
WDBO WDOD WDRG WDSU WFBL
WFEA WGST WHFC WHF WICC
WJAS WJSV WKBN WKWB WLAC
WLBW WLBZ WMA5 WKBW WOKO
WORC WQAM WRFC WSPA WSJS
WSPD WTAR WTOG

ED-6:45 p.m., E-5:45, C-4:45, M-3:45
B — Lowell Thomas
CRCT KDKA WBAL WBZ WBZA
WFLA WGAR WHAM WIOD WJAX
WJR WJZ WLW WMAL WPTF
WRVA

ED-7:00 p.m., E-6:00, C-5:00, M-4:00
C — Myrt and Marge
CKLW KRLD WABC WADC WBT
WCAO WCAU WDAE WDBO WDRG
WEAN WFBL WGR WHK WJAS
WJSV WKRC WNAC WOKO WQAM
WSPD WTOG WYVA

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

ED-7:15 p.m., E-6:15, C-5:15, M-4:15
C — Just Plain Bill
CFRB CKLW WABC WCAO WCAU
WGR WHK WJSV WKRC WNAC
B — Baby Rose Marie, Songs
KDKA WBAL WBZ WBZA WHAM
WJZ WMAL WSYR

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Music in the Air
WABC WCAO WCAU WDRG WEAN
WFBL WFEA WGR WHC WICC
WJAS WJSV WLBZ WNAC WOKO
WORC

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

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

ED-7:45 p.m., E-6:45, C-5:45, M-4:45
C — Boake Carter; Philco
CKLW KMBC KMOX WABC WBBM
WBT WCAO WCAU WCCO WGR
WJAS WHK WJAS WJSV WNAC

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

ED-8:00 p.m., E-7:00, C-6:30, M-5:00
C — Happy Bakers
CKLW WABC WADC WCAH WDRG
WFBM WGN WGR WHC WHK
WICC WJSV WMA5 WMBG WMT
WNAC WORC WSPD WYVA

R — Soconyland Sketches
WBEN WCAE WCSH WEAF WEEL
WGY WJAR WSAI WTAG WTAM
WTC

ED-8:15 p.m., E-7:15, C-6:15, M-5:15
C — Edwin C. Hill
CKLW KMBC KMOX WABC WADC
WCAO WCAU WCCO WDRG WEAN
WFBL WFBM WGN WGR WHK
WJAS WJSV WKRC WNAC WOKO
WSPD

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Bing Crosby
CKLW KDB KERN KFBK KFPY
KFRG KGB KHJ KLZ KMBC KMJ
EMOX KOIN KOL KSL KVI KWG
WABC WADC WCAO WCAU WDRG
WEAN WFBL WFBM WGN WGR
WHAS WHK WJAS WJSV WKRC
WNAC WOKO WOV WSPD

R — Voice of Firestone
CFCF CRCT KFYR KPRC KSD
KTBS KTHS KVOO WREN WCSH
WDAF WDAY WEAF WERC WEEL
WFAA WFBR WFLA WGY WHO

WIOD WIS WJAR WJAX WJDX
WKY WLIT WLW WMAQ WMC
WOAI WOC WOV WRC WRVA WSB
WSM WSMB WSPC WTAG WTAM
WTIC WTMJ WWJ WWNC

ED-8:45 p.m., E-7:45, C-6:45, M-5:45
B — Babe Ruth; Baseball Comment
KDKA KSO KWCR KWK WBAL
WBZ WBZA WCKY WGAR WHAM
WJZ WLS WMAL WREN WSYR

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Andre Kostelanetz' Orchestra
CKLW KDB KERN KFBK KFH
KFPY KFRG KGB KGM KJH
KLRA KLZ KMBC KMJ KMOX KOH
KOIN KOL KOMA KSL KTAT KTSA
KVI KWG WABC WADC WBBM
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDRG
WDSU WEAN WFBL WFBM WGST
WHAS WHC WHK WICC WJAS
WJAS WJSV WKBW WKRC WLAC
WLBZ WMBG WMT WNAC WOKO
WORC WOV WPG WQAM WREC
WRR WSPD WTAR WTOG

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

B — Sincilar Minstrels
KDKA KFYR KOA KOIL KPRC
KSO KSTP KTB5 KTHS KVOO
KWCR KWK WBAL WBZ WBZA
WDAY WDCB WFAA WFLA WGAR
WHAM WJBA WIOD WIS WJAX
WJDX WJR WJZ WKY WLS WLW
WMC WOAI WPTF WREN WRVA
WSB WSM WSMB WTMJ WWNC

ED-9:30 p.m., E-8:30, C-7:30, M-6:30
C — The Big Show
CFRB CKLW KDB KERN KFBK
KFPY KFRG KGB KHJ KLZ KMBC
KMJ KMOX KOIN KOL KRLD
KSL KVI KWG WABC WADC
WBBM WBT WCAH WCAO WCAU
WCCO WDRG WDSU WEAN WFBL
WFBM WHAS WHK WICC WJAS
WJSV WKWB WKRC WLAC WNAC
WOKO WOV WRC WSPD WTAR

R — Dal Monte Ship of Joy
KDYL KOA KPRC KSD KSTP
KTBS KVOO WREN WCAE WCSH
WEAF WECB WEEL WFAA WFBR
WFLA WGY WHO WIOD WIS
WJAR WJAX WKBF WKY WLIT
WMAQ WOAI WOC WOV WRC
WRVA WSAI WTAG WTAM WTMJ
WWJ WWNC

MONDAY—(Continued)

B — Jack Frost's Melody Moments
 KDKA WBAL WENR WGAR WHAM
 WJR WJZ WLW

ED-10:00 p.m., E-9:00, C-8:00, M-7:00
C — Wayne King and Orchestra

CKLW KALE KDB KERN KFRC
 KGB KHJ KLZ KMBC KMOX
 KOIN KOL KSL KWG WAAB WABC
 WADC WBBM WCAO WCAU WCCO
 WDRC WEAN WFBL WFBM WGR
 WHAS WHK WJAS WJSV WKRC
 WOKO WOWO WSPD

R — Contented Program
 CFCF CRCT KDYL KFI KFYY
 KGO KGW KHQ KOA KOMO KPRC
 KSTP WCHS WFAF WFCB WEEL
 WFBP WJAR WLIT WMC WQAI
 WRC WSR WSM WTAG

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
B — Henri Deering, Concert Pianist

KFYR KOIL KPRC KSO KSTP
 KTBS KVOO KWCH WBAL WBZ
 WBZA WCKY WEBC WFAA WHAM
 WJBA WJDX WJZ WKY WMAL
 WQAI WREN WSB WSM WSMB
 WSYR

R — National Radio Forum
 CRCT KSD WAPI WBEH WCAE
 WCHS WDAF WEAF WEEL WFBP
 WGY WHO WJAR WJDX WLIT
 WLW WMAQ WMC WOC WOW
 WRC WSB WSMB WTAG WTAM
 WTC WWJ

ED-10:45 p.m., E-9:45, C-8:45, M-7:45
C — Myrt and Marge

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

ED-11:00 p.m., E-10:00, C-9:00, M-8:00
C — Tito Guizar, Tenor

CKLW KPH KLRA KLZ KMBC
 KOMA KTRH KVOR WAAB WABC
 WACO WADC WBNS WBRC WBT
 WCAO WDBJ WDBO WDOD WDRC
 WDSU WFBM WGLC WHAS WHEC
 WHK WHP WIBW WIP WJAS WJSV
 WKBW WLAC WLWB WMBG WOKO
 WPG WQAM WREC WSJS WSPD
 WTAR WTQC

B — Amos 'n' Andy
 KDYL KFI KGO KGW KHQ KOA
 KOIL KOMO KPRC KSTP KTBS
 KWK WBAP WDAF WENR WKY
 WMAQ WMC WOI WREN WSB
 WSM WSMB WTAM

ED-11:15 p.m., E-10:15, C-9:15, M-8:15
C — News Service

CFRB CKAC CKLW KFAB KPH
 KLRA KLZ KOMA KSCJ KTRH
 KTSB KVOR WAAB WABC WACO
 WADC WBBM WBNS WBRC WCAO
 WDAE WDBJ WDOD WDRC WDSU
 WFBL WGST WHEC WHP WIBW
 WIP WISN WJSV WKBN WKWB
 WKRC WLAC WLWB WLWB WMAS
 WMBD WMBG WMT WMAX WODX
 WOKO WORC WPG WREC WSJS
 WSPD WTAR WTQC

ED-11:30 p.m., E-10:30, C-9:30, M-8:30
C — Charlie Davis and Orchestra

CFRB CKLW KPH KLRA KLZ
 KMBC KOMA KTRH KVOR WABC
 WADC WBNS WBRC WBT WCAO

WDBJ WDBO WDOD WDRC WDSU
 WEAN WFBM WGLC WHAS WHEC
 WHP WIBW WICC WIP WJAS
 WJSV WKWB WLAC WLWB WLWB
 WMAS WMBG WNAO WOKO WORC
 WPG WQAM WREC WSBT WSJS
 WSPD WTAR

R — Voice of Firestone
 KDYL KFI KPSD KGHK KGIR KGO
 KGU KGW KHQ KOA KOMO KTAR

TUESDAY

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

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

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

R — Mid-Week Hymn Sing
 KDYL KFYY KGIR KPO KPRC
 KTBS KTHS KVOO WDAY WEAF
 WFAA WPI WGY WHO WJBA WIS
 WJAX WJDX WMAQ WQAI WOC
 WRC WSAI WTAG WUNC

C — Mischa Raginsky and Ensemble
 CKLW KLRA WAAB WABC WADC
 WBRC WBT WCAO WDAE WDBJ
 WDRO WDOD WDSU WFEA WGLC
 WGST WHEC WHP WICC WJAS
 WJSV WLAC WLWB WLWB WMAS
 WMBG WOKO WORC WQAM WREC
 WSPA WSJS WSPD WTAR WTCO

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

C — Morton Downey
 CFRB CKLW KFAB KLRA KLZ
 KMBC KOMA KSCJ KTRH
 KTSB KVOR WABC WACO WADC
 WBNS WBRC WCAO WCCO WDAE
 WDBJ WDHO WDOD WDRC WDSU
 WFBM WFEA WGLC WGST WHEC
 WHP WIBW WICC WISN WJAS
 WLAC WLWB WLWB WMBG WMT
 WOKO WORC WQAM WREC WSPA
 WSJS WSPD WTAR WTCO WVVVA

R — Cheerio Musical Miscelca
 KDYL KOA KPO KSD WKY
 WEAF WEEL WFBP WFLA WGY
 WHO WIOD WIS WJAR WJAX
 WJDX WMAQ WOC WOW WRVA
 WSAI WSM WSOC WTAG WWJ
 WWNC

B — Lowell Thomas, See Monday

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

C — Myrt and Marge, See Monday

B — Amos 'n' Andy, See Monday

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

C — Just Plain Bill, See Monday

B — You and Your Government

KDKA KECA KEX KFSD KFVR
 KGA KGHK KGIR KJR KOA KOIL
 KPHC KTRH KTBS KTHS KVOO
 KWCR KWK KYA WAPI WBZ WBSZ
 WCKY WFLA WHAM WJBA WIS
 WJDX WJZ WMAL WQAI WPTF
 WREN WSMB WUNC

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

R — Johnny Russell; Carolyn Rich
 KSD WCHS WEAF WFBP WGY
 WJAR WMAQ WRC WSAI WTAM

C — Silver Dust Serenaders

WABC WCAU WDRC WFBL WGR
 WHEC WJAS WMAS WOKO WORC
 WWVA

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

C — Boake Carter, See Monday

R — Goldbergs, See Monday

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

C — Little Jack Little
 CKLW KPH KLRA KMBC KMOX
 KOMA KPAT KTEL WABO WADC
 WBBM WABC WCCO WDRC WFBM
 WGR WHEC WHK WIGG WISN
 WJSV WMAS WMBG WMT WNAO
 WREC WRR WSPD WVVVA

R — Leo Reisman's Orchestra

KDYL KFI KGO KGW KHQ KOA
 KOMO KSD WBEN WCAE WCHS
 WEAF WEEL WFBP WPI WGY WHO
 WJAX WKBF WLS WMAQ WOC
 WOW WRC WSAI WSB WSMB
 WTAG WTAM WTMJ WWJ

B — End Crime Clues

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

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

C — Voice of Experience

CKLW KMBC KMOX KTRH WABC
 WBBM WBT WCAO WCAU WCCO
 WDRC WDSU WEAN WFBL WGR
 WHAS WHK WIBW WJAS WJSV
 WKRC WNAO WOWO

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

B — Hudson; Conrad Thibault

KOIL KSO KWCR KWK WBAL WBZ
 WBAZ WGAR WHAM WJZ WLS
 WLW WMAL WREN

R — Wayne King and Orchestra

KPRC KSD KSTP WBEH WCAE
 WCHS WDAF WEAF WEEL WFAA
 WFI WGY WHO WJAR WKBF
 WJY WMAQ WMC WQAI WOC
 WOW WRC WSAI WSB WSMB
 WTAG WTAM WTMJ WWJ

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

C — Raymond Paige and Orchestra

KDB KPH KLRA KLZ KMOX KOIN
 KOMA KSCJ KSL KTRH KTSB
 KVOR WABC WACO WADC WBNS
 WCAO WCAU WCO WDAE WDBJ
 WDBO WDOD WDRC WDSU WEAN
 WFBL WFBM WFEA WGR WGST
 WHAS WHC WHP WIBW WICC
 WISN WJAS WJSV WKBN WLAC
 WLWB WLWB WMAS WMBG WMT
 WMAX WODX WOKO WORC WPG
 WQAM WREC WSBT WSJS WSPD
 WTAR WTCO

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

R — Ben Bernie and Orchestra

KFYR KOA KPRC KSD KSTP
 WBAP WBEN WCAE WCHS WDAY
 WEAF WEEL WFBP WPI WGY
 WHO WJAR WKY WLW WMAQ
 WMC WQAI WOC WOW WRC
 WRVA WSB WSM WSMB WTAG
 WTAM WTMJ WWJ

B — Household Musical Memories

KDKA KSO KWK WBAL WBZ WBZA
 WHAM WJR WJZ WKBF WLS
 WREN WSYR

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

C — Ruth Etting; Johnny Green

CKLW KDB KERN KFBC KFH
 KFPY KFRC KGB KHJ KLRA KLZ
 KMBC KMJ KMOX KOIN KOL
 KOMA KSCJ KSL KTRH KTSB KVI
 KWG WAAC WADC WBBM WBCA
 WBT WCAH WCAO WCAU WCCO
 WDAE WDRC WDSU WEAN WFBL

TUESDAY—(Continued)

WFBM WGST WHAS WHEC WHK
WIBW WICC WISN WJAS WJSV
WKBW KWRC WLAC WMBD WMT
WNAC WOKO WOWO WPG WQAM
WREC WRSJ WSPD WTAR WTOC

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

R — Texaco Fire Chief Program
KDYL KFI KFSD KFYR KGH
KGIR KGO KGW KHQ KOA KOMO
KPRC KSD KSTP KTAR KTBS
KVOO WBAP WEAF WCAE WCHS
WDAD WDAY WDEB WEBC WEEL
WFBF WFL WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX
WKY WLW WMAQ WMC WOAI
WOC WOW WPTF WRC WRVA
WSB WSM WSMB WTAG WTAM
WTMJ WJW WNNC

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

C — Minneapolis Symphony Orchestra
CKLW KDB KERN KFBK KFPY
KFRC KGB KHL KLZ KMBC KMJ
KMOX KOIN KOL KOMA KRLL
KSL KVI KWG WABC WADC WBBM
WBRC WBT WCAO WCAU WCCO
WDRS WDSU WEAN WFBL WFBM
WHAS WHK WJAS WJSV WKBW
WKRC WMBG WMT WNAC WNAX
WOKO WOWO WSPD

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

R — Palmolive Beauty Box
KDYL KFI KFSD KFYR KGH
KGIR KGO KGW KHQ KOA KOMO
KSD KTAR KTBS WAPI WAVE
WBEN WCAE WCHS WDAY WFAF
WEBC WEEL WFBF WFLA WGY
WHO WOD WIS WJAR WJAX WJDX
WKY WLW WMAQ WMC WOAI
WOC WOW WPTF WRC WRVA
WSM WSMB WSOC WTAG WTAM
WTMJ WJW WNNC

C — Camel; Glen Gray's Orchestra

CKLW KDB KERN KFBK KFH
KFPY KFRC KGB KHJ KLRA KLZ
KMBC KMJ KMOX KOIN KOL
KOMA KRLL KSCJ KSL KTRH
KTSa KVI KWG WAAB WABC
WACO WADC WBBM WBIG WBRC
WBT WCAH WCAO WCAU WCCO
WDAE WDBJ WDBO WDOD WDRS
WDSU WFBL WFBM WFEA WGST
WHAS WHEC WHK WHP WIBV
WICC WJAS WJSV WKBW WKBW
WKBW WJRC WLAC WLWB WMAS
WMBD WMBG WMT WNAX WODX
WOKO WORC WOWO WPG WQAM
WREC WRSJ WSPD WTAR WTOC

B — Ray Perkins; Harold Stokes

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

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

C — Conflict; Drama
CFRB CKLW KFH KLRA KLZ
KMBC KOMA KRLL KSCJ KTRH
KTSa KVOR WAAB WABC WACO
WADC WBNS WBRC WBT WCAO
WDAE WDBJ WDBO WDOD WDRS
WDSU WFBL WFBM WFEA
WGLC WGST WHEC WHP WICC
WIP WISN WJAS WJSV WLAC
WLWB WLWB WMAS WMBD WMBG
WMT WNAX WODX WOKO WORC

WPG WQAM WREC WRSJ WSPD
WTAR WTOC

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

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

E — Amos 'n' Andy, See Monday
C — Harlem Serenade
CKLW KFH KLRA KMBC KOMA
KSL KTRH KTSa KVOR WAAB
WABC WACO WADC WBNS WBRC
WBT WCAO WDAE WDBJ WDBO
WDOD WDRS WDSU WGLC WGH
WHEC WHK WHP WIBV WIP
WJAS WJSV WLWB WMBG WODX
WOKO WREC WRSJ WSPD WTAR
WTOC WVVA

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

ED-11:30 p.m., E-10:30, C-9:30, M-8:30
C — Charles Barnett and Orchestra

CFRB CKLW KFH KLRA KLZ
KMBC KOMA KSL KTRH KTSa
WABC WADC WBRC WCAO WDBJ
WDRS WDSU WEAN WFBL WFBM
WGST WHK WHP WIBV WISN
WJSV WKBW WLAC WLWB WMBD
WMBG WMT WNAC WOKO WORC
WQAM WREC WSBT WRSJ WTAR
WTOC WVVA

ED-11:45 p.m., E-10:45, C-9:45, M-8:45
C — Voice of Experience

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

WEDNESDAY

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

C — Buck Rogers, See Monday
B — Westminster Choir
KOIL KSO KWCR KWK WBAL
WCKY WGAR WHAM WJZ WMAL
WREN WSYR

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

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

R — International News Service
KFSD KGA KGH
KGIR KJR KOA
KPO KPRC KSD KTBS WAPI WBEN
WDAF WDAY WFAF WFBF WGY
WIBV WIS WJAX WJDX WOAI
WRC WNNC

B — Irene Bessey, Centralie
KGO KOA KPRC KSO KTBS KVOO
KWCR WBAL WBAP WCKY WENR
WGAR WJZ WOA WREN

C — Enoch Light and Orchestra

CKLW KLRA WAAB WADC WBIG
WBRC WCAO WDAE WDBJ WDBO
WDOD WDRS WDSU WFEA WGST
WHP WHP WIC WJAS WJSV
WKBW WLWB WLWB WMAS WMBG
WOKO WORC WQAM WREC WSPA
WRSJ WSPD WTAR WTOC

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

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

B — Amos 'n' Andy, See Monday

ED-7:15 p.m., E-6:15, C-5:15, M-4:15
C — Just Plain Bill, See Monday

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Music in Air, See Monday

R — Mollie Show, See Monday

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

R — Goldbergs, See Monday

B — Irene Rich in Hollywood

KDKA WBAL WBZ WBZA WCKY
WENR WJZ WMAL WMC WSB WSM
WSMB WSYR

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
R — Jack Pearl, Baron Munchausen

CFCE KDYL KFI KFYR KGO KGW
KHQ KOA KOMO KSD KTAR KTBS
KVOO WAVE WBEN WCAE WCKY
WCHS WDAF WDAY WFAF WHEC
WEEL WFBF WGY WHO WIBA
WJAR WJDX WLIT WMAQ WMC
WOAI WOW WPTF WRC WSAI
WSMB WTAG WTAM WTIC WTMJ
WJW WNNC

C — Happy Bakers, See Monday
B — Eno Crime, See Tuesday

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

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Albert Spalding; Conrad Thibault

CFRB CKAC CKLW KDB KERN
KFBK KFPY KFRC KGB KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KSL KTAT
KTRH KTSa KVI KWG WABC
WBRC WCAO WCAU WCCO WDOD
WDRS WDSU WEAN WFBL WFBM
WGN WGR WGST WHAS WHT
WJAS WJSV WKRC WLAC WMT
WNAC WOKO WORC WLOW WREC
WRR

B — Dangerous Paradise, Drama

CFCE KDKA KOIL KSO KWCR
KWK WBAL WBZ WBZA WGAR
WHAM WJR WJZ WLS WMAL
WREN WSYR

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
R — Wayne King, See Tuesday

ED-8:45 p.m., E-7:45, C-6:45, M-5:45
B — Babe Ruth, See Monday

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
R — Hour of Smiles; Fred Allen

KPRC KSD KSTP KTBS KVOO
WBEN WCAE WCHS WDAF WFAF
WHEC WFBF WGY WIOD WIS
WJAR WJAX WKY WLIT WLW
WMAQ WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WTAG
WTAM WTIC WTMJ WJW

C — Andre Kostelanetz, See Monday
B — Ray Knight and Cuckoos

KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WCKY WGAR
WHAM WJR WJZ WKBFB WLS
WMAL WREN WSYR

ED-9:30 p.m., E-8:30, C-7:30, M-6:30
C — Guy Lombardo — Burns and Allen

CKLW KDB KERN KFBK KFPY
KFRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KOMA KRLL
KSL KTRH KTSa KVI KWG WABC

WEDNESDAY—(Cont'd)

WADC WBT WCAO WCAU WCCO
WDRG WFRN WFBL WFHM WGN
WHK WJAS WJSV WKBW WKRC
WNAC WOKO WORC WOWO WSPD

B — Non-Spi Program

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

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

C — Old Gold—Ted Fiorito and Orch.
CKLW KDB KERN KFRK KFOR
KFYP KPRC KGB KHJ KLRA KLZ
KMBC KMJ KMOX KOH KOIN
KOL KOMA KRLD KSCJ KSL
KTRH KTSB KVI KVOR KVG
WABC WACO WADL WBIG WBRC
WBT WCAH WCAO WCAU WCCO
WDAE WDBJ WDRD WDDO WDRG
WDSU WEAN WFBL WFHM WFEA
WGN WGST WHAS WHCZ WHK
WHP WIBW WICC WISN WJAS
WJSV WKBH WKBW WKRC WLAC
WLBW WLZ WMAS WMBD WMBG
WMT WNAC WNAX WOKO WORC
WOWO WPG WQAM WREC WSPD
WTAR WTOC

R — Corn Cob Pipe Club

KDYL KFI KFYR KGHL KGIR
KGO KGW KHQ KOA KOMO KSD
KSTP WBEN WCAE WCSH WDAF
WDAY WEAF WEBC WEEI WENR
WFBZ WGY WHO WJAZ WJAR
WLIT WLW WOC WOW WRC
WRVA WTAG WTAM WTIC WTMJ
WVJ

B — Vincent Lopez and Orchestra

KDKA KDYL KPRC KSO KTBS
KWCR KWK WAPI WAVE WBAL
WBZ WBZA WCKY WFAA WFLA
WGAR WHAM WIOD WIS WJAX
WJDX WJZ WKBF WKY WMAL
WMAQ WMC WOAI WPTF WREN
WSB WSM WSMB WSOB WSYR
WVNC

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

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

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

C — Myrt and Marge, See Monday

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

B — Amos 'n' Andy, See Monday
C — Nick Lucas, Songs
CKLW KFH KLRA KLZ KMBC
KOMI KSL KTRH KTSB KVOR
WAAB WABC WACO WADC WBNS
WBT WCAO WDAE WDBJ WDRD
WDDO WDRG WDSU WGLC WHAS
WHCZ WHIP WIBW WIP WJAZ
WJSV WLAC WLWB WMBG WODX
WOKO WOWO WPG WQAM WREC
WSJS WSPD WTAR WTOC

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

B — Ray Knight and Cuckoos
CFCC KDYL KFI KFSN KGHL KGO
KGW KHQ KOA KOMO KPRC WAPI
WBAP WFLA WKY WMC WOAI
WRVA WSR WSMB WSOB

C — News Service, See Monday

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

C — Little Jack Little
KLRA WABC WBRC WBT WCAO
WDAE WDBJ WDRD WDRG WDSU
WEAN WGST WICC WIP WJSV
WLAC WLJZ WMAS WMBG WNAC
WORC WPG WQAM WREC WSJS
WTAR

ED-12:00 mid., E-11:00, C-10:00 M-9:00

R — Hour of Smiles; Fred Allen
KDYL KFI KGO KGW KHQ KOA
KOMO

THURSDAY

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

C — Buck Rogers, See Monday
B — Richard Himber and Orchestra
KOIL KSO KWCR WBAL WBZ WRZA
WCKY WENR WHAM WJR WJZ
WMAL WREN WSYR

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

C — Bobby Benson, See Monday

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

C — Mischa Raginsky, See Tuesday
R — John B. Kennedy
KDYL KFYR KOA KPO KPRC KSD
KTBS KTHS KVOO WAPI WDAY
WEAF WTBR WFI WGY WHO WJAZ
WJAX WJDX WMAQ WMC
WOR WRC WSAI WSB WSMB WTAG
WVJ WVNC

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

C — Sylvia Froos, Songs
CFRB CKLW KLRA KOMA KSCJ
KTRH KTSB KVOR WABC WACO
WADC WBRC WCAO WCCO WDAE
WDBJ WDRD WDDO WDSU WFLA
WGLC WICC WIP WISN WLWB
WLWB WMBG WOKO WORC WQAM
WREC WSEA WSJS WTAR WTOC

B — Lowell Thomas, See Monday

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

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

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

C — Just Plain Bill, See Monday

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

B — Romantic Melodies; Don Ameche
KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KWCR KWK
WBZ WBZA WCKY WENR WJZ
WMAL WREN WSYR

R — Mollie Show, See Monday

E — Silver Dust, See Tuesday

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

E — Boake Carter, See Monday
R — Goldbergs, See Monday

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

C — Raffles, Amateur Cracksmen
CFRB CKLW KFH KLRA KLZ
KSCJ KSL KTRH KTSB KVOR
WABC WACO WADC WBNS WBRC
WBT WCCO WDAE WDBJ WDRD
WDDO WDRG WDSU WGLC WHAS
WHCZ WHIP WIBW WIP WJAZ
WJSV WLAC WLWB WMBG WODX
WOKO WOWO WPG WQAM WREC
WSJS WSPD WTAR WTOC

R — Rudy Vallee and Orchestra

CFRC CRCT KDYL KFI KFYR KGO
KGW KHQ KOA KOMO KPRC KSD
KSTP KTAR KTHS WAPI WBAP
WBEN WCAE WCSH WDAF WDAY
WEAF WEBC WEEI WFBZ WFI
WFLA WGY WHO WIOD WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOAI WOC WOW WPTF WRC
WRVA WSB WSM WSMB WTAG
WTAM WTMJ WVJ

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

C — Voice of America
CKLW KMBC KMOX WABC WADC
WBMA WCAO WCAU WDRG WEAN
WFBL WGR WHAS WHK WJAS
WJSV WKRC WNAC WOKO WOWO
WSPD

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

C — Presenting Mark Warnow
CKLW KFH KLRA KLZ KMBC
KMOX KOMA KRLD KSCJ KSL
KTRH KTSB KVOR WABC WACO
WADC WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDRD
WDDO WDRG WDSU WEAN WFLC
WFHM WFLA WGLC WHAS WHCZ
WHP WIBW WICC WISN WJAS
WJSV WLAC WLWB WLWB WMAS
WMBD WMBG WMT WNAC WODX
WOKO WORC WOWO WPG WQAM
WREC WSBT WSJS WSPD WTAR
WTOC

R — Maxwell House Showboat

KDYL KFI KFSN KGO KGW KHQ
KOA KOMO KPRC KSD KSTP KTAR
KTBS WAPI WBAP WBEN WCAE
WCKY WCSH WDAF WEAF WEEI
WFBZ WFI WFLA WGY WHO WIOD
WIS WJAR WJAX WJDX WKY
WMAQ WMC WOAI WOC WOW
WRC WRVA WSAI WSB WSM WSMB
WTAG WTAM WTMJ WVJ WVNC

B — Death Valley Days—Drama

KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WGAR WHAM
WJR WJZ WLS WLW WMAL WREN
WSYR

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

C — Ford; Fred Waring's Orchestra
CKLW KDB KFRK KFH KPRC
KGB KHJ KLRA KLZ KMBC KMOX
KOH KOIN KOMA KRLD KSCJ
KSL KTUL KVI KVOR WABC WACO
WADC WBBM WBIG WBRC WBT
WCAH WCAO WCAU WCCO WDAE
WDBJ WDRD WDDO WDRG WDSU
WEAN WFBL WFHM WFEA WGLC
WGST WHAS WHEC WHK WHP
WIBW WICC WJAS WJSV WKBN
WKBW WKRC WLAC WLWB WLZ
WMAS WMBD WMBG WMBR WMT
WNAC WNAX WODX WOKO WORC
WOWO WPG WQAM WREC WSJS
WSPD WTAR WTOC

B — Eddie Duchin, See Monday

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

R — Paul Whiteman and Orchestra
KDYL KFI KFYR KGO KGW KHQ
KOA KOMO KPRC KSD KSTP KTBS
KTHS KVOO WBAP WBEN WCAE
WCSH WDAF WDAY WEAF WEBC
WEEI WFBZ WFLA WGY WHO
WJAZ WIOD WIS WJAR WJAX
WJDX WKY WLW WMAQ WMC
WOAI WOC WOW WRC WRVA WSB
WSM WSMB WTAG WTAM WTMJ
WVJ WVNC

C — Camel Program, See Tuesday

THURSDAY—(Cont'd)

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
C — Doris Lorraine; Cadets
 KLR KMOX KOMA KRTSA WABC
 WBRC WBT WCAO WGST WHAS
 WKRC WLAC WMBR WRFC WRR
B — Archer Gibson, Organist
 KDKA KSO KWCR KYW WBAL WBZ
 WBZA WCKY WGAR WHAM WJZ
 WMAL WREN

ED-10:45 p.m., E-9:45, C-8:45, M-7:45
C — Fray and Braggiotti
 CKLW WAAB WABC WADC WCAO
 WDRG WFBL WFEA WGLC WHEC
 WJAS WJSY WLAC WLWB WLZB
 WOKO WOVO WSPD
C — Myrt and Marge, See Monday

ED-11:00 p.m., E-10:00, C-9:00, M-8:00
B — Amos 'n' Andy, See Monday
C — Vera Van, Contralto
 CFRB CKAC CKLW KDB KFAB
 KFH KLR KLA KLZ KMBC KOMA
 KTRH KRTS KVOR WAAB WABC
 WACO WADC WBBM WBNS WCAO
 WCCO WDAE WDBJ WDBO WDOD
 WDRG WDSU WEAN WFBL WFBM
 WFEA WGST WHAS WHFC WHK
 WHP WIBW WTCG WIP WISN WJAS
 WJSY WKBN WKWB WLAC WLWB
 WLZB WMAS WMBG WMT WNA3
 WODX WOKO WORC WQAM WREC
 WSBT WSJS WSPD WTAR WTOG
 WYVA

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

ED-11:30 p.m., E-10:30, C-9:30, M-8:30
C — Isham Jones and Orchestra
 CFRB CKLW KFH KLR KLA KLZ
 KMBC KSL KRTS KVOR WABC
 WADC WBNS WBRC WBT WCAO
 WCAU WDAE WDBJ WDBO WDOD
 WDRG WDSU WEAN WFBL WFBM
 WGLC WHP WIBW WTCG WJAS
 WJSY WLAC WLWB WLZB WMAS
 WMBG WNA3 WOKO WORC WPG
 WQAM WREC WSBT WSJS WSPD
 WTAR WTOG WYVA

FRIDAY

ED-6:00 p.m., E-5:00, C-4:00, M-3:00
C — H. V. Kallenborn
 CFRB CKLW KLR WAAB WABC
 WADC WBG WBT WCAO WCAU
 WDAE WDBJ WDBO WDOD WDRG
 WFEA WGST WHEC WHK WICC
 WJSY WLAC WLWB WLZB WMBG
 WOKO WORC WQAM WREC WSPA
 WSJS WSPD WTOG

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

ED-6:30 p.m., E-5:30, C-4:30, M-3:30
C — Nick Lucas, Songs
 CKLW KLR KRTS WAAB WABC
 WACO WADC WBRG WBT WCAO
 WCAU WDAE WDBJ WDBO WDOD
 WDSU WFEA WGLC WHEC WHP
 WICC WJAS WLAC WLWB WLZB
 WMAS WMBG WOKO WORC WQAM
 WREC WSPA WSJS WSPD WTAR
 WTOG
R — Irene Beasley, See Monday

ED-6:45 p.m., E-5:45, C-4:45, M-3:45
C — Zuel Paranteau's Orchestra
 CKLW WAAB WABC WBT WCAU
 WDRG WEAN WFBL WFEA WHEC
 WJSY WKWB WLWB WOKO

B — Lowell Thomas, See Monday
ED-7:00 p.m., E-6:00, C-5:00, M-4:00
C — Myrt and Marge, See Monday
B — Amos 'n' Andy, See Monday

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

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

ED-7:45 p.m., E-6:45, C-5:45, M-4:45
B — Gus Van, Arlene Jackson
 KDKA KWB WLWB WZB WCKY
 WENR WJZ WMAL WMC WSB WSM
 WSMB WSYR
C — Boake Carter, See Monday
R — Goldbergs, See Monday

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
C — Happy Bakers, See Monday
R — Cities Service Concert

CRCT KDYL KOA KPRC KSD KTBS
 KTHS KYW WEAN WCAE WCHS
 WDAF WEAF WEBC WEEI WFAA
 WFBY WGY WHO WJAR WKY WLIT
 WQAI WQC WOV WRC WRVA WSAI
 WTAG WTAM WTIC WTMJ WYJ
B — Nestle's with Ethel Shutta
 KDKA KWK WBAI WLWB WBZA
 WCKY WGAR WJR WJZ WLS WMAL
 WSYR

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

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Columbia Revue
 CKLW KDB KERN KFBK KFPY
 KFRC KGB KHJ KLZ KMBC KMJ
 KMOX KOIN KOL KSL KTRH KVI
 KWG WABC WBBM WCAO WCAU
 WCCO WDRG WDSU WEAN WFBL
 WFBM WGR WGST WHAS WHK
 WJAS WJSY WKRC WNA3 WOKO
 WSPD

B — Dangerous Paradise, See Wednesday.

ED-8:45 p.m., E-7:45, C-6:45, M-5:45
B — Babe Ruth, See Monday

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Emery Deutsch and Orchestra
 CFRB CKLW KFH KLR KLA KLZ
 KMBC KMOX KOMA KSCJ KSL
 KTRH KRTS KVOR WABC WACO
 WADC WBNS WBRC WBT WCAO
 WCAU WDCG WDAE WDBJ WDBO
 WDOD WDRG WDSU WEAN WFBL
 WFBM WFEA WGLC WHAS WHFC
 WHK WHP WIBW WIC WISN
 WJAS WJSY WLAC WLWB WLZB
 WMAS WMBG WMBG WMT WNA3
 WODX WOKO WORC WPG WQAM
 WREC WSBT WSJS WSPD WTAR
 WTOG

B — Phil Harris and Orchestra
 CFCE KDKA KDYL KFI KGH
 KGIR KGO KGW KHQ KOA KOIL
 KOMO KSO KWCR KWK WAPI
 WBAI WBZ WBZA WCKY WFAA
 WGAR WJZ WKY WLS WMAL
 WQAI WREN WSB WSM WSMB
 WSYR

R — Frank Munn; Abe Lyman
 KSD WBEN WCHS WEAF WEEI
 WFBY WGY WJAR WLIT WMAQ
 WOV WRC WSAI WTAG WTAM
 WYJ

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

ED-9:30 p.m., E-8:30, C-7:30, M-6:30
C — Jack Denny; Jack Whiting
 CFRB CKAC CKLW KDB KERN

KFBK KFH KFPY KFRC KGB KHJ
 KLR KLA KLZ KMBC KMJ KMOX
 KOIN KOL KOMA KRLD KSCJ KSL
 KTRH KRTS KVI KWG WABC
 WADC WBBM WBRC WBT WCAO
 WCAU WCCO WDOD WDRG WDSU
 WEAN WFBL WFBM WGST WHAS
 WHK WIBW WICC WJAS WJSY
 WKBW WKRC WLAC WMBG WMT
 WNA3 WOKO WOVO WREC WSPD
 WTAR WTOG

B — Armour Program; Phil Baker
 KDKA KDYL KFI KGO KGW KHQ
 KOA KOIL KOMO KPRC KSO KSTP
 KTR KWK WAPI WBAL WBZ
 WBZA WEBC WENR WFAA WGAR
 WHAM WJOD WJAX WJR WJZ
 WKY WMC WOAI WREN WRVA
 WSB WSM WSMB WTAM WUNC
R — One Night Stand; Pick and Pat
 KSD WBEN WCAE WCHS WDAF
 WEAF WFBY WGY WJAR WLIT
 WMAQ WOC WOV WRC WSAI
 WTAG WTAM WTIC WYJ

ED-10:00 p.m., E-9:00, C-8:00, M-7:00
C — Schlitz Program
 KDB KLRN KFBK KFPY KFRC
 KGB KHJ KLR KLA KLZ KMJ KMOX
 KOIN KOL KOMA KSL KTRH
 KRTS KTVL KVI KWG WAAB
 WABC WADC WBBM WBNS
 WBT WCAO WCAU WCCO WDRG
 WDSU WEAN WFBL WHAS WHK
 WJAS WJSY WKWB WKRC WLAC
 WOKO WOVO WREC WSPD WTAR

B — Fulton Orsler, Stories
 CFCE CRCT KDKA KOIL KSO
 KWCR KWK WBAI WBZ WBZA
 WENR WGAR WHAM WJR WJZ
 WKBF WMAL WREN WSYR
R — First Night — Drama
 CRCT KDYL KFI KGO KGW KHQ
 KOA KOMO KPRC KSD KSTP
 WAPI WBEN WCAE WCHS WDAF
 WEAF WEBC WEEI WFBY WGY
 WHO WJAR WKY WLIT WMAQ
 WQAI WOC WOV WRC WSAI WSB
 WSM WSMB WTAG WTAM WTIC
 WTMJ WYJ

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
R — Jack Benny; Don Bestor
 KDYL KFI KGO KGW KHQ KOMO
 KPRC KTBS WAWE WCHS WDAF
 WEAF WEEI WFBY WGY WJAR
 WJDX WKBF WKY WLIT WLW
 WMAQ WMC WOAI WOV WRC
 WRVA WSB WSM WSMB WTAG
 WTAM WTIC WYJ
C — Conflict, See Tuesday

R — Mario Cozzi, Baritone
 KDKA KFPY KOIL KSO WAPI
 WBAI WBZ WBZA WCKY WYAY
 WEBC WFLA WHAM WBA WICD
 WIS WJAX WJR WJZ WREN WSE
 WSM WSYR WUNC

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

ED-11:00 p.m., E-10:00, C-9:00, M-8:00
C — Edith Murray, Songs
 CKLW KFAB KFH KLR KLA KLZ
 KMBC KOMA KSCJ KSL KTRH
 KRTS KVOR WAAB WABC WACO
 WADC WBBM WBNS WBRC WBT
 WCAO WCCO WDAE WDBJ WDBO
 WDOD WDRG WDSU WGLC WHAS
 WHFC WHK WHP WIBW WIP
 WISN WJAS WJSY WLAC WLWB
 WMBG WMBG WMT WNA3 WODX
 WOKO WPG WQAM WREC WJSY
 WSPD WTAR WTOG
B — Amos 'n' Andy, See Monday

FRIDAY—(Continued)

ED-11:15 p.m., E-10:15, C-9:15, M-8:15
R — One Man's Family, Drama
 CFCF KDYL KFYR KOA KPO
 KPRC KKD KSTP KTBS KTHS
 KV00 WBBN WCAE WDAF WDAY
 WFAF WFBF WFI WFLA WGY
 WHO WIBA WIOD WIS WJAR
 WJAX WJDX WKY WMAQ WMC
 WOAI WOC WOW WRC WRVA
 WSAI WSB WSMB WTAG WTAM
 WWJ WWNC
C — News Service, See Monday
ED-11:30 p.m., E-10:30, C-9:30, M-8:30
C — Isham Jones, See Thursday

SATURDAY

ED-8:00 p.m., E-5:00, C-4:00, M-3:00
C — Meet the Artist
 CFRB CKLW KFH KLRA KMBC
 KOMA KSL KTRH KTSa KVOR
 WAAB WABC WACO WADC WBBM
 WBIG WBRB WCAO WCCO WDBJ
 WDSU WFLB WFEA WGR WGST
 WHAS WHLW WHK WHP WIBW
 WICC WIP WISN WJAS WJSV WLAC
 WLWB WLWB WMBG WMT WOKO
 WQAM WRFC WSBT WSPA WSJS
 WTAQ WTAR WTOG WWVA
B — Al Pearce and His Gang
 KDYL KFI KFYR KGO KGW KHQ
 KOA KOIL KOMO KPBC KSO
 KSTP KTBS KTHS KV00 KWCR
 KYW WBAL WBZ WBZA WCKY
 WDAY WEBC WFLA WHAM WJBA
 WIOD WIS WJAX WJDX WJR WJZ
 WKY WMAL WMC WOAI WREN
 WSB WSM WSYR WWNC

ED-6:15 p.m., E-5:15, C-4:15, M-3:15
C — Tommy McLaughlin
 CKLW WAAB WBT WCAO WCAU
 WCCO WDRC WDSU WGR WGST
 WHAS WHK WJSV WKRC

ED-6:30 p.m., E-5:30, C-4:30, M-3:30
C — Frederic William Wile
 CKLW KLRA WAAB WABC WBIG
 WBRB WCAO WCAE WDAE WDBJ
 WDBO WDOD WDRC WDSU WFLB
 WFEA WGLC WGST WHCC WHP
 WJSV WKWB WLAC WLWB WLWB
 WMAS WMBG WOKO WORC WQAM
 WRFC WSJS WSPD WTAR WTOG

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

ED-7:00 p.m., E-6:00, C-5:00, M-4:00
B — John Herrick, Baritone
 KDKA KOIL KSO KWCR KWK
 WBAL WCKY WGAR WJZ WKBF
 WMAL WMAQ
C — Elder Michaut Congregation
 CFRB CKLW KFH KLRA KLZ
 KSCJ KSL KTRH KTSa KVOR
 WABC WACO WADC WBIG WBRB
 WCAO WCAU WDAE WDBJ WDBO
 WDOD WDRC WDSU WFLB WFEA
 WGLC WGR WGST WHEC WHP
 WIBW WICC WJAS WJSV WLWB
 WLWB WMAS WMBG WMT WOKO
 WORC WQAM WRFC WSJS WSPD
 WTAR WTOG WWVA

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Silver Dust, See Tuesday
B — F. O. B. Detroit
 KDKA KGIL KWCR KWK KYW
 WBAL WBZ WBZA WCKY WGAR
 WHAM WJAR WJR WJZ WMAL
 WREN WSYR

ED-7:45 p.m., E-6:45, C-5:45, M-4:45
C — Isham Jones and Orchestra
 CFRB CKLW KFH KLRA KOMA
 KRLL KSCJ KTRH KTSa KVOR
 WABC WACO WADC WBRB WBT
 WCAH WCAO WCAU WCCO WDAE
 WDBJ WDBO WDOD WDRC WDSU
 WEAN WFLB WFEA WGR WGST
 WHCC WHK WHP WIBW WICC
 WJAS WJSV WLAC WLWB WLWB
 WMAS WMBG WMT WNAK WODX
 WOKO WORC WQAM WRFC WSJS
 WSPD WTAR WWVA

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
C — Morton Downey Revue
 CFRB CKLW KFH KLZ KMBC
 KMOX KOMA KSL KTAT KTRH
 KTSa WABC WACO WBBM WBNS
 WBT WCAO WCAU WCCO WDAE
 WDBO WDRC WDSU WEAN WFLB
 WGR WGST WHCC WHK WJAS
 WJSV WKRC WLAC WMBR WNAC
 WOKO WQAM WRR WSPD

ED-8:45 p.m., E-7:45, C-6:45, M-5:45
C — Bard of Erin
 CFRB CKLW KFH KLRA KLZ
 KMBC KOMA KSCJ KSL KTSa
 KVOR WAAC WACO WADC WBNS
 WBRB WBT WCAO WCCO WDAE
 WDBJ WDBO WDOD WDSU WEAN
 WFLB WFBM WFEA WGLC WHK
 WHP WIBW WICC WIP WISN
 WJAS WJSV WLAC WLWB WLWB
 WMAS WMBG WMT WNAK WODX
 WOKO WORC WQAM WRC WRC
 WRFC WSBT WSJS WSPD WTAR
 WTOG

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Andre Kostelanetz, See Monday
R — Donald Novis; Frances Langford
 KDYL KFI KFYR KGO KGW KHQ
 KOA KOMO KPBC KSD KSTP
 KTBS KTHS WAPI WBAP WBBN
 WCAE WCHS WDAF WDAY WFAF
 WFCB WEEL WFBF WFI WFLA
 WGY WIBA WIOD WIS WJAR
 WJAX WJDX WKY WLW WMAQ
 WMC WOAI WOW WPTF WRC
 WRVA WSB WSMB WTAG WTAM
 WTMJ WWJ WWNC

ED-9:30 p.m., E-8:30, C-7:30, M-6:30
R — Eddie Duchin, See Tuesday
B — Beatrice Fairfax; Dramas
 KDYL KFI KGO KGW KHQ KOA
 KOMO KSD WBEN WCAE WCHS
 WDAF WEAF WEI WFBF WFI
 WGY WJAR WLW WMAQ WOW
 WRC WTAG WTAM WWJ
C — Dramatic Guild
 CFRB CKLW KFH KLRA KLZ
 KMBC KMOX KOMA KRLL KSCJ
 KSL KTRH KTSa KVOR WABC
 WACO WADC WBBM WBNS WBRB
 WBT WCAO WCAU WCCO WDAE
 WDBJ WDBO WDOD WDRC WDSU
 WEAN WFLB WFBM WFEA WGLC
 WHEC WHP WIBW WICC WJAS
 WJSV WLAC WLWB WLWB WMAS
 WMBD WMBG WMT WNAK WNAK
 WODX WOKO WORC WQAM WRFC
 WSBT WSJS WSPD WTAR WTOG
 WWVA

ED-10:00 p.m., E-9:00, C-8:00, M-7:00
R — Terraplane Travelcade
 KDYL KFI KGO KGW KHQ KOA
 KOMO KPBC KSD KSTP WBAP
 WBEN WCAE WCHS WDAF WFAF
 WFI WFBF WFI WFLA WGY
 WIOD WJAR WJAX WKY WLW
 WMAQ WOAL WOW WPTF WRC
 WRVA WSB WSMB WTAG WTAM
 WTMJ WWJ

C — Byrd Expedition
 CKLW KDB KERN KFBK KFH
 KFPY KPIC KGB KHJ KLRA
 KMOX KMJ KMOX KOIN KOL
 KOMA KRLL KTRH KTSa KVI
 KWG WAAB WABC WACO WADC
 WBBM WBRB WBT WCAO WCAU
 WCCO WDAE WEAN WGST WHAS
 WHEC WHK WHP WIBW WJSV
 WKWB WKRC WLAC WLWB WMBG
 WMT WOKO WORC WQAM WRFC

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
C — The Playboys; Piano
 CFRB CKLW KLRA KLZ KMBC
 KMOX KOMA KRLL KSCJ KSL
 KTRH KTSa KVOR WAAB WABC
 WACO WADC WBNS WBRB WBT
 WCAO WCAU WCCO WDAE WDBJ
 WDBO WDOD WDRC WDSU WEAN
 WFLB WFBM WFEA WGLC WHAS
 WHP WIBW WICC WISN WJAS
 WJSV WLAC WLWB WLWB WMAS
 WMBD WMBG WMT WNAK WODX
 WOKO WORC WPG WQAM WRFC
 WSJS WSPD WTAR WTOG

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

ED-10:45 p.m., E-9:45, C-8:45, M-7:45
C — Sylvia Froos, Songs
 CFRB CKLW KLRA KLZ KMBC
 KMOX KOMA KRLL KSCJ KSL
 KTRH KTSa KVOR WAAB WABC
 WACO WADC WBNS WBRB WBT
 WCAO WCAU WCCO WDAE WDBJ
 WDBO WDOD WDRC WDSU WEAN
 WFLB WFBM WFEA WGLC WHAS
 WHP WIBW WICC WISN WJAS
 WJSV WLAC WLWB WLWB WMAS
 WMBD WMBG WMT WNAK WODX
 WOKO WORC WPG WQAM WRFC
 WSJS WSPD WTAR WTOG

ED-11:00 p.m., E-10:00, C-9:00, M-8:00
C — Ted Fiorito and Orchestra
 CKLW KFAB KLRA KLZ KMBC
 KMOX KOMA KSCJ KSL KTRH
 KTSa KVOR WAAB WABC WACO
 WADC WBBM WBNS WBRB WBT
 WCAO WCCO WDAE WDBJ WDBO
 WDOD WDRC WDSU WFLB WGLC
 WHAS WHEC WHK WHP WIBW
 WISN WJAS WJSV WLAC WLWB
 WMBD WMBG WMT WNAK WODX
 WOKO WPG WQAM WRFC WSJS
 WSPD WTAR WTOG

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

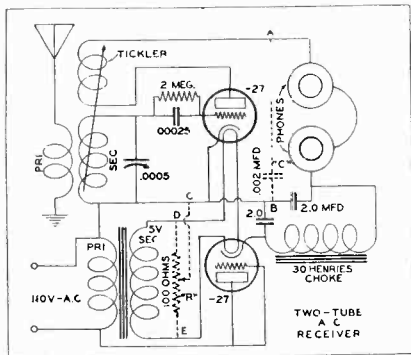
ED-11:30 p.m., E-10:30, C-9:30, M-8:30
C — Pete. Th. Great, Drama
 CFRB CKLW KLRA KLZ KMBC
 KOMA KSL KTRH KTSa KVOR
 WABC WADC WBNS WBRB WBT
 WCAO WCAU WDAE WDBJ WDBO
 WDRC WDSU WEAN WFLB WGLC
 WHEC WHK WHP WIBW WICC
 WJAS WJSV WLAC WLWB WLWB
 WMAS WMBG WNAK WOKO WORC
 WQAM WRFC WSJS WSPD WTAR
 WTOG

B — Paul Whiteman and Orchestra
 KOIL KSO KWCR KWK KYW WBAL
 WBZ WBZA WCKY WGAR WHAM
 WJZ WLW WMAL WREN WSYR

ED-12:00 p.m., E-11:00, C-10:00, M-9:00
C — Gus Arnheim and Orchestra
 CFRB CKLW KFH KLRA KLZ
 KMBC KMOX KOMA KTRH KTSa

QUESTIONS and ANSWERS

• • • B. FRANCIS DASHIELL, Technical Editor



I HAVE built the two-tube a.c. set shown by the enclosed diagram. It works fine but there is a bad a.c. hum. How can I improve the filtering system? Will 56s work better than the -27s? Please indicate the changes you recommend on the diagram.

While this circuit seems to be satisfactory for actual operation, the filter system is inadequate for headphone reception. Also, since there is no "step-up" transformer system you cannot expect to obtain more than 110 volts for the plates of the tube used as a detector. However, with grid-leak detection even this 110 volts may be too much. Frequently such circuits work best with only 45 volts on the plate of regenerative detector. You might experiment with a high resistance rheostat in the plate lead.

However, we suggest a method of neutralizing most of the hum from the circuit provided the source of the hum is not too powerful. Try a 100-ohm potentiometer connected across the secondary of the filament transformer—points "D" and "E," shown in the accompanying illustration. The switch arm of the potentiometer should be connected to the cathode of the detector—point "C." Also, a plate by-pass condenser should be

found very helpful. It should have a capacity of .002 microfarad (2000 micro-microfarads), and be connected between points "A" and "B."

A.C. Tubes in A-K D-Model

My Atwater-Kent model D set needs new tubes. Can I replace them by some of the newer types?

There are no new types that can be used with the model D Atwater-Kent. It is a d.c. set using 3.3 and 5.0-volt tubes, while all the new tubes are a.c. cathode types and not effectively adapted to this type of receiver.

New Tubes in Philco 70

Can I use the new tubes in my Philco 70?

We do not recommend the use of new tubes in this set. The only -27, which might be replaced with a 56, is the oscillator. It is not likely to operate as well with a 56, unless the condensers are readjusted.

Changing "Push-Pull" Tubes

Is it possible to change the -31 type tubes, used in push-pull power output in my Lincoln d.c. S-W 10 receiver, over to -30s in order to save the drain on my batteries?

It is not recommended that these tubes be changed. Volume and tone will be sacrificed. The current consumption rate of the -31 and -30 will not seriously affect the life of the "A" battery. We advise you to permit the set to remain as it is arranged and become reconciled to the very little additional drain on the battery.

Connecting Volume Control

There is a defective volume control in my Silver-Marshall 724 d.c. receiver. I have replaced it, but still the volume of the set cannot be varied. What else is there to do?

The volume control in this set has a resistance of 3,000 ohms. The two

ends are connected between two larger resistors—one of 20,000 ohms (1 watt) and one of 45,000 ohms (1 watt). The control arm connects to the grids of the first -32 type tube, and the third -32 tube. Between the 45,000 ohm resistor, above mentioned, there is still another 45,000 ohm resistor connected to the far side of the -22½ volt C battery and the lead going to the middle tap of the output push-pull audio transformer. This locates the resistors. Although the control may be perfect, it will not work if one of these resistors happens to be defective.

If the negative biasing voltage divider system, of which the volume control is a part, is in perfect condition, there is no reason why the control will not vary the volume of the set.

Hum in Philco 90

A loud hum has appeared in my Philco 90 receiver. It is nearly absent when I remove the -47 power tube and substitute headphones. Why is this?

This hum may be due to defective -47 power tubes. Have the tubes tested. We do not know which model 90 you have—one uses a single -47 and another uses two -47s in push-pull amplification. These power tubes are fed by a filament winding on the power transformer to heat the filaments. There is a center-tap coming from the middle of this winding. It is grounded in one model, and connected to the 205-ohm end of a long, tubular resistor or voltage divider unit in the other model. The one end of this resistor may be opened, or the grounded connection loose. Another cause for hum is a defective cathode resistor or shorted condenser. Look carefully over all units connected to the audio circuit.

Crosley 30-S Is Weak

I have a Crosley, model 30-S. When the antenna and ground wires are both connected the signals are faint until the ground wire is removed. What can be wrong?

There is a .003 mfd. condenser

placed between two of the contacts of the ground switch. It may be defective. Also, there is a .00025 mfd. fixed condenser connected between the on-off switch of the receiver and the ground. This may be defective. Try operating the set with this switch-condenser removed. There are many other resistors and condensers in the circuit which should be tested. The volume control consists of a 32,500 ohms resistance unit connected between a 725 ohm and a 3,500 ohm resistor. The control arm is grounded. Check over the control for perfect action.

Our S-W Converter on Batteries

Can the RADEX short-wave converter be used with a 2-volt Airline broadcast receiver that operates on batteries?

This converter cannot well be used with a 2-volt receiver, for its tubes require a potential of 2.5 volts each, and they draw a total of 2 amperes, which is prohibitive for the Aircell battery. You would require a special storage battery to run the converter. The Aircell gives only 2 volts at a much lower amperage rate.

Distortion with A.V.C. Action

There is a strange distortion in my model 60 Majestic set when the signal fades and the automatic volume control goes into action. How can this be remedied?

There is natural distortion when a fading signal is increased in intensity by the automatic volume control. At this time there may be some heterodyne effect, and interference will be noticeable. However, since your set has commenced acting in this manner recently, it must be due to receiver trouble.

Fading with distortion and poor sensitivity in this model may be caused by trouble in the 5,700-ohm carbon resistor mounted on the resistor unit, and the two .067 mfd. condensers acting as grid returns to the r.f. tube and first detector. Replace the resistor with one that is wire-wound, and the condensers, if they,

SATURDAY—(Cont'd)

WABC WBNS WBRC WCAU WDOO
WEAN WFBL WFBN WHAS WHIP
WBW WCC WJMS WJSY WLAC
WLWB WNAO WQAM WRCL WSBT
WSIS WSPD WTOG

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

SUNDAY

ED-11:15 a.m., E-10:15, C-9:15, M-8:15
R — Major Bowes' Capitol Family
KDYL KFYR KOA KPRC KSTP
KTBS KVOO WAPI WCAE WDAF
WDAY WFAE WFCB WFAA WFBR
WFLA WGY WHO WIOD WJAR
WJAX WKY WMAQ WMC WOAI
WOC WRC WRVA WSAI WSMB
WTAG WTAM WWNC

ED-11:30 a.m., E-10:30, C-9:30, M-8:30
C — Salt Lake Tabernacle Choir
CKLW KLRA KLZ KMBC KOMA
KSL KTRH KTSB KVOR WABC
WACO WADC WBIG WBRC WCAO
WCCO WDBJ WDRC WDSU WEAN
WFBL WFEA WGN WGR WGST
WHAS WHEC WHIP WIBW WICC
WISN WJAS WJSV WLAC WLWB
WMBD WMT WNAC WOKO WORC
WPG WQAM WSBT WSFA WSJS
WTAQ WTAR WWVA

ED-12:15 p.m., E-11:15, C-10:15, M-9:15
R — Gordon String Quartet
WCSH WFAE WEEL WFBR WFI
WJAR WRC WTAG

B — Baby Rose Marie
KDKA WBAL WBZ WBZA WHAM
WJR WJZ WLW WMAL WSYR

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

R — Chicago Round Table
WBEN WCSH WDAF WFAE WEEL
WFBR WFI WGY WHO WJAR
WOC WOW WRC WSAI WTAG
WTAM WWJ

C — Tito Guizar, Tenor
CKLW WABC WCAU WDRC WEAN
WFEA WGR WHK WICC WKRC
WLZ WMAS WNAC WORC WSPD

ED-12:45 p.m., E-11:45, C-10:45, M-9:45
C — H. V. Kaitenborn
CFRB CKLW KLRA KLZ KMBC
KOMA KSCJ KTRH KVOR WABC
WACO WADC WBNS WBRC WCAO
WCAU WCCO WDBJ WDOO WDSU
WFBL WGLC WGR WHAS WHEC
WHLB WISN WJAS WLAC WLWB
WMBD WMT WNAC WNAX WODX
WOKO WORC WOWO WPG WQAM
WREC WSJS WSPD WTAR WTOG
WWVA

ED-1:00 p.m., E-12:00, C-11:00, M-10:00
C — Church of the Air
CFRB CKLW KLRA KLZ KOMA
KTRH KTSB KVOR WAAB WABC
WACO WADC WCCO WDBJ WDRC
WDSU WFBL WGR WGST WHAS
WHEC WHP WIBW WJAS WJSV
WLAC WLWB WMT WOKO WPG
WQAM WREC WSBT WSJS WTAQ
WTAR WTOG WWVA

ED-1:30 p.m., E-12:30, C-11:30, M-10:30
B — National Youth Conference
KDKA KFI KFSD KFYR KGH
KGR KGO KGW KHQ KOA KOIL
KOMO KPRC KSO KTAR KTBS
KVOO KWCR KWK WAPI WBAL
WBZ WBZA WDAY WFCB WFAA
WGAR WIBA WIOD WIS WJAX
WJDX WJR WJZ WMAL WOAI
WREN WRVA WSB WSM WSMB
WSYR WWNC

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

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

ED-2:00 p.m., E-1:00, C-12:00, M-11:00
C — Broadway Melodies
CFRB CKLW KDB KFPY KFRC
KGB KHJ KLZ KMBC KMOX KOIN
KOL KRLD KSL KVI WABC WBBM
WCAO WCAU WCCO WDSU WHK
WJAS WJSV WKBW WKRC WLAC
WNAC

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

B — Bar X Days and Nights
CRCT KDKA KOIL KSO KWCR
KWK KYW WBAL WBZ WBZA
WCKY WGAR WJR WJZ WMAL
WREN WSYR

ED-2:30 p.m., E-1:30, C-12:30, M-11:30
C — Abe Lyman's Orchestra
CFRB CKLW KMBC KMOX WABC
WBBM WCAO WCAU WCCO WDRC
WEAN WFBL WFBM WHEC WHK
WJSV WKBW WKRC WNAC WOKO

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

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

ED-3:00 p.m., E-2:00, C-1:00, M-12:00
C — New York Philharmonic Orch.
CFAC CFBO CFCC CFCH CFEN
CFEO CFYF CFJC CFNB CFPL
CFQC CHAB CHGS CHNS CHRC
CHWC CHWK CJCA CJCB CJCJ
CJGC CJOC CJRM CJRW CKCK
CKCK CKNC CKOC CKOV CKPC
CKPR CKUA CKX CKY CRCA
CRCO CRCS CRCT CRCV CRFB
CKLW KFH KLRA KLZ KMBC
KMOX KOMA KSL KTRH KTSB
KVOR WABC WADC WBIG WBRC
WCAO WCAU WCCO WDBJ WDRC
WDSU WEAN WFBM WFEA WGN
WGR WGST WHAS WHEC WHK
WHP WIBW WICC WIP WISN WJAS
WJSV WLAC WLWB WMBD WMBG
WMT WNAC WOKO WORC WQAM
WREC WSBT WSJS WTAQ WTAR
WTOG WWVA

B — Sparton Trilions
CFBC CRCT KDKA KOIL KSO
KWCR KWK KYW WBAL WBZ
WBZA WCKY WGAR WHAM WJR
WJZ WMAL WREN WSYR

ED-3:30 p.m., E-2:30, C-1:30, M-12:30
B — Yeast Foamers; Jan Garber
KDKA KDYL KFI KFSD KFYR
KGHK KGR KGO KGW KHQ KOA
KOIL KOMO KPRC KSO KTAR
KTBS KTHS KVOO KWCR KWK
KYW WAPI WBAL WBZ WBZA
WDAY WFCB WFAA WFLA WGAR
WHAM WIBA WIOD WIS WJAX
WJDX WJZ WKBF WKY WLW
WMAL WMC WPTF WREN WRVA
WSB WSM WSMB WSYR WTMJ
WWNC

R — Swift Garden Program
KSD WBEN WCAE WCSH WDAF
WFAE WEEL WFBR WGY WJAR
WLIT WMAQ WOW WRC WSAI
WTAG WTAM WWJ

ED-4:00 p.m., E-3:00, C-2:00, M-1:00
R — Romance of Meat, Drama
KFYR WBEN WCAE WCSH WDAF
WDAY WFAE WFCB WEEL WFBR
WGY WIBA WJAR WLIT WMAQ
WOW WRC WSAI WTAG WTAM
WWJ

B — Albert Payson Terhune, Dog Drama
KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KWCR KWK
WBAL WBZ WBZA WHAM WJZ WLS
WREN WSYR

ED-4:15 p.m., E-3:15, C-2:15, M-1:15
B — Dion Kennedy, Organist
KDKA KDYL KFI KFYR KGHK
KGR KGO KGW KHQ KOA KOIL
KOMO KPRC KSO KTBS KTHS
KVOO KWCR KWK WAPI WBAL
WBAP WBZ WBZA WDAY WFCB
WFLA WHAM WIBA WIOD WIS
WJAX WJDX WJZ WKBF WKY WLS
WMAL WMC WOAI WPTF WREN
WRVA WSB WSM WSMB WSYR
WWNC

ED-4:30 p.m., E-3:30, C-2:30, M-1:30
B — Princess Pat Pageant
KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WENR WHAM
WJZ WMAL WREN WSYR

ED-5:00 p.m., E-4:00, C-3:00, M-2:00
C — Roses and Drums, Drama
CKLW KFAB KLRA KLZ KMBC
KMOX KOMA KRLD KTRH KTSB
WAAB WABC WADC WBBM WBRC
WCCO WDSU WGST WHAS WHK
WJAS WJSV WKRC WREC

B — National Vespers
KDYL KPCA KFSD KFYR KGH
KGR KGO KGW KHQ KOA KOIL
KPRC KSO KSTP KTAR KTBS
KVOO KWCR KWK WAPI WBAL
WBZ WBZA WCFL WCKY WDAY
WFCB WFLA WGAR WHAM WIBA
WIOD WIS WJAX WJDX WJR WJZ
WKY WMAL WMC WOAI WPTF
WREN WRVA WSB WSM WSMB
WWNC

ED-5:15 p.m., E-4:15, C-3:15, M-2:15
R — Waves of Romance; Ted Black
WBEN WCAE WCSH WFAE WEEL
WGY WJAR WKBF WMAQ WRC
WSAI WTAG WTAM WWJ

ED-5:30 p.m., E-4:30, C-3:30, M-2:30
R — Hoover Sentinels Concert
KSD WBEN WCAE WCSH WDAF
WFAE WEEL WFBR WFI WGY
WJAR WMAQ WOW WRC WTAG
WTAM WWJ

SUNDAY—(Continued)

C — Frank Crumit; Julia Sanderson
GKLV KFAB KFH KMBC KMOX
KOMA WAAB WABC WADC WCAH
WCAO WCAU WDCR WDSU WEAN
WFBL WFBM WGR WHCC WHK
WICC WJSV WMAS WOKO WORC
WSPD WTAR WWVA

B — Grand Hotel—Drama
KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KSTP KWCR
KWK WBAL WBZ WBZA WKCY
WIBC WENR WGAR WHAM WJR
WJZ WKFB WMAL WREN WSYR
WTMJ

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

R — Catholic Hour
KDYL KECA KFYR KGHL KGIR
KGSP KOA KOMO KPO KPRC
KSTP KTAR KTBS KVOO WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WFAF WEBC WEEI WENR
WFBR WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX
WKY WLIT WMC WOAI WOC WOV
WRC WRVA WSAI WSB WSM
WSMB WTAG WTAM WWJ WNNC

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

C — Smiling Ed McConnell
CKLV KDB KERK KFAB KFBK
KFH KFPY KFRC KGB KHJ KLZ
KMBC KMOX KOIN KOL KRLD
KSL KVI KWG WAAB WABC WBBM
WBT WCAH WCAU WCCO WDSU
WEAN WFBL WHAS WHCC WHP
WJAS WJSV WKWB WKRC WLAC
WMT WOKO WQAM WSPD WTAR
WWVA

R — Our American Schools
CFPC CRCT KDYL KECA KFSD
KFYR KGW KOMO KPO KPRC KSD
KSTP KTAR KTBS KVOO WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WFAF WEBC WEEI WFBR
WFLA WGY WHO WIBA WIOD
WJAR WJAX WJDX WKY WLIT
WMAQ WMC WOAI WOC WRC
WRVA WSAI WSB WSM WSMB
WTAG WTAM WWJ WNNC

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

C — Ward's Family Theatre
CKLV KMOX WABC WBBM WBRC
WCAH WCAO WDCR WEAN WFBL
WFEA WICC WJAS WKBN WLZ
WMAS WMBR WNAC WOKO WORC
WSFA WWVA

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

B — Silken Strings; Charles Previn
KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KPRC KSO KTHS
KWCR KWK WBAL WBZ WBZA
WEBC WFLA WGAR WHAM WIBA
WIS WJDX WJR WJZ WKY WLS
WLW WMAL WMC WOAI WPTF
WREN WRVA WSB WSM WSMB
WSYR WTMJ

R — True Story Court
WBEN WCAE WCSH WFAF WFBR
WGY WJAR WMAQ WOV WRC
WSAI WTAG WTAM WWJ

C — Marx Brothers; Freddie Martin
WABC WBT WCAO WCAU WDCR
WEAN WFBL WFEA WHCC WHK
WICC WJAS WJSV WKBN WLZ
WNAC WOKO WORC WPG WTAR
WWVA

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

B — Ozzie Nelson; Joe Penner
KDKA KDYL KFI KFYR KGO KGW
KHQ KOA KOIL KOMO KPRC KSO
KSTP KTAR KVOO KWCR KWK
WBAL WBZ WBZA WDAY WEBC
WFAA WFLA WGAR WHAM WIBA

WIOD WJAX WJDX WJR WJZ WKY
WLS WLW WMAL WMC WOAI
WPTF WREN WRVA WSB WSM
WSMB WTMJ WYWC
C — Ward's Family Theatre
CKLV KMOX WABC WBBM WBRC
WCAH WCAO WDCR WEAN WFBL
WFEA WICC WJAS WKBN WLZ
WMAS WMBR WNAC WOKO WORC
WSFA WWVA

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

C — Rin Tin Tin Thriller
CKLV KMOX WABC WCAU WFBL
WFBM WGN WGR WHAS WHK
WJAS WJSV WKRC WNAC
R — Fitch Program; Wendell Hall
CFPC KSD WBEN WCAE WCSH
WDAF WFAF WFBR WGY WHO
WJAR WLIT WMAQ WOC WOV
WRC WSAI WTAG WTAM WWJ

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

R — Chase and Sanborn Hour
CFPC CRCT KDYL KFI KFYR KGO
KGW KHQ KOA KOMO KPRC KSD
KSTP KTAR KTHS KVOO WBN
WCAE WCSH WDAF WDAY WFAF
WEBC WFAA WFBR WFLA WGY
WHO WIOD WIS WJAR WJAX
WJDX WKY WLIT WLV WMAQ
WMC WOAI WOC WOV WPTF WRC
WRVA WSB WSM WSMB WTAG
WTAM WTIC WTMJ WWJ WNNC

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

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

C — For the Fred Waring's Orchestra
CFRB CKAC CKLV KFAB KFH
KLRA KLZ KMBC KMOX KOH
KOMA KRLD KSL KTRH KTSK
KVOR WAAB WABC WACO WADC
WBBM WBIG WBRC WBT WCAH
WCAO WCAU WCCO WDAE WDBJ
WDBO WDOD WDRS WDSU WEAN
WFBL WFHM WFEA WGST WHAS
WHCC WHK WHP WIBW WICC
WISN WJAS WJSV WKHN WKWB
WKRC WLAC WLWB WLZ WMAS
WMBD WMBG WMT WOKO WORC
WOW WPG WQAM WREC WSFA
WSPD WTAQ WTAR WTOG WWVA

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

C — Patri's Childhood Dramas
CKLV KDB KERK KFBK KFPY
KFRC KGR KHJ KLZ KMBC KMJ
KMOX KOIN KOL KSL KVI KWG
WAAB WABC WBBM WCAO WCAU
WCCO WDCR WFBL WGR WHAS
WHK WJAS WJSV WKRC WOKO
R — Manhattan Merry-Go-Round
KDYL KFI KGO KGW KHQ KOA
KOMO KSD WDAF WFAF WFBR
WFI WGY WHO WJAR WMAQ WOC
WOV WRC WSAI WTAM WTIC
WWJ

B — Gulf Headliners
KAKA KPRC KTBS WBAL WBZ
WBZA WFAA WFLA WGAR WHAM
WIOD WIS WJAX WJDX WJR WJZ
WLW WMAL WMC WOAI WRVA
WSB WSM WSMB WSYR WNNC

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

C — Ernest Hutcheson, Pianist
CKLV KFH KLRA KLZ KMOX
KOMA KSCJ KTRH KVOR WABC
WACO WADC WBNB WBRC WBT
WCCO WDBJ WDBO WDOD WDSU
WFBL WFBM WFEA WGLC WGR
WGST WHAS WHCC WHP WIBW
WICC WISN WJAS WLAC WLWB
WLZ WMAS WMBD WMT WNAK

WODX WOKO WORC WOV WQAM
WRPC WSBT WSJS WSPD WTAR
WTOG

B — Walter Winchell
KDKA KOIL KSO KWCR KWK
WBAL WBZ WBZA WENR WGAR
WHAM WJR WJZ WLW WMAL
WREN WSYR

R — Album of a Familiar Music
CFPC CRCT KDYL KFI KGO KGW
KHQ KOA KOMO KPRC KSD KSTP
WAPI WBEN WCAE WCKY WCSH
WDAF WFAF WFEA WFAA WFBR
WFLA WFLA WGY WHO WIOD WJAR
WJAX WJDX WKY WMAQ WMC
WOAI WOC WOV WPTF WRC
WRVA WSAI WSB WSM WSMB
WTAG WTAM WTMJ WWJ

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

B — Horlick's Health Adventures
KDKA KOIL KSO KWK WBAL WBZ
WBZA WENR WHAM WJR WJZ
WREN

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

C — Wayne King and Orchestra
CKLV KDB KERK KFBK KFPY
KFRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KSL KVI
KWG WAAB WABC WADC WBBM
WCAO WCAU WCCO WDCR WDSU
WFBL WHAS WHK WJAS WJSV
WKWB WKRC WOKO WOV WSPD
R — Chevrolet Program
KDYL KFI KFSO KFYR KGHL
KGIR KGO KGW KHQ KOA KOMO
KPRC KSTP KTAR KTBS WAPI
WBAP WBEN WCAE WCSH WDAF
WDAY WFAF WEBC WEEI WFBR
WFLA WFLA WGY WIBA WIOD WIS
WJAR WJDX WKY WMAQ WMC
WOAI WOV WRC WRVA WSB WSM
WSMB WTAG WTAM WTIC WTMJ
WWJ WNNC

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

C — 45 Minutes in Hollywood
CFRB CKLV KFH KLZ KMBC
KMOX KOMA KSL KTAT KTSK
WABC WACO WBBM WBNB WBT
WCAO WCAU WCCO WDAE WDBO
WDRS WDSU WEAN WFBL WGR
WGST WHCC WHK WJAS WJSV
WKRC WLAC WMBR WNAC WOKO
WQAM WRR WSPD

R — Hall of Fame
KDYL KFI KGO KGW KHQ KOA
KOMO KPRC KTBS KTHS WAPI
WBAP WBEN WCAE WCSH WDAF
WFAF WEEI WFBK WFI WGY
WJAR WJDX WKY WLW WMAQ
WMC WOAI WOV WRC WSM
WTAG WTAM WTIC WWJ

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

C — Little Jack Little
CFRB CKAC CKLV KDB KFAB
KFH KLRA KLZ KOMA KSCJ KTRH
KTSK KVOR WABC WACO WADC
WBBM WBNB WBRC WCAO WCAU
WDAE WDBJ WDBO WDOD WDRS
WDSU WFBL WFBM WGR WGST
WHAS WHCC WHK WHP WIBW
WICC WISN WJAS WJSV WKBN
WKRC WLAC WLWB WLZ WMAS
WMBD WMT WNAC WNAK WOKO
WPG WQAM WREC WSBT WSJS
WSPD WTAR WTOG

B — Walter Winchell
KDYL KFI KFSO KGHL KGIR KGO
KGW KHQ KOA KOMO KPRC
KTAR KTBS KTHS WAPI WBAP
WJDX WKY WMC WOAI WSB WSM
WSMB

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Daylight Saving

CONCERTS

Hoover Sentinels, 5:30 p.m., Sunday, R
 Andre Kostelnetz, 9:00 p.m., Mon., Wed., and Sat., C
 Minneapolis Symphony, 9:30 p.m., Tuesday, C
 N. Y. Philharmonic, 3:00 p.m., Sunday, C
 Radio City, 12:30 p.m., Sunday, B
 Mischa Ragnsky, 6:30 p.m., Tues. and Thurs., C
 Albert Spalding, 8:30 p.m., Wednesday, C

DANCE BANDS

Gus Arnheim, 12:00 mid., Saturday, C
 Charles Barnett, 11:30 p.m., Tuesday, C
 Ben Bernie, 9:00 p.m., Tuesday, R
 Don Bestor, 10:30 p.m., Friday, R
 Ted Black, 5:15 p.m., Sunday, R; 6:15 p.m., Saturday, C
 Charlie Davis, 11:30 p.m., Monday, C
 Jack Denny, 9:30 p.m., Friday, C; 12:00 mid. Sat., B
 Emery Deutsch, 9:00 p.m., Friday, C
 Bobby Dolan, 8:00 p.m., Friday, B
 Eddie Duchin, 9:30 p.m., Tues., Thurs and Sat., B
 Ted Fiorino, 10:00 p.m., Wed.; 11:00 p.m., Sat., C
 Jan Garber, 3:30 p.m., Sunday, B
 Glen Gray, 10:00 p.m., Tues. and Thurs., C
 Johnny Green, 9:15 p.m., Tues. and Fri., C
 Phil Harris, 9:00 p.m., Friday, B
 Lennie Hayton, 10:00 p.m., Saturday, R
 Richard Himber, 6:00 p.m., Thurs, B; 6:30 p.m., Sat., R
 Isham Jones, 11:30 p.m., Thurs. and Fri.; 7:45 p.m., Sat., C
 Wayne King, 10:00 p.m., Sun. and Mon., C; 8:30 p.m., Tues. and Wed., R

Enoch Light, 11:45 p.m., Mon. and Tues., C
 Little Jack Little, 11:15 p.m., Sun.; 8:00 p.m., Tues.; 11:30 p.m., Wed., C

Guy Lombardo, 9:30 p.m., Wednesday C
 Vincent Lopez, 10:00 p.m., Wednesday B
 Abe Lyman, 9:00 p.m., Fri., R; 2:30 p.m., Sun., C
 Freddie Martin, 7:00 p.m., Sunday, C
 Ozzie Nelson, 7:30 p.m., Sunday, B
 Raymond Paige, 8:45 p.m., Tuesday, C
 Zoel Parenteau, 6:45 p.m., Friday, C
 Charles Previn, 7:00 p.m., Sunday, B
 Leo Riesman, 8:00 p.m., Tuesday, R
 Sam Robbins, 6:30 p.m., Monday, C
 Harry Sosnik, 11:45 p.m., Thursday, C
 Rudy Vallee, 8:00 p.m., Thursday, R
 Don Voorhees, 8:30 p.m., Wednesday, C
 Fred Waring, 8:30 p.m., Sun.; 9:30 p.m., Thurs., C
 Mark Warnow, 9:00 p.m., Thursday, C
 Paul Whiteman, 10:00 p.m., Thurs., R; 11:30 p.m., Sat., B
 Victor Young, 10:00 p.m., Sunday, R

DIALOG

Fred Allen, 9:00 p.m., Wednesday, R
 Amos 'n' Andy, 7:00 and 11:00 p.m., daily, except Sat. and Sun., B
 Phil Baker, 9:30 p.m., Friday, B
 Jack Benny, 10:30 p.m., Friday, R
 Burns and Allen, 9:30 p.m., Wednesday, C
 Cuckoo Club, 9:00 and 11:15 p.m., Wednesday, B
 Gene and Glenn, 7:15 and 11:15 p.m., daily except Sat. and Sun., R
 Lean and Mayfield, 6:45 p.m., Sunday, C
 Marx Brothers, 7:00 p.m., Sunday, C
 Walter O'Keefe, 8:00 p.m., Friday, B
 Jack Pearl, 8:00 p.m., Wednesday, R
 Joe Penner, 7:30 p.m., Sunday, B
 Ray Perkins, 10:00 p.m., Tuesday, B
 Pick and Pat, 9:30 p.m., Friday, R
 Stoopnagle and Budd, 10:00 p.m., Tues. and Thurs., C
 Ed Wynn, 9:30 p.m., Tuesday, R

DRAMA

Bay X Days, 2:00 p.m., Sunday, B
 Bobby Benson, 6:15 p.m., daily, except Sat. and Sun., C
 Big Show, 9:30 p.m., Monday, C
 Conflict, 10:30 p.m., Tues. and Fri., C
 Conoco Tourist, 10:30 p.m., Wednesday, B
 Dangerous Paradise, 8:30 p.m., Wed. and Fri., B
 Death Valley Days, 9:00 p.m., Thursday, B
 Dramatic Guild, 9:30 p.m., Saturday, C
 Eno Crime, 8:00 p.m., Tues. and Wed., B
 Beatrice Fairfax, 9:30 p.m., Saturday, R

First Nighter, 10:00 p.m., Friday, R
 Goldbergs, 7:45 p.m., daily except Sat. and Sun., R
 Grand Hotel, 5:30 p.m., Sunday, B
 Just Plain Bill, 7:15 p.m., daily, except Sat. and Sun., C
 Myrt and Marge, 7:00 and 10:45 p.m., daily, except Sat. and Sun., C

One Man's Family, 11:15 p.m., Friday, R
 Patri's Childhood Drama, 9:00 p.m., Sunday, C
 Peter the Great, 11:30 p.m., Saturday, C
 Princess Pat Players, 4:30 p.m., Sunday, B
 Raffles, 8:00 p.m., Thursday, C
 Irene Rich, 7:45 p.m., Wednesday, B
 Rin Tin Tin, 7:45 p.m., Sunday, C
 Buck Rogers, 6:00 p.m., Mon. to Thurs., inc., C
 Romance of Meat, 4:00 p.m., Sunday, R
 Roses and Drums, 5:00 p.m., Sunday, C
 Soconyland Sketches, 8:00 p.m., Monday, R
 Albert Payson Terhune, 4:00 p.m., Sunday, B
 True Story Court, 7:00 p.m. and 12:15 a.m., Sunday, R
 Ward's Family Theatre, 6:45 and 7:30 p.m., Sunday, C

PIANO AND ORGAN

Henri Deering, 10:30 p.m., Monday, B
 Fray and Braggiotti, 10:45 p.m., Thursday, C
 George Gershwin, 7:30 p.m., Mon. and Fri., B
 Archer Gibson, 10:30 p.m., Thursday, B
 Ernest Hutcheson, 9:30 p.m., Sunday, C
 Dion Kennedy, 4:15 p.m., Sunday, B
 Ohman and Arden, 2:30 p.m., Sun., B; 9:30 p.m., Sun., R
 Playboys, 10:30 p.m., Saturday, C

POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m., Monday, R
 Album Familiar Music, 9:30 p.m., Sunday, R
 Gene Arnold and Commolores, 2:00 p.m., Sunday, R
 Miss Bab-o's Surprise, 1:30 p.m., Sunday, R
 Major Bowes, 11:15 a.m., Sunday, R
 Broadway Melodies, 2:00 p.m., Sunday, C
 Byrd Expedition, 10:00 p.m., Saturday, C
 California Melodies, 8:45 p.m., Tuesday, C
 Chase and Sinsboro, 8:00 p.m., Sunday, R
 Chorio Musical, 6:45 p.m., Tuesday, R
 Chesterfield Program, 9:00 p.m., Mon., Wed. and Sat., C
 Chevrolet Program, 10:00 p.m., Sunday, R
 Cities Service, 8:00 p.m., Friday, R
 Colgate Party, 9:00 p.m., Saturday, R
 Columbia Revue, 8:30 p.m., Friday, C
 Contented Program, 10:00 p.m., Monday, R
 Corn Cob Pipe Club, 10:00 p.m., Wednesday, R
 Del Monte Ship, 9:30 p.m., Monday, R
 Evening in Paris, 8:00 p.m., Sunday, C
 Fleischmann Hour, 8:00 p.m., Thursday, R
 Forty-Five Minutes Hollywood, 10:30 p.m., Sunday, C
 Jack Frost's Melody, 9:30 p.m., Monday, B
 General Tire Program, 10:30 p.m., Friday, R
 Gulf Headliners, 9:00 p.m., Sunday, B
 Hall of Fame, 10:30 p.m., Sunday, R
 Harlem Serenade, 11:00 p.m., Tuesday, C
 Hour of Smiles, 9:00 and 12:00 p.m., Wednesday, R
 Household Musical, 9:00 p.m., Tuesday, B
 Hudson Vocalians, 8:30 p.m., Tuesday, B
 Manhattan Merr-Go-Round, 9:00 p.m., Sunday, R
 Maxwell House Show Boat, 9:00 p.m., Thursday, R
 Mollie Show, 7:30 p.m., Mon., Wed. and Thurs., R
 Music on the Air, 7:30 p.m., Mon., Wed. and Fri., C
 National Barn Dance, 10:30 p.m., Saturday, B
 Non-Spi Program, 9:30 p.m., Wednesday, B
 Old Gold, 7:00 p.m., Wednesday, C
 Palmolive Beauty Box, 10:00 p.m., Tuesday, R
 Al Pearce and Gang, 6:00 p.m., Saturday, B
 Romantic Melodies, 7:30 p.m., Thursday, B
 Schlitz Program, 10:00 p.m., Friday, C
 Silken Strings, 7:00 p.m., Sunday, B
 Sinclair Minstrels, 9:00 p.m., Monday, B
 Sparton Triolians, 3:00 p.m., Sunday, B
 Swift Garden, 3:30 p.m., Sunday, R
 Terraplane Travelcade, 10:00 p.m., Saturday, R
 Texaco Program, 9:30 p.m., Tuesday, R
 Voice of Firestone, 8:30 and 11:30 p.m., Monday, R
 Waves of Romance, 5:15 p.m., Sunday, R
 Yeast Foamers, 3:30 p.m., Sunday, B

RELIGIOUS

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

SINGERS

Baby Rose Marie, 12:15 p.m., Sun.; 7:15 p. m., Mon., B
 Irene Beasley, 6:30 p.m., Monday and Friday, R;
 6:30 p.m., Wednesday, B
 Connie Boswell, 10:00 p.m., Tues. and Thurs., C
 Richard Crooks, 8:30 and 11:30 p.m., every other Mon., R
 Bing Crosby, 8:30 p.m., Monday, C
 Morton Downey, 6:45 p.m., Tues.; 8:00 p.m., Sat., C
 Jessica Dragonette, 8:00 p.m., Friday, R
 Mary Eastman, 10:45 p.m., Wed.; 8:30 p.m., Thurs., C
 Ruth Etting, 9:15 p.m., Tues. and Fri., C
 John Fogarty, 11:00 p.m., Monday, R
 Sylvia Froos, 6:45 p.m., Thurs.; 10:45 p.m., Sat., C
 Alex Gray, 8:30 p.m., Thursday, C
 Tito Guizar, 12:30 p.m., Sun.; 11:00 p.m., Mon., C
 Wendell Hall, 7:45 p.m., Sunday, R
 Annette Hanshaw, 9:00 p.m., Thursday, R
 Happy Bakers, 8:00 p.m., Mon., Wed. and Fri., C
 John Herrick, 7:00 p.m., Saturday, B
 Arlene Jackson, 2:30 p.m., Sun.; 7:45 p.m., Fri., B
 Jeannie Lang, 9:30 p.m., Friday, C
 Frances Langford, 3:00 p.m., Sun., B; 9:00 p.m., Sat., R
 Lazy Dan, 1:30 p.m., Sunday, C
 Doris Lorraine, 10:30 p.m., Thursday, C
 Nick Lucas, 11:00 p.m., Wed.; 6:30 p.m., Fri., C
 Nino Martini, 9:00 p.m., Wednesday, C
 Tommy McLaughlin, 6:15 p.m., Saturday, C
 James Melton, 6:45 p.m., Sunday, C
 Frank Munn, 9:30 p.m., Sun.; 9:00 p.m., Fri., R
 Edith Murray, 11:00 p.m., Friday, C
 Gertrude Niesen, 9:30 p.m., Monday, C

Donald Novis, 9:00 p.m., Saturday, R
 Frank Parker, 9:00 p.m., Monday, R
 Rosa Ponselle, 9:00 p.m., Monday, C
 Virginia Rea, 9:30 p.m., Sunday, R
 Lanny Ross, 9:00 p.m., Thursday, R
 Vivien Ruth, 8:00 p.m., Mon., Wed. and Fri., C
 Sanderson-Crumit, 5:30 p.m., Sunday, C
 Ethel Shutta, 8:00 p.m., Friday, B
 Silver Dust Serenaders, 7:30 p.m., Tues., Thurs. and Sat., C
 Mary Small, 1:30 p.m., Sun.; 7:00 p.m., Tues., R
 Smiling Ed McConnell, 6:30 p.m., Sunday, C
 Grete Stueckgold, 9:00 p.m., Saturday, C
 Tamara, 9:00 p.m., Sunday, R
 Conrad Thibault, 8:30 p.m., Tues., B; 8:30 p.m., Wed., C
 9:00 p.m., Thurs., R
 Lawrence Tibbett, 8:30 and 11:30 p.m., every other Mon., R
 Gus Van, 7:45 p.m., Friday, B
 Vera Van, 11:00 p.m., Thursday, C
 Jack Whiting, 9:30 p.m., Friday, C

TALKS

Boake Carter, 7:45 p.m., daily, except Sat. and Sun., C
 Chicago Round Table, 12:30 p.m., Sunday, F
 Columbia News Service, 11:15 p.m., daily, except Sunday, C
 Cook Travelogues, 2:30 p.m., Sunday, R
 Flying Capt. Williams, 6:45 p.m., Saturday, B
 Edwin C. Hill, 8:15 p.m., Mon., Wed. and Fri., C
 Horlick's Health, 9:45 p.m., Sunday, B
 H. V. Kaltenborn, 12:45 p.m., Sunday; 6:00 p.m., Friday, C
 John B. Kennedy, 11:00 p.m., Tues.; 6:30 p.m., Thurs., R
 Meet the Artist, 6:00 p.m., Saturday, C
 National Radio Forum, 10:30 p.m., Monday, R
 Our American Schools, 6:30 p.m., Sunday, R
 Babe Ruth, 8:15 p.m., Mon., Wed. and Fri., B
 Stories That Should Be Told, 10:00 p.m., Friday, B
 Lowell Thomas, 6:45 p.m., daily, except Sat. and Sun., B
 Voice of Experience, 8:15 and 11:45 p.m., Tuesday, C
 Frederic William Wile, 6:30 p.m., Saturday, C
 Walter Winchell, 9:30 and 11:15 p.m., Sunday, B
 Your Government, 7:15 p.m., Tuesday, B

ABBREVIATIONS USED IN THIS LOG

Ags. Aguascalientes
Alg. Algeria
Arg. Argentine
Ausl. Australia
Aust. Austria

Belg. Belgium
Bol. Bolivia
Brz. Brazil
Bul. Bulgaria

Cey. Ceylon
Chl. Chile
Chn. China
Chu. Chihuahua
Clb. Columbia
Co. Coahuila
CR. Costa Rica
Cu. Cuba
Cz. Czechoslovakia

DF. Federal District, Mex.
DR. Dominican Republic
Dz. Danzig

Eg. Egypt
Est. Estonia

F. France

Fin. Finland
For. Formosa

G. Germany
GB. Great Britain
Gr. Greece
Gt. Guatemala

Hi. Hidalgo
Hol. Holland
Ht. Haiti
Hun. Hungary

I. Italy
IFS. Irish Free State
In. India

J. Japan
Jal. Jalisco
Ken. Kenya
Ko. Korea

Lat. Latvia
LC. Lower California

Mch. Michoacan
Mnch. Manchuria
Mor. Morocco

NL. Nuevo Leon
Nor. Norway
NZ. New Zealand

Par. Paraguay
Pol. Poland
Por. Portugal
Pu. Puebla

Que. Queretaro
Rum. Rumania

SAF. Union of South Africa
SLP. San Luis Potosi
Sp. Spain
Swe. Sweden
Swi. Switzerland

Tam. Tamaulipas
Tun. Tunisia

Uru. Uruguay
USR. Russia

Ver. Veracruz
Vnz. Venezuela

Yuc. Yucatan
Yug. Yugoslavia

INDEX BY FREQUENCIES AND DIAL NUMBERS

Stations in North America are shown in black type. Power is shown in kilowatts, thus .025 is 25 watts. Odd frequencies are given in parenthesis.
Kilocycles in larger type; meters in parenthesis.

520 (576.6) []
LKH .7 Hamar, Nor. (519)
OFH 13.2 Vipuri, Fin. (527)
..... .5 Innsbruck, Aust. (519)
..... 5. Ljubljana, Yug. (527)

530 (565.7) []
11BZ 1. Bolzano, I. (536)
RW24 2. Smolensk, USSR (531)
..... 16. Wilno, Pol. (536)

540 (555.2) []
CJRM 1. Moose Jaw, Sask.
HAL 120. Budapest, Hun. (546)
KEY .01 Merida, Yuc. (546.8)

550 (545.1) []
KFDD .5 Brookings, S. D.
KFUO .5 St. Louis, Mo.
KFYR 1. Bismarck, N. O.
KOAC 1. Corvallis, Ore.
KSD 1. St. Louis, Mo.
RW48 1.2 Tomsk, U. S. R. (554)
TISO .25 San Jose, C. R.
WQEV .5 Waterbury, Vt.
WGR 1. Buffalo, N. Y.
WKRC 1. Cincinnati, Ohio
..... 60. Beromunster, Swi. (556)

560 (535.4) []
IPA 3. Palermo, I. (565)
KFDM .5 Beaumont, Tex.
KLZ 1. Denver, Colo.
KTAB 1. San Francisco, Calif.
KWTO 1. Springfield, Mo.
RW41 1.2 Syktyvkar, U.S.R. (563)
WFI .5 Philadelphia, Pa.
WIND 1. Gary, Ind.
WLIT .5 Philadelphia, Pa.
WNOX 1. Knoxville, Tenn.
WQAM 1. Miami, Fla.
XEAO .25 Mexicali, B. C.
2CO 7.5 Corowa, Ausl.
..... 60. Athlone, IFS (565)
..... 120. Makhatch, U. S. R. (563)

570 (526) []
FQN .25 St. Pierre, Mig.
KGKO .25 Wichita Falls, Tex.
KMTR .5 Hollywood, Calif.
KVI .5 Tacoma, Wash.
MYCY 1. Skinkyoy, Mneh.
WKNB .5 Youngstown, Ohio
WMCA .5 New York, N. Y.
WNAX 1. Yankton, S. D.
WOSU .75 Columbus, Ohio
WSYR .25 Syracuse, N. Y.
WWNG 1. Asheville, N. C.
2YA 5. Wellington, N.Z.
..... 100. Stuttgart, G. (574)
..... 20. Cairo, Eg. (571)
..... 10. Magnitogorsk, U. S. R. (571)

580 (516.9) []
CE58 1. Santiago, Chl. (585)

CHRC .1 Quebec, Que.
CKCL .1 Toronto, Ont.
CKUA .5 Edmonton, Alta.
KMW .5 Fresno, Calif.
KSAC .5 Manhattan, Kans.
RW35 10. Astrakhan, U.S.R. (589)
RW38 1.2 Alexandrovsk, U. S. R.
WCHS .75 Charleston, W. Va.
WDBO .25 Orlando, Fla.
WBW 1. Topeka, Kans.
WTAG .75 Worcester, Mass.
XEPN 75. Piedras Ngs, Coah. (585)
YLZ 15. Riga, Lat. (583)
ZTB .5 Bloemtn, S. Af. (589)
7ZL 3. Hobart, Ausl.

590 (508.2) []
CMW 1.4 Havana, Cuba (595)
HIX 1.5 Santo Domingo, D. R.
JOAK2 10. Tokyo, Jap.
KHQ 1. Spokane, Wash.
LS10 3.5 Buenos Aires, Arg.
RW42 10. Gorki, U. S. R. (598)
WEEL 1. Boston, Mass.
WKZO 1. Kalamazoo, Mich.
WOW 1. Omaha, Neb.
..... 10. Nijni, U. S. R. (598)
..... 120. Vienna, Aust. (592)

600 (499.7) []
CFCC .5 Montreal, Que.
CFCO .05 Chatham, Ont.
CJOR .5 Vancouver, B. C.
KFQD .25 Anchorage, Alas.
KFSD 1. San Diego, Calif.
SBD 10. Sundsvall, Swe. (601)
WCAC 1. Storrs, Conn.
WCAD .5 Baltimore, Md.
WICC .5 Bridgeport, Conn.
WMT .5 Waterloo, Iowa
WREC .5 Memphis, Tenn.
XMAH 6. Shanghai, Chin.
..... 6.5 R'dio Maroc, Mor. (601)
..... Cairo, Eg.

610 (491.5) []
CX4 1. Montevideo, Uru.
IFI 20. Florence, I.
JODK2 10. Keijo, Ko.
KFRC 1. San Francisco, Calif.
KZEG 1. Manila, P. I. (618.5)
KZRM 50. Manila, P. I. (618.5)
RW22 10. Oufa, U. S. R. (617)
TIXA .0075 San Jose, C. R. (614)
WDAF 1. Kansas City, Mo.
WIP .5 Philadelphia, Pa.
WJAY .5 Cleveland, Ohio
XFX .5 Mexico City, D. F.
3AR 5. Melbourne, Ausl.
..... 10. Murmansk, U.S.R.

620 (483.6) []
CE82 1. Santiago, Chl. (625)
JOTK .5 Matsuy, Jap. (625)
KWG 1. Portland, Ore.
KTAR 1. Phoenix, Ariz.
LV3 .35 Cordoba, Arg.
RW31 10. Ivan-Vozn. U.S.R. (625)
WFLA 1. Clearwater, Fla.
WLBZ 5. Bangor, Me.

WSUN 1. St. Petersburg, Fla.
WTMJ 1. Milwaukee, Wis.
XOTN 5. Tientsin, Chin. (625)
4ZP .5 Invercargill, N. Z.
No. 1 15. Brussels, Belg.
..... 1.2 Trondheim, Nor. (629)

630 (475.9) []
CFCY .5 Charlottetown, P. E. I.
CJGJ .5 Yorkton, Sask.
JODG 3. Hamamatsu, Jap. (635)
KFRU .5 Columbia, Mo.
KGFX .2 Pierre, S. D.
KTRH .5 Houston, Tex.
LS3 4.5 Buenos Aires, Arg.
OKP 120. Prague, Cz. (638)
RW28 7. Vladivostk, U.S.R. (636)
WGBF .5 Evansville, Ind.
WMAL .25 Washington, D. C.
WOS .5 Jefferson City, Mo.
XEX .05 Monterrey N. L.
XEZ .5 Merida, Yuc.
XFG 2. Mex. City, D. F. (638.3)
5CK 7.5 Crys, Brook. Aus. (635)

640 (468.5) []
CMQ .5 Havana, Cuba (645)
JOUK 3. Akita, J. (645)
KFI 50. Los Angeles, Cal.
RW17 10. Kazan, USSR. (644)
RW56 1.2 Penza, USSR.
WAIU 5. Columbus, Ohio
WOI 5. Ames, Iowa
YN 15. Lyons, F. (648)
..... 10. Petrozavodsk, U.S.R.

650 (461.3) []
CAB 1. Canton, Chin. (658)
CX6 5. Montevideo, Uru.
JOCG 3. Ashikawa, J. (655)
JQAK .5 Dairen, Mneh. (652)
KPCB 1. Seattle, Wash.
RW46 10. Karaganda, USSR. (653)
WSM 50. Nashville, Tenn.
1YA 5. Auckland, N. Z.
..... 60. Langenberg, G. (658)

660 (454.3) []
CE66 1. Santiago, Ch. (665)
EAJ22 1. Salamanca, Sp. (662)
NR 50. Manchester, G. B. (668)
WAAW .5 Omaha, Neb.
WEAF 50. New York, N. Y.
XEAL 1. Mexico City, O. F.
XGOA 75. Nanking, Chin.
ZTJ 15. Johannesburg, S. Af.
2FC 5. Sydney, Aus. (665)
..... 5. Bjorneborg, Fin. (662)

670 (447.5) []
CMB 1. Kwangchow, Chin. (677)
JFAK 10. Taihoku, For.
LS4 6. Buenos Aires, Arg.
MOHB 1. Harbin, Mneh. (674)
MTFY 1. Harbin, Mneh. (674)
RW23 1.2 Grozny, USSR. (676)
WMAQ 5. Chicago, Ill.
..... 25. Sottens, Swi. (677)

INDEX BY FREQUENCIES AND DIAL NUMBERS

680 (440.9)

CMAF 1. Havana, Cuba
HJN 1. Bogota, Col. (681)
JOLK .5 Fukuoka, J.
JOVK .5 Hakodate, J.
KFEQ 2.5 St. Joseph, Mo.
KPO 50. San Francisco, Cal.
RDN .5 San Salvador, E. S.
RW27 4. Mak-Kala, I.S.R. (680)
RW46 1.2 Karang, U.S.R. (686.6)
RW74 1.2 Tchebookary, U.S.R.
VAS 2. Glace Bay, N. S. (685)
WESG 1. Elmira, N. Y.
WPTF 1. Raleigh, N. C.
 2.5 Belgrade, Y. C. (686)

690 (434.5)

CFRB 10. Toronto, Ont.
CJJC .1 Calgary, Alta.
CX8 1. Montevideo, Uru.
FPFT 7. Paris, F. (695)
NAA 1. Arlington, Va.
XET .5 Monterrey, N. L.
XGOY 5. Yunnan, Chn. (698)
6WF 5. Perth, Aus.

700 (428.3)

CE70 1. Santiago, Chl. (705)
JOKK 5. Okayama, J.
PRAG 3. Port Alegre, Brs. (706)
SBA 55. Stockholm, Swe. (704)
SCN .25 Malmberget, Swe. (704)
VOWR .5 St. John's, N. F.
VPB 1.75 Colombo, Cey. (705)
WLW 50. Cincinnati, Ohio
XHHA .1 Shanghai, Chn.

710 (422.3)

I1RO 50. Rome, I. (713)
JOJK 3. Kanazawa, J.
KMPC .5 Beverly Hills, Cal.
LS1 5. Buenos Aires, Ar.
TIFB .03 San Jose, C. R. (714)
WOR 5. Newark, N. J.
XEN 1. Mex. City, D. F. (711)

720 (416.4)

JFBK 1. Tainan, For.
JORK .5 Kochi, J.
RV9 100. Kiev, U.S.R. (722)
RW28 10. Vladivos, U.S.R. (725)
RW52 10. Simferopol, U.S.R. (725)
WGN 50. Chicago, Ill.
ZTD 1. Durban, S. Af. (723)
3YA 2.5 Christchurch, N. Z.

730 (410.7)

CFPL .1 London, Ont.
CJCA 1. Edmonton, Alta.
CKAC 5. Montreal, Que.
CMK 2. Havana, Cuba
CX10 1. Montevideo, Uru.
EAJ2 3. Madrid, Sp. (731)
EAJ5 1.5 Seville, Sp. (731)
JOSK 1. Kokura, J. (735)
LVI 1.5 San Juan, Arg.
5CL 5. Adelaide, Aus.
 20. Tallin, Est. (731)

740 (405.2)

CE74 1. Santiago, Chl. (745)
KMM J 1. Clay Center, Neb.
KTRB .25 Modesto, Cal.
OFD .5 Pori, Fin. (749)

RW51 1.2 Naltchik, U.S.R. (748.1)
WHEB .25 Portsmouth, N. H.
WSB 50. Atlanta, Ga.
 100. Munich, G.
 5. Marseilles, F (749)

750 (399.8)

H87PJ Bangkok, Siam
JOBK1 10. Osaka, J.
KGU 2.5 Honolulu, T. H.
LR7 1. Buenos Aires, Arg.
OAX 1.5 Lima, Peru
RW64 10. Vladikav., U.S.R. (752)
VQ7LO 1. Nairobi, Ken.
WJR 10. Detroit, Mich.
2YB .1 New Plymouth, N. Z.
 12. Katowice, Pol. (758)

760 (394.5)

CMBS .2 Havana, Cuba
CMCQ 1. Havana, Cuba (767)
KXA .25 Seattle, Wash.
LT4 .17 Mendoza, Arg.
MR 25. Daventry, G. B. (767)
WBAL 10. Baltimore, Md.
WEW 1. St. Louis, Mo.
WJZ 50. New York, N. Y.
4QG 5. Brisbane, Aus.

770 (389.4)

CX12 1. Montevideo, Uru.
JOHK 10. Sendai, J.
KFAB 5. Lincoln, Neb.
RW26 10. Stalino, U.S.R. (776)
RW36 10. Arkhangelsk, U.S.R.
VUM .2 Madras, Ind.
WBBM 25. Chicago, Ill.
1ZH .04 Hamilton, N. Z.
 2. Toulouse, F. (774)

780 (384.4)

CE78 1. Valparaiso, Chl. (785)
CHWK .1 Chilliwack, B. C.
CJCS .8 Sudbury, Ont.
CKY 5. Winnipeg, Man.
JOPK .5 Shizuoka, J.
KELW .5 Burbank, Cal.
KTM .5 Los Angeles, Cal.
LT1 4.5 Rosario, Arg.
PRAJ .2 Juiz de Fora, Brs. (789)
PRAN .008 Curitiba, Brs. (789)
PRAY .05 M. das Cruz., B. (789)
WEAN .5 Providence, R. I.
WMC .5 Memphis, Tenn.
WTAR .5 Norfolk, Va.
KEYZ 10. Mexico City
XEP .5 Mexico City, D. F.
 2. Alexandria, Eg.
 120. Leipzig, G. (785)

790 (379.5)

CMJK .5 Camaguey, Cuba
EAJ1 5. Barcelona, Sp. (795)
JOGK 10. Kumamoto, J.
KGO 7.5 San Francisco, Cal.
LR10 8. Buenos Aires, Arg.
RW37 1. Moscow, U.S.R. (792.5)
WGY 50. Schenectady, N. Y.
4YA .5 Dunedin, N. Z.
 16. Lwow, Pol. (795)
 5. Santiago, Sp. (795)

800 (374.8)

LU2 .5 Bahia Blanca, Arg.
TIGP .076 San Jose, C. R.
SR 50. Falkirk, G. B. (804)

WBAP 50. Fort Worth, Tex.
WFAA 50. Dallas, Tex.
XFC .36 Aguascalientes, A. (805)
3LO 5. Melbourne, Aus.
 20. Salonica, Gr. (804)

810 (370.2)

CX14 1. Montevideo, Uru.
EAJ4 1.5 Galicia, Sp. (815)
F8QC 1.2 Paris, F.
IMI 50. Milan, I. (814)
JOCK1 10. Nagoya, J.
VUC 3. Calcutta, In.
WCCO 50. Minneapolis, Minn.
WNYC .5 New York, N. Y.
XEBC 2.5 Agua Caliente, L. C. (815)
ZTC 1. Cape Town, S. Af.

820 (365.6)

CE82 1. Santiago, Chl. (825)
CMGC .03 Matanzas, Cuba
LV7 .3 Tucuman, Arg.
RW08 1.5 Tchelia, U.S.R. (824)
RW69 4. Ijevsk, U.S.R. (826)
WHAS 50. Louisville, Ky.
XQHIB .1 Shanghai, Chn.
2ZH .065 Napier, N. Z.
 12. Bucharest, Ru. (823)

830 (361.2)

CMC .5 Havana, Cuba (835)
CMGA .1 Colon, Cuba (834)
JOJK 10. Sapporo, J.
KOA 12.6 Denver, Colo.
LL 2. Paris, Fr. (832)
LR5 20. Buenos Aires, Arg.
RW39 100. Moscow, U.S.R. (832)
TIEA .0075 San Jose, C. R. (833)
WEEU 1. Reading, Pa.
WHDH 1. Boston, Mass.
WRUF 5. Gainesville, Fla.
XETW .5 Mexico City, D. F.

840 (356.9)

CJOC .1 Lethbridge, Alta.
CKLW 5. Windsor, Ont.
F3ICD 12. Saigen, Indo.
LT8 .35 Rosario, Arg.
VUB 3. Bombay, In.
ZBW 2. Hongkong, C. (845)
2YC .2 Wellington, N. Z.
 100. Berlin, G. (841)

850 (352.7)

CX16 .2 Montevideo, Uru.
EAJ3 1.5 Valencia, Sp.
HSP1 2.5 Bangkok, Siam (857)
JOFK 10. Hiroshima, J.
KIEV .1 Glendale, Cal.
KWKH 10. Shreveport, La.
LKA .35 Aalesund, Nor.
LKB 1. Bergen, Nor.
LKP .7 Porsgrund, Nor.
PRAC .5 Rio de Janeiro, B. (857)
PRAI .01 Ribeirao Preto, B. (857)
RW52 10. Simferopol, U.S.R. (859)
SPTT 15. Strasbourg, F. (859)
WWL 10. New Orleans, La.
XOST .5 Tsinan, Chn. (857.1)
XQHA 1. Shanghai, Chn.
2BL 3.4 Sydney, Aus. (855)
 1. Sofia, Bul.

860 (348.6)

CE86 1. Santiago, Chl. (865)

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LKF .7 Fredrikstad, Nor. (868)
 LV10 .35 Las Heras, Arg.
 PRA3 .5 Rio de Janeiro, Brz.
 TIVL .03 San Jose, C. R. (869)
 WABC .60 New York, N. Y.
 WHB .50 Kansas City, Mo.
 XEMO 1.5 Tijuana, L. C. (865)
 1. Santiago, Chl.
 16. Poznan, Pol. (868)

870 (344.6)

CMCF .25 Havana, Cuba (873)
 CMX 1. Havana, Cuba (875)
 JOAK1 10. Toyko, J.
 LR 50. London, G. B. (877)
 LR6 3. Buenos Aires, Arg.
 WENR 50. Chicago, Ill.
 WLS 50. Chicago, Ill.
 YNCRG 1.5 Granada Venz

880 (340.7)

CE88 .1 Valparaiso, Chl. (885)
 CJB 0.5 Sydney, N. S.
 CRCO 1. Ottawa, Ont.
 CT1GL 15. Lisbon, Por. (885)
 KFKA .5 Greeley, Colo.
 KLX 1. Oakland, Cal.
 KPof .5 Denver, Colo.
 WCOC .5 Meridian, Miss.
 WGBI .5 Scranton, Pa.
 WQAN .25 Scranton, Pa.
 WSUI .5 Iowa City, Iowa
 XHIV .1 Shanghai, Chn.
 YV2BC 1. Caracas, Venz. (882)
 6PR .5 Perth, Aus.
 IZR 1. Auckland, N. Z.
 7. Graz, Aust. (886)

890 (326.9)

CX18 .75 Montevideo, Uru.
 KARK .25 Little Rock, Ark.
 KFN 5. Shenandoah, Ia.
 KFPY 1. Spokane, Wash.
 KSEI .25 Pocatello, Ida.
 KUSD .5 Vermillion, S. D.
 MTBY 1.5 Høten, Mnch. (897)
 OFA 10. Helsinki, Fin. (895)
 WGST .25 Atlanta, Ga.
 WILL .25 Urbana, Ill.
 WJAR .5 Providence, R. I.
 WMMN .25 Fairmont, W. Va.
 XETU 1. Pachuca, Hdo.
 XEW 50. Mexico City
 7HO .05 Hobart, Aus.
 5.5. Cadiz, Sp. (896)
 10. Toulouse, Fr. (895)

900 (333.1)

CE90 1. Santiago, Chl. (905)
 JODK1 10. Keijo, Ko.
 KGBU .5 Ketchikan, Alas.
 KHJ 1. Los Angeles, Cal.
 LV9 .5 Rosario, Arg.
 WBen 1. Buffalo, N. Y.
 WJAX 1. Jacksonville, Fla.
 WKY 1. Oklahoma City, Okla.
 WBL 2.5 Stevens Pt., Wis.
 XHHI .1 Shanghai, Chn.
 ZILY 2. Høten, Mnch.
 Z2P .105 Wairoa, N. Z.
 3MA .05 Mildura, Aus.
 100. Hamburg, G. (904)

910 (329.6)

CMDE .15 Havana, Cuba

CMJF .2 Camaguey, Cuba
 CRCM 8.5 Montreal, Que.
 LR2 8.5 Buenos Aires, Arg.
 RW30 10. Dnepropetrovsk, USR (913)
 TIGR .075 San Jose, C. R. (911)
 4RK 5. Rockhamton, Aus.
 5. Limoges, F. (913)

920 (325.9)

CE92 .1 Temuco, Chl.
 CMCD .5 Havana, Cuba (925)
 HHK 1. Port-au-Prince, Haiti
 JOOK 5. Niigata, J.
 KFEL .5 Denver, Colo.
 KFXF .5 Denver, Colo.
 KOMO 1. Seattle, Wash.
 KPRC 1. Houston, Tex.
 LV2 8. Cordoba, Arg.
 OKB 32. Brno, Cz. (922)
 PRAD .05 Pelotas, Brz.
 PRAE 1. Sao Paulo, Brz. (921)
 WAAF .5 Chicago, Ill.
 WBSO .5 Babson Pk., Mass.
 WWJ 1. Detroit, Mich.

930 (322.4)

CFAC .1 Calgary, Alta.
 CFCH .1 North Bay, Ont.
 CFCL .1 Prescott, Ont.
 CKPC .1 Brantford, Ont.
 CKPR .05 Ft. William, Ont.
 CTIBO .15 Lisbon, Por. (936)
 CX20 2. Montevideo, Uru.
 HSP3 .1 Bangkok, Siam (938)
 JOAG .5 Nagasaki, J.
 KFWI .5 San Francisco, Cal.
 KGBZ .5 York, Neb.
 KMA .5 Shenandoah, Ia.
 KROW .5 Oakland, Cal.
 WBRG .5 Birmingham, Ala.
 WDBJ .25 Roanoke, Va.
 XHHX .1 Shanghai, Chn.
 XNPP 1. Peiping, Chn. (937)
 3UZ .5 Melbourne, Aus.
 No. 2 15. Brussels, Belg. (932)

940 (319)

CE94 1. Santiago, Chl. (945)
 CMHD .5 Cabarien, Cuba
 JONK .5 Nagano, J.
 KOIN 1. Portland, Ore.
 VOAS .1 St. John's, Nfld.
 WAAT .3 Jersey City, N. J.
 WAVE .1 Louisville, Ky.
 WCHS 1. Portland, Maine
 WDAY 1. Fargo, N. D.
 WHA 1. Madison, Wis.
 SBB 10. Goteborg, Swe. (941)
 XEFO 5. Mexico City (XFO)
 XHHE 1. Shanghai, Chn.
 3ZR .3 Greymouth, N. Z.
 12. Algiers Alg. (941)

950 (315.6)

CTIDH .01 Lisbon, Por. (952)
 KFVB 1. Hollywood, Cal.
 KGHL 1. Billings, Mont.
 KMBC 1. Kansas City, Mo.
 LR3 12. Buenos Aires, Arg.
 PP 100. Paris, F. (959)
 RV 10. Paris, F. (959)
 RW55 1. Engels, USR (959)
 RW40 1.2 Gomel, U.S.R. (959)

WRC .5 Washington, D. C.
 XOPP 1. Peiping, Chn. (952.3)
 2GB .3 Sydney, Aus.
 50. Cairo, Eg.
 60. Breslau, G.

960 (312.3)

CMBD .25 Havana, Cuba (965)
 CMCW .15 Havana, Cuba (965)
 CMJL .05 Camaguey, Cuba
 CRCT .6 Toronto, Ont.
 JOOK .3 Kyoto, J.
 OFC .25 Jacobstad, Fin.
 PRAP .3 Pernambuco, B. (967)
 RW13 10. Odessa, USR. (968)
 RW57 2. Tiraspol, U.S.R. (968)
 XEAW 10. Reynosa, Tams. (965)
 XHHF 1. Shanghai, Chn.
 YVIBC 5. Caracas, Venz.
 ZEF .15 Palmerston, N. Z.
 5DN 1. Adelaide, Aus.
 20. Grenoble, F. (968)
 10. Odessa, U.S.R. (968)
 2. Oukhta, USR. (968)

970 (309)

CMGF .1 Matanzas, Cuba (871.5)
 CX22 .25 Montevideo, Uru.
 JOBG .5 Maebashi, J.
 KJR 1.5 Seattle, Wash.
 WCFL 6. Chicago, Ill.
 WIBG 1. Glenside, Pa.
 WR 50. Cardiff, G. B. (977)
 XGOD 1. Hangchow, C. (977.5)
 3BO .2 Bendigo, Aus.

980 (303.9)

CE98 1. Santiago, Chl. (985)
 CNO .025 Casablanca, Mor. (983)
 IGE 10. Genoa, I. (986)
 JOXX .5 Tokushima, J.
 KDKA 60. Pittsburgh, Pa.
 XEAE .8 Tijuana, B. C.
 XEFE .1 Nuevo Laredo, Tams. (985)
 ZPT .5 Pretoria, S. Af. (985)
 2ZJ .25 Gisborne, N. Z.
 6BY .05 Bunbury, Aus.
 2. Cracow, Pol. (986)

990 (302.8)

JOFG .5 Fukui, J.
 LR4 12. Buenos Aires, Arg.
 PFBT 20. Høilversum, Hol. (995)
 TITV .0075 San Jose, C. R. (999)
 WBZ 50. Boston, Mass.
 WBZA 1. Springfield, Mass.
 WJEM 5. Tupelo, Miss.
 XEAF .75 Nogales, Son.
 XEK .1 Mexico City, D. F.

1000 (299.8)

CMBZ .15 Havana, Cuba (1005)
 CMHI .25 Santa Clara, Cu. (1007)
 HJ3ABH 1. Bogota, Col.
 KFVD .25 Los Angeles, Cal.
 OKR 13.5 Bratislava, Cz. (1004)
 PRAR .5 Sao Paulo, Brz. (1006)
 WHO 50. Des Moines, Ia.
 WORK 1. York, Pa.
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CMCU .5 **Havana, Cuba**
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INA 1.5 **Naples, I.(1104)**
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XEFG .25 **Mexico City (1105)**

XIHS .1 **Shanghai, Chn.**
7LA .3 **Launceston, Ausl.**
 20. **Madona, Lat.(1104)**

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KS00 1. **Sioux Falls, S. D.**
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OKK 2.6 **Kosice, Cz.(1113)**
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WRVA 5. **Richmond, Va.**
XENT 30. **N. Laredo, Tms.(1116)**
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2ZR .05 **Nelson, N. Z.**
 5 **Heliopolis, Eg.**
 1. **Thesalonik, Gr.**

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CHGS .05 **Summerside, P. E. I.**
CHLP .1 **Montreal, Que.**
CKOC .5 **Hamilton, Ont.**
CMHJ .05 **Cienfuegos, Cuba (1125)**
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HAE 6.2 **Nyiregyhaza, Hun.(1122)**

KFIO .1 **Spokane, Wn.**
KFSG .5 **Los Angeles, Cal.**
KRKD .5 **Los Angeles, Cal.**
KRSC .1 **Seattle, Wn.**
LV5 .8 **San Juan, Arg.**
WDEL .25 **Wilmington, Del.**
WHAD .25 **Milwaukee, Wis.**
WISN .25 **Milwaukee, Wis.**
WTAW .5 **College Station, Tex.**
2UW 1.5 **Sydney, Aus.(1125)**
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CX30 .5 **Montevideo, Uru.**
KSJ 50. **Salt Lake City, Utah**
SBH 10. **Horby, Swe.(1131)**
TGW .5 **Guatemala City**
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WOV 1. **New York, N. Y.**
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CMBW .5 **Havana, Cuba**
CMCG .5 **Havana, Cuba**
CMCO .5 **Havana, Cuba (1145)**
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CMJH .05 **Ciego de Avila, Cuba**
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JOCK2 10. Nagoya, J. (1175)
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2ZD .008 Masterton, N.Z.
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 10. Coplogen., Den. (1175)

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CMBN .15 Havana, Cuba (1185)
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KEX 5. Portland, Ore.
KOB 10. Albuquerque, N. M.
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WINS 5. New York, N. Y.
WMAZ 5. Macon, Ga.
XHHM 1. Shanghai, Chn.
3DB .5 Melbourne, Aus.

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EAJ18 1. Almeria, Sp. (1193)
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WOAI 50. San Antonio, Tex.
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CJAT .05 Trail, B. C.
CKTB .1 St. Catharines, Ont.
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KFJB .1 Marshalltown, Ia.
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KGDE .1 Fergus Falls, Minn.
KGEK .1 Yuma, Colo.
KGfJ .1 Los Angeles, Cal.
KGHI .1 Little Rock, Ark.
KGVO .1 Missoula, Mont.
KMLB .1 Monroe, La.
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WHBY .1 Green Bay, Wis.
WIBX .1 Utica, N. Y.
WIL .1 St. Louis, Mo.
WJBC .1 LaSalle, Ill.
WJBL .1 Decatur, Ill.
WJBW .1 New Orleans, La.
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WNBW .01 Carbondale, Pa.
WPHR .1 Petersburg, Va.
WRBL .1 Columbus, Ga.
WWAE .1 Hammond, Ind.
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10-BP .015 Wingham, Ont.
10-BQ .015 Brantford, Ont.
10-BU .015 Canora, Sask.
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CHNC .1 New Carlisle, Que.
CKBI .1 Prince Albert, Sask.
CKCH .1 Hull, Que.
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CKOV .05 Kelowna, B. C.
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KFVS .1 Cape Girardeau, Mo.
KFXM .1 San Bernardino, Cal.
WALR .1 Watertown, S. D.
KGY .1 Olympia, Wn.
KIEM .1 Eureka, Cal.
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KWEA .1 Shreveport, La.
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WREN 1. Lawrence, Kan.
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4ZL .007 Duncedin, N. Z.
4ZF .1 Duncedin, N. Z.
6KG .1 Kalgoolie, Aus.
 Bloemendaal, Hol.
 4. Cartagena, Sp.

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KYA 1. San Francisco, Cal.
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WNSX .25 Springfield, Vt.
WTOC .5 Savannah, Ga.
XEFI .25 Chihuahua, Chih.
 1ZM .017 Manurewa, N. Z.
 3WR .05 Wangaratta, Aus.
 2. Augsburg, G. (1267)
 2. Nurnberg, G. (1267)
 25. Dresden, G. (1267)

WNBZ .05
WNEL .5
XEAC .1
XFB 1.
4BK .2
 26
 5
 5
 5

Saranac Lake, N. Y.
 San Juan, P. R.
S. L. Pat., SLP. (1295)
 Jalapa, Ver.
 Brisbane, Aus.
 Kiel, G. (1292)
 Linz, Aust. (1294)
 Dornbirn, Aust. (1294)
 Klagenfurt, Aust. (1294)

WJAC .1
WLBC .1
WLNH .1
WMBO .1
WNBH .1
WOL .1
WRAY .1
WROL .1
WSAJ .1
WSGN .1
WSJS .1
WTEL .1
WTJS .1
WTRC .05
XECW .01
XEFB .1
XEFW .07
XEI .125
1ZJ .05
5AD .3
 6
 Johnston, Pa.
 Muncie, Ind.
 Laconia, N. H.
 Auburn, N. Y.
New Bedford, Mass.
Washington, D. C.
Reading, Pa.
Knoxville, Tenn.
Grove City, Pa.
Birmingham, Ala.
Winston-Salem, N. C.
Philadelphia, Pa.
Jackson, Tenn.
Elkhart, Ind.
Mexico City
Merteroy, N.L. (1316)
Tampico, Tams.
Morelia, Mich.
Auckland, N. Z.
Adelaide, Aus.
Flensburg, G. (1319)

1300 (230.6)

CE130 .1 Santiago, Chl. (1305)
CEMKJ .1 Guantano, Cuba
CW38 .03 Salto, Uru.
HIZ .01 San Domingo, D. R.
KALE .5 Portland, Ore.
KFAC 1. Los Angeles, Cal.
KFH 1. Wichita, Kan.
KFJR .5 Portland, Ore.
VOAC .04 St. John's, Nfld.
WBBR 1. Brooklyn, N. Y.
WEVD 1. New York, N. Y.
WFAB 1. New York, N. Y.
WHAZ .5 Troy, N. Y.
WIOD 1. Miami, Fla.
WQQ 1. Kansas City, Mo.
3BA .05 Ballarat, Aus.
3ZE .06 Greymouth, N. Z.
 25. Bodo, Nor. (1304)
 5. Danzig, Dan. (1303)

1320 (227.1)

CE132 .1 Rancagua, Chl. (1325)
 CW39 .075 Florida, Uru.
KGHF .25 Pueblo, Colo.
KGMB .25 Honolulu, T. H.
KID .25 Idaho Falls, Idaho
WADC 1. Akron, Ohio
WSMB .5 New Orleans, La.
2MO .05 Gunnedah, Aus.
 No. 2 .8 Budapest, Hun. (1321)

1270 (236.1)

CMBC .15 Havana, Cuba
CMCP .15 Havana, Cuba
CT1BP .05 Lisbon, Por. (1275)
KGCA .1 Decarah, Ia.
KOL 1. Seattle, Wn.
KVOR 1. Colorado Springs, Colo.
KWLC .1 Decarah, Ia.
LKD .5 Bodo, Nor. (1276)
LKK .6 Kristiansand, Nor. (1274)
 LKS .5 Stavanger, Nor. (1276)
 L89 .5 Buenos Aires, Arg.
 TUA .5 Tunis, Tun. (1275)
WASH .5 Grand Rapids, Mich.
WFRB .5 Baltimore, Md.
WJDX 1. Jackson, Miss.
WQOD .5 Grand Rapids, Mich.
XQHC .5 Shanghai, Chn.
ZFA .15 Asuncion, Par. (1275)
2SM 1. Sydney, Aus.

1310 (228.9)

CE131 .1 Santiago, Chl. (1315)
CFJC .1 Kamloops, B. C.
CHCK .05 Charlottetown, P. E. I.
CJKL .1 Kirkland Lake, Ont.
CJLS .1 Yarmouth, N. S.
KCGV .05 Quebec, Que.
CMCY .5 Havana, Cuba (1316)
KCRJ .1 Jerome, Ariz.
KFBK .1 Sacramento, Cal.
KFGQ .1 Boons, Ia.
KFPL .1 Dublin, Tex.
KPPM .015 Greenville, Tex.
KFXR .1 Oklahoma City
KFYO .1 Lubbock, Tex.
KG BX .1 Springfield, Mo.
KGCX .1 Wolf Point, Mont.
KGEZ .1 Kalispell, Mont.
KGFV .1 Kearney, Neb.
KIFH .1 Juneau, Alas.
KIT .1 Yakima, Wn.
KMED .1 Medford, Ore.
KRMD .1 Shreveport, La.
KTSM .1 El Paso, Tex.
KXRO .1 Aberdeen, Wn.
 LS7 3. Buenos Aires, Arg.
SBC 1.25 Malmo, Swe. (1312)
SBI .25 Norrkoping, Swe. (1312)
 SBJ .25 Trollhattan, Swe. (1312)

1330 (225.4)

CMJI .045 Cgo. de Avila, Cu. (1335)
CX40 .5 Montevideo, Uru.
KGB 1. San Diego, Cal.
KMO .25 Tacoma, Wn.
KSCJ 1. Sioux City, Ia.
WDRG 1. Hartford, Conn.
WSAI 1. Cincinnati, Ohio
WTAQ 1. Eau Claire, Wis.
4RO .25 Rockhampton, Aus.
 5. Montpeller, F. (1339)
 1.5 Bremen, G.
 1.5 Flensburg, G.
 1.5 Hanover, G.
 1.5 Madgeburg, G.
 1.5 Stettin, G.

1280 (234.2)

CE128 .5 Temuco, Chl.
KFBB 1. Great Falls, Mont.
LU7 .2 Punta Alta, Arg.
ON4EX .1 Ottomont, Belg. (1285)
ON4FG .1 Dampremy, Belg. (1285)
ON4FO .1 Brussels, Belg. (1285)
ON4GT .1 Brussels, Belg. (1285)
ON4RC .1 Brussels, Belg. (1285)
ON4RG .1 Ghent, Belg. (1285)
ON4RW .2 Liege, Belg. (1285)
WCAM .5 Camden, N. J.
WGAP .5 Asbury Park, N. J.
WDD1 .1 Chattanooga, Tenn.
WIBA .5 Madison, Wis.
WORC .5 Worcester, Mass.
WRR .5 Dallas, Tex.
WTNJ .5 Trenton, N. J.
XCBL .4 Shanghai, Chn.
XEFW .87 Tampico, Tams.
3TR .05 Sale, Aus.
4ZC .025 Cromwell, N. Z.
 1. Sao Paula, Brz. (1284)
 1. Aberdeen, G. B. (1285)

SBK .25 Karlstad, Swe. (1312)
WAML .1 Laurel, Miss.
WEAO .1 Marquette, Mich.
WBOW .1 Terre Haute, Ind.
WBRE .1 Wilkes-Barre, Pa.
WCLS .1 Joliet, Ill.
WDAH .1 El Paso, Tex.
WEBR .1 Buffalo, N. Y.
WEXL .05 Royal Oak, Mich.
WFBG .1 Altoona, Mich.
WFDJ .1 Flint, Mich.
WGAL .1 Lancaster, Pa.
WQH .1 Newport News, Va.
WHAT .1 Philadelphia, Pa.

1340 (223.7)

CE134 .15 Santiago, Chl.
CW40 .03 Paysandu, Uru.
KG DY .25 Huron, S. D.
KGRV .5 Butte, Mont.
KGNO .25 Dodge City, Kan.
LKN .08 Notodden, Nor. (1348)
LKR .15 Rjukan, Nor. (1348)
WCDA .5 Pensacola, Fla.
WLEC .25 Portland, Me.
WSPD 1. Toledo, Ohio
2XN .05 Lismore, Aus.
4ZR .004 Baleutha, N. Z.
2RN 1.2 Dublin, IFS. (1348)
 No. 2 4. Milan, I. (1348)
 2. Radio-Vitus, F. (1348)
 4. Milan, I. (1348)
 5. Salzburg, Aust. (1348)
 5. Tartu, Est. (1348)
 2.2 Tartu, Est. (1348)
 1.7 Lodz, Pol. (1348)
 5. Koenigsberg, G. (1348)

1290 (232.4)

GMHL .02 Cienfuegos, Cuba
CX38 .25 Montevideo, Uru.
KDYL 1. Salt Lake City, Utah
KLCN 1. Blytheville, Ark.
KTSA 1. San Antonio, Tex.
WBCB 1. Superior, Wis.
WJAS 1. Pittsburgh, Pa.

1350 (222.1)

CMCN .25 Havana, Cuba (1357)
CMCR .15 Havana, Cuba (1357)

INDEX BY FREQUENCIES AND DIAL NUMBERS

KIDO 1. Boise, Ida.
KWK 1. St. Louis, Mo.
LKM 1. Tronson, N. (1357)
LS6 1.5 Buenos Aires, Arg.
WAWZ .25 Zarephath, N. J.
WBNX .25 New York, N. Y.
WEHC .5 Charlottesville, Va.
3KZ .2 Melbourne, Aus.
 No. 2 1. Turin, I. (1357)
 5 Christianssand, Nor. (1357)

1360 (220.4)

CMJP .075 Moron, Cuba
CW41 .05 San Jose, Uru.
KGER 1. Long Beach, Cal.
PRAX 2. R. de Janeiro, B. (1364)
WCSC .5 Charleston, S. C.
WFBL 1. Syracuse, N. Y.
WGES .5 Chicago, Ill.
WQBC .6 Vicksburg, Miss.
XQHD 2. Shanghai, Chn.
 1.7 Torun, Pol. (1366)

1370 (218.8)

CHSJ 1. St. John, N. B.
CMGE .03 Cardenas, Cuba (1375)
CX42 1. Montevideo, Uru.
KCRC 1. Enid, Okla.
KERN 1. Bakersfield, Calif.
KFBL .05 Everett, Wa.
KFJM 1. Grand Forks, N. D.
KFJZ 1. Ft. Worth, Tex.
KGAR 1. Tucson, Ariz.
KGFG 1. Oklahoma City
KGFL 1. Roswell, N. M.
KGKL 1. San Angelo, Tex.
KICA 1. Clovis, N. M.
KLUF 1. Galveston, Tex.
KMAC 1. San Antonio, Tex.
KONO 1. San Antonio, Tex.
KOOD 1. Marshfield, Ore.
KRE 1. Berkeley, Cal.
KSO 1. Des Moines, Ia.
KUJ 1. Watia Watia, Wn.
KVL 1. Seattle, Wn.
KWKC 1. Kansas City, Mo.
KWYO 1. Sheridan, Wyo.
SCF .15 Hudiksvall, Swe. (1375)
WBTM 1. Danville, Va.
WCBM 1. Baltimore, Md.
WDAS 1. Philadelphia, Pa.
WGL 1. Ft. Wayne, Ind.
WGQC 1. Hudson Falls, N. Y.
WHBD 1. Mt. Orab, Ohio
WHBQ 1. Memphis, Tenn.
WHDF 1. Calumet, Mich.
WHET 1. Dothan, Ala.
WIBM 1. Jackson, Mich.
WJBK .05 Detroit, Mich.
WJTL 1. Atlanta, Ga.
WLEY 1. Lexington, Mass.
WLVA 1. Lynchburg, Va.
WMBR 1. Jacksonville, Fla.
WFBF 1. Hattiesburg, Miss.
WQDM 1. St. Albans, Vt.
WRAK 1. Williamsport, Pa.
WRDO 1. Augusta, me.
WRJN 1. Racine, Wis.
WVSJ .05 Buffalo, N. Y.
XEYZ 1. Mexico City, D. F.
3HS .05 Horsham, Ausl.
 5 Basle, Swi. (1375)
 5 Berne, Swi. (1375)

1380 (217.3)

CE138 1. Santiago, Chl. (1385)
CMJC .15 Camaguey, Cu. (1382)

CW42 .02 Artigas, Uru.
KOH .5 Reno, Nev.
KQV .5 Pittsburgh, Pa.
LU6 .05 Mar del Plata, Arg.
SCG .2 Halsingborg, Swe. (1384)

TGX .075 Guatemala City, Gua.
WKBH 1. LaCrosse, Wis.
WSMK .2 Dayton, Ohio
XETB .125 Torreon, Coah.
4BH .6 Brisbane, Ausl.
 No. 2 2. Warsaw, Pol. (1384)

1390 (215.7)

CE139 .1 Rancagua, Chl.
CJRC .1 Winnipeg, Man.
CMPN .5 Havana, Cuba (1395)
HIH .015 San Pedro de M., D. R. (1395)
KLRA 1. Little Rock, Ark.
KOY .5 Phoenix, Ariz.
LT10 .1 Santa Fe, Arg.
SCR .05 Uddevalla, Swe. (1393)
SCS .2 Umea, Swe. (1393)
WHK 1. Cleveland, Ohio
2GN .05 Goulburn, Ausl.
01 Valparaiso, Chl.
 5. Radio-Lyons, F. (1393)

1400 (214.2)

CMCM .05 Havana, Cuba (1405)
CW43 .02 Melo, Uru.
FFZ .25 Shanghai, Chn.
KLO .5 Ogden, Utah
KTUL .25 Tulsa, Okla.
SCE .2 Halmstad, Swe. (1402)
WARD .5 Brooklyn, N. Y.
WBAA .5 Lafayette, Ind.
WBBC .5 Brooklyn, N. Y.
WBKF .5 Indianapolis, Ind.
WLTH .5 Brooklyn, N. Y.
WVWF .5 Brooklyn, N. Y.
XEFV .1 Juarez, Chih.
2ZO .05 Palmerston, N. Z.
3GL .05 Geelong, Ausl.

1410 (212.6)

CKFC .05 Vancouver, B. C.
CKMO .1 Vancouver, B. C.
CMCH .05 Havana, Cuba
CX44 1. Montevideo, Uru.
SCW .2 Ornskoldsvik, Swe (1411)
KGRS 1. Amarillo, Tex.
WAAB .5 Boston, Mass.
WBGM .5 Bay City, Mich.
WDAQ 1. Amarillo, Tex.
WHIS .5 Sheboygan, Wis.
WBLS .25 Bluefield, W. Va.
WODX .5 Mobile, Ala.
WRBX .25 Roanoke, Va.
WROK .5 Rockford, Ill.
WSFA .5 Montgomery, Ala.
2KO .2 Newcastle, Ausl. (1415)

1420 (211.1)

CE142 .1 Santiago, Chl. (1425)
CKQB .1 Timmins, Ont.
CW44 1. Paysandu, Uru.
KABC .1 San Antonio, Tex.
KBPS .1 Portland, Ore.
KCMC .1 Texarkana, Ark.
KFIZ .1 Fond du Lac, Wis.
KGFF .1 Shawnee, Okla.
KGCC .1 San Francisco, Calif.
KGIV .1 Alamosa, Colo.
KGIX .1 Las Vegas, Nev.

KICK .1 Carter Lake, Iowa
KIDW .1 Lamar, Colo.
KORE .1 Eugene, Ore.
KUMA .1 Yuma, Ariz.
KXL .1 Portland, Ore.
OPR 1.2 Tampere, Fin.
OPR 1.2 Tampere, Fin.
WACO .1 Waco, Tex.
WAGM .1 Proqueso Isle, Ma.
WAMC .1 Anniston, Ala.
WAZL .1 Hazleton, Pa.
WEED .1 Greenville, N. C.
WEHS .1 Cicero, Ill.
BELL .05 Battle Creek, Mich.
WENC .1 Albany, Ga.
WHDL .1 Tupper Lake, N. Y.
WHFC .1 Cicero, Ill.
WILM .1 Wilmington, Del.
WJBO .1 Baton Rouge, La.
WJMS .1 Ironwood, Mich.
WKBI .1 Cicero, Ill.
WLAP .1 Lexington, Ky.
WLBF .1 Kansas City, Kans.
WLEU .1 Erie, Pa.
WMAS .1 Springfield, Mass.
WMBG .1 Detroit, Mich.
WMBR .1 Joplin, Mo.
WNRA .1 Muscle Shoals, Ala.
WPAD .1 Paducah, Ky.
WSPA .1 Spartanburg, S. C.
WTBO .1 Cumberland, Md.
XHKK .1 Shanghai Chn.
1ZS .05 Auckland, N. Z.
3AW .3 Melbourne, Ausl. (1425)
 1. Newcastle, G. B. (1429)
 2. Beziers, F. (1429)

1430 (209.7)

CE143 .1 Magallanes, Chl.
HAE2 1.25 Magyarovar, Hun. (1435)
HAE3 1.25 Miskole, Hun. (1438)
HAE4 1.25 Pecs, Hun. (1438)
KECA 1. Los Angeles, Calif.
KGNF .5 No. Platte, Neb.
KWCR .25 Cedar Rapids, Iowa
LP9 1.5 LaPlata, Arg.
LS11 . Buenos Aires, Arg.
RV10 100. Minsk, USR. (1438)
WBAK .5 Harrisburg, Pa.
WBNS .5 Columbus, Ohio
WHEC .5 Rochester, N. Y.
WHP .5 Harrisburg, Pa.
WNBR .5 Memphis, Tenn.
WOKO .5 Albany, N. Y.
2WL .05 Wollongong, Ausl. (1435)

1440 (208.2)

CMBL .2 Havana, Cuba (1445)
CS1RS 1. Oporto, Por. (1448)
KDFN .5 Casper, Wyo.
KLS .25 Oakland, Calif.
KXYZ .25 Houston, Tex.
TIFS .0075 Cartago, C. R. (1441)
WBIG .5 Greensboro, N. C.
WCBA .25 Allentown, Pa.
WMBD .5 Peoria, Ill.
WSAN .25 Allentown, Pa.
WTAD .5 Quincy, Ill.

1450 (206.8)

CE145 .1 Rancagua, Chl.
CFCT .05 Victoria, B. C.
CKX .5 Brandon, Man.
CX46 .25 Montevideo, Uru.
KTBS 1. Shreveport, La.

INDEX BY FREQUENCIES AND DIAL NUMBERS

SCA .15 Boras, Swe.
 SCI .2 Kalmar, Swe. (1456)
TIEP .0075 San Jose, C. R.
WGAR .25 Cleveland, Ohio
WHOM .5 Jersey City, N. J.
WSAR .5 Fall River, Mass.
WTFI .5 Athens, Ga.
XEAB .0075 Nuevo Laredo, Tams.
 3ZM .05 Christchurch, N. Z.
01 Valparaiso, Chl.
 1.5 Radio-Agen, F. (1456)
 10. Fecamp, F. (1456)
 10. Normandie, F. (1456)

1460 (205.4) []
 CE146 .5 Santiago, Chl. (1465)
 CW46 .03 Tucuman, Uru.
KSTP .10 St. Paul, Minn.
WJSV 10. Washington, D. C.
 XQHT 1. Shanghai, Chn.
 ZP5 .15 Asuncion, Par. (1466)
 ZUV .2 Ulverstone, Ausl
 1.5 Dresden, G. (1465)

1470 (204) []
KGA 5. Spokane, Wash.
 LU9 .05 Azul, Arg.
WLAC 5. Nashville, Tenn.
 3AK .05 Melbourne, Ausl.
 4ZV .05 Dunedin, N. Z.
3 Plymouth, G.B. (1474)
25 Bilbao, Sp. (1477)
 1. Bournemouth, G. B.
 (1474)

1480 (202.6) []
CMBK .015 Havana, Cu. (1485)
 CW47 .1 Canelones, Uru.
KOMA 5. Oklahoma City, Okla
 SCD 2 Gasko, Swe. (1483)
WKBW 5. Buffalo, N. Y.
 6IX .05 Perth, Ausl.

1490 (201.2) []
 CX48 2.5 Montevideo, Uru.
 EAJ28 .25 Bilbao, Sp. (1492)
 ON4CE .1 Chatelineau, Blg.
 ON4EB .1 Antwerp, Blg. (1492)
 SCT .15 Upsala, Swe. (1492)
WCKY 10. Covington, Ky.
 1. Bordeaux, F. (1492)
 1. Binche, Blg. (1492)
 2. Nimes, F. (1492)
 6. Turku, Fin. (1492)

1500 (199.9) []
CRCS .1 Chicoutimi, Que.
KDB .1 Santa Barbara, Calif.
KGFI .1 Corpus Christi, Tex.
KGFK .1 Moorhead, Minn.
KGKB .1 Tyler, Texas
KGKY .1 Scottsbluff, Neb.
KNOW .1 Austin, Tex.
KOTN .1 Pine Bluff, Ark.
KPJM .1 Prescott, Ariz.
KPQ .1 Wenatchee, Wash.

KREG .1 Santa Ana, Calif.
KXD .1 El Centro, Calif.
 SCM .25 Kristinhamn, Swe.
WCNW .1 Brooklyn, N. Y.
WDNC .1 Durham, N. C.
WFDV .1 Rome, Ga.
WHEF .1 Kosciusko, Miss.
WKBW .1 E. Dubuque, Ill.
WKBV .1 Richmond, Ind.
WKBZ .1 Ludington, Mich.
WLaUG .1 LaGrange, Ga.
WMBQ .1 Brooklyn, N. Y.
WMEX .1 Chelsea, Mass.
WMPC .1 Lapeer, Mich.
WNBf .1 Binghamton, N. Y.
WOPI .1 Bristol, Tenn.
WPEN .1 Philadelphia, Pa.
WRDW .1 Augusta, Ga.
WSY .1 Rutland, Vt.
WWRL .1 Woodside, N. Y.
WWSW .1 Pittsburgh, Pa.
 2AY .05 Albany, Ausl.
 10. Riga, Lat. (1510)

1510 (198.6) []
CFRC .1 Kingston, Ont.
CKCR .1 Waterloo, Ont.
KIFS .1 Ft. Klamath, Ore.
 SCH .25 Jonkopung, Swe. (1518)
 SCJ .2 Karlskrona, Swe. (1530)
 1. Liege Exp., Blg.
 1. Verviers, Blg.
 1. Verviers, Blg.

INDEX BY COUNTRIES, STATES AND CITIES Frequency in second column, power in watts in third

<p>ALABAMA Anniston WAMC 1420 100 Birmingham WAPI 1140 5000 WBRC 930 500 WSGN 1310 100 Dothan WHET 1370 100 Gadsden WJBY 1210 100 Huntsville WBHS 1200 100 Mobile WODX 1410 500 Montgomery WSFA 1410 500 Muscle Shoals WNRA 1420 100 ALASKA Anchorage KFQD 600 250 Juneau KIEH 1310 100 Ketchikan KGBU 900 500 ARIZONA Jerome KCRJ 1310 100 Lowell KSNL 1200 100 Phoenix KOY 1390 100 KTAR 620 1000</p>	<p>Prescott KPJM 1500 100 Tucson KGAR 1370 100 KVOA 1260 500 Yuma KUMA 1420 100 ARKANSAS Blytheville KLCN 1290 100 Fayetteville KUOA 1260 1000 Fort Smith KFPW 1210 100 Hot Springs KTHS 1060 10000 Jonesboro KBMT 1200 100 Little Rock KARK 890 250 KGHl 1200 100 KLRA 1390 1000 Pine Bluff KOTN 1500 100 Texarkana KCMC 1420 100 CALIFORNIA Bakersfield KERN 1370 100 Berkeley KRE 1370 100 Beverly Hills KMPC 710 500 Burbank KELW 780 500</p>	<p>El Centro KXO 1500 100 Eureka KIEM 1210 100 Fresno KMJ 580 500 Glendale KIEV 850 100 Hollywood KFVB 950 1000 KMTR 570 500 KNX 1050 25000 Long Beach KFOX 1250 1000 KGER 1360 1000 Los Angeles KECA 1430 1000 KFAC 1300 1000 KFI 640 50000 KFSG 1120 500 KFVD 1000 250 KGFJ 1200 100 KHJ 900 1000 KRKD 1120 500 KTM 780 500 Modesto KTRB 740 250 Oakland KLS 1440 250 KLX 880 1000 KROW 930 500 Pasadena KPCC 1210 50 Sacramento KFBK 1310 100 San Bernardino KFxm 1210 100</p>	<p>San Diego KFSD 600 1000 KGB 1330 1000 San Francisco KFRC 610 1000 KFWI 930 500 KGGC 1420 100 KGO 790 7500 KJBS 1070 100 KPO 680 50000 KTAB 560 1000 KYA 1230 1000 San Jose KQW 1010 500 Santa Ana KREG 1500 100 Santa Barbara KDB 1500 100 Stockton KGDM 1100 250 KWG 1200 100 COLORADO Alamosa KGIW 1420 100 Colorado Springs KVOR 1270 1000 Denver KFEL 920 500 KFxf 920 500 KLZ 560 1000 KOA 830 12500 KPOF 880 500 Grand Junction KFXJ 1200 100 Greeley KFKA 880 500</p>
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INDEX BY LOCATIONS

Lamar KIDW 1420 100	Honolulu KGMB 1320 250 KGU 750 2500	Indianapolis WFBM 1230 1000 WKBF 1400 500	Monroe KMLB 1200 100
Pueblo KGHF 1320 250	IDAHO	Muncie WLBC 1310 50	New Orleans WBXX 1200 100 WDSU 1250 1000 WJBW 1200 100 WSMB 1320 5000 WWL 850 10000
Yuma KGEK 1200 100	Boise KIDO 1350 1000	Richmond WKBV 1500 100	Shreveport KRMD 1310 100 KTBS 1450 1000 KWEA 1210 100 KWKH 850 10000
CONNECTICUT	Idaho Falls KID 1320 250	South Bend WFAM 1200 100 WSBT 1230 500	MAINE
Bridgeport WICC 600 500	Nampa KFXD 1200 100	Terre Haute WBOW 1310 100	Augusta WRDO 1370 100
Hartford WDRC 1330 1000 WTIC 1040 50000	Pocatello KSEI 890 250	West Lafayette WBAA 1400 500	Bangor WABI 1200 100 WLBZ 620 500
Storrs WCAC 600 500	Twin Falls KTFI 1240 1000	IOWA	Portland WCSH 940 1000
Waterbury WATR 1190 100	ILLINOIS	Ames WOI 640 5000	Presque Isle WAGM 1420 100
DELAWARE	Carthage WCAR 1070 100	Boone KFGQ 1310 100	MARYLAND
Wilmington WDEL 1120 250 WILM 1420 100	Chicago	Carter Lake KICK 1420 100	Baltimore WBAL 1060 10000 WCAO 600 250 WCBM 1370 100 WFBZ 1270 500
DISTRICT OF COLUMBIA	KYWA 1020 10000	Cedar Rapids KWCR 1430 250	Cumberland WTBO 1420 100
Washington	WAAP 920 500	Council Bluffs KOIL 1260 1000	Hagerstown WJEJ 1210 100
WJSV 1460 10000	WRBM 770 25000	Decorah KGCA 1270 100	MASSACHUSETTS
WMAL 630 250	WCFL 970 1500	Des Moines KSO 1370 100 WHO 1000 50000	Boston Park WBSO 920 500
WOL 1310 100	WCRW 1210 100	Iowa City WSUI 880 500	Boston WAAB 1410 500 WBZ 990 50000 WEEI 590 1000 WHDH 830 1000 WNAC 1230 1000
WRC 950 500	WCFC 970 1500	Marshalltown KFJB 1200 100	Chelsea WMEX 1500 100
FLORIDA	WCED 1210 100	Shenandoah KFNF 890 500 KMA 930 500	Fall River WSAR 1450 250
Clearwater WFLA 620 1000	WENR 870 50000	St. Louis City KSCJ 1330 1000	Lexington WLEY 1370 100
Gainesville WRUF 830 5000	WGES 1360 500	Waterloo WMT 600 500	New Bedford WNBH 1310 100
Jacksonville WJAX 900 1000	WGN 720 50000	KANSAS	Springfield WBZA 990 1000 WMAS 1420 100
Miami WMBR 1370 100	WJJD 1130 20000	Abilene KFBI 1050 5000	Worcester WORC 1280 500 WTAG 580 750
Orlando WIOD 1300 1000	WLS 870 50000	Coffeyville KGGF 1010 500	MICHIGAN
Pensacola WQAM 560 1000	WMAQ 670 5000	Dodge City KGNO 1340 250	Battle Creek WELL 1420 50
St. Petersburg WDDB 580 250	WMBI 1080 5000	Kansas City WLBK 1420 100	Bay City WBCM 1410 500
Tampa WDAE 1220 1000	WSBC 1210 100	Lawrence KFKU 1220 500 WREN 1220 1000	Calumet WHDF 1370 100
GEORGIA	Cicero WELH 1420 100	Manhattan KSAC 580 500	Detroit WJBK 1370 50 WJR 750 10000
Albany WENC 1420 100	WHFS 1420 100	Topeka WIBW 580 1000	East Lansing WKAR 1040 1000
Athens WTFI 1450 500	WHFC 1420 100	Wichita KFH 1300 1000	Flint WFDF 1310 100
Atlanta	WKBI 1420 100	KENTUCKY	Grand Rapids WASH 1270 500 WOOD 1270 500
Augusta WGST 890 250	Decatur WJBL 1200 100	Covington WCKY 1490 5000	
Dayton WJTL 1370 100	East Dubuque WKBB 1500 100	Lexington WLAP 1420 100	
Dayton WSB 740 50000	Harrisburg WEBQ 1210 100	Louisville WAVE 940 1000 WHAS 820 50000	
Dayton WRDW 1500 100	Joliet WCLS 1310 100	Paducah WPAD 1420 100	
Dayton WRBL 1200 100	LaSalle WJBC 1200 100	LOUISIANA	
Dayton WKEU 1500 100	Peoria WMBD 1440 500	Baton Rouge WJBO 1420 100	
Dayton WMAZ 1180 500	Quincy WTAD 1440 500		
Dayton WFDV 1500 100	Rockford WROK 1410 500		
Dayton WTOC 1260 500	Rock Island WHBF 1210 100		
Dayton WQDX 1210 100	Springfield WCBS 1210 100 WTAX 1210 100		
HAWAII	Tuscola WDZ 1070 100		
Hilo KWV 1210 100	Urbanz WILL 890 250		
	Zion WCBZ 1080 5000		
	INDIANA		
	Anderson WHBU 1210 100		
	Eikhart WTRC 1310 50		
	Evansville WGFB 630 500		
	Fort Wayne WGL 1370 100 WOWO 1160 10000		
	Gary WIND 560 1000		
	Hammond WWAE 1200 100		

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Ironwood WJMS 1420 100	KWTO 560 1000	Roswell KGFL 1370 100	Durham WDNC 1500 100
Jackson WIBM 1370 100	MONTANA	NEW YORK	Greensboro WBIG 1440 500
Kalamazoo WKZO 590 1000	Billings KGHL 950 1000	Albany WOKO 1430 500	Greenville WEED 1420 100
Lansing 1210 100	Butte KGIR 1340 500	Auburn WMBO 1310 100	Raleigh WPTF 680 5000
Lapeer WMPC 1500 100	Great Falls KFBB 1280 1000	Binghamton WBNF 1500 100	Winston-Salem WSJS 1310 100
Ludington WKBZ 1500 100	Kallisell KGEZ 1310 100	Brooklyn WARD 1400 500	NORTH DAKOTA
Marquette WBEQ 1310 100	Missoula KGVO 1200 100	WBBB 1400 500	Bismarck KFYR 550 1000
Royal Oak WEXL 1310 50	Wolf Point KGCX 1310 100	WBRR 1300 1000	Devils Lake KDLR 1210 100
MINNESOTA	NEBRASKA	WCNW 1500 100	Fargo WDAY 940 1000
Fergus Falls KGDE 1200 100	Clay Center KMMJ 740 1000	WLTH 1400 500	Grand Forks KFJM 1370 100
Minneapolis WCCO 810 50000	Kearney KGFV 1310 100	WMBQ 1500 100	Mandan KGCU 1240 250
WDGY 1180 1000	Lincoln KFAB 770 5000	WVFW 1400 500	Minot KLPM 1240 250
WLB 1250 1000	KFOR 1210 100	Buffalo WBEN 900 1000	OHIO
WRHM 1250 1000	Norfolk WJAC 1060 1000	WBR 1310 100	Akron WADC 1320 1000
Moorhead KGFK 1500 100	North Platte KGNF 1430 500	WGR 550 1000	WJW 1210 100
Northfield WCAL 1250 1000	Omaha WAAW 660 500	WKBW 1480 5000	Canton WHBC 1200 100
St. Paul KSTP 1460 10000	WOW 590 1000	WSVS 1370 50	Cincinnati WBFB 1200 100
MISSISSIPPI	Scottsbluff KGGY 1500 100	WESG 680 1000	WPKC 550 1000
Greenwood WKFI 1210 100	York KGBZ 930 500	Freeport WGBB 1210 100	WLW 700 50000
Hattiesburg WFPB 1370 100	NEVADA	Hudson Falls WGLC 1370 10	WSAI 1330 1000
Jackson WJDX 1270 1000	Las Vegas KGIX 1420 100	Jamestown WOCL 1210 50	Cleveland
Kosciusko WHEF 1500 100	Reno KOH 1380 500	New York	WGAR 1450 500
Laurel WAML 1310 100	NEW HAMPSHIRE	WABC 860 50000	WHK 1390 1000
Meridian WCOC 880 500	Laconia WLNH 1310 100	WBNX 1350 250	WJAY 610 500
Mississippi City WCCM 1210 100	Manchester WFEA 1430 500	WBOQ 860 50000	WTAM 1070 50000
Tupelo WJEM 990 500	Portsmouth WHEB 740 250	WEAF 660 50000	Columbus
Vicksburg WQBC 1360 500	NEW JERSEY	WEVD 1300 1000	WAIU 640 500
MISSOURI	Asbury Park WCAP 1280 500	WFAB 1300 1000	WBNS 1430 500
Cape Girardeau KFVS 1210 100	Atlantic City WPG 1100 5000	WHN 1010 1000	WOSU 570 750
Columbia KFRR 630 500	Camden WCAM 1280 500	WINS 1180 500	WSEN 1210 100
Jefferson City WOS 630 500	Jersey City WAAT 940 300	WJZ 760 50000	Dayton
Joplin WMBH 1420 100	Whom 1450 250	WLWL 1100 5000	WSMK 1380 200
Kansas City KMBC 950 1000	Newark WGCP 1250 250	WMCA 570 500	Mount Orab WHBD 1370 100
KWKC 1370 100	WNEW 1250 1000	WNYC 810 500	Toledo WSPD 1340 1000
WDAF 610 1000	WOR 710 5000	WOV 1130 1000	Youngstown WKBN 570 500
WHB 860 500	Red Bank WJBI 1210 100	Rochester	Zanesville WALR 1210 100
WQQ 1300 1000	Trenton WTNJ 1280 500	WHAM 1150 50000	OKLAHOMA
St. Joseph KFEQ 680 2500	Zarephath WAWZ 1350 250	WHEC 1430 500	Elk City KASA 1210 100
St. Louis	NEW MEXICO	Saranac Lake WNBZ 1290 50	Enid KCRC 1370 100
KFUO 550 500	Albuquerque KGGM 1230 250	Schenectady WGY 790 50000	Norman WNAD 1010 500
KMOX 1090 50000	KOB 1180 10000	Syracuse	Oklahoma City
KSD 550 500	Clovis KICA 1370 100	WFBL 1360 1000	KFXR 1310 100
KWK 1350 1000		WSYR 570 250	KGFG 1370 100
WEW 760 1000		Troy	KOMA 1480 5000
WIL 1200 100		WHAZ 1300 500	WKY 900 1000
Springfield KGBX 1310 100		Whupper Lake WHDL 1420 100	Ponca City WBBZ 1200 100
		Utica	Shawnee KGFF 1420 100
		White Plains WFAS 1210 100	Tulsa
		Woodside WWRL 1500 100	KTUL 1400 250
		NORTH CAROLINA	KVOO 1140 25000
		Asheville	
		WUNC 570 1000	
		Charlotte	
		WBT 1080 50000	
		WSOC 1210 100	

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OREGON			York			Corpus Christi			WRVA 1110 5000		
Corvallis			WORK 1000 1000			KGFI 1500 100			Roanoke		
KOAC 550 1000			PHILIPPINES			Dallas			WDBJ 930 250		
Eugene			Manila			KRLD 1040 10000			WRBX 1410 250		
KORE 1420 100			KZEG 618.5 1000			WFAA 800 50000			WASHINGTON		
Klamath Falls			KZRM 618.5 50000			WRR 1280 500			Aberdeen		
KFJI 1210 100			PORTO RICO			Dublin			KXRO 1310 100		
KIFS 1518 100			San Juan			El Paso			Bellingham		
Marshfield			WKAQ 1240 1000			KTSM 1310 100			KVOS 1200 100		
KOOS 1370 100			WNEL 1290 500			WDAH 1310 100			Everett		
Medford			RHODE ISLAND			Fort Worth			KFBL 1370 50		
KMED 1310 100			Providence			KFJZ 1370 100			Olympia		
Portland			WEAN 780 500			KTAT 1240 1000			KGY 1210 100		
KALE 1300 500			WJAR 890 500			WBAP 800 50000			Pullman		
KBPS 1420 100			WPRO 1210 100			Galveston			KWSC 1220 1000		
KEX 1180 5000			SOUTH CAROLINA			KLUF 1370 100			Seattle		
KFJR 1300 500			Charleston			Greenville			KJR 970 5000		
KGW 620 1000			WCSC 1360 500			KFPM 1310 15			KOL 1270 1000		
KQIN 940 1000			Columbia			Harlingen			KOMO 920 1000		
KQJJ 1040 500			WIS 1010 500			KRGV 1260 500			KPCB 650 100		
KXL 1420 100			Greenville			Houston			KRSC 1120 100		
PENNSYLVANIA			WFB 1200 100			KPRC 920 1000			KTW 1220 1000		
Allentown			Spartanburg			KTRH 630 500			KVL 1370 100		
WCBA 1440 250			WSPA 1420 100			KXYZ 1440 250			KXA 760 250		
WSAN 1440 250			SOUTH DAKOTA			Lubbock			Spokane		
Altoona			Brookings			KFYO 1310 100			KFIO 1120 100		
WFBG 1310 100			KFDY 550 500			San Angelo			KFPY 890 1000		
Carbondale			Huron			KPKL 1370 100			KGA 1470 5000		
WNBW 1200 10			KGDY 1340 250			San Antonio			KHQ 590 1000		
Erle			Pierre			KABC 1420 100			Tacoma		
WLBW 1260 500			KGFJ 630 200			KMAC 1370 100			KMO 1330 250		
WLEU 1420 100			Rapid City			KONO 1370 100			KVI 570 500		
Glenside			WCAT 1200 100			KONSA 1290 1000			Walla Walla		
WIBG 970 100			Sioux Falls			WOAI 1190 50000			KUJ 1370 100		
Grove City			KSOO 1110 1000			Tyler			Wenatchee		
WSAJ 1310 100			Vermillion			KGKB 1500 100			KPO 1500 100		
Harrisburg			KUSD 890 500			Waco			Yakima		
WBAC 1430 1000			Watertown			WACO 1420 100			KIT 1310 100		
WHP 1430 500			WGCR 1210 100			Wichita Falls			WEST VIRGINIA		
WKBO 1200 100			Yankton			KGKO 570 250			Bluefield		
Hazleton			WNAX 570 1000			UTAH			WHIS 1410 250		
WAZL 1420 100			TENNESSEE			Ogden			WHL 1410 250		
Johnstown			Bristol			KLO 1400 500			WCHS 580 750		
WJAC 1310 100			WOPI 1500 100			Salt Lake City			Fairmont		
Lancaster			Chattanooga			KDYL 1290 1000			WMMN 890 250		
WGAL 1310 100			WDOD 1280 1000			KSL 1130 50000			Huntington		
WKJC 1200 100			Jackson			VERMONT			WSAZ 1190 1000		
Philadelphia			WTJS 1310 100			Burlington			WVVA 1160 5000		
WCAU 1170 50000			Knoxville			WCAX 1200 100			WISCONSIN		
WDAS 1370 100			WNOX 560 1000			Rutland			Eau Claire		
WFI 560 500			WROL 1310 100			WSYB 1500 100			WTAQ 1330 1000		
WHAT 1310 100			Memphis			St. Albans			Fond du Lac		
WIP 610 500			WHBQ 1370 100			WQDM 1370 100			KFIZ 1420 100		
WLIT 560 500			WMC 780 500			Springfield			Green Bay		
WPEN 1500 100			WNR 1430 500			WNBX 1260 250			WHBY 1200 100		
WRAX 1020 250			WREC 600 500			Waterbury			Janesville		
WTEL 1310 100			Nashville			WDEW 550 500			WCLO 1200 100		
Pittsburgh			WLAC 1470 5000			VIRGINIA			LaCrosse		
KDKA 980 50000			WSM 650 50000			Arlington			WKBH 1380 1000		
KQV 1380 500			Springfield			NAA 690 1000			Madison		
WCAE 1220 1000			WSIX 1210 100			Charlottesville			WHA 940 1000		
WJAS 1290 1000			TEXAS			WEHC 1350 500			WIBA 1280 500		
WWSW 1500 100			Amarillo			Danville			WOMT 1210 100		
Reading			KGRS 1410 1000			WBTM 1370 100			Milwaukee		
WEEU 830 1000			WDAG 1410 1000			Lynchburg			WHAD 1120 250		
WRAW 1310 100			Austin			WLVA 1370 100			WISN 1120 250		
Scranton			KNOW 1500 100			Newport News			WTMJ 620 1000		
WGBI 880 250			Beaumont			WGH 1310 100			Poynette		
WQAN 880 250			KFDM 560 500			Norfolk			WIBU 1210 100		
Silverhaven			Brownsville			WTAR 780 500			Racine		
WNBO 1200 100			KWWG 1260 500			Petersburg			WRJN 1370 100		
Sunbury			College Station			WPHR 1200 100			Sheboygan		
WKOK 1210 100			WTAW 1120 500			Richmond			WHBL 1410 500		
Wilkes-Barre						WBBL 1210 100			Stevens Point		
WBAX 1210 100						WMBG 1210 100			WBL 900 2500		
WBRE 1310 100											
Williamsport											
WRAC 1370 100											

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Superior WEBC 1290 1000	Hamilton CHML 1010 50 CKOC 1120 500	NEWFOUNDLAND St. John's VOAC 1300 40 VOAS 940 100 VOGY 1050 75 VOKW 1085 30 VONF 1195 5000 VOWR 700 500	XEFG 1105 250 XEFO 940 5000 XEFZ 1370 100 XEK 990 100 XEN 711 1000 XEO 940 5000 XEP 780 500 XETW 830 500 XETZ 1210 500 XEW 890 50000 XEYZ 780 10000 XFG 638 2000 XFO 940 5000 XFX 610 500
WYOMING Casper KDFN 1440 500 Sheridan KWYO 1370 100	Kingston CFRC 1510 100 Kirkland Lake CJKL 1310 100 London CFPL 730 100 North Bay CFCH 930 100 Ottawa CKCO 1010 100 CRCO 880 1000 Prescott CFLC 930 100 St. Catharines CKTB 1200 100 Stratford 10-AK 1200 15 Sudbury CJCS 780 500 Timmins CKGB 1420 100 Toronto CFRB 690 10000 CKCL 580 100 CRCT 960 5000 CKNC 1030 100 Waterloo CKCR 1510 100 Windsor CKLW 840 5000 Wingham 10-BP 1200 15	MIQUELON St. Pierre FQN 574 250	XEU 940 5000 XEC 1000 50
CANADA ALBERTA Calgary CFAC 930 100 CFCN 1030 10000 CFCJ 690 100 Edmonton CFTP 1260 100 CJCA 730 1000 CKUA 580 500 Lethbridge CJOC 840 100	Prince Edward Island Charlottetown CFCY 630 500 CHCK 1310 50 Summerside CHGS 1120 50	CENTRAL AMERICA COSTA RICA Cartago TIFS 1441 7.5 TIGA 1014 30 San Jose TICR 912 75 TIEA 833 7.5 TIEP 1450 7.5 TIFB 714 30 TIGP 800 75 TIRCA 1100 500 TISO 550 250 TITV 999 7.5 TIVL 869 30 TIXA 614 7.5	HIDALGO Pachuca XETU 890 100
BRT. COLUMBIA Chilliwack CHWK 780 100 Kamloops CFJC 1310 100 Kelowna CKOV 1210 50 Trail CJAT 1200 50 Vancouver CJOR 600 500 CKGD 1010 100 CKFC 1410 50 CKMO 1410 100 CKWX 1010 100 CRCV 1100 1000 Victoria CFCT 1450 50	Quebec Chicoutimi CRCS 1500 100 Hull CKCH 1210 100 Montmagny VE9EK 1195 10 Montreal CFCF 600 500 CHLP 1120 100 CKAC 730 5000 CRCM 910 5000 New Carlisle CHNC 1210 100 Quebec CHRC 580 100 CKCV 1310 50	GUATEMALA Guatemala City TGW 1350 500 TGX 1380 75	JALISCO Guadalajara XEA 1000 250 XED 1155 500
MANITOBA Brandon CKX 1450 500 Winnipeg CJRC 1390 100 CKY 780 5000	SASKATCHEWAN Canora 10-BU 1200 15 Moose Jaw CHAB 1200 100 CJRM 540 1000 Prince Albert CKBI 1210 100 Regina CHWC 1010 500 CKCK 1010 500 Saskatoon CFQC 1230 500 Yorkton CJGX 630 500	NICARAGUA Granada YNCRG 870 150 EL SALVADOR San Salvador RDN 680 500	MICHOACAN Morelia XEI 1310 250
NEW BRUNSWICK Fredericton CFNB 1030 500 St. John CFBO 1210 100 CHSJ 1370 100	VERACRUZ Jalapa XFB 1290 1000 Veracruz XEU 1010 100 XEWV 1095 250	MEXICO AGUASCALIENTES Aguascalientes XFC 805 350 BAJA CALIFORNIA Agua Caliente XEBC 815 2500 Mexicali XEAO 560 100 Tijuana XEAE 980 800 XEMO 865 1500 XEMZ 1210 30	NUEVO LEON Monterrey XEFB 1315 100 XEFJ 1000 100 XEH 1132 250 XET 690 500 XEX 630 50
NOVA SCOTIA Glace Bay VAS 685 2000 Halifax CHNS 1050 500 Sydney CJCB 880 50 Wolfville CKIC 1010 50 Yarmouth CJLS 1310 100	YUCATAN Merida XEFC 1050 100 XEY 546.8 10 XEZ 630 500	COAHUILA Piedras Negras XEPN 585 75000 Saltillo XEL 1000 10 Torreón XETB 1380 125 D. F. Mexico City XEA1 1090 100 XEAL 660 1000 XEB 1030 10000 XECW 1310 10 XEFA 1250 500	PUEBLA Puebla XETH 1200 100
ONTARIO Brantford CKPC 930 100 10-BQ 1200 15 Chatham CFCO 600 50 Cobalt CKMC 1210 50 Fort William CKPR 930 50	WEST INDES CUBA Calbarien CMHD 945.5 500 Camaguey CMJC 1382 150 CMJE 1170 50 CMJF 910 200 CMJG 1050 50 CMJK 790 500	SAN LUIS POTOSI San Luis Potosi XEAC 1295 100	SONORA Nogales XEAF 990 750
	TAMAULIPAS Nuevo Laredo XEAB 1450 7.5 XEFE 985 100 XENT 1115 30000 Reynosa XEAW 965 10000 Tampico XEFW 1310 70 XES 1020 250		

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CMJL	960	50
CMJN	1240	50
Cardenas		
CMGE	1375	30
Ciego de Avila		
CMJH	1150	50
CMJI	1335	45
CMJO	1010	50
Cienfuegos		
CMHJ	1125	60
CMHL	1290	20
CMHW	1200	100
Colon		
CMGA	834	100
Cruces		
CMHK	1215	50
Guantanamo		
CMKJ	1300	20
Havana		
CMAF	680	1000
CMBC	1270	150
CMBD	965	250
CMBG	1048	225
CMBJ	1147	500
CMBK	1485	15
CMBL	1445	200
CMBN	1185	150
CMBS	765	200
CMBW	1140	600
CMBX	1185	500
CMBY	1230	250
CMBZ	1005	150
CMC	835	500
CMCA	1230	150
CMCB	1048	150
CMCD	925	500
CMCF	873	250
CMCH	1410	50
CMCJ	1180	500
CMCM	1405	50
CMCN	1357	250
CMCO	1145	500
CMCP	1270	150
CMCQ	767	1000
CMCR	1357	150
CMCU	1100	500
CMCW	965	150
CMCY	1316	500
CMDE	915	150
CMK	730	2000
CMQ	645	500
CMW	595	1400
CMX	875	1000
Matanzas		
CMGB	1205	30
CMGC	820	30
CMGF	971.5	100
CMGH	1040	15
Moron		
CMJP	1360	75
Pinar del Rio		
CMAB	1249	20
Sagua la Grande		
CMHA	1103	500
Santa Clara		
CMHI	1007	250
Santiago		
CMKC	1034	150
DOMINICAN REPUBLIC		
San Pedro de Marcoris		
HIH	1395	15
Santo Domingo		
HIJ	1195	15
HIX	598	1500
HIZ	1300	10

HAITI		
Port-au-Prince		
HHK	920	1000

SOUTH AMERICA		
ARGENTINE		
Azul		
LU9	1470	50
Bahia Blanca		
LU2	800	500
Buenos Aires		
LR1	1070	500
LR2	910	8500
LR3	950	12000
LR4	990	12000
LR5	830	20000
LR6	870	3000
LR7	750	1000
LR8	1150	5000
LR9	1030	5000
LR10	790	8000
LS1	710	5000
LS2	1190	5500
LS3	630	4500
LS4	670	6000
LS5	1110	5000
LS6	1350	1500
LS7	1310	3000
LS8	1230	20000
LS9	1270	5000
LS10	590	3500
LS11	1430	....

CHILE		
Chilhan		
CE113	1130	100
Concepcion		
CE108	1080	100
Magallanes		
CE104	1040	100
CE119	1190	100
CE143	1430	100
Rancagua		
CE132	1325	100
CE139	1390	100
CE145	1450	100
Santiago		
CE58	585	1000
CE62	625	1000
CE66	665	1000
CE70	705	1000
CE74	745	1000
CE78	785	1000
CE82	825	1000
CE86	865	1000
CE90	905	1000
CE94	945	1000
CE98	985	1000
CE100	1005	100
CE102	1025	250
CE106	1065	500
CE107	1075	100
CE110	1105	100
CE114	1145	100
CE118	1185	100
CE122	1225	100
CE126	1265	100
CE130	1305	100
CE131	1315	100
CE134	1345	150
CE138	1385	100
CE142	1425	100
CE146	1465	500

Cordoba		
LV2	880	500
LV3	620	350
LaPlata		
LP9	1430	1500
Las Heras		
LV10	860	350
Mar del Plata		
LU6	1380	50
Mendoza		
LT4	760	170
Punta Alta		
LU7	1280	200
Resistencia		
LT5	1160	500
Rosario		
LT1	780	4500
LT3	1080	250
LT8	840	350
LT9	1060	100
LV9	900	500
San Juan		
LV1	730	1500
LV5	1120	800
Santa Fe		
LT10	1390	100
Tucuman		
LV7	820	300

BOLIVIA		
La Paz		
CPX	1250	5000
CP4	1040	10000

BRAZIL		
Curitiba		
PRAN	789	8
Franca		
PRAZ	1110	50
Juiz de Fora		
PRAJ	789	200
Mogy das Cruzes		
PRAY	789	50
Pelotas		
PRAD	920	50

Pernambuco		
PRAP	967	300
Porto Alegre		
PRAG	706	3000
Ribeirao Preto		
PRAI	857	10
Rio de Janeiro		
PRAA	1050	2000
PRAC	857	500
PRAK	1153	500
PRAK	1364	2000
PRA3	860	500
Sao Paulo		
PRAE	921	1000
PRAR	1006	500
.....	1284	1000

PERU		
Lima		
OAX	750	1500
URUGUAY		
Artigas		
CW42	1380	20
Canelones		
CW47	1480	100
Florida		
CW39	1320	75
Melo		
CW43	1400	20
Montivideo		
CX4	610	1000
CX6	650	5000
CX8	690	1000
CX10	730	1000
CX12	770	1000
CX14	810	1000
CX16	850	200
CX18	890	750
CX20	930	2000
CX22	970	250
CX24	1010	10000
CX26	1050	2000
CX28	1090	2000
CX30	1130	500
CX32	1170	500
CX34	1210	500
CX36	1250	250
CX38	1290	250
CX40	1330	500
CX42	1370	1000
CX44	1410	1000
CX46	1450	250
CX48	1490	2500
Paysandu		
CW40	1340	30
CW44	1420	100
Salto		
CW32	1180	250
CW34	1220	250
CW36	1260	30
CW38	1300	30
San Jose		
CW41	1360	50
Tucuaurembo		
CW30	1140	....
CW46	1460	30

VENEZUELA		
Caracas		
YV1BC	960	5000
YV2BC	882	100
YV3BC	1200	1000
YV17BMO	1153	....
EUROPE		
AUSTRIA		
Dornbirn		
.....	1294	500
Graz		
.....	886	7000
Innsbruck		
.....	519	500
Klagenfurt		
.....	1294	500
Linz		
.....	1294	500
Salzburg		
.....	1348	500
Vienna		
.....	592	120000

PARAGUAY		
Asuncion		
ZP1	1135	1000
ZP3	1000	300

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BELGIUM			1492	1000	Magdeburg		Firenze		
Antwerp			Fecamp	1456	1330	1500	IFI	610	
ON4EB	1492	100	Grenoble	10000	Munich		Genoa		
Binche			968	20000	740	100000	IGE	986	
.....	1492	100	Lille	1213	Nurnberg		Milan		
Brussels			Limoges	5000	1267	2000	IMI	814	
ON4FO	1285	100	913	500	Stettin		No. 2	1348	
ON4GT	1285	100	Lyons	15000	1330	1500	Naples		
ON4RC	1285	100	YN	648	Stuttgart		INA	1104	
No. 1	620	15000	RL	1393	574	100000	Palermo		
No. 2	932	15000	Marselles	749	Trier		IPA	565	
Chattellinaou			Montpellier	1339	1195	2000	Rome		
ON4CE	1492	100	Nice	1249	GREAT BRITAIN			IIRO	713
Dampremy			Nimes	1492	Aberdeen		No. 2	1258	
ON4FG	1285	100	Paris	7000	1285	1000	Trieste		
Ghent			FPTT	695	Bournemouth		IITR	1222	
ON4RG	1285	100	F8GC	810	1474	1000	Turin		
Liege			LL	832	Cardiff		IITO	1140	
ON4RW	1500	100	PP	959	977	50000	No. 2	1357	
Ottomont			RV	6000	WN	1149	LATVIA		
ON4EX	1285	100	Radio-Agen	1456	Daventry		Madonna		
Verviers			Radio-Normandie	1456	MR	767	1104	2000	
ON4CE	1500	100	Radio-Vitus	1348	Falkirk		Riga		
No. 2	1500	100	Rennes	1040	SN	1050	583	15000	
BULGARIA			Strasbourg	859	SR	804	1510	10000	
Sofia			SPTT	859	London				
.....	850	1000	Toulouse	1175	LN	1149			
CZECHOSLOVAKIA			776	2000	LR	877			
Bratislava			895	10000	Manchester				
OKR	1004	13500	GERMANY		NN	1013			
Brno			Augsburg	1267	NR	668			
OKB	922	32000	Berlin	1058	Newcastle				
Kosice			841	100000	1429	1000			
OKK	1113	2600	1058	500	Plymouth				
Moravska			Bremen	1330	1474	300			
OKK	1158	11000	Breslau	950	GREECE				
Moravska			Cassel	1195	Thesalonik				
Praha			Dresden	1267	1110	1000			
OKP	638	120000	250	500	HOLLAND				
No. 2	1204	5000	1330	1500	Amsterdam				
DANZIG			60000	1500	PH9	1013			
Danzig			Flensburg	1330	Bloemendaal				
.....	1303	500	Frankfurt	1195	1220				
DENMARK			17000	5000	Hague				
Copenhagen			Gielwitz	1231	1000	350			
.....	1175	10000	Hamburg	904	Hilversum				
ESTONIA			100000	1500	PFB1	995	20000		
Tallinn			Hanover	1330	HUNGARY				
.....	731	20000	Helsberg	1031	Budapest				
Tartu			60000	1500	HAC	546	1200		
.....	1348	500	Kaiserslautern	1195	HAL	546	120000		
.....	1348	2200	1500	500	No. 2	1321	800		
FINLAND			17000	5000	Magyarovar				
Abo			Kiel	1292	HAE-2	1438	1250		
OFG	1220	600	250	5000	Miskolc				
Bjorneborg			Konigsberg	1348	HAE-3	1438	1250		
.....	662	500	500	60000	Nyiregyhaza				
.....	662	500	Langenberg	658	HAE	1122	6200		
.....	895	10000	60000	1500	Pecs				
.....	662	500	Leipzig	785	HAE-4	1438	1250		
.....	895	10000	12000	1500	IRELAND				
.....	960	250	12000	500	Athlone				
.....	749	500	12000	500	565	60000			
.....	1420	1200	12000	500	Belfast				
.....	1492	600	12000	500	1122	1000			
.....	527	13200	12000	500	Cork				
FRANCE			12000	500	6CK	1240	1000		
Bezlers			12000	500	Dublin				
.....	1429	2000	12000	500	2RN	1348	1000		
.....	1077	12000	12000	500	ITALY				
.....	1077	12000	12000	500	Barl				
.....	1077	12000	12000	500	IIBA	1059	20000		
.....	1077	12000	12000	500	Bolzano				
.....	1077	12000	12000	500	IIBZ	536	1000		
.....	1077	12000	12000	500	PORTUGAL				
.....	1077	12000	12000	500	Lisbon				
.....	1077	12000	12000	500	CTIAA	1056	2000		
.....	1077	12000	12000	500	CTIAN	1056	10		
.....	1077	12000	12000	500	CTIBM	1056	50		
.....	1077	12000	12000	500	CTIBO	936	150		

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JOCK-2 1175	10000	Rabat		Launceston		NEW ZEALAND	
Nilgata	 601	6500	7LA 1100	300	Auckland	
JOCK 920	500	TUNISIA		Lismore		1YA 650	500
Okayama		Tunis		2XN 1340	50	1ZB 1190	50
JOCK 700	500	TUA 1275	500	Mackay		1ZJ 1310	50
Osaka		UNION S. AFRICA		4MK 1190	100	1ZR 880	100
JOBK-1 750	10000	Bloemfontaine		Maryborough		1ZS 1420	50
JOBK-2 1085	10000	ZTB 589	500	4MB 1060	50	Balclutha	
Sapporo		Cape Town		Melbourne		4ZR 1340	5
JOIK 830	10000	ZTC 810	1000	3AK 1470	50	Christchurch	
Sendai		Durban		3AR 610	5000	3YA 720	2500
JOHK 770	10000	ZTD 723	1000	3AW 1425	300	3YL 1200	500
Shizuoka		Johannesburg		3DB 1180	500	3ZM 1450	50
JOPK 780	500	ZTJ 667	15000	3KZ 1350	200	Cromwell	
Tokushima		Pretoria		3LO 800	5000	4ZC 1280	25
JOXK 980	500	ZTP 985	500	3UZ 930	500	Dunedin	
Tokyo		OCEANIA		3YB 1145	25	4YA 790	500
JOAK-1 870	10000	AUSTRALIA		Mildura		4ZB 1050	50
JOAK-2 590	10000	Adelaide		3MA 900	50	4ZL 1220	7
KOREA		5AD 1310	300	Newcastle		4ZM 1050	50
JODK-1 900	10000	5CL 730	5000	2HD 1110	200	4ZO 1050	25
JODK-2 610	10000	5DN 960	1000	2KO 1415	2000	4ZW 1470	50
MANCHURIA		5KA 1200	1000	2NC 1245	200	Gisborne	
Dalren		Albury		Perth		2ZJ 980	250
JQAK 652	500	2AY 1500	50	6IX 1480	50	2ZM 1150	110
Harbin		Ballarat		6ML 1135	300	Greymouth	
MOHB 674	1000	3BA 1300	50	6PR 880	500	3ZE 1300	50
MTFY 674	1000	Bendigo		6WF 690	5000	3ZR 940	300
Hoten		3BO 970	200	Port Pirie		Hamilton	
MTBY 897	1500	Brisbane		5PI 1041	50	1ZH 770	40
ZILY 900	2000	4BC 1145	600	Rockhampton		Hastings	
Skinkyyo		4BH 1380	600	4RK 910	5000	2ZL 1240	48
MYCY 570	1000	4BK 1290	200	4RO 1330	250	Invercargill	
SIAM		4QG 760	5000	Sale		4ZP 620	500
Bangkok		Bunbury		3TR 1280	50	Manurewa	
HSP1 857	2500	6BY 980	50	Swan Hill		IZM 1260	17
HSP3 938	.....	Canberra		3SH 1080	50	Masterton	
HSP7J 750	.....	2CA 1050	50	Sydney		2ZD 1170	8
AFRICA		Corowa		2BL 855	3400	Napier	
ALGERIA		2CO 560	7500	2CH 1210	1000	2ZH 820	68
Aigiers		Crystal Brook		2FC 665	5000	Nelson	
..... 941	12000	5CK 635	7500	2GB 950	3000	2ZR 1110	50
EGYPT		Geelong		2KY 1070	1500	New Plymouth	
Alexandria		3GL 1400	50	2SM 1270	1000	2YB 750	100
..... 780	200	Goulburn		2UE 1025	3000	Palmerston N.	
..... 1080	500	2GN 1390	50	2UW 1125	1500	2ZF 960	150
Calro		Grafton		Toowoomba		2ZO 1400	50
..... 571	20000	2GF 1220	50	4GR 1000	50	Wairoa	
..... 600	.....	Gunnedah		Townsville		2ZP 900	105
..... 950	.....	2MO 1320	50	4TO 1170	100	Wellington	
Holopolis		Hamilton		Ulverstone		2YA 570	5000
..... 1110	500	3HA 1010	200	7UV 1460	200	2YC 840	200
KENYA		Hobart		Wagga			
Nairobi		7HO 890	50	2WG 1155	50		
VQ7LO 750	1000	7ZL 580	3000	Wangaratta			
MOROCCO		Norsham		3WR 1260	50		
Casablanca		3HS 1370	50	Wollongong			
CNO 983	25	Kaigoorlie		2WL 1435	50		
		6KG 1220	100				

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CAB	Canton, Ch.	658	CE100	Santiago, Chl.	1005	CE121	Valparaiso, Chl.	1215
CE58	Santiago, Chl.	585	CE101	Vina del Mar, Chl.	1010	CE122	Santiago, Chl.	1220
CE62	Santiago, Chl.	625	CE102	Santiago, Chl.	1020	CE125	Valparaiso, Chl.	1255
CE66	Santiago, Chl.	665	CE104	Magallanes, Chl.	1040	CE126	Santiago, Chl.	1260
CE70	Santiago, Chl.	705	CE105	Vaparaíso, Chl.	1050	CE128	Temuco, Chl.	1285
CE74	Santiago, Chl.	745	CE106	Santiago, Chl.	1065	CE130	Santiago, Chl.	1305
CE78	Santiago, Chl.	785	CE107	Santiago, Chl.	1075	CE131	Santiago, Chl.	1315
CE82	Santiago, Chl.	825	CE108	Concepcion, Chl.	1080	CE132	Rancagua, Chl.	1325
CE86	Santiago, Chl.	865	CE109	Vina del Mar, Chl.	1090	CE134	Santiago, Chl.	1345
CE88	Valparaiso, Chl.	885	CE110	Santiago, Chl.	1105	CE138	Santiago, Chl.	1380
CE90	Santiago, Chl.	905	CE111	Chillan, Chl.	1130	CE139	Rancagua, Chl.	1390
CE92	Temuco, Chl.	920	CE113	Santiago, Chl.	1145	CE142	Santiago, Chl.	1425
CE94	Santiago, Chl.	945	CE118	Santiago, Chl.	1185	CE143	Magallanes, Chl.	1430
CE96	Santiago, Chl.	965	CE119	Magallanes, Chl.	1190	CE145	Rancagua, Chl.	1450

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CE146	Santiago, Chl.	1465	CMBZ	Havana, Cuba.	1005	CW46	Tucuaembo, Uru.	1460
CFAG	Calgary, Alta.	930	CMC	Havana, Cuba.	835	CW47	Canelones, Uru.	1480
CFBO	St. John, N. B.	1210	CMCA	Havana, Cuba.	1230	CX4	Montivideo, Uru.	610
CFCF	Montreal, Que.	600	CMCB	Havana, Cuba.	1048	CX6	Montivideo, Uru.	650
CFCH	North Bay, Ont.	930	CMCD	Havana, Cuba.	925	CX8	Montivideo, Uru.	690
CFCN	Calgary, Alta.	1030	CMCF	Havana, Cuba.	873	CX10	Montivideo, Uru.	730
CFCO	Chatham, Ont.	600	CMCG	Havana, Cuba.	1140	CX12	Montivideo, Uru.	770
CFCT	Victoria, B. C.	1450	CMCH	Havana, Cuba.	1410	CX14	Montivideo, Uru.	810
CFCY	Charlottetown, P. E. I.	630	CMCJ	Havana, Cuba.	1180	CX16	Montivideo, Uru.	850
CFJC	Kamloops, B. C.	1310	CMCM	Havana, Cuba.	1405	CX18	Montivideo, Uru.	890
CFLC	Prescott, Ont.	930	CMCN	Havana, Cuba.	1357	CX20	Montivideo, Uru.	930
CFNB	Fredericton, N. B.	1030	CMCP	Havana, Cuba.	1270	CX22	Montivideo, Uru.	970
CFPL	London, Ont.	730	CMCQ	Havana, Cuba.	1145	CX24	Montivideo, Uru.	1010
CFQC	Saskatoon, Sask.	1230	CMCQ	Havana, Cuba.	767	CX26	Montivideo, Uru.	1050
CFRB	Toronto, Ont.	690	CMCR	Havana, Cuba.	1357	CX28	Montivideo, Uru.	1090
CFRC	Kingston, Ont.	1510	CMCU	Havana, Cuba.	1100	CX30	Montivideo, Uru.	1130
CFTP	Edmonton, Alta.	1260	CMCW	Havana, Cuba.	985	CX32	Montivideo, Uru.	1170
CHAB	Moosa Jaw, Sask.	1200	CMCY	Havana, Cuba.	1316	CX34	Montivideo, Uru.	1210
CHCK	Charlottetown, P. E. I.	1310	CMDE	Havana, Cuba.	915	CX36	Montivideo, Uru.	1250
CHGS	Summerside, P. E. I.	1120	CMGA	Colon, Cuba.	834	CX38	Montivideo, Uru.	1290
CHLP	Montreal, Que.	1120	CMGB	Matanzas, Cuba.	1205	CX40	Montivideo, Uru.	1330
CHML	Hamilton, Ont.	1010	CMGC	Matanzas, Cuba.	820	CX42	Montivideo, Uru.	1370
CHNC	New Carlisle, Que.	1210	CMGE	Cardenas, Cuba.	1375	CX44	Montivideo, Uru.	1410
CHNS	Halifax, N. S.	1050	CMGF	Matanzas, Cuba.	971.5	CX46	Montivideo, Uru.	1450
CHPR	St. John, N. B.	1370	CMGH	Matanzas, Cuba.	1040	CX48	Montivideo, Uru.	1490
CHRC	Quebec, Que.	580	CMHA	Sagua la Grande, Cuba	1103	EJ1	Barcelona, Sp.	795
CHSJ	St. John, N. B.	1370	CMHD	Caibarien, Cuba.	945.5	EJ2	Madrid, Sp.	731
CHWC	Regina, Sask.	1010	CMHI	Santa Clara, Cuba.	1007	EJ3	Valencia, Sp.	860
CHWK	Chilliwack, B. C.	780	CMHJ	Cienfuegos, Cuba	1125	EJ4	Santiago, Sp.	492
CJAT	Trail, B. C.	1200	CMHK	Cruces, Cuba.	1215	EJ5	Seville, Sp.	731
CJCA	Edmonton, Alta.	730	CMHL	Cienfuegos, Cuba.	1290	EJ6	Pampeluna, Sp.	1492
CJCB	Sydney, N. S.	880	CMHW	Cienfuegos, Cuba.	1200	EJ7	Madrid, Sp.	1095
CJCC	Calgary, Alta.	690	CMJG	Camaguey, Cuba.	1382	EJ8	San Sebastian, Sp.	1258
CJCS	Sudbury, Ont.	780	CMJE	Camaguey, Cuba.	1170	EJ9	Malaga, Sp.	1492
CJGX	Yorkton, Sask.	630	CMJF	Camaguey, Cuba.	910	EJ10	Saragossa, Sp.	1492
CJKL	Kirkland Lake, Ont.	1310	CMJG	Camaguey, Cuba.	1050	EJ11	Tarragona, Sp.	1500
CJLS	Yarmouth, N. S.	1310	CMJH	Ciego de Avila, Cuba.	1150	EJ12	Alcoy, Sp.	1492
CJOC	Lethbridge, Alta.	840	CMJI	Ciego de Avila, Cuba.	1335	EJ13	Palma de Mjrca, Sp.	1492
CJOR	Vancouver, B. C.	600	CMJK	Camaguey, Cuba.	790	EJ14	Castillon, Sp.	1500
CJRC	Winnipeg, Man.	1390	CMJL	Camaguey, Cuba.	980	EJ15	Barcelona, Sp.	1022
CJRM	Moosa Jaw, Sask.	540	CMJM	Camaguey, Cuba.	1240	EJ16	Grenada, Sp.	1492
CJRC	Montreal, Que.	730	CMJO	Ciego de Avila, Cuba.	1010	EJ17	Morcia, Sp.	1492
CKBI	Prince Albert, Sask.	1210	CMJP	Moron, Cuba.	1360	EJ18	Logrona, Sp.	1193
CKCD	Vancouver, B. C.	1010	CMK	Havana, Cuba.	730	EJ19	Oviedo, Sp.	1022
CKCH	Hull, Que.	1210	CMKK	Santiago, Cuba.	1034	EJ20	Sabadell, Sp.	1492
CKCK	Regina, Sask.	1010	CMKJ	Guantanamo, Cuba.	1300	EJ21	Melliila, Sp.	1492
CKCL	Toronto, Ont.	680	CMKN	Havana, Cuba.	1395	EJ22	Salamance, Sp.	562
CKCO	Ottawa, Ont.	1010	CMQ	Havana, Cuba.	645	EJ23	Gandia, Sp.	1492
CKCR	Waterloo, Ont.	1510	CMW	Havana, Cuba.	595	EJ24	Cordoba, Sp.	1492
CKCV	Quebec, Que.	1310	CMX	Havana, Cuba.	875	EJ25	Tarrasa, Sp.	1500
CKFC	Vancouver, B. C.	1410	CNO	Casablanca, Mor.	983	EJ26	Antequerra, Sp.	1500
CKGB	Timmins, Ont.	1420	CPX	La Paz, Bol.	1250	EJ27	Burgos, Sp.	1492
CKIC	Wolfville, N. S.	1010	CP4	La Paz, Bol.	1040	EJ28	Bilbao, Sp.	1492
CKLW	Windsor, Ont.	840	CRCM	Montreal, Que.	910	EJ29	Alcala de Hrs., Sp.	1500
CKMC	Cobalt, Ont.	1210	CRCO	Ottawa, Ont.	880	EJ30	Onteniente, Sp.	1500
CKMO	Pinar del Rio, Cuba.	1419	CRCS	Chicoutimi, Que.	1500	EJ31	Alicante, Sp.	1492
CKNC	Toronto, Ont.	1030	CRCT	Toronto, Ont.	980	EJ32	Santander, Sp.	1500
CKOC	Hamilton, Ont.	1120	CRCV	Vancouver, B. C.	1100	EJ33	Tarragona, Sp.	1492
CKOV	Kelowna, B. C.	1210	CS1RS	Oporto, Por.	1448	EJ34	Gijon, Sp.	1492
CKPC	Preston, Ont.	930	CT1AA	Lisbon, Por.	1056	EJ35	Villaneva, Sp.	1500
CKPR	Fort William, Ont.	930	CT1AN	Lisbon, Por.	1056	EJ36	jatiba, Sp.	1500
CKTB	St. Catharines, Ont.	1209	CT1BM	Lisbon, Por.	1056	EJ37	Linares, Sp.	1500
CKUA	Edmonton, Alta.	580	CT1BO	Lisbon, Por.	936	EJ38	Gerona, Sp.	1500
CKWX	Vancouver, B. C.	1010	CT1BP	Lisbon, Por.	1275	EJ39	Badalona, Sp.	1492
CKX	Brandon, Man.	1450	CT1DH	Lisbon, Por.	952	EJ40	Pontevedra, Sp.	1500
CKY	Winnipeg, Man.	780	CT1OS	Lisbon, Por.	1068	EJ41	La Corogna, Sp.	1492
CMAB	Pinar del Rio, Cuba.	1249	CT1EB	Lisbon, Por.	1056	EJ42	Leida, Sp.	1492
CMAF	Havana, Cuba.	680	CT1GL	Lisbon, Por.	1063	EJ43	Santa Cruz de Trnf., Sp.	1492
CMB	Kwangchow, Chn.	677	CT1QL	Paredo, Por.	1031	EJ44	Albaceta, Sp.	1492
CMBB	Havana, Cuba.	1270	CW30	Tucuaembo, Uru.	1140	EJ45	Senia, Sp.	1500
CMBD	Havana, Cuba.	965	CW32	Salto, Uru.	1180	EJ46	Ceuta, Sp.	1492
CMBG	Havana, Cuba.	1048	CW34	Salto, Uru.	1220	EJ47	Valladolid, Sp.	1492
CMBJ	Havana, Cuba.	1147	CW36	Salto, Uru.	1260	EJ48	Pontevedra, Sp.	1492
CMBK	Havana, Cuba.	1485	CW38	Salto, Uru.	1300	EJ49	Toledo, Sp.	1500
CMBL	Havana, Cuba.	1445	CW39	Florida, Uru.	320	EJ50	Las Palmas, Sp.	1500
CMBN	Havana, Cuba.	1185	CW40	Paysandu, Uru.	1340	EJ51	Manresa, Sp.	1492
CMB5	Havana, Cuba.	765	CW41	San Jose, Uru.	1360	EJ52	Badajos, Sp.	1492
CMBW	Havana, Cuba.	1140	CW42	Artigas, Uru.	1390	FFZ	Shanghai, Chn.	1400
CMBX	Havana, Cuba.	1185	CW43	Melo, Uru.	1400	FPTT	Paris, F.	695
CMBY	Havana, Cuba.	1230	CW44	Paysandu, Uru.	1420	FQN	St. Pierre, Miq.	574

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F8GC	Paris, F.	810	KELW	Burbank, Calif.	780	KGIW	Alamosa, Colo.	1420
F81CD	Saigon, Indo.	840	KERN	Bakersfield, Calif.	1370	KGIX	Las Vegas, Nev.	1420
HAC	Budapest, Hun.	546	KEX	Portland, Ore.	1180	KGKB	Tyler, Texas	1500
HAE	Nyregyhazi, Hun.	1122	KFAB	Lincoln, Neb.	770	KGKL	San Angelo, Texas	1370
HAE2	Magyarovar, Hun.	1438	KFAC	Los Angeles, Calif.	1300	KGKO	Wichita Falls, Texas	570
HAE3	Miskolc, Hun.	1438	KFBB	Great Falls, Mont.	1280	KGKY	Scottsbluff, Neb.	1500
HAE4	Pecs, Hun.	1438	KFBI	Abilene, Kans.	1050	KGMB	Honolulu, T. H.	1320
HAL	Budapest, Hun.	546	KFBK	Sacramento, Calif.	1050	KGNF	North Platte, Neb.	1430
HAL2	Budapest, Hun.	1321	KFBL	Everett, Wash.	1370	KGNO	Dodge City, Kans.	1340
HMK	Port-au-Prince, Haiti	920	KFDM	Beaumont, Texas	560	KGNO	San Francisco, Calif.	790
HIH	San Pedro de M., D. R.	1395	KFDY	Brookings, S. D.	650	KGRS	Amarillo, Texas	1410
HIJ	Santo Domingo, D. R.	1195	KFEL	Denver, Colo.	920	KGU	Honolulu, T. H.	750
HIX	Santo Domingo, D. R.	598	KFEQ	Denver, Colo.	890	KGVO	Missoula, Mont.	1200
HIZ	Santo Domingo, D. R.	1300	KFGQ	Boone, Iowa	1310	KGW	Portland, Ore.	620
HJH	Bogota, Colombia	891	KFH	Wichita, Kans.	1300	KGY	Olympia, Wash.	1210
HJ3ABD	Bogota, Colombia	1115	KFI	Los Angeles, Calif.	640	KHJ	Los Angeles, Calif.	900
HJ3ABE	Bogota, Colombia	1200	KF10	Spokane, Wash.	1120	KHQ	Spokane, Wash.	590
HJ3ABH	Bogota, Columbia	1000	KF1Z	Fond du Lac, Wis.	1420	KICA	Clovis, N. M.	1370
HSP1	Bangkok, Siam	857	KFJB	Marshalltown, Iowa	1200	KICK	Carter Lake, Iowa	1420
HSP3	Bangkok, Siam	938	KFJI	Klamath Falls, Ore.	1210	KIDC	Idaho Falls, Idaho	1320
H57PJ	Bangkok, Siam	758	KFJM	Grand Forks, N. D.	1370	KIDO	Boise, Idaho	1350
IFI	Firenze, I.	810	KFJR	Portland, Ore.	1300	KIDW	Lamar, Colo.	1420
IGE	Genoa, I.	986	KFJZ	Fort Worth, Texas	1370	KIEM	Eureka, Calif.	1210
IMI	Milan, I.	814	KFKJ	Greeley, Colo.	980	KIEV	Glendale, Calif.	850
INA	Naples, I.	1104	KFKU	Lawrence, Kans.	1220	KIFH	Juneau, Alaska	1310
IPA	Palermo, I.	585	KFNF	Shenandoah, Iowa	890	KIFS	Fort Klamath, Ore.	1518
11BA	Bari, I.	1059	KFOR	Lincoln, Neb.	1210	KIT	Yakima, Wash.	1310
11BZ	Bolzano, I.	536	KFOX	Long Beach, Calif.	1250	KJBS	San Francisco, Calif.	1070
11RO	Rome, I.	713	KFPL	Dublin, Texas	1310	KJR	Seattle, Wash.	970
11TO	Turin, I.	1140	KFPW	Greenville, Texas	1210	KJCN	Little Rock, Ark.	1290
11TR	Trieste, I.	1222	KFPY	Fort Smith, Ark.	890	KLO	Dgden, Utah	1200
JFAK	Taihoku, For.	878	KFPY	Spokane, Wash.	890	KLPM	Minot, N. D.	1400
JFBK	Tainan, For.	720	KFQD	Anchorage, Alaska	600	KLRA	Little Rock, Ark.	1390
JOAG	Nagasaki, J.	903	KFRG	San Francisco, Calif.	610	KLS	Oakland, Calif.	1440
JOAK-1	Tokyo, J.	870	KFRU	Columbia, Mo.	830	KLUF	Galveston, Texas	1370
JOAK-2	Tokyo, J.	590	KFSB	San Diego, Calif.	800	KLX	Oakland, Calif.	880
JOBB	Maebashi, J.	970	KFUO	Los Angeles, Calif.	1120	KLZ	Denver, Colo.	560
JOBK-1	Osaka, J.	750	KFVU	St. Louis, Mo.	550	KMA	Shenandoah, Iowa	930
JOBK-2	Osaka, J.	1085	KFVJ	Los Angeles, Calif.	1000	KMAC	San Antonio, Texas	1370
JOCC	Asahikawa, J.	655	KFVJ	Cape Girardeau, Mo.	1210	KMBC	Kansas City, Mo.	950
JOCK-1	Nagoya, J.	810	KFWB	Hollywood, Calif.	950	KMED	Medford, Ore.	1310
JOCK-2	Nagoya, J.	1175	KFWI	San Francisco, Calif.	930	KMJJ	Fresno, Calif.	580
JODG	Hamamatsu, J.	836	KFXD	Nampa, Idaho	1200	KMLB	Monroe, La.	1260
JODK-1	Keijo, Ko.	900	KFXF	Denver, Colo.	920	KMMJ	Clay Center, Neb.	740
JODK-2	Keijo, Ko.	610	KFXJ	Grand Jct., Colo.	1200	KMO	Tacoma, Wash.	1338
JOFG	Fukuj, J.	990	KFXM	San Bernardino, Calif.	1210	KMOX	St. Louis, Mo.	1090
JOFK	Hiroshima, J.	850	KFXR	Oklahoma City, Okla.	1310	KMPR	Beverly Hills, Calif.	710
JOGL	Kumamoto, J.	780	KFYO	Lubbock, Texas	1310	KMTR	Hollywood, Calif.	570
JOHK	Sendai, J.	770	KFYR	Bismarck, N. D.	550	KNOW	Austin, Texas	1500
JOIK	Sapporo, J.	830	KG	Spokane, Wash.	1470	KNX	Hollywood, Calif.	1050
JOJK	Kanazawa, J.	710	KGAR	Tucson, Ariz.	1370	KOA	Denver, Colo.	838
JOKK	Okayama, J.	700	KGB	San Diego, Calif.	1330	KOAC	Corvallis, Ore.	650
JOJK	Fukuoka, J.	888	KGBU	Ketchikan, Alaska	980	KOB	Albuquerque, N. M.	1188
JOJN	Nagano, J.	940	KG BX	Springfield, Mo.	1310	KOH	Reno, Nev.	1388
JOOK	Kyoto, J.	960	KGZ	York, Neb.	930	KOIL	Council Bluffs, Iowa	1280
JOJK	Shizuoka, J.	780	KGCA	Decorah, Iowa	1270	KOIN	Portland, Ore.	940
JOJK	Niigata, J.	929	KGCR	Watertown, S. D.	1210	KDL	Seattle, Wash.	1270
JOJK	Kochi, J.	720	KGCU	Mandan, N. D.	1240	KOMA	Oklahoma City, Okla.	1480
JOJK	Kokura, J.	736	KGCX	Wolf Point, Mont.	1310	KOMO	Seattle, Wash.	920
JOJK	Matsuye, J.	825	KGDE	Fergus Falls, Minn.	1200	KONO	San Antonio, Texas	1370
JOJK	Akita, J.	845	KGDM	Stockton, Calif.	1100	KOOS	Marshfield, Ore.	1378
JOJK	Hakodate, J.	889	KGDY	Huron, S. D.	1940	KORE	Eugene, Ore.	1428
JOJK	Tokushima, J.	980	KGEE	Yuma, Colo.	1200	KOTN	Pine Bluff, Ark.	1500
JOJK	Dairen, Mneh.	652	KGER	Long Beach, Calif.	1380	KOY	Phoenix, Ariz.	1398
KABC	San Antonio, Texas	1420	KGEE	Kaliispell, Mont.	1410	KPCB	Seattle, Wash.	658
KALE	Portland, Ore.	1300	KGFF	Shawnee, Okla.	1320	KPJM	Prescott, Ariz.	1608
KARK	Little Rock, Ark.	890	KGFG	Oklahoma City, Okla.	1370	KPO	San Francisco, Calif.	888
KASA	Elk City, Okla.	1210	KGFI	Corpus Christi, Texas	1500	KPOF	Denver, Colo.	888
KBPS	Portland, Ore.	1420	KGFL	Los Angeles, Calif.	1200	KPPC	Pasadena, Calif.	1218
KBMT	Jonesboro, Ark.	1200	KGFK	Moorhead, Minn.	1590	KQD	Wenatchee, Wash.	1508
KCMC	Texarkana, Ark.	1420	KGFL	Roswell, N. M.	1370	KPRC	Houston, Texas	920
KCRC	Enid, Okla.	1370	KGFW	Kearney, Neb.	1310	KQV	Pittsburgh, Pa.	1388
KCRJ	Jerome, Ariz.	1310	KGFX	Pierre, S. D.	630	KQW	San Jose, Calif.	1018
KDB	Santa Barbara, Calif.	1500	KGGC	San Francisco, Calif.	1420	KRE	Berkeley, Calif.	1378
KDFN	Casper, Wyo.	1440	KGGF	Coffeyville, Kans.	1010	KREG	Santa Ana, Calif.	1508
KDKA	Pittsburgh, Pa.	980	KGGM	Albuquerque, N. M.	1290	KRVG	Hartlingen, Texas	1288
KDLR	Devils Lake, N. D.	1210	KGHI	Pueblo, Colo.	1320	KRDK	Los Angeles, Calif.	1128
KDYL	Salt Lake City, Utah	1290	KGHL	Little Rock, Ark.	1200	KRLD	Dallas, Texas	1040
KECA	Los Angeles, Calif.	1430	KGIR	Billings, Mont.	950	KRMD	Shreveport, La.	1318
				Butte, Mont.	1340	KROW	Oakland, Calif.	938

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KRSC	Seattle, Wash.	1120	LS5	Buenos Aires, Arg.	1110	RW24	Smolensk, USSR.	531
KSAC	Manhattan, Kans.	580	LS6	Buenos Aires, Arg.	1350	RW26	Stalino, USSR.	776
KSCJ	Sioux City, Iowa	1330	LS7	Buenos Aires, Arg.	1310	RW27	Makhatch-Kala, USSR.	689
KSD	St. Louis, Mo.	650	LS8	Buenos Aires, Arg.	1230	RW28	Vladivostok, USSR.	635
KSEI	Pocatello, Idaho	890	LS9	Buenos Aires, Arg.	1270	RW28	Vladivostok, USSR.	725
KSL	Salt Lake City, Utah	1130	LS10	Buenos Aires, Arg.	590	RW30	Dnepropetrovsk, USSR.	913
KSO	Des Moines, Iowa	1370	LS11	Buenos Aires, Arg.	1430	RW31	Ivanovo-Voznesensk, USSR.	625
KSOO	Sioux Falls, S. D.	1110	LT1	Rosario, Arg.	780	RW33	Krasnodar, USSR.	1050
KSTP	St. Paul, Minn.	1480	LT3	Rosario, Arg.	1080	RW35	Astrakhan, USSR.	589
KSUN	Lowell, Ariz.	1200	LT4	Mendoza Arg.	760	RW36	Arkhangelsk, USSR.	770
KTAB	San Francisco, Calif.	550	LT5	Resistencia, Arg.	1160	RW37	Moskva, USSR.	792.5
KTAR	Phoenix, Ariz.	620	LT8	Rosario, Arg.	840	RW38	Alexandrovsk, USSR.	580
KTAT	Fort Worth, Texas	1240	LT9	Rosario, Arg.	1060	RW39	Moskva Stalina, USSR.	832
KTBS	Shreveport, La.	1450	LT10	Santa Fe, Arg.	1390	RW40	Gomel, USSR.	959
KTFI	Twin Falls, Idaho	1240	LU2	Bahia Blanca, Arg.	800	RW41	Syktyvkar, USSR.	563
KTHS	Hot Springs, Ark.	1060	LU6	Mar del Plata, Arg.	1380	RW42	Gorki, USSR.	598
KTM	Los Angeles, Calif.	780	LU7	Punta Alta, Arg.	1280	RW46	Karaganda, USSR.	653
KTRB	Modesto, Calif.	740	LU9	Azul, Arg.	1470	RW46	Karaganda, USSR.	686.6
KTRH	Houston, Texas	630	LV1	San Juan, Arg.	730	RW48	Tomsk, USSR.	554
KTSA	San Antonio, Texas	1290	LV2	Cordoba, Arg.	920	RW51	Naltchik, USSR.	748.1
KTSM	El Paso, Texas	1310	LV3	Cordoba, Arg.	620	RW52	Simferopol, USSR.	859
KTUL	Tulsa, Okla.	1400	LV5	San Juan, Arg.	1120	RW55	Engels, USSR.	959
KTW	Seattle, Wash.	1220	LV7	Tucuman, Arg.	820	RW56	Penza, USSR.	640
KUJ	Walla Walla, Wash.	1370	LV9	Rosario, Arg.	900	RW57	Tiraspol, USSR.	768
KUMA	Yuma, Ariz.	1420	LV10	Las Heras, Arg.	860	RW64	Vladikavkaz, USSR.	1052
KUOA	Fayetteville, Ark.	1260	MOHB	Harbin, Mnch.	674	RW68	Tcheliabinsk, USSR.	824
KUSD	Vermillion, S. D.	890	MRD	Toulouse, Fr.	1175	RW69	Ijevsk, USSR.	825
KVI	Tacoma, Wash.	570	MTBY	Hoten, Mnch.	897	RW70	Leningrad, USSR.	1040
KVL	Seattle, Wash.	1370	MTFY	Harbin, Mnch.	674	RW74	Tcheboksary, USSR.	880
KVOA	Tucson, Ariz.	1260	MYCY	Skinkyo, Mnch.	700	RW75	Vinnitza, USSR.	1095
KVOO	Tulsa, Okla.	1140	NAA	Arlington, Va.	690	SBA	Stockholm, Swe.	704
KVOR	Colorado Springs, Colo.	1270	OAX	Lima, Peru	750	SBB	Goteborg, Swe.	941
KVOS	Bellingham, Wash.	1200	OFA	Helsinki, Fin.	895	SBC	Malmo, Swe.	1312
KWCR	Cedar Rapids, Iowa	1430	OFC	Jacobstad, Fin.	1500	SBD	Sundsvall, Swe.	601
KWEA	Shreveport, La.	1210	OFD	Pori, Fin.	749	SBH	Horby, Swe.	1131
KWFV	Hilo, Hawaii	1210	OFE	Tampere, Fin.	1450	SBI	Norrkoping, Swe.	1312
KWG	Stockton, Calif.	1200	OFG	Abo, Fin.	1220	SBJ	Trollhattan, Swe.	1312
KWJJ	Portland, Ore.	1040	OFH	Viipuri, Fin.	527	SBK	Karlstad, Swe.	1312
KWK	St. Louis, Mo.	1350	OFR	Tampere, Fin.	1420	SCA	Boras, Swe.	1450
KWKC	Kansas City, Mo.	1370	OKB	Brno, Cz.	922	SCB	Eskestuna, Swe.	1240
KWKH	Shreveport, La.	850	OKK	Kosice, Cz.	1113	SCC	Falun, Swe.	1088
KWLC	Decorah, Iowa	1270	OKP	Praha, Cz.	638	SCD	Gavle, Swe.	1483
KWSC	Pullman, Wash.	1220	OKR	Bratislava, Cz.	1004	SCF	Halmstad, Swe.	1391
KWTO	Springfield, Mo.	560	ON4CE	Chatelineau, Belg.	1492	SCF	Hudiksvall, Swe.	1375
KWVG	Brownsville, Texas	1260	ON4CE	Verviers, Belg.	1500	SCG	Halsingborg, Swe.	1384
KWYO	Sheridan, Wyo.	1370	ON4EB	Ottomont, Belg.	1492	SCH	Jonkoping, Swe.	1515
KXA	Seattle, Wash.	760	ON4EX	Ottomont, Belg.	1285	SCI	Kalmar, Swe.	1456
KXL	Portland, Ore.	1420	ON4FG	Dampremy, Belg.	1285	SCJ	Karlskrona, Swe.	1530
KXO	El Centro, Calif.	1500	ON4FO	Brussels, Belg.	1285	SCG	Kiruna, Swe.	1258
KXRO	Aberdeen, Wash.	1810	ON4GT	Brussels, Belg.	1285	SCM	Kristinehamn, Swe.	1500
KXYZ	Houston, Texas	1440	ON4RC	Brussels, Belg.	1285	SCN	Malmberget, Swe.	704
KYA	San Francisco, Calif.	1230	ON4RG	Ghent, Belg.	1285	SCP	Saffte, Swe.	1240
KYW	Chicago, Ill.	1020	ON4RW	Liege, Belg.	1500	SCR	Uddevalla, Swe.	1393
KZRM	Manila, P. I.	618.5	PFB1	Hilversum, Hol.	995	SCS	Umea, Swe.	1393
LKA	Aalesund, Nor.	850	PH9	Amsterdam, Hol.	1013	SCD	Uppsala, Swe.	1493
LKB	Bergen, Nor.	850	PP	Paris, F.	959	SCV	Varberg, Swe.	1240
LKD	Bodo, Nor.	1276	PRAA	Rio de Janeiro, Brz.	1050	SCU	Orebro, Swe.	1258
LKF	Fredrikstad, Nor.	868	PRAC	Rio de Janeiro, Brz.	857	SCW	Ornskoldsvik, Swe.	1411
LKH	Hamar, Nor.	619	PRAD	Pelotas, Brz.	920	SPTT	Strasbourg, F.	859
LKK	Kristiansand, Nor.	1274	PRAE	Sao Paulo, Brz.	921	TGW	Guatemala, Gua.	1130
LKM	Tromsoe, Nor.	1357	PRAQ	Porto Alegre, Brz.	706	TGX	Guatemala City	1380
LKN	Notodden, Nor.	1348	PRAI	Ribeirao Preto, Brz.	857	TICR	San Jose, C. R.	912
LKP	Porsgrund, Nor.	650	PRAJ	Juiz de Fora, Brz.	789	TIEA	San Jose, C. R.	833
LKR	Rjukan, Nor.	1348	PRAK	Rio de Janeiro, Brz.	1153	TIEP	San Jose, C. R.	1450
LKS	Stavanger, Nor.	1276	PRAN	Curitiba, Brz.	789	TIFB	San Jose, C. R.	714
LP9	LaPlata, Arg.	1430	PRAP	Pernambuco, Brz.	967	TIFS	Cartago, C. R.	1441
LR1	Buenos Aires, Arg.	1070	PRAR	Sao Paulo, Brz.	1006	TIGA	Carago, C. R.	1014
LR2	Buenos Aires, Arg.	910	PRAX	Rio de Janeiro, Brz.	1364	TIGP	San Jose, C. R.	800
LR3	Buenos Aires, Arg.	950	PRAY	Mogy das Cruzes, Brz.	789	TIRCA	San Jose, C. R.	1100
LR4	Buenos Aires, Arg.	990	PRAZ	Franca, Brz.	1110	TISO	San Jose, C. R.	550
LR5	Buenos Aires, Arg.	830	PRA3	Rio de Janeiro, Brz.	860	TITV	San Jose, C. R.	999
LR6	Buenos Aires, Arg.	870	PRP10	Porto, Por.	1249	TIVL	San Jose, C. R.	869
LR7	Buenos Aires, Arg.	750	RDN	San Salvador, E. S.	680	TIXA	San Jose, C. R.	614
LR8	Buenos Aires, Arg.	1150	RV9	Kiev, USSR.	722	TUA	Tunis, Tun.	1275
LR9	Buenos Aires, Arg.	1030	RV10	Minsk, USSR.	722	VAS	Glace Bay, N. S.	685
LR10	Buenos Aires, Arg.	790	RW13	Odessa, USSR.	968	VESEK	Montmagny, Que.	1195
LS1	Buenos Aires, Arg.	710	RW17	Kazan, USSR.	644	VOAC	St. John's, N. F.	1300
LS2	Buenos Aires, Arg.	1190	RW20	Kharkov, USSR.	1185	VOAS	St. John's, N. F.	940
LS3	Buenos Aires, Arg.	630	RW22	Oufa, USSR.	617	VOGY	St. John's, N. F.	1050
LS4	Buenos Aires, Arg.	670	RW23	Groznyi, USSR.	676	VOKW	St. John's, N. F.	1086

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VONF	St. John's, N. F.	1195	WCSC	Charleston, S. C.	1360	WHBY	Green Bay, Wis.	1200
VOWR	St. John's, N. F.	700	WCSH	Portland, Me.	840	WHDF	Calumet, Mich.	1370
VQ7LO	Nairobi, Ken.	750	WDAE	Tampa, Fla.	1220	WHDH	Boston, Mass.	830
VUB	Bombay, In.	840	WDAF	Kansas City, Mo.	610	WHDL	Tupper Lake, N. Y.	1420
VUC	Calcutta, In.	810	WDAG	Amarillo, Texas	1410	WHEB	Portsmouth, N. H.	740
VUL	Lahore, In.	1200	WDAH	El Paso, Texas	1310	WHEC	Rochester, N. Y.	1430
VUM	Madras, In.	770	WDAS	Philadelphia, Pa.	1370	WHEF	Kosciusko, Miss.	1500
WAAB	Boston, Mass.	1410	WDAY	Fargo, N. D.	940	WHET	Dothan, Ala.	1370
WAAF	Chicago, Ill.	920	WDBJ	Roanoke, Va.	930	WHFC	Cicero, Ill.	1420
WAAT	Jersey City, N. J.	940	WDBO	Orlando, Fla.	580	WHHS	Bluefield, W. Va.	1410
WAAW	Omaha, Neb.	660	WDEL	Wilmington, Del.	1120	WHK	Cleveland, Ohio	1390
WABC	New York, N. Y.	860	WDEV	Waterbury, Vt.	550	WHN	New York, N. Y.	1010
WABI	Bangor, Maine	1200	WDGY	Minneapolis, Minn.	1180	WHO	Des Moines, Iowa	1450
WACO	Waco, Texas	1420	WDNC	Durham, N. C.	1500	WHOM	Jersey City, N. J.	1430
WADC	Akron, Ohio	1320	WDOO	Chattanooga, Tenn.	1280	WHP	Harrisburg, Pa.	1290
WAGM	Presque Isle, Me.	1420	WDRC	Hartford, Conn.	1330	WIBA	Madison, Wis.	1280
WAIU	Columbus, Ohio	840	WDSU	New Orleans, La.	1250	WIBG	Glenide, Pa.	970
WALR	Zanesville, Ohio	1210	WDZ	Tuscola, Ill.	1070	WIBM	Jackson, Mich.	1370
WAMC	Anniston, Ala.	1420	WEAF	New York, N. Y.	680	WIBU	Poynette, Wis.	1210
WAML	Laurel, Miss.	1310	WEAN	Providence, R. I.	750	WIBW	Topeka, Kans.	580
WAPI	Birmingham, Ala.	1140	WEBC	Superior, Wis.	1290	WIBX	Utica, N. Y.	1200
WARD	Brooklyn, N. Y.	1400	WBBQ	Harrisburg, Ill.	1210	WICC	Bridgeport, Conn.	800
WASH	Grand Rapids, Mich.	1270	WBBR	Buffalo, N. Y.	1310	WIL	St. Louis, Mo.	1200
WATR	Waterbury, Conn.	1190	WEDC	Chicago, Ill.	1210	WILL	Urbana, Ill.	998
WAVE	Louisville, Ky.	940	WEED	Greenville, N. C.	1420	WILM	Wilmington, Del.	1420
WAWZ	Zarephath, N. J.	1350	WEEI	Boston, Mass.	590	WIND	Gary, Ind.	560
WAZL	Hazleton, Pa.	1420	WEU	Reading, Pa.	830	WINS	New York, N. Y.	1180
WBAA	West Lafayette, Ind.	1400	WEHC	Charlottesville, Va.	1350	WIOD	Miami, Fla.	1300
WBAB	Harrisburg, Pa.	1430	WEHS	Cicero, Ill.	1420	WIP	Philadelphia, Pa.	810
WBAL	Baltimore, Md.	1060	WELL	Battle Creek, Mich.	1420	WIS	Columbia, S. C.	1010
WBAP	Fort Worth, Texas	800	WENC	Albany, Ga.	870	WISN	Milwaukee, Wis.	1310
WBAX	Wilkes-Barre, Pa.	1210	WENR	Chicago, Ill.	820	WJAC	Johnstown, Pa.	1120
WBBC	Brooklyn, N. Y.	1400	WESG	Elmira, N. Y.	680	WJAG	Norfolk, Neb.	1060
WBBL	Richmond, Va.	1218	WEVD	New York, N. Y.	1300	WJAR	Providence, R. I.	890
WBMM	Chicago, Ill.	770	WEW	St. Louis, Mo.	780	WJAS	Pittsburgh, Pa.	1290
WBRR	Brooklyn, N. Y.	1300	WEXL	Royal Oak, Mich.	1310	WJAX	Jacksonville, Fla.	800
WBXX	New Orleans, La.	1200	WFAA	Dallas, Texas	800	WJAY	Cleveland, Ohio	610
WBZZ	Ponca City, Okla.	1200	WFAB	New York, N. Y.	1300	WJBC	LaSalle, Ill.	1200
WBZM	Bay City, Mich.	1410	WFAM	South Bend, Ind.	1200	WJBI	Red Bank, N. J.	1210
WBEN	Buffalo, N. Y.	900	WFAS	White Plains, N. Y.	1210	WJBK	Dearborn, Mich.	1370
WBEO	Marquette, Mich.	1310	WFBC	Greenville, S. C.	1200	WJBL	Decatur, Ill.	1420
WBHS	Huntsville, Ala.	1200	WFBE	Cincinnati, Ohio	1200	WJBO	Baton Rouge, La.	1200
WBIG	Greensboro, N. C.	1440	WFBQ	Altoona, Pa.	1310	WJBW	New Orleans, La.	1200
WBNS	Columbus, Ohio	1430	WFLB	Syracuse, N. Y.	1360	WJBY	Gadsden, Miss.	1210
WBNX	New York, N. Y.	1350	WFBM	Indianapolis, Ind.	1230	WJDX	Jackson, Miss.	1270
WBOQ	New York, N. Y.	860	WFRB	Baltimore, Md.	1270	WJEM	Hagerstown, Md.	1210
WBOV	Terre Haute, Ind.	1310	WFDL	Flint, Mich.	1310	WJEM	Tupelo, Miss.	998
WBRC	Birmingham, Ala.	930	WFDV	Rome, Ga.	1500	WJJD	Chicago, Ill.	1130
WBRE	Wilkes-Barre, Pa.	1310	WFEA	Manchester, N. H.	1430	WJMS	Ironwood, Mich.	750
WBSO	Babson Park, Mass.	920	WFI	Philadelphia, Pa.	560	WJR	Detroit, Mich.	1460
WBT	Charlotte, N. C.	1080	WFLA	Clearwater, Fla.	620	WJTV	Washington, D. C.	1370
WBTM	Danville, Va.	1370	WGAL	Lancaster, Pa.	1310	WJW	Akron, Ohio	1460
WBZ	Boston, Mass.	990	WGAR	Cleveland, Ohio	1450	WJZ	New York, N. Y.	780
WBZA	Springfield, Mass.	990	WGBB	Freeport, N. Y.	1210	WKAQ	San Juan, P. R.	1240
WCAC	Storrs, Conn.	690	WGBF	Evansville, Ind.	630	WKAR	East Lansing, Mich.	1040
WCAD	Canton, N. Y.	1220	WGBI	Scranton, Pa.	830	WKBB	East Dubuque, Ill.	1600
WCAG	Pittsburgh, Pa.	1220	WGCM	Mississippi City, Miss.	1210	WKBF	Indianapolis, Ind.	1400
WCAL	Northfield, Minn.	1250	WGCP	Newark, N. J.	1250	WKBH	LaCrosse, Wis.	1380
WCAM	Camden, N. J.	1288	WGES	Chicago, Ill.	1360	WKBI	Cicero, Ill.	1420
WCAP	Baltimore, Md.	800	WGH	Newport News, Va.	1310	WKBN	Youngstown, Ohio	570
WCAS	Asbury Park, N. J.	1280	WGL	Fort Wayne, Ind.	1370	WKBO	Harrisburg, Pa.	1200
WCAT	Rapid City, S. D.	1200	WGLC	Hudson Falls, N. Y.	1370	WKBY	Richmond, Ind.	1500
WCAU	Philadelphia, Pa.	1170	WGN	Chicago, Ill.	720	WKBW	Buffalo, N. Y.	1480
WCAX	Burlington, Vt.	1200	WQNY	Chester, N. Y.	1210	WKBU	Ludington, Mich.	1500
WCAZ	Carthage, Ill.	1070	WGR	Buffalo, N. Y.	560	WKCU	LaGrange, Ga.	1500
WCBA	Allentown, Pa.	1440	WGST	Atlanta, Ga.	890	WKFI	Genewood, Miss.	1200
WCBD	Zion, Ill.	1080	WGY	Schenectady, N. Y.	790	WKJC	Lancaster, Pa.	1210
WCBM	Baltimore, Md.	1370	WHA	Madison, Wis.	940	WKKK	Sunbury, Pa.	1210
WCBS	Springfield, Ill.	1210	WHAD	Milwaukee, Wis.	1120	WKRC	Cincinnati, Ohio	550
WCBO	Minneapolis, Minn.	810	WHAM	Rochester, N. Y.	1150	WKY	Oklahoma City, Okla.	890
WCFL	Chicago, Ill.	970	WHAS	Louisville, Ky.	820	WKZD	Kalamazoo, Mich.	500
WCBS	Charleston, W. Va.	580	WHAT	Philadelphia, Pa.	1310	WLAC	Nashville, Tenn.	1470
WCCK	Covington, Ky.	1490	WHAZ	Troy, N. Y.	1300	WLAP	Lexington, Ky.	1420
WCLO	Janesville, Wis.	1200	WHB	Kansas City, Mo.	890	WLB	Minneapolis, Minn.	1250
WCLS	Joliet, Ill.	1310	WHBC	Canton, Ohio	1200	WLCB	Muncie, Ind.	1310
WCNW	Brooklyn, N. Y.	1500	WHBD	Mount Drab, Ohio	1370	WLBF	Kansas City, Kans.	1420
WCOA	Pensacola, Fla.	1340	WHBF	Rock Island, Ill.	1210	WLBL	Stevens Point, Wis.	900
WCOC	Meridian, Miss.	880	WHBL	Sheboygan, Wis.	1410	WLBW	Erie, Pa.	1260
WCRW	Chicago, Ill.	1210	WHBQ	Memphis, Tenn.	1370	WLBZ	Bangor, Me.	820
			WHBU	Anderson, Ind.	1210			

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WLEU	Eric, Pa.	1420	WRDW	Augusta, Ga.	1500	XEFJ	Monterrey, N. L.	1000
WLEY	Lexington, Mass.	1370	WREC	Memphis, Tenn.	1500	XEFO	Mexico City, D. F.	940
WLIT	Philadelphia, Pa.	560	WREN	Lawrence, Kans.	1220	XEFV	Juarez, Chih.	1400
WLNH	Laconia, N. H.	1310	WRHM	Minneapolis, Minn	1250	XEFW	Tampico, Tams.	1310
WLS	Chicago, Ill.	870	WRJN	Racine, Wis.	1370	XEFZ	Mexico City, D. F.	1310
WLTH	Brooklyn, N. Y.	1400	WROK	Rockford, Ill.	1410	XEH	Monterrey, N. L.	1132
WLVA	Lynchburg, Va.	1370	WROL	Knoxville, Tenn.	1310	XEI	Morelia, Mch.	1310
WLW	Cincinnati, Ohio	700	WRR	Dallas, Texas	1280	XEJ	Juarez, Chih.	1015
WLWL	New York, N. Y.	1100	WRUF	Gainesville, Fla.	830	XEK	Mexico City, D. F.	998
WMAI	Washington, D. C.	830	WRVA	Richmond, Va.	1110	XEL	Saltillo, Coah.	1000
WMAQ	Chicago, Ill.	870	WSAI	Cincinnati, Ohio	1330	XEMO	Tijuana, L. C.	865
WMAZ	Springfield, Mass.	1420	WSAJ	Grove City, Pa.	1310	XEMZ	Tijuana, L. C.	1210
WMAZ	Macon, Ga.	1180	WSAN	Allentown, Pa.	1440	XEN	Mexico City, D. F.	711
WMBC	Detroit, Mich.	1420	WSAR	Fall River, Mass.	1450	XENT	Nuevo Laredo, Tams.	1115
WMBD	Peoria, Ill.	1440	WSAZ	Huntington, W. Va.	1190	XEP	Mexico City, D. F.	780
WMBG	Richmond, Va.	1210	WSB	Atlanta, Ga.	740	XEPN	Piedras Negras, Coah.	585
WMBH	Joplin, Mo.	1420	WSBC	Chicago, Ill.	1210	XES	Tampico, Tams.	1020
WMBI	Chicago, Ill.	1080	WSBT	South Bend, Ind.	1210	XET	Monterrey, N. L.	890
WMBO	Auburn, N. Y.	1310	WSEN	Columbus, Ohio	1230	XETH	Torreon, Coah.	1380
WMBQ	Brooklyn, N. Y.	1500	WSFA	Montgomery, Ala.	1410	XETU	Pachuca, Hdgo.	890
WMBR	Jacksonville, Fla.	1370	WSGN	Birmingham, Ala.	1310	XETW	Mexico City, D. F.	830
WMC	Memphis, Tenn.	780	WSIX	Springfield, Tenn.	1210	XETZ	Mexico City	1210
WMCA	New York, N. Y.	570	WSJS	Winston-Salem, N. C.	1310	XEU	Veracruz, Ver.	1010
WMEX	Chelsea, Mass.	1500	WSM	Nashville, Tenn.	850	XEW	Mexico City, D. F.	890
WMMN	Fairmont, W. Va.	890	WSMB	New Orleans, La.	1320	XEWW	Veracruz, Ver.	1095
WMPC	Lapeer, Mich.	1500	WSMK	Dayton, Ohio	1380	XEX	Mexico City, D. F.	830
WMT	Waterloo, Iowa	600	WSOC	Charlotte, N. C.	1210	XEY	Merida, Yuc.	546.8
WNAC	Boston, Mass.	1230	WSPA	Spartanburg, S. C.	1210	XEYZ	Mexico City, D. F.	780
WNAD	Norman, Okla.	1010	WSPD	Toledo, Ohio	1840	XEZ	Merida, Yuc.	830
WNAX	Yankton, S. D.	570	WSUI	Iowa City, Iowa	880	XFB	Jalapa, Ver.	1290
WNFB	Binghamton, N. Y.	1500	WSUN	St. Petersburg, Fla.	820	XFC	Aguascalientes, Ags.	805
WNBH	New Bedford, Mass.	1310	WSVS	Buffalo, N. Y.	1370	XFG	Mexico City, D. F.	838.3
WNBO	Silver Haven, Pa.	1200	WSYB	Rutland, Vt.	1600	XFO	Mexico City, D. F.	940
WNBK	Memphis, Tenn.	1430	WSYR	Syracuse, N. Y.	570	XFX	Mexico City, D. F.	510
WNBW	Carbondale, Pa.	1200	WTAD	Quincy, Ill.	1440	XGCU	Shanghai, Chn.	1140
WNBX	Springfield, Vt.	1258	WTAG	Worcester, Mass.	5070	XGLS	Sochow, Chn.	1230
WNBZ	Saranac Lake, N. Y.	1290	WTAM	Cleveland, Ohio	1070	XGOA	Nanking, Chn.	660
WNEL	San Juan, P. R.	1290	WTAQ	Eau Claire, Wis.	730	XGOD	Lo Yang, Chn.	1090
WNEW	Newark, N. J.	1250	WTAR	Norfolk, Va.	1380	XGOB	Hangchow, Chn	977.5
WNOX	Knoxville, Tenn.	560	WTAS	College Station, Texas	1210	XGOY	Yunnan, Chn.	698
WNRA	Muscle Shoals, Ala.	1420	WTAX	Springfield, Ill.	1420	XHHE	Shanghai, Chn.	988
WNYC	New York, N. Y.	810	WTBO	Cumberland, Md.	1310	XHMF	Shanghai, Chn.	960
WDAI	San Antonio, Texas	1190	WTEL	Philadelphia, Pa.	1450	XHHG	Shanghai, Chn.	1920
WOGL	Jamestown, N. Y.	1210	WTFI	Athens, Ga.	1040	XHHH	Shanghai, Chn.	1040
WODX	Mobile, Ala.	1410	WTIC	Hartford, Conn.	1310	XHHI	Shanghai, Chn.	900
WOI	Ames, Iowa	640	WTMJ	Jackson, Tenn.	620	XHHK	Shanghai, Chn.	1428
WOKO	Albany, N. Y.	1430	WTMJ	Milwaukee, Wis.	1280	XHHM	Shanghai, Chn.	1180
WOL	Washington, D. C.	1310	WTNJ	Trenton, N. J.	1260	XHHN	Shanghai, Chn.	1206
WOMT	Manitowoc, Wis.	1210	WTOC	Savannah, Ga.	1260	XHHS	Shanghai, Chn.	1100
WOOD	Grand Rapids, Mich.	1270	WTRC	Elkhart, Ind.	1310	XHHU	Shanghai, Chn.	1160
WOPI	Bristol, Tenn.	1500	WVFW	Brooklyn, N. Y.	1400	XHHV	Shanghai, Chn.	880
WOQ	Kansas City, Mo.	1300	WVAE	Hammond, Ind.	1200	XHHX	Shanghai, Chn.	920
WOR	Newark, N. J.	716	WWJ	Detroit, Mich.	850	XHMA	Shanghai, Chn.	600
WORC	Worcester, Mass.	1280	WWL	New Orleans, La.	570	XNPP	Peiping, Chn.	937
WORK	York, Pa.	1000	WWNC	Asheville, N. C.	670	XOPP	Peiping, Chn.	952.3
WOS	Jefferson City, Mo.	838	WWRL	Woodsie, N. Y.	1500	XOST	Tsinan, Chn.	857.1
WOSU	Columbus, Ohio	670	WWSV	Pittsburgh, Pa.	1160	XOTN	Tientsin, Chn.	625
WOV	New York, N. Y.	1130	WWSA	Wheeling, W. Va.	1240	XQHA	Shanghai, Chn.	820
WOW	Omaha, Neb.	590	WXYZ	Detroit, Mich.	1000	XQHB	Shanghai, Chn.	850
WOWO	Fort Wayne, Ind.	1180	XEA	Guadalajara, Jal.	1450	XQHC	Shanghai, Chn.	1270
WPAD	Paducah, Ky.	1428	XEAB	Nuevo Laredo, Tams.	1295	XQHD	Shanghai, Chn.	1360
WPEN	Philadelphia, Pa.	1500	XEAC	San Luis Potosi, S.L.P.	890	XQHT	Shanghai, Chn.	1460
WPFB	Hattiesburg, Miss.	1370	XEAE	Tijuana, L. C.	990	YLZ	Riga, Lat.	583
WPG	Atlantic City, N. J.	1100	XEAF	Nogales, Son.	1080	YN	Lyons, F	848
WPHR	Petersburg, Va.	1200	XEAL	Mexico City, D. F.	1590	YNCRG	Granada, Venz.	870
WPRO	Providence, R. I.	1210	XEAM	Mexico City, D. F.	680	YV1BC	Caracas, Venz.	960
WPTF	Raleigh, N. C.	880	XEAO	Mexicali, L. C.	580	YV2BC	Caracas, Venz.	882
WQAM	Miami, Fla.	568	XEAW	Reynosa, Tams.	960	YV3BC	Caracas, Venz.	1200
WQAN	Scranton, Pa.	880	XEB	Mexico City, D. F.	1030	YV17BMO	Maracaibo, Venz.	1153
WQBC	Vicksburg, Miss.	1380	XEBC	Agua Caliente, L. C.	815	ZBW	Hongkong, Chn.	845
WQDM	St. Albans, Vt.	1378	XEC	Toluca, D. F.	1000	Z1LY	Hoten, Mnch.	900
WQDX	Thomasville, Ga.	1210	XECW	Mexico City, D. F.	1310	ZP1	Asuncion, Par.	1135
WRAK	Williamsport, Pa.	1370	XED	Guadalajara, Jal.	1155	ZP3	Asuncion, Par.	1000
WRAW	Reading, Pa.	1310	XEFA	Mexico City, D. F.	1250	ZP4	Asuncion, Par.	1275
WRAX	Philadelphia, Pa.	1020	XEFB	Monterrey, N. L.	1315	ZP5	Asuncion, Par.	1485
WRBL	Columbus, Ga.	1200	XEFC	Merida, Yuc.	1010	ZTC	Bloemfontaine, S. Af.	589
WRBX	Roanoke, Va.	1410	XEFE	Laredo, Tams.	985	ZTB	Cape Town, S. Af.	810
WRC	Washington, D. C.	950	XEFB	Mexico City	1105	ZTD	Durban, S. Af.	723
WRDO	Augusta, Me.	1370	XEFI	Chihuahua, Chih.	1260			

INDEX BY CALL LETTERS

ZTJ	Johannesburg, S. Af.	887	2ZJ	Gisborne, N. Z.	980	4RO	Rockhampton, Ausl.	1338
ZTP	Pretoria, S. Af.	885	2ZL	Hastings, N. Z.	1240	4TO	Townsville, Ausl.	1170
1YA	Auckland, N. Z.	650	2ZM	Gisborne, N. Z.	1150	4YA	Dunedin, N. Z.	790
1ZB	Auckland, N. Z.	1190	2ZO	Palmerston, N. N. Z.	1400	4ZB	Dunedin, N. Z.	1050
1ZH	Hamilton, N. Z.	770	2ZP	Wairoa, N. Z.	900	4ZC	Cromwell, N. Z.	1280
1ZJ	Auckland, N. Z.	1310	2ZR	Nelson, N. Z.	1110	4ZF	Dunedin, N. Z.	1220
1ZM	Manurewa, N. Z.	1280	3AK	Melbourne, Ausl.	1470	4ZL	Dunedin, N. Z.	1220
1ZR	Auckland, N. Z.	680	3AR	Melbourne, Ausl.	810	4ZM	Dunedin, N. Z.	1050
1ZS	Auckland, N. Z.	1420	3AW	Melbourne, Ausl.	1425	4ZO	Dunedin, N. Z.	1050
2AY	Albury, Ausl.	1500	3BA	Ballarat, Ausl.	1308	4ZP	Invercargill, N. Z.	820
2BL	Sydney, Ausl.	855	3BO	Bendigo, Ausl.	970	4ZR	Baclutha, N. Z.	1340
2CA	Canberra, Ausl.	1050	3DB	Melbourne, Ausl.	1160	4ZW	Dunedin, N. Z.	1470
2CH	Sydney, Ausl.	1210	3GL	Geelong, Ausl.	1400	5AD	Adelaide, Ausl.	1310
2CO	Corowa, Ausl.	680	3HA	Hamilton, Ausl.	1010	5CK	Crystal Brook, Ausl.	635
2FC	Sydney, Ausl.	685	3HS	Horsham, Ausl.	1370	5CL	Adelaide, Ausl.	738
2GB	Sydney, Ausl.	950	3KZ	Melbourne, Ausl.	1358	5DN	Adelaide, Ausl.	980
2GF	Grafton, Ausl.	1220	3LO	Melbourne, Ausl.	800	5KA	Adelaide, Ausl.	1200
2GN	Goulburn, Ausl.	1390	3MA	Mildura, Ausl.	900	5PI	Port Pirie, Ausl.	1041
2HD	Newcastle, Ausl.	1110	3SH	Swan Hill, Ausl.	1080	5BY	Bunbury, Ausl.	988
2KO	Newcastle, Ausl.	1415	3TR	Sale, Ausl.	1280	5CK	Cork, I. F. S.	1240
2KY	Sydney, Ausl.	1070	3UZ	Melbourne, Ausl.	938	6IX	Perth, Ausl.	1480
2MO	Gunnedah, Ausl.	1320	3WR	Wangaratta, Ausl.	1280	8KG	Kalgoorlie, Ausl.	1220
2NC	Newcastle, Ausl.	1246	3YA	Christchurch, N. Z.	720	6ML	Perth, Ausl.	1135
2RN	Dublin, I. F. S.	1348	3YB	Melbourne, Ausl.	1145	6PR	Perth, Ausl.	888
2SM	Sydney, Ausl.	1270	3YL	Christchurch, N. Z.	1200	6WF	Perth, Ausl.	698
2UE	Sydney, Ausl.	1025	3ZE	Greymouth, N. Z.	1308	7HO	Hobart, Ausl.	898
2UW	Sydney, Ausl.	1125	3ZM	Christchurch, N. Z.	1455	7LA	Launceston, Ausl.	1108
2WG	Wagga, Ausl.	1155	3ZR	Greymouth, N. Z.	940	7UV	Ulverstone, Ausl.	1468
2WL	Wollongong, Ausl.	1435	4BC	Brisbane, Ausl.	1145	7ZL	Hobart, Ausl.	888
2XN	Lismore, Ausl.	1348	4BH	Brisbane, Ausl.	1388	10-AK	Stratford, Ont.	1200
2YA	Wellington, N. Z.	570	4BK	Brisbane, Ausl.	1290	10-BP	Bingham, Ont.	1200
2YB	New Plymouth, N. Z.	750	4GB	Teewoomba, Ausl.	1000	10-BQ	Wrightford, Ont.	1290
2YC	Wellington, N. Z.	840	4MB	Maryborough, Ausl.	1060	10-BU	Canora, Sask.	1200
2ZD	Masterion, N. Z.	1170	4MK	Mackay, Ausl.	1190			
2ZF	Palmerston, N. N. Z.	980	4QG	Brisbane, Ausl.	700			
2ZH	Napier, N. Z.	820	4RK	Rockhampton, Ausl.	818			

SHORT WAVE RELAY BROADCASTING STATIONS OF NORTH AMERICA

Arranged Alphabetically by the call letters of the Broadcasting Stations which they relay. The frequencies preceded by an asterisk are not in operation at the present time.

CFBO , St. John, N. B.								
VE9BJ , St. John, N. B.	6,080 kcs., 49.23 meters							
CFCF , Montreal, P. Q.								
VE9SD , Drummondville, P. Q.	*15,130 kcs., 19.82 meters							
	*11,780 kcs., 25.45 meters							
	* 9,555 kcs., 31.38 meters							
	6,005 kcs., 49.93 meters							
CFCN , Calgary, Alta.								
VE3CA , Calgary, Alta.	*11,860 kcs., 25.28 meters							
	* 6,030 kcs., 49.72 meters							
CFCY , Charlottetown, P. E. I.								
VE9EH , Charlottetown, P. E. I.	* 6,080 kcs., 49.31 meters							
CHNS , Halifax, N. S.								
VE9HX , Halifax, N. S.	*11,835 kcs., 25.33 meters							
	6,110 kcs., 49.07 meters							
CKCL , Toronto, Ont.								
VE9AO , Toronto, Ont.								
CKFC , Vancouver, B. C.								
VE9CS , Vancouver, B. C.	6,070 kcs., 49.39 meters							
CKIC , Wolfville, N. S.								
VE9CX , Wolfville, N. S.	* 6,015 kcs., 49.85 meters							
CRCT , Toronto, Ont.						*17,780 kcs., 16.86 meters		
VE9GW , Bowmanville, Ont.	*24,380 kcs., 12.30 meters					*11,840 kcs., 25.32 meters		
	*11,810 kcs., 25.39 meters					6,080 kcs., 49.31 meters		
	6,095 kcs., 49.19 meters							
KDKA , Pittsburgh, Pa.								
WSXK , Saxonburg, Pa.	21,540 kcs., 13.92 meters							
	*17,780 kcs., 16.86 meters							
	15,210 kcs., 19.71 meters							
	11,870 kcs., 25.25 meters							
	* 9,570 kcs., 31.33 meters							
	6,140 kcs., 48.83 meters							
WABC , New York, N. Y.								
W2XE , Wayne, N. J.	15,280 kcs., 19.62 meters							
	11,840 kcs., 25.32 meters							
	6,120 kcs., 48.99 meters							
WBZ , Boston, Mass.								
WBZA , Springfield, Mass.								
WIXAL , Millis, Mass.	9,570 kcs., 31.33 meters							
WCAU , Philadelphia, Pa.								
W3XAU , Newton Square, Pa.	9,590 kcs., 31.26 meters							
	6,060 kcs., 49.48 meters							
WCFL , Chicago, Ill.								
W9XAA , Chicago, Ill.								
WEEI , Boston, Mass.								
WIXAL , Boston, Mass.	15,242 kcs., 19.67 meters							
	11,780 kcs., 25.45 meters							
WENR , Chicago, Ill.								
W9XF , Downer's Grove, Ill.	6,100 kcs., 49.15 meters							
WQY , Schenectady, N. Y.								
W2XAD , Schenectady, N. Y.	15,340 kcs., 19.58 meters							
WQY , Schenectady, N. Y.								
W2XAF , Schenectady, N. Y.	9,530 kcs., 31.48 meters							
WIOD , Miami, Fla.								
W4XB , Collins Isl., Miami, Fla.	* 6,036 kcs., 49.67 meters							
WJZ , New York, N. Y.								
W3XAL , Boundbrook, N. J.	17,772 kcs., 16.87 meters							
	6,100 kcs., 49.15 meters							
WJZ , New York, N. Y.								
W3XL , Boundbrook, N. J.	6,425 kcs., 46.66 meters							
WLW , Cincinnati, Ohio.								
W6XAL , Mason, Ohio.	6,060 kcs., 49.48 meters							

AROUND *the* CLOCK on *the* SHORT WAVES

MIDNIGHT TO NOON (EST)

GMT	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	W1XAZ W3XAL W3XAU W4XB W8XK W9XF	GSB GSD VK2ME W1XAZ W9XF	GSB GSD VK2ME	RV15 VQ7LO	PK1WK RV15	HVJ J1AA RNE RV15 VK2ME VK3ME PK1WK VQ7LO	HSJ RV15 VK2ME VK3ME W1XAZ ZGE ZIII	GSF GSG PHI Rabat RV15 VK2ME W1XAZ ZGE	DJA DJB GSF GSG PHI Rabat Pont. VE9GW VK2ME W1XAZ W3XAL	CP5 DJB GSE GSF PHI Pont. VE9GW VK2ME W1XAZ W3XAL	CT1AA CP5 GSE Pont. VE9GW W1XAZ W3XAL	GSB GSE VE9GW W1XAL W2XE W3XAL W3XL W8XK W9XAA

NOON TO MIDNIGHT (EST)

GMT	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00	4:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	GSB GSF I2RO Pont. VE9GW W1XAL W2XE W3XAL W3XAU W3XL W8XK W9XAA	GSB GSD I2RO Pont. VE9GW W1XAZ W3XAL W3XAU W3XL W8XK W9XAA	GSA GSB I2RO OXY Rabat VE9GW W1XAZ W3XAL W3XL W8XK W9XF	GSA GSB HAT I2RO LSX OXY Pont. Rabat RV59 VE9GW W2XAD W2XE W3XAU W3XL W8XK	CT1AA GSA GSB I2RO OXY Pont. Rabat RV59 VE9GW W2XAD W2XE W3XAU W3XL W8XK YV3BC	CT1AA EAQ GSA GSB HBL HBP HC2RL HI2 OXY Pont. RV59 VE9GW VE9HX W1XAL W3XAL W3XAU W8XK W9XF YV1BC YV3BC	COC CP5 CT1AA EAQ GSA GSC HC2RL HJ1ABB HBL HBP HC2RL HJ1ABB OXY Pont. VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK XETE YV1BC YV3BC	COC CP5 GSA GSC HC2RL HJ1ABB 4ABB 4ABE LSX PSK VE9CS Pont. VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK XETE YV1BC YV3BC	DJC G6RX HCJB HIX HJ1ABB 4ABB 4ABE LSX VE9CS VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK XETE YV1BC YV3BC	CP5 DJB HCJB HC2RL HIX HJ1ABB HJ3ABD HJ4ABE PRADO VE9DN VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK XETE YV1BC YV3BC	CP5 HC2RL HJ 3ABD PRADO VE9DN VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK XETE	CP5 HJ 4ABB HJ4ABE VE9DN W1XAZ W3XAL W3XAU W8XK XETE

One Hundred Best S. W. Stations by Calls

Stations marked with an asterisk (*) will not verify. Frequencies are given in megacycles. Times are given in Eastern Standard.

- *British Ships, 13,220, 8,831, 4,174
 *CEC, Chile, 19,678, 15,855
 CGA, Canada, 13,296, 9,340
 CNR, Morocco, 12,820
 COC, Cuba, 5,996. 4-6 p.m.
 CP5, Bolivia, 15,300. 9-11 a.m.
 CP5, Bolivia, 6,081. 6:30 to 7:30 or 8 p.m., daily, exc. Sun.; 9-11:30 p.m. daily
 CT1AA, Portugal, 9,592. Tues. and Fri., 4:30-7 p.m.
 CT3AQ, Madeira, Tues., Thurs., 5-6:30 p.m.; Sun. 10:30 a.m.-noon
 DAF, Germany, 12,394
 DFB, Germany, 17,512
 DIQ, Germany, 19,285
 DJA, Germany, 9,552
 DJB, Germany, 15,190. 8-11 a.m.
 DJC, Germany, 6,017. 8-11 p.m.
 DJD, Germany, 11,753. 8-11 a.m.
 DJL, Germany, 15,110
 EAQ, Spain, 9,862. 5-8 30 p.m.
 EHY, Spain, 10,164
 FTK, France, 15,863
 PTM, France, 19,282
 FZS, Indo-China, 11,983
 *German Ships, 13,135, 10,163, 8,328, 4,174
 GAS, England, 18,304
 GBB, England, 13,500
 GBS, England, 12,148
 GBW, England, 14,450
 GSA, England, 6,050. 6-8 p.m.; 2:45-5:45 p.m.
 GSB, England, 9,510. 2:15-4:15 a.m.; 11 a.m. to 1 p.m.; 1:15-5:45 p.m.
 GSC, England, 9,585. 6-8 p.m.
 GSD, England, 11,750. 2:30-4:30 a.m.; 1:15-2:45 p.m.
 GSE, England, 11,865. 9 a.m. to 1 p.m.
 GSF, England, 15,140. 7-8:45 a.m.; 9-11 a.m.
 GSG, England 17,770. 7 to 8:45 a.m.
 G6RX, England, 4,972. Testing nights 4:30. 8-10 p.m.
 HAT, Hungary, 7,220. Tests Sunday, 4 p.m.
 HBL, Switzerland, 9,580. Sat., 5:30 to 6:15 p.m.
 HBP, Switzerland, 7,872. Sat., 5:30 to 6:15 p.m.
 HC2RL, Ecuador, 6,659. Tues., 9:14 to 11:14 p.m.; Sun., 5:45 to 7:45 p.m.
 HCJB, Ecuador, 3,998. 8:14 to 10:14 daily, exc. Mon.
 HCK, Ecuador, 5,694. 8 to 11 p.m.
 HIX, Santo Domingo, 5,948. Tues. and Fri., 8 to 10 p.m.; Sun., 7:40 a.m.
 HIZ, Santo Domingo, 6,379. 5-6 p.m.
 HI-1-A, Santo Domingo, 6,272. 8-8:30 a.m.; 12:30-1:30 p.m.; 8-9 p.m.
 *HJB, Colombia, 14,930
 *HJY, Colombia, 18,444
 HJ1AB, Colombia, 6,447. 7:30-10 p.m.
 HJ2ABA, Colombia, 5,879. 7:30 to 10 p.m.
 HJ3ABD, Colombia, 7,402. 9-11:15 p.m., daily
 HJ4ABB, Colombia, 7,139. Sat., 11 p.m. to Mid.; Sun., 3-5 p.m.; Wed., 8-10 p.m.
 HJ4ABE, Colombia, 5,900. 7-11 p.m.
 HJ5ABB, Colombia, 6,378
 HJ5ABF, Colombia, 8,271
 HKN, Colombia, 7,138. 8-10 p.m., daily
 *HPF, Panama, 14,545.
 HSP, Siam, 17,719
 HVJ, Vatican City, 15,120. 5 to 5:15 a.m.
 IAC, Italy, 12,785
 I2RO, Italy, 11,800. 11:30 a.m.-12:30 p.m.; 1:15-6 p.m.
 JIAA, Japan, 9,862. 5 to 8 a.m.
 KAY, Philippines, 14,980
 KAZ, Philippines, 9,990
 *KKP, Hawaii, 16,024
 LSN, Argentina, 9,895
 LSX, Argentina, 10,345
 LSY, Argentina, 18,116
 *OCI, Peru, 18,670
 OXY, Denmark, 9,520. 2 to 6:30 p.m.
 PHI, Holland 11,725. 7:30 to 10 a.m., except Tues. and Wed.
 PK1WK, Java, 6,116. 4:15-6 a.m.
 PLE, Java, 18,820
 PLV, Java, 9,410
 Pontoise, France, 15,454
 Pontoise, France, 15,234. 8-11 a.m.
 11,898. 11:15 a.m. to 2:15 p.m.; 3 to 8 p.m.
 11,711. 3 to 9 p.m.; 10 p.m. to mid.
 *PPU, Brazil, 19,270
 PRADO, Ecuador, 6,618. Thursday, 9-11 p.m.
 *PSF, Brazil, 14,682
 Rabat, Morocco, 12,820. Sun., 7:30 to 9 a.m.
 8,218. Sun., 2:30 to 5 p.m.
 Radio-Tananarive, Madagascar, 6,00. 2:30-4 a.m.; Sun., 3-3:45 a.m., daily exc. Sun and Mon.
 RNE, USSR, 11,923. Testing irregularly
 RV15, Siberia, 4,273. 3-9 a.m., daily
 RV59, USSR., 5,996. 3-6 p.m., daily
 TGA, Guatemala, 14,545
 TIN-TIU, Costa Rica, 14,545
 VE9AO, Toronto, Canada
 VE9BJ, Canada, 6,090. Irreg.
 VE9CA, Canada, 6,030
 VE9CS, Canada, 6,074. 8-10 p.m.
 VE9DN, Canada, 6,005. Testing irreg.
 VE9DR, Canada, 6,005. 7:30 a.m. to Midnight; Sun., noon to 11:15 p.m.
 VE9GW, Canada, 6,092. 3 p.m.-midnight
 VE9HN, Canada, 6,110. 5-11 p.m., daily
 VE9JK, Canada, 11,720. Irreg., approx. 9-30 a.m.-10:30 p.m.
 VK2ME, Australia, 10,520. 9,585. Sun., 1 to 3 a.m.; 5 to 11 a.m.
 VK3ME, Australia, 9,503. Wed., 5-6:30 a.m.; Sat., 5-7 a.m.
 VWZ, India, 17,533
 *WNC, U. S. A., 15,055
 WIXAL, U. S. A., 15,242. Sunday, 10 a.m.-1 p.m.
 11,780. Sat., 5:30-11 p.m.; Sun., 6:30-8:30 p.m.
 WIXAZ, USA, 9,570
 W2XAD, USA, 15,320. Sun., Mon., Wed., Fri., 4-5 p.m.
 W2XAF, USA, 9,530. 7:45 to 11 p.m.
 W2XE, U. S. A., 15,258. 11 a.m. to 1 p.m.
 11,823. 3 to 5 p.m.
 6,116. 6 to 11 p.m.
 W3XAL, U. S. A., 17,772. 9 a.m.-3 p.m., except Sat.
 6,096. 3 p.m., to midnight, Saturday
 W3XAU, U. S. A., 9,585. Noon to 6 p.m.
 6,057. 8 p.m. to 1 a.m.
 W3XL, U. S. A., 6,421. Irregular
 W4XB, U. S. A., 6,040. 4 p.m. to 1 a.m.
 W8XAL, U. S. A., 6,060. Relay WLW irreg.
 W8XK, U. S. A., 21,451. 7 a.m. to 2 p.m.
 15,204. 10 a.m. to 4:15 p.m.
 11,870. 4:30-10 p.m.
 6,140. 4:30 p.m. to 12:30 a.m.
 W9XAA, U. S. A., 6,076. 3 to 6 p.m.
 W9XF, U. S. A., 6,425
 W9XF, U. S. A., 6,100. Silent Sat.; Sun., 1-2:30 p.m.; 4:30-7 p.m.; 9 p.m. to 2 a.m.; other days, 4:30-8 p.m.; 9:30 p.m. to 2 a.m.
 XAM, Mexico, 11,187
 XDS, Mexico, 11,760
 XETE, Mexico, 9,600. 2:30-5 p.m.; 6:30 p.m. to midnight
 *YNA, Nicaragua, 14,480. Phones Hialeah
 *YVQ, Venezuela, 13,337. Phones Hialeah
 *YVR, Venezuela, 13,296 and 9,168
 YV1BC, Venezuela, 6,112. 5:15 to 10 p.m.
 YV2AM, Venezuela, 7,138. Sun., 8-10 a.m.
 YV3BC, Venezuela, 9,510. 9:30 to 10 p.m.
 6,150. 10:30 a.m. to 1 p.m. and 4:30-9:30 p.m.; Sun., 8:30 a.m. to noon and 3-6:30 p.m.
 *ZFA, Bermuda, 5,045
 *ZFB, Bermuda, 10,060
 ZFS, Bahamas, 4,513
 ZGE, Malaya, 5,996. Tues., Fri., 6:30-8:30 a.m. and Sun., 7-9 a.m.

ADDRESSES OF SHORTWAVE STATIONS

1. Compañía Internacional de Radio, Defensa 143, Buenos Aires, Argentina.
 2. Transradio Internacional, Compañía Radiotelegráfica Argentina, S. A. Buenos Aires, Argentina.
 3. Amalgamated Wireless. (A/sia), Ltd., 47 York St., Sydney, N. S. W., Australia.
 4. Companhia Radio Internacional do Brasil, Caixa Postal 620, Rio de Janeiro, Brasil.
 5. Cia. Radiotelegraphica Brasileira, Caixa Postal 500, Rio de Janeiro, Brasil.
 6. Canadian Marconi Co., P. O. Box 1690, Montreal, P. Q., Canada.
 7. Compañía Internacional de Radio S. A. (Chile), Casilla 16D, Santiago de Chile.
 8. Chinese Government Radio Administration, Sassoon House, Jinkee Road, Shanghai, China.
 9. Compañía Radiográfica Internacional de Costa Rica, San Jose, Costa Rica.
 10. Marconi Radio Telegraph Co. of Egypt, S. A., P. O. Box No. 795, Cairo, Egypt. (Street address: Radio House, Sharia Eloui).
 11. Societe Francaise Radio-Electrique, 79 Boulevard Haussmann, Paris VIII, France.
 12. Compagnie Generale de Telegraphie Sans Fil, Boîte Postale 238, Saigon, French Indo-China.
 13. Reichspostzentramt, Telegraphentechnisches Reichsamt, Schöneberger Strasse 11-15, Berlin-Tempelhof, Germany.
 14. Reichs-Rundfunk Gesellschaft, Haus des Rundfunks, Masurenallee, Berlin-Charlottenburg 9, Germany.
 15. Hauptfunkstelle Norddeich, Norden-Land, Germany.
 16. The Engineer-in-Chief, G. P. O. (Radio Section), 86 Wood St., London, EC2, England.
 17. The British Broadcasting Corp., Broadcasting House, London, W1, England.
 18. Parkstaat 29, S'Gravenhage, Holland.
 19. Radiomarittimo Coltano Radio IAC, Piza, Italy.
 20. Societe Italo Radio, Via Calabria No. 46-48, Rome, Italy.
 21. Trends News Agency, 43 Colon St., Mexico, D. F., Mexico.
 22. Gouvernements Radio-Dienst, Bandoeng, Java, Netherland East-Indies.
 23. Post Telegraaf en Telefoon dienst, Makassar, Celebes, Netherland East Indies.
 24. Superintendent of Post and Telegraphs, General Post Office, Wellington, New Zealand.
 25. Compañía Peruana de Telefonos, Apartado 986, Lima, Peru.
 26. Radio Corp. of the Philippines, Plaza Moraga, Manila, Philippine Islands.
 27. Post and Telegraph Department, Bangkok, Siam.
 28. Compania Telefonica Nacional de España, S. A., Margall 2, Madrid, Spain.
 29. Transradio Española, S. A., Apartado de Correos 951, Madrid, Spain.
 30. M. G. Gallarati, Information Section, League of Nations, Geneva, Switzerland.
 31. Cuba Transatlantic Radio Corp., Habana, Cuba.
 32. Radio Corporation of Cuba, Habana, Cuba.
 33. Department of Marine, Radio Branch, Ottawa, Canada.
 34. Calgary Herald, Ltd., Southam Bldg., Calgary, Alta.
 35. Estación YVQ, Estados Unidos de Venezuela, Servicio Radiotelegrafico, Maracay, Venezuela.
 36. Imperial and International Communications, Ltd., Davidson St., Hamilton, Bermuda.
 37. The National Broadcasting Co., 30 Rockefeller Plaza, New York, N. Y.
 38. Radio Club do Brasil, A. Vox do Brasil, Rio de Janeiro.
 39. Technical Director, Royal Hungarian Post, Gyali St. 22, Budapest, Hungary.
 40. Radio Operator (name of ship), Pier 86, 46th St., New York, N. Y.
 41. (name of ship), Pier 57, Hudson River, New York, N. Y.
 42. North German Lloyd, Pier 42, North River, Foot of Morton St., New York, N. Y.
 43. Hamburg-American Lines, Pier 86, North River, West 46th St., New York, N. Y.
 44. North German Lloyd, Pier 4, Foot of 58th St., Brooklyn, New York.
 45. Canadian Airways, Ltd., (Western Lines), 60 Brock St., Winnipeg, Man., Canada.
 46. North-West Telephone Co., Corner 2nd Ave. and Wylie St., Vancouver, B. C., Canada.
 47. Laurentian Forest Protective Association, 126 St. Peter St., Quebec, P. Q., Canada.
- CP5: Compañía Radio Boliviana, Casilla 637, La Paz, Bolivia.
- CT1AA: Senhor Abilio Nunes dos Santos, Jr., Av. Antonio Augusto de Aguiar 144, Lisbon, Portugal.
- CT1CT: Senhor Oscar G. Lomelino, Rua Gomez Froire 79, 2-D, Lisbon, Portugal.
- CT3AQ: Thiago D'Aguiar, Funchal, Madeira Islands.
- EARCF: Radio Club de Tenerife, Alvarez de Lugo 1, Santa Cruz de Tenerife, Canary Islands.
- G6RX: Rugby Radio Station G6RX, Hillmorton, Near Rugby, Warwickshire, England.
- HCJB: Mr. Clarence W. Jones, Transmisora HCJB, Casilla 691, Quito, Ecuador.
- HC2RL: Estación Radiodifusora HC2RL, Dr. Roberto Levi, Apartado 759, Guayaquil, Ecuador.
- HIX: Mr. J. R. Saladin, Director de Radio, Estación Radiodifusora HIX, Santo Domingo, Dominican Republic.
- HIZ: Mr. Geo. Abbes, Estación HIZ, Calle Duarte No. 68, Santo Domingo, Dominican Republic.
- H1IA: Estación H1IA, La Voz del Yaque, Santiago de los Caballeros, Dominican Republic.
- HJ1ABB: Radiodifusora La Voz de Barranquilla de Elias J. Pellet B., Apartado 715, Barranquilla, Colombia.
- HJ2ABA: Sr. Pompelio Sanchez, La Voz del Pais, Tunja, Colombia.
- HJ3ABB: Estación HJ3ABB, Apartado 509, Bogotá, Colombia.
- HJ3ABF: Estación HJ3ABF, Calle 15, No. 5-40, Bogotá, Colombia.
- HJ4BB: Radio Manizales, Sr. Roberto Baena V., Apartado 175, Manizales, Colombia.
- HJ4ABE: Cia. Radiodifusora de Medellin, Emisora HJ4ABE, Medellin, Colombia.
- HJ5ABB: Estación Radiodifusora del Valle HJ5ABB, Apartado 270, Cali, Colombia.
- HJVJ: Stazione Radio-Vaticano, Pontificia Accademia Della Scienze, Roma-Castina Pio IV, Città del Vaticano.
- I2RO: Ente Italiano per le Audizioni Radiofoniche, Via Asiago N. 10, Rome, Italy.
- J1AA: Kemikawa Radio Sending Station J1AA, Kemikawa-Cho, Chiba-Ken, Japan.
- LCL: Minister du Commerce du Royaume de Norvège, Oslo, Norway.

- LR4: Radio Splendide, Callao 1526, Buenos Aires, Argentina.
- NIROM: N. V. Nederlandsch Indische Radio Omroep Moatschappij, Tandjong Priok, Zuiderderweg, Batavia, Java, Netherland East-Indies.
- OER2: Radio Wein, Oesterreich, Johannisgasse 4-6, Vienna, Austria.
- OPL-M: Radio Station Leopoldville, Leopoldville, Belgian Congo.
- ORG-K: Regie des Telegraphes et des Telephones, Direction des Radiocommunications, Brussels, Belgium.
- OXY: Statsradiofonien, Drifts sledern, Heilbergsgade 7, Copenhagen, Denmark.
- PHI: N. V. Philips Radio Laboratories, Huizen, Holland.
- PK1WK: Mr. J. F. W. de Kort, Radiohandel, Bragaweg 34, Bandoeng, Java, Netherland East-Indies.
- PRADO: Radiodifusora "El Prado," Apartado 98, Riobaamba, Ecuador.
- Rabat: Direction de l'Office des Postes, des Telegraphes et des Telephones du Maroc, Rabat, Morocco.
- Rdo. Coloniale: Ministère des Postes, Telegraphs et Telephones, Direction de la Radiodiffusion, 98 bis, Blvd. Haussman, Paris, France.
- Rdo. Tananarive: Le Directeur des Postes et des Telegraphes, Tananarive, Madagascar.
- RNE: Commissariat du Peuple des Communications Postales et Electriques de l'URSS, No. 17 Gorki St., Moscow.
- RV59: Trade Union Radio Station, Radio Centre, Palace of Labour, Solianka 12, Moscow, USSR.
- SR1: Radio Poznanski, Plac Wolnosce 11, Rozglosnia, Poznan, Poland.
- T14 NRH: Sr. Amando Cespedes Marin, Apartado 40, Heredia, Costa Rica.
- VE9BJ: C. A. Munro, Ltd., Canterbury St., St. John, New Brunswick, Canada.
- VE9CA: The Voice of the Prairies, Ltd., Calgary, Alta.
- VE9CS: Radio Service Engineers, Ltd., 734 Davie St., Vancouver, B. C., Canada.
- VE9EH: Island Radio Broadcasting Co., Ltd., 143 Great George St., Charlottetown, P. E. I., Canada.
- VE9GW: Canadian Radio Commission Station VE9GW, R. R. No. 4, Bowmanville, Ont., Canada.
- VE9HX: The Maritime Broadcasting Co., Ltd., P. O. Box 998, Halifax, N. S., Canada.
- VE9JR: James Richardson & Sons, Ltd., Radio Office 155 Royal Alexandra Hotel, Winnipeg, Manitoba.
- VK3LR: Research Section, P. M. G. Department, 61 Little Collins St., C1, Melbourne, Victoria, Australia.
- VK3ME: Amalgamated Wirelless. (A/sia), Ltd., Box No. 1272L, Elizabeth St. P. O., Melbourne, Vic., Australia.
- VQ7LO: Imperial and International Communications Ltd., P. O. Box 777, Nairobi, Kenya Colony.
- WTVD: Mr. H. M. McKenzie, St. Thomas, Virgin Islands.
- WTDW: Mr. S. I. Winde, Christiansted, Virgin Islands.
- VUC: Indian State Broadcasting Service, 1 Gardens Place, Calcutta, India.
- WVJ: Alaskan Telephone Co., 517 Federal Office Bldg., Seattle, Washington.
- W1XAL: World Wide Broadcasting Corp., Boston, Mass.
- W1XAZ: Westinghouse Radio Stations of New England, Hotel Bradford, Boston, Mass.
- W2XE: Columbia Broadcasting System, Inc., 485 Madison Ave. at 52nd St., New York City.
- W3XAU: WCAU Broadcasting Co., WCAU Bldg., 1622 Chestnut St., Philadelphia, Pa.
- W8XAL: Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio.
- W8XK: Westinghouse Radio Station W8XK, Hotel William Penn, Pittsburg, Pa.
- W9XAA: Mr. Maynard Marquardt, Chicago Federation of Labor, 666 Lake Shore Drive, Chicago, Ill.
- W9XF-9XQ: National Broadcasting Co., Inc., Merchandise Mart, Chicago, Ill.
- XAM: Telegrafos Nacionales, Merida, Yucatan, Mexico.
- XETE: Empressa Telefonos Ericsson, S. A., C. Central 3, Colonia del Valle, Mexico, D. F. (or, P. O. Box 1396).
- YV1BC: Broadcasting Caracas, Apartado 290, Caracas, Venezuela.
- YV3BC: Radiodifusora Venezuela YV3BC, Bajos Pasaje Ramella, Caracas, Venezuela.
- ZFS: Office of Superintendent of Telegraphs, Central Bay Street, Nassau, N. P., Bahamas.
- Malayan Amateur Radio Society, c/oZGE: Institute for Medical Research, Kuala Lumpur, Federated Malay States.

TWO HUNDRED DEPENDABLE S. W. STATIONS

Frequencies are shown in megacycles and wavelengths in meters. Key to symbols in parentheses: Capital letters indicate type of service, as follows:

- A—Point-to-Point, Condition A, inverted modulation
 B—Point-to-Point, Condition B, Intelligible speech
 E—Experimental
 F—Relay (broadcasting)
 SS—Ship to shore, or, shore to ship
 Small letters concern verifications as follows:
 a—Verifies for return postage
 b—Verifies only occasionally
 c—Does not verify
 x—Address given alphabetically in address list
 y—Address not given
 z—No information available
 123—figures indicate key numbers in address list
 Meters Meters Location
 4.107 73.00 Quito, Ecuador (R-ax)
 4.273 70.65 RV15, Khatarovsk, USSR (R-cy)
 4.320 69.40 G6RX, Rugby, England (E-ax)
 4.348 68.96 CGA9, Drummondville, P. Q. (B-c-6)
 4.466 67.14 CFA2, Drummondville, P. Q. (B-b-6)
 4.753 63.08 WOO, Ocean Gate, N. J. (SS-cy)
 4.755 63.05 CFI, Rossland, B. C. (B-z)

- 4.785 66.66 CZA, Drummondville, P. Q. (SS-c-6)
 4.972 60.30 G6RX, Rugby, England (E-ax)
 5.045 59.42 ZFA, St. George, Bermuda (A-cy)
 5.660 51.21 CFU, Rossland, B. C. (B-z)
 5.825 51.47 HJA2, Bogota, Colombia (B-cy)
 5.900 50.82 CMB1, Havana, Cuba (B-a-31)
 5.900 50.82 H3ABE, Medellin, Colombia (R-ax)
 5.948 50.40 HIX, Santo Domingo, D. R. (R-ax)
 5.996 50.00 RV59, Moscow, USSR (R-ax)
 Tananarive, Madagascar (R-ax)
 YV2BC, Caracas, Venez. (R-z)
 6.000 49.97 VFDN, Drummondville, P. Q. (R-a6)
 6.017 49.83 DJC, Zeesen, Germany (R-a14)
 6.040 49.64 W4XB, Miami, Fla. (R-cy)
 6.045 49.60 H3AB1, Bogota, Colombia (R-ax)
 6.050 49.56 GSA, Daventry, Eng. (R-a17)
 6.060 49.48 W3XAU, Newtown Sq., Pa. (R-ax)
 W8XAL, Mason, Ohio (R-ax)
 6.069 49.40 OXY, Skamlotbæk, Denmark (R-ax)
 6.070 49.39 VE9CS, Vancouver, B. C. (R-bx)
 YV5BMO, Maracaibo, Venez. (R-ax)

6.080	49.31	W9XAA, Chicago, Ill. (R-ax)	9.585	31.28	GSC, Daventry, England (R-a-17)
6.081	49.30	CP5, La Paz, Bolivia (R-ax)			VK2ME, Sydney, Aust. (R-a-3)
6.095	49.19	VE9GW, Bowmansville, Ont. (E-ax)	9.590	31.26	W3XAU, Newtown Sa., Pa. (R-ax)
6.100	49.15	W3XAL, Boundbrook, N. J. (E-a37)	9.592	31.25	CT1AA, Lisbon, Portugal (R-ax)
		W9XF, Chicago, Ill. (R-ax)	9.595	31.30	HB1, Prangins, Switz. (R-a-30)
6.110	49.07	VE9HX, Halifax, N. S. (R-ax)	9.600	31.23	XETE, Mexico City, D. F. (R-bx)
6.112	49.10	YV1BC, Caracas, Venez. (R-ax)	9.609	31.20	DGU, Nauen, Germany (B-a-13)
6.116	49.02	HJ1ABD, Cartagena, Col. (R-z)	9.670	31.00	T14NRH, Heredia, C. R. (R-ax)
		PK1WK, Bandoeng, Java (R-ax)	9.702	30.90	GCA, Rugby, England (A-a-16)
6.120	48.99	W2XE, Wayne, N. J. (R-ax)	9.750	30.75	VK2ME, Sydney, Aust. (B-a-3)
6.140	48.83	W8XK, Saxonburg, Pa. (R-ax)	9.798	30.60	GCW, Rugby, England (A-a-16)
6.150	48.78	YV3BC, Caracas, Venez. (R-ax)	9.823	30.52	IRM, Rome, Italy (B-a-20)
6.150	48.75	CJRO, Winnipeg, Man. (R-z-3z)	9.830	30.50	LSI, Buenos Aires, Arg. (B-b-1)
6.378	47.00	HJ5ABB, Cali, Colombia (R-b-z)	9.862	30.40	EAQ, Aranjuez, Spain (R-a-29)
6.379	47.50	HIZ, Santo Domingo, D. R. (E-ax)			J1AA, Kenikawa-cho, Japan (R-bx)
6.425	46.66	W3XL, Boundbrook, N. J. (E1-a37)	8.935	30.30	LSN, Buenos Aires, Arg. (A-b-1)
6.447	46.50	HJ1ABB, Barranquilla, Col. (L-ax)	9.942	30.15	GCU, Rugby, England (A-a-16)
6.618	45.31	PRADO, Riobamba, Ecuador (R-ax)	10.014	29.84	SUV, Abu Zabal, Egypt (B-a-10)
6.648	45.10	IAC, Coltano, Italy (SS-a19)	10.060	29.80	ZFB, St. George, Bermuda (A-cy)
6.659	45.02	HC2RL, Guayaquil, Ecuador (L-ax)	10.163	29.50	German Ships
6.672	44.94	YVQ, Maracaib, Venez. (B-cy)	10.164	29.79	EHY, Madrid, Spain (B-a-28)
6.675	44.91	DGK, Nauen, Germany (B-a-1z)	10.212	29.35	PSH, Rio de Janeiro, Braz. (B-b-5)
6.900	43.45	GDS, Rugby, England (A-a-16)	10.250	29.25	PMN, Bandoeng, Java (B-a-22)
6.966	43.04	EDO, Madrid, Spain (B-a-28)	10.285	29.15	DIQ, Zeesen, Germany (E-a-13)
6.990	42.89	LCL, Jelo, Norway (R-ax)	10.290	29.14	HPC, Panama City, Pan. (B-cy)
7.138	42.00	HJ4ABB, Manizales, Col. (R-ax)	10.296	29.12	LSL, Hurlingham, Arg. (B-a-23)
		HKN, Medellin, Colombia (R-cy)	10.335	29.01	ZFD, St. George, Bermuda (A-cy)
7.220	43.86	HAT2, Budapest, Hungary (R-az)	10.350	28.98	LSX, Monte Grande, Arg. (B-cy)
7.402	40.50	HJ3ABB, Bogota, Col. (R-by)			LSX, Monte Grande, Arg. (B-b-2)
		HJ3ABD, Bogota, Col. (R-z)	10.410	28.80	PKP, Medan, Sumatra (B-a-23)
7.501	39.97	RKI, Moscow, USSR (B-cz)	10.520	28.50	VK2ME, Sydney, Aust. (B-a-3)
7.621	39.34	RIM, Irkutsk, USSR (B-cz)	10.613	28.25	EDN, Madrid, Spain (B-a-28)
7.785	39.01	TIR, Cartago, Costa Rica (B-b-9)			EDX, Madrid, Spain (B-a-28)
7.797	38.47	HBP, Prangins, Switz. (R-b-3C)	10.850	27.63	DFL, Nauen, Germany (B-a-13)
7.980	37.57	HSL, Bangkok, Siam (B-a-27)	10.990	27.28	ZLT, Wellington, N. Z. (A-ax)
8.180	36.65	PSK, Rio de Janeiro, Braz. (A-b-4)	11.187	26.80	XAM, Merida, Yuc. (B-ax)
		PSK, Rio de Janeiro, Braz. (R-a-38)	11.680	25.67	YVQ, Maracaib, Venez. (B-cy)
8.218	36.36	Rabat, Morocco (R-ax)	11.711	25.60	Pontoise, France (B-ax)
8.464	35.42	DAF, Norden, Germany (SS-a-15)	11.720	25.58	CJRX, Winnipeg, Man. (R-ax)
8.760	34.34	PNI, Macassar, Celebes (B-z2z?)	11.725	25.57	PHI, Huizen, Holland (R-ax)
9.014	33.26	GCS, Rugby, England (A-a-16)	11.750	25.51	GSD, Daventry, England (R-a-17)
9.104	32.93	LST, Olivos, Argentina (B-b-1)	11.760	25.50	XDM-XDS, Chapultepec, D. F. (B-cy)
9.120	32.87	CP5, La Paz, Bolivia (R-ax)	11.780	25.45	W1XAL, Boston, Mass. (R-ax)

The PROOF of the PUDDING

"I should like to thank you for your excellent magazine which I should be lost without. Much of my reception has been due to the help derived from RADEX."

John M. Wheeler, Redcourt, Lee-on-the-Solent, Hampshire, England.

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J. J. Oskay, Pacific St., Piscatawaytown, N. J.

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12.148	24.68	GBS, Rugby, England (A-a-16)	18.237	16.44	FTE, St. Assise, France (B-a-11)
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12.820	23.38	CNR, Rabat, Morocco (B-ax)	18.611	16.11	GAU, Rugby, Eng. (A-a-16)
		Rabat, Morocco (R-ax)	18.670	16.06	OCL, Valverde, Peru (B-cy)
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13.135	23.00	German Ships	18.856	15.90	ZSS, Klipheubel, South Afr. (A-z)
13.220	22.68	British Ships	18.963	15.81	GAC, Rugby, England (A-a-16)
13.337	22.48	YVQ, Maraca, Venez. (B-cy)	19.121	15.68	LSM, Hurlingham, Arg. (B-b-1)
13.500	22.09	GBB, Rugby, England (A-a-16)	19.240	15.58	DFA, Nauen, Germany (B-a-13)
13.671	21.93	HAAS, Budapest, Hungary (R-az)	19.270	15.57	PPU, Rio de Janeiro, Braz. (B-a-5)
14.450	20.75	GBW, Rugby, England (A-a-16)	19.506	15.37	IRW, Rome, Italy (B-2-20)
14.480	20.70	YNA, Managua, Nicaragua (B-cy)	19.519	15.36	EDX, Madrid, Spain (B-a-28)
14.545	20.69	HPF, Panama City, Pan. (B-cy)	19.678	15.24	CEC, La Granja, Chile (B-cy)
		TGF, Guatemala City, Guat. (B-by)	19.684	15.23	EAQ, Aranjuez, Spain (B-c-29)
		TIN-TIU, Cartago, C. R. (B-b-9)	20.368	14.72	GAA, Rugby, Eng. (A-a-16)
14.682	20.42	PSF, Rio de Janeiro, Braz. (A-b-4)	21.020	14.27	LSN, Hurlingham, Arg. (A-b-1)
14.930	20.08	HJB, Bogota, Colombia (B-cy)	21.540	13.92	W8XK, Saxonburg, Pa. (R-ax)
14.969	20.03	EDQ, Madrid, Spain (B-a-28)			
15.110	19.84	DJL, Zeesen, Germany (R-a-14)			
15.120	19.83	HVJ, Vatican City (R-ax)			
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15.234	19.68	Pontoise, France (R-ax)			
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15.300	19.70	CP5, La Paz, Bolivia (R-ax)			
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15.454	19.40	Pontoise, France (R-ax)			
15.863	18.90	F7K, St. Assise, France (B-a-11)			
17.287	17.34	Italian Ships			
17.300	17.33	W3XL, Boundbrook, N. J. (E-a-37)			
17.512	17.12	DFB, Nauen, Germany (B-a-13)			
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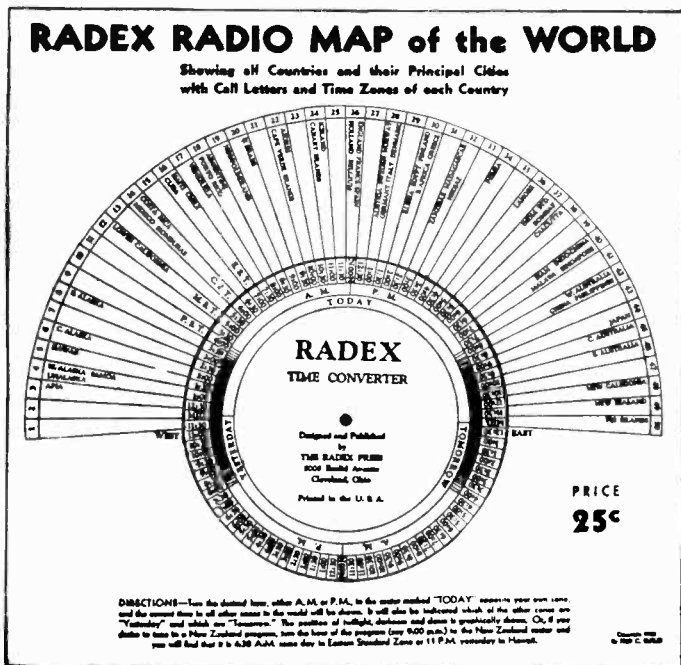
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