N.S.E.

25c

THE FEBRUARY 1937

RADIO INDEX

The All-wave DX Log of the World

The Mystery DX Contest
Explaining Shortwave Reception
Amateur Transmitting Schedules
Where to Get the Day's News

No. 106

The DX Calendar

SPECIAL programs arranged by the stations for the benefit of distant listeners. The regular frequency check broadcasts were given in the October RADEX. All times are Eastern Standard.

Sunday Mornings

January 24

0000-0500	TGW	1210	Guatemala City	
0100-0400	CMCD	950	Havana, Cuba	
0200-0500	CMCU	1460	Havana, Cuba	
0230-0400	CKWX	1010	Vancouver, B. C.	
0300-0500	CFCT	1450	Victoria, B. C.	
0300-0500	XEP	1160	Juarez, Chih.	

January 31

0200-0500	CFLC	930	Prescott, Ont.	NRC
0300-0500	KFSG	1120	Los Angeles, Calif.	

February 21

0100-0300	WHAZ	1300	Troy, N. Y.	
0200-0600	**MYSTERY DX CONTEST**			

February 28

0200-0500	CFLC	930	Prescott, Ont.	GCDXC

February 7, 14, 21, 28

0000-0500	TGW	1210	Guatemala City	
0200-0500	CMCU	1460	Havana, Cuba	
0230-0400	CKWX	1010	Vancouver, B. C.	
0300-0500	CFCT	1450	Victoria, B. C.	
0300-0500	XEP	1160	Juarez, Chih.	

Monday Mornings

January 25

0245-0315	KADA	1200	Ada, Okla.	

February 8

0100-0200	WHEF	1500	Kosciusko, Miss.	
0200-0600	FCC		Frequency Checks	
0530-0630	KGMB	1310	Honolulu, Hawaii	NNRC

February 22

0200-0600	**MYSTERY DX CONTEST**			

February 1, 29

0100-0115	KTSA	550	San Antonio, Texas	
0530-0600	WRAW	1310	Reading, Pa.	

February 15, 29

0600-0630	KGFW	1310	Kearney, Neb.	

Tuesday Mornings

January 19

0000-0400	KGVO	1260	Missoula, Mont.	

Jan. 26, Feb, 23

0530-0600	KBIX	1500	Muskogee, Okla.	

February 9

0200-0600	FCC		Frequency Checks	

February 2, 16

0100-0115	WRR	1280	Dallas, Texas	

February 2, 16, 23

0300-0330	KIUL	1210	Garden City, Kans.	

February 2, 9, 16, 23

0530-0545	WHEC	1430	Rochester, N. Y.	

Wednesday Mornings

January 20

0630-0700	KWBG	1420	Hutchinson, Kans.	

January 20, 27

0600-0630	WOOD	1270	Grand Rapids, Mich.	
0230-0300	WHBQ	1370	Memphis, Tenn.	

January 27

0300-0400	KHBC	1400	Hilo, Hawaii	NNRC
0500-0530	WPAD	1420	Paducah, Ky.	

February 3

0130-0230	WSUI	880	Iowa City, Ia.	

February 10

0200-0550	FCC		Frequency Checks	

February 17

0530-0600	WAWZ	1350	Zarephath, N. J.	

February 24

0300-0400	KHBC	1400	Hilo, Hawaii	NNRC
0500-0530	WPAD	1420	Paducah, Ky.	

February 3, 17

0630-0700	KWBG	1420	Hutchinson, Kans.	

February 3, 17, 24

0300-0330	WHBQ	1370	Memphis, Tenn.	

February 3, 10, 17, 24

0600-0630	WOOD	1270	Grand Rapids, Mich.	

Thursday Mornings

January 21

0200-0500	CFLC	930	Prescott, Ont.	NNRC

February 4

0500-0530	WFLA	620	Clearwater, Fla.	

February 25

0245-0315	KADA	1200	Ada, Okla.	

February 12

0200-0550	FCC		Frequency Checks	

Friday Mornings

January 29

0600-0630	KGFW	1310	Kearney, Neb.	

February 5

0145-0215	KNOW	1500	Austin, Texas	
0145-0215	WACO	1420	Waco, Texas	

February 12

0130-0200	WJAG	1060	Norfolk, Neb.	
0200-0600	FCC		Frequency Checks	
0215-0230	KPOF	880	Denver, Colo.	

Saturday Mornings

January 23

0300-0400	KFRO	1370	Longview, Tex.	NNRC
0330-0400	WEXL	1310	Royal Oak, Mich.	NRC
0600-0700	WTRC	1310	Elkhart, Ind.	CDXR

January 23, 30

0600-0700	WCOP	1120	Boston, Mass.	

February 6

0330-0350	KASA	1210	Elk City, Okla.	

February 13

0200-0630	FCC		Frequency Checks	
0430-0530	KVL	1370	Seattle, Wash.	NNRC

February 20

0200-0600	**MYSTERY DX CONTEST**			
0600-0700	WTRC	1310	Elkhart, Ind.	

February 27

0300-0400	KFRO	1370	Longview, Texas	NNRC

February 6, 13, 20, 27

0600-0700	WCOP	1120	Boston, Mass.	

THE MONTH'S CHANGES IN STATION DATA

NEW

1310	KAND	Corsicana, Texas
	KSRO	Santa Rosa, Calif.
1370	KVGB	Great Bend, Kans.
1420	CRCY	Toronto, Ont.
1450	CMHM	Cienfuegos, Cuba
1500	CMCN	Havana, Cuba
	KDAL	Duluth, Minn.

FREQUENCY

570	CMCX	Havana, Cuba, from 1500
1100	CMCJ	Havana, Cuba, from 1110
1280	KLS	Oakland, Calif., from 1440
1390	WQDM	St. Albans, Vt., from 1370
1410	KFJM	Grand Forks, N. Dak., from 1370
1460	CMOK	Havana, Cuba, from 1470

POWER

780	KEHE	Los Angeles, Calif., 1000 from 500
	WEAN	Providence, R. I., 1000 from 500
790	CMGH	Matanzas, Cuba, 500 from 250
800	HIX	Trujillo, D. R., 800 from 700
890	KARK	Little Rock, Ar., 500 from 250
900	WTAD	Quincy, Ill., 1000 from 500
990	XEAF	Nogales, Son., 250 from 500
1110	XELO	Piedras Negras, Coah., 50,000 from 10,000
1210	XEE	Durango, Dgo., 200 from 50
1350	CMCA	Havana, Cuba, 450 from 250
1400	WIRE	Indianapolis, Ind., 1000 from 500

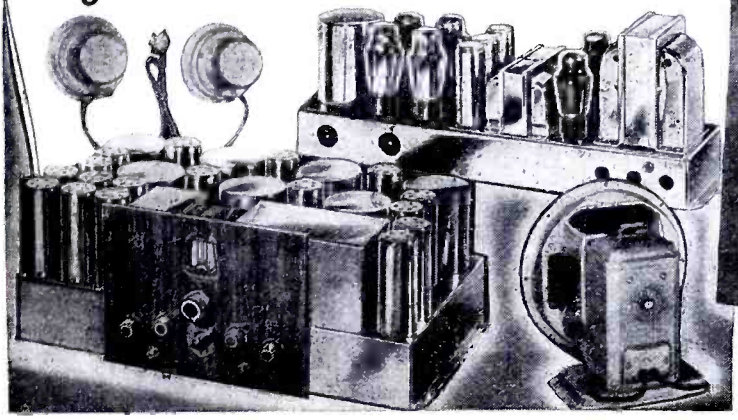
LOCATION

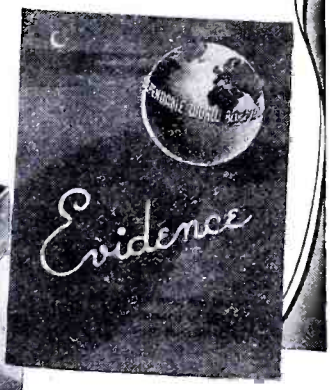
1250	WNEW	New York, N. Y., from Newark, N. J.

(Please turn to page 36)

No 106 Feb 1937

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





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

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

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

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

This is but a fragmentary sketch of the fascinating adventures SCOTT owners unfold in this mountain of EVIDENCE—conclusively establishing the world supremacy of the SCOTT.

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

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

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

MAKE A SIDE BY SIDE COMPARISON TEST

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

In the new 23-Tube Full Range High Fidelity SCOTT you will find, for the first time, a glorious and perfect musical instrument that finally satisfies that deep and lasting pride of ownership that comes only from the knowledge that you have the best. If, in addition to the book "EVIDENCE" you want complete information on the Custom Built SCOTT Radio itself, or want a "living room" demonstration in our New York, Los Angeles or Chicago Salon, simply place a check mark in the space provided for this purpose on the coupon.

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

E. H. SCOTT RADIO LABORATORIES, INC.

4424 Ravenswood Avenue, Dept. 15B7, Chicago, Illinois

630 Fifth Avenue, New York, N. Y.

115 N. Robertson Blvd., Los Angeles, Cal.

Builders of the World's Finest Custom-Built Radios Since 1924

Get "Evidence" . . . Mail Coupon NOW

E. H. Scott Radio Laboratories, Inc.
4424 Ravenswood Ave., Dept. 15B7,
Chicago, Ill.

Send me:

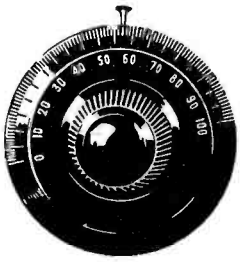
☐ Free book "EVIDENCE Establishing World Supremacy of 23-Tube SCOTT."
☐ Complete facts and prices on the SCOTT.
☐ Details of "living room" demonstration.

Name .....

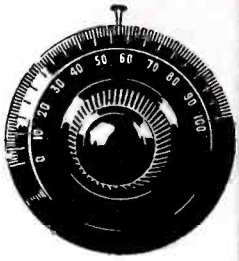
Address .....

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

FEBRUARY 1, 1937



RADIO INDEX



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THIRTEENTH YEAR

NUMBER 106

CONTENTS

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The Mystery DX Contest

OF ALL the attractions in the DX world today, listeners seem to agree that the RADEX Mystery DX Contest is just about tops. As a welcome relief from hum-drum tuning, readers report that it has proved to be a stimulant to whet jaded DX appetites. It has eliminated the old cut-and-dried methods of regularly-scheduled broadcasts and has placed considerable emphasis on a degree of skill in dialing.

There is no title to be won in the contest. Winners are not acclaimed DX Champions of this-or-that. They merely have proved that, under given conditions, they have been able to score more points than hundreds of other tuners in a competition where everyone had a chance.

That there are prizes to be won—and valuable awards, too—cannot be considered to be the only attraction. Most of the enthusiastic letters have come from contestants who "also ran." If they received a great deal of pleasure from the competition and were anxious for another try, then the contest served its primary purpose.

It was this definite show of enthusiasm that led us to the decision to repeat the event this year. We now know that we are sponsoring a popular feature, worthy of the attention of the thousands of DX fans on the North American continent.

And so listeners are advised to reserve the week-end of February 20, 21 and 22 for a big session of listening. A streamlined competition is coming down the pike and we can guarantee that it will be bigger and better than ever. Radio stations

The little girl with the big voice. Mary Small, a featured radio star at the age of 14, is now celebrating her third anniversary on the networks. She studied to be a concert pianist but now plays only for her own amusement and wonders why she became a radio singer instead of a piano player.

are going out of their way to co-operate with us. Donors of prizes are getting into line.

Making the Plans

In working out the details for this year's event, it was necessary to consider the structure of the original competition. That there were flaws in its make-up cannot be denied. The contest then was a trial venture, planned as carefully as possible, but still lacking the smoothness which comes with experience.

We now believe that we have eliminated most of the faults and, per-

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

haps, added more virtues. We have considered the criticisms and suggestions from readers, visualizing the possible effects of each. We have talked with DXers, radio club officials and station executives, and submit our final plans in the hope that they will merit the approval of listeners.

Perhaps the biggest defect last year was the advantages given by geographical location. The very nature of the set-up favored listeners in the Central states. DXers on the East Coast worked under a certain handicap, while those on the Pacific Coast were at even a greater disadvantage.

This year, more attention will be paid to the particular reception problems of these listeners. Blocked frequencies have been considered, and only stations with a good chance to cover the entire country have been invited to participate.

Furthermore, we realize that during the first hour of the contest, many Pacific Coast stations are still on their regular daily schedules of transmission. Therefore, as far as possible, no station in the Pacific time zone will take the air for us during the first hour. In their place will be the more powerful Eastern and Central stations.

Changes in Scoring

As a further concession to listeners on both coasts, the scoring points will be altered slightly. As before, the quality of a report will receive primary consideration, but an added factor of distance will be used to determine final scores.

The reports on participating stations will be divided into two general classes: IDENTIFICATION, when only an announcement or one selection is heard and reported. COMPLETE REPORT, when three successive selections or 10 minutes of the program are given.

These reports will be further divided into six definite groups:

Group A. IDENTIFICATION of a station within 200 miles of the listener—2½ points.

Group B. COMPLETE REPORT of a station within 200 miles of the listener—10 points.

Group C. IDENTIFICATION OF a station 200 to 2000 miles from the contestant—5 points.

Group D. COMPLETE REPORT of a station 200 to 2000 miles from the contestant—20 points.

Group E. IDENTIFICATION of a station more than 2000 miles distant from the listener—10 points.

Group F. COMPLETE REPORT of a station more than 2000 miles distant from the listener—30 points.

It will be noted from this schedule that we actually are multiplying the basic points for a report by a factor dependent upon the distance. While it may be a little more complicated than last year's methods of scoring, we are sure that DXers will agree that it will put every contestant upon an equal footing.

Kit of Report Forms

As has been noted in previous issues, we have prepared a standard kit of forms for each listener who wishes to compete in the contest. This includes a pad of 100 individual station report cards, with provisions for all the reception details; a summary sheet, with spaces for scores and prize preference list; and a final announcement regarding the contest and rules. All entries must be submitted on these form sheets.

This kit will be sent to all readers who forward their entry fee of 25 cents to our office in Conneaut, Ohio, before February 1st. Remittances may be in the form of unused U. S. stamps of any denomination, carefully wrapped U. S. coin, or money orders. The kit will be mailed out in plenty of time for the contetst.

Contest Rules

Rules of the contest are relatively simple. The use of the prepared

forms eliminates a great deal of work on the part of the contestants as well as the judges, and a properly-filled form will be all that we ask.

Each contestant will compute his own score on the basis of the preceding point schedule. The points for each station will be listed prominently on the individual station card, while a resume of the scoring will be given on the summary sheet. All points awarded will be subject to confirmation by the judges.

No verifications will be issued for any of the reports. If such is desired, a separate communication should be addressed to the station itself.

The exact number of stations participating has not been determined as this issue goes to press. As far as possible, we plan to have five broadcasts every hour, four hours a day for three days—making a total of sixty. The final schedule may include more or even less.

If one station is heard broadcasting for the contest on more than one day, it should be counted as many times as it was heard. If a station broadcasts for the contest more than one hour on any one day, it shall be counted but once.

In case of ties in the final standings, the prizes will be distributed according to the preferences listed by the contestant. If necessary, a tie will be broken on the basis of general neatness and completeness of a contestant's report. No more than one prize will be awarded to a DXer or members of his immediate family. In all cases governing scoring and awarding of prizes, the decision of the judges will be final.

Prize List

As we go to press, two months before the date of the contest, the complete list of prizes has not been determined. However, the grand prize will be the latest model 23-tube Scott full range high fidelity receiver.

Additional prizes include a set of study and reference texts for the National Radio Institute radio course; a replacement set of any six Arcturus tubes for the receiver of a winner; a set of Trimm Featherweight headphones, a Perfect Phone Adapter, a world globe, five yearly subscriptions to RADEX, and many other accessories. A complete list will be distributed to the radio clubs and will also be given in our final announcement.

As was the case last year, contestants will be required to check on their summary sheets the prizes in order of preference.

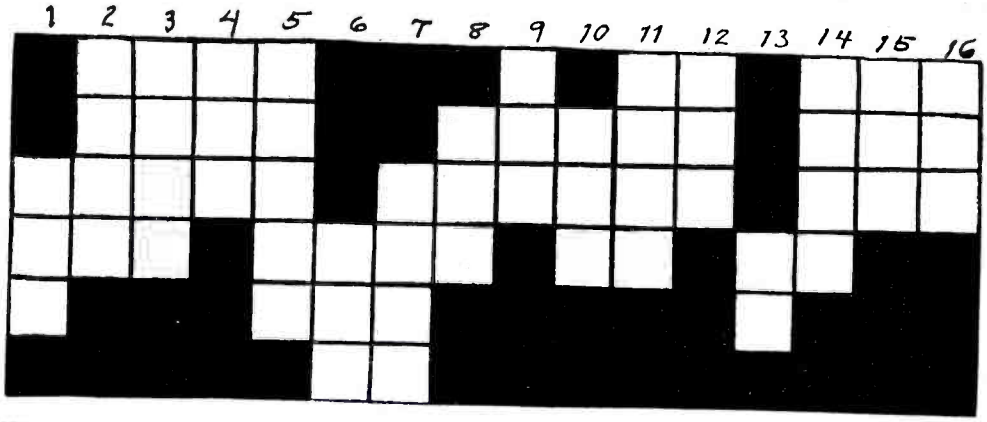
Further prizes will be yearly subscriptions to RADEX which will be distributed as place awards. To the contestants finishing 50th, 100th, 150th, etc., ten issues of your favorite radio magazine will be given. This makes it possible for DXers to win a worthwhile prize, even though they finish out of the money.

An informal competition between the various radio clubs will be conducted to see which organization enters the greatest percentage of its membership list in the contest. All DXers who enter will, therefore, state on the summary sheet the club to which they belong. If they belong to more than one club, they may indicate the one which renders

(*Please turn to page* 36)

The RADEX CALL-O-GRAM

By Roy Eldon Covert



TEST your knowledge of DX with the RADEX Call-o-Gram. Below will be found a numbered list of definitions. In the blank squares above, under the corresponding numbers, place the call sign which you think correctly answers the question set forth by the definition. Usually, in puzzles of this type, there are several sets of call letters which might fulfill the requirements, *but in this puzzle,* the middle two rows of squares will make a complete sentence only when the vertical squares are properly filled.

Definitions

1. 15kw Russian near KXBS.
2. The Sunday outlet of KTSM.
3. Fergus Falls.
4. This one stutters; 50 watts in Durango.
5. "Hi-Fidelity," old call.
6. You will have to put up with this all summer.
7. Midway on the dial, midway in the USA, but heard well throughout.
8. Yakima.
9. On the higher waves in Missouri, now deleted.
10. Guess Who.
11. This long-deleted station once shared time with KFAC.
12. Tampico.
13. You love this one.
14. A new Georgia peach.
15. Sutter St., San Francisco; either of two calls.
16. In the capital of the State of Vera Cruz.

(The solution to this Call-o-Gram will be given next month)

In the Gloucester Building, one of the most modern buildings in Hong Kong, the government maintains a broadcasting studio, complete with broadcasting room, rooms for announcers, controls, separate rooms for batteries for reserve power supply and offices for the conduct of business. The transmitter is located at Hunghom, in Kowloon.

The Hunghom station has two transmitters. One, ZBW, works on the frequencies of 845, 8750 and 5410 kcs with 2000 watts power, and the other, ZEK, 200 watts, works on 845, 640, 500 and 286 kcs. The reason for two transmitters working on the several frequencies on both broadcast band and shortwaves is so two different programs can be broadcast at the same time. This is necessary in order to appeal to both the Chinese and the Europeans. At present no advertising is permitted and most of the residents of the colony are more or less opposed to advertising on the radio, but it is believed that as they gain more experience with American-type programs, such as those heard frequently from Manila, they will learn to have no objections to sponsored programs.

BCB Prize Letter

(F. Stone)

When it comes to building up a log, I have no special way in which I tune. I know some fellows have a regular formula or schedule when dialing, but I have managed to have a certain amount of success with my methods, such as they are.

I just sit down every night about 7 o'clock and tune around until I hear a new station. Then I keep it tuned until I hear an announcement. I never give up until I hear the announcement. And yet, with but two exceptions, I have only stayed up later than 3 o'clock.

I never get discouraged, for I have the slogan "They always come back." I have found that once I get a station, I can keep on getting it as long as my radio is in good condition.

It has always been my opinion that a DXer should never try to get a verification unless he actually heard the station. Even if the station does send what they consider a confirmation, you know yourself that you didn't hear the station. And so you really aren't increasing your log.

Patience and a good log and magazine are the best aids to radio DXers. I haven't missed a copy of RADEX since I started DXing in 1928 and I'll never give up trying to complete the United States stations as long as you continue to give us tuning tips.

I was only 9 years old when I started DXing and I don't intend to stop until I'm 90.

It is understood that CRCT, Toronto, is not renewing any of its NBC contracts. Current programs will be dropped on expiration. WBEN, Buffalo, which is well heard in Toronto, may take the programs that CRCT is dropping.

SW Prize Letter

(E. L. Peters)

On the morning of Dec. 8 I was listening to ZBW, the s.w. station in Hong Kong on 9.525 megs. At about 9 o'clock they started their English-Chinese lesson. The instructor, evidently Chinese but speaking excellent English, would quote words and sentences in English and interpret for his Chinese listeners. Toward the end of his lesson he told this story, giving the Chinese version after each sentence.

The characters in the story were an inmate of an insane asylum, looking over the wall, and a fisherman seated on the bank of a river outside. The inmate asked, "What are you doing there?"

"Fishing," replied the fisherman.

"Are you catching anything?"

"No," the fisherman said.

"How long have you been there?" he was asked.

"About three hours."

"You better come inside," invited the inmate.

Pretty clever, these Chinese! This same story has been heard before, but heard under these circumstances it was very amusing.

On this page are reproduced two letters which the Editors have selected as being the best received in last month's mail. Readers are invited to submit letters for publication on this page, and the writer of the best letter each month will receive his RADEX magazines free for one year.

The best Prize Letter is to be picked by the readers of RADEX. Anyone who writes us is requested to tell which of the two letters they liked the best.

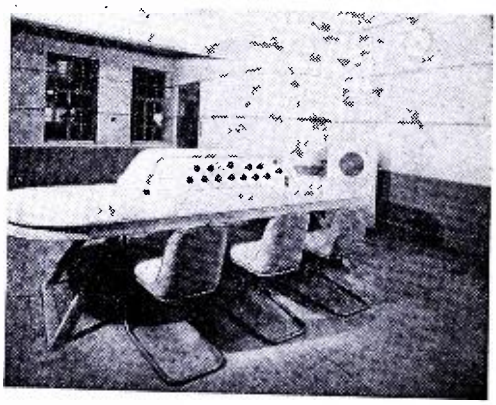
An Explanation of S. W. RECEPTION

• • • HOW TO TUNE

AN EXPLANATION of the shortwaves and the operation of shortwave receivers seems to be in order. Each month many new readers join our ranks and many of them, accustomed to tuning only on the regular broadcast band, have only nominal success, if any success at all, on the shortwaves. It is our custom, once or twice a year, to bring to our new readers an article describing the various peculiarities of shortwaves. Old timers can skip over these lines if they wish because, to them, perhaps we are "expounding the obvious."

Information in this article has been drawn from several sources, particularly former issues of RADEX, and, with our thanks for permission granted, from the Data Sheet "The Enchanting Shortwaves" published by the Chicago Shortwave Radio Club. A recent publication of the United States Department of Commerce entitled "A Guide to Reception of Shortwave Broadcasting Stations," has also been freely quoted.

While the design of the modern radio receiver is such that no previous experience or special skill is required for its proper operation, its full possibilities can be realized only by those who are familiar with the general characteristics of transmission on the higher frequencies. It should be understood that shortwave reception is not governed by fixed laws of nature but rather by flexible conditions over which man has no control, and that there can be no hard and fast rules for shortwave tuning. Nevertheless, certain general results have been observed, the most common observation being the condition known as "skip distance."



One of the control panels at Broadcasting House, London. Each panel consists of a number of microphone fading units which can be connected with any studio in the building. This photograph, one of a series of pictures illustrating the Empire Service transmitted from Daventry, is reproduced by permission of the BBC.

Transmitted signals of any wavelength are known to divide into two components, the "ground" wave and the "sky" wave. The former remains close to the earth's surface and provides reliable service only over short distances from the broadcasting stations. The sky wave, however, travels into the higher layers of the atmosphere and is reflected back to the earth's surface at a considerable distance from the station. With shortwave signals the sky wave does not return within the area covered by the ground wave, and the region between the area covered by the ground wave and that covered by the sky wave is known as the skip distance, a dead-spot region within which reception is impossible or unsatisfactory.

Reception on six megacycles is most reliable when received from a distance of 300 miles or more, although good reception at much greater distances can be expected

when a large part or all of the path of transmission lies in darkness.

Stations near 9.5 megs. are most reliable when heard over distances greater than 800 miles. Good reception from distant stations in this band is possible both in the daytime and at night.

Stations at a distance of 1000 miles or more from the receiver come in well near 11 megs. This band is best during daylight hours but distant stations can be heard sometimes until midnight, especially in the summer time.

Around the 15 megacycle band stations situated at a distance of 1500 miles or greater will be found most satisfactory. These signals are generally heard in the daytime, rarely after nightfall. A noted exception to this last statement, however, is the fact that Daventry and Zeesen are well heard on summer nights on their 15 meg. frequencies.

What Is Heard

The entertainment one receives through his shortwave set varies just as much as do the peoples and customs of the various countries within reach of the receiver. A person listening to the shortwaves at breakfast time in the United States may hear a program devised for somebody else's lunch hour. If he was listening to the broadcast band at the same time he no doubt would receive nothing but instruction in physical jerks or the correct time every three minutes. If broadcast entertainment becomes tiresome there are the amateurs, airplanes, police, commercial stations, ships, exploring parties and hundreds of other different kinds of transmissions to hear.

Each different kind of radio service is assigned certain portions of the radio spectrum in which to work. These portions are called "bands." Shortwave broadcasting stations are heard in the six bands commonly called the 49 meter, 31 meter, 25 meter, 19 meter, 16 meter and 13 meter bands. Our shortwave indices show the locations on the dials of all the stations, but it soon becomes second nature for a listener to switch to the proper bands for any desired type of transmission.

In referring to the bands by their wavelengths in meters we are following habit rather than being consistent. In frequencies the bands should be known as the 6, 9½, 11, 15 and 18 megacycle bands. We have dropped the use of the word "meters" in our indices, as it is superfluous, and in further references to bands or frequencies, no wavelengths in meters will be mentioned.

The maestro of radio's most unusual orchestra, Phil Spitalny. He heads the band composed of thirty beautiful women. He not only has the last musical word to say to his girls, but also selects their clothes, arranges their coiffures, picks their beaux and gets away with it.

Kilocycles and Megs.

A cycle is a pulsation of an electrical current, and the size or length of each cycle is measured in meters or fractions of meters. Radio currents pulsate so many thousands of times in a second that it is more convenient to speak of them in terms of kilocycles instead of cycles. A kilocycle is 1000 cycles. As we approach the ultra-high frequencies the kilocycles become such large numbers that it is more convenient to call them megacycles. A megacycle

is 1000 kilocycles. In measuring the frequency of a radio station engineers consider the number of cycles or kilocycles which are transmitted in one second. Therefore, when one speaks of a station working on 5900 kilocycles, he means that the station transmits 5900 kilocycles per second. The proper abbreviation for this unit is kc/s. The unit called the Hertz or the kiloHertz means "cycles" or "kilocycles per second." The word "Kilocycle", theoretically, is meaningless unless qualified by the words "per second," although all radio people understand what is meant. The Hertz includes the time element.

In the RADEX shortwave lists the frequencies are given in megacycles per second, and decimals are carried out to three places. To transpose into kilocycles per second, change the decimal point into a comma.

Power in Watts

The amount of power that a station uses is spoken of in Watts. Stations with very high power, thousands of watts, use the Kilowatt unit, which is 1000 watts. The RADEX indices use the Kilowatt and decimals thereof. To change kilowatts to watts, change the decimal point to a comma and add the requisite number of cyphers.

Call Letters

In glancing through a list of foreign stations arranged by locations, it will be noticed that the call letters of the various transmitters follow a pattern. All the Japanese stations, for example, start with the letter "J", and the Italian stations with the letter "I". These letters are the International Prefixes assigned to all the countries of the world by International Radio Commissions. Two very important countries, Mexico and The Union of Soviet Socialist Republics, have never signed any radio treaties, but they do cooperate to the extent that they make their call letters uniform.

When the call letters of a station are known, anyone familiar with the international prefixes knows immediately in what country the station is located, and sometimes it is possible to determine the city merely from the call signs.

In Venezuela the prefix is YV. It is the Venezuelan custom to follow the prefix by a number, then the letter "R", and to terminate the call with the initial letter of the city. Hence, YV1RC, YV2RC, YV3RC, etc., are situated in Caracas; YV11RB is in Bolivar; YV6RV is in Valencia. YV12AM, an amateur, is in Maracay and YV11RMO is in Maracaibo.

A complete list of the International Prefixes, too long to include in this section, will be found on the Radex Time Converter and World Map.

The 24-Hour Clock

By using the 24-hour clock it is not necessary to specify "a.m." or "p.m.", and the use of this clock eliminates any confusion that may arise in giving stations' operating schedules. In using the 24-hour clock we start with four cyphers (0000) to indicate midnight and continue through the 24 hours of the day to the next midnight, 2400. The first two digits represent hours and the last two digits, minutes. Thus, 1 a.m. is indicated by 0100; 1:15 a.m. by 0115. Noon is 1200, and 1 o'clock in the afternoon is 1300. It is evident that any number less than 1200 is a.m. and any greater than 1200 is p.m. To convert to the standard clock, subtract 1200 from any number that is greater than that figure. Thus, 1800 minus 1200 gives 6:00 p.m. This may seem a bit confusing at first, but soon it becomes quite natural to speak of 7 p.m. as 1900 or 10 p.m. as 2200.

The times given in RADEX, when not specified, are always in Eastern Standard Time, by the 24-hour clock.

To convert Eastern Standard to Atlantic Standard Time, add one

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ZENITH'S "Year-Ahead" Radios

● ● ● *By the* TECHNICAL EDITOR

EVERY season there seems to be some radio receiver that stands out and makes an impression on the eye and ear. In this year of new 1937 models the effect is "smartness," and this makes it difficult for the prospective purchaser of a radio set to step out and decide which make or model he wishes to buy. Like motor cars, modern radios all have to produce results, because with competition so keen only the fit can survive.

Zenith has survived—for many years this well-known organization has been producing fine radios. They have built up an outstanding reputation in the rural fields for perfection in battery sets and, with the arrival of the 1937 season, Zenith is pleasing the eye and satisfying the ear of many purchasers in this, radio's greatest year.

Complete New Line

It should not be difficult for the purchaser of a new 1937 receiver to find one that is satisfying in the complete new line of 25 alternating-current sets, 11 universal a-c d-c models, and six battery types which use only one 6-volt storage battery. All of these, of course, are not entirely different models, but they are in different cabinets, and range in price from $29.95 up to $750.00.

The 1937 Zenith "Year-Ahead" radios are pleasing to the eye. The cabinets are the finest examples of the cabinet maker's art. For those who are particularly interested in decoration and harmony in home furnishings, certain of these models are available in modern, black and lustrous ebony; cool, informal bone white, or golden, bright maple. These smart cabinets, of course, are in addition to the standard walnut wood used in all models.

A Wide Choice

Zenith offers, in their 1937 line, sets having 4, 5, 6, 7, 8, 10, 12, 16 and 25 tubes. First, let us consider the sets that use alternating current only. There are 6 models using the 5-tube chassis—3 being console types and 3 table cabinets. Then there are 5 models with the 6-tube chassis—2 of which are consoles and three table models. Two models use an 8-tube chassis—one a console and the other for the table. The remaining 7 models utilize the 10-tube chassis. Of these, 5 are consoles and two are table types. Several of the cabinet types have been given the name "Zephyr," since they are fluted with vanes or ribs somewhat like a stream-lined air-cooled engine. The design is novel, but it is very attractive.

In the a.c.-d.c. line of 11 models, sets that operate on either alternating current or direct current, there are three console cabinets using the 7-tube chassis, and 5 table models. There are three compact table models using a 6-tube chassis. For the farm, Zenith has built one 6-tube console and two table models, and three 4-tube table models. These farm sets operate on 6 volts only, without B or C batteries.

New Features

For 21 years Zenith has been experimenting with improvements for radios. This year the new dial of the Zenith sets is highly attractive. The various wave bands are clearly indicated in white on the jet black background. In each corner is what

is called a "tell-tale" control. These show the volume, band in use, sensitivity and fidelity control. "Target" tuning works with the eye as well as the ear. When the shadow bullet appears in the center of the target the station is tuned in perfectly.

The lightning station finder works with one quick spin. The pointer spins quickly to the station desired, and this feature eliminates the slow, laborious twisting of the tuning knob. A "split-second" re-locater enables the listener to re-locate foreign short-wave stations easily and accurately. The voice control, and the secret volume control, adjust for natural speaking—Normal and High-fidelity for true realism, Bass for soothing sound, and Foreign for foreign reception. The speaker has an overtone amplifier which preserves the natural overtones—just like a piano sounding board. And an acoustic adapter adjusts for different size rooms and ceiling heights so that the sound performance is always just right.

Model 8-S-154

A favorite among radio buyers, the new console model 8-S-154, is an attractive receiver. Its cabinet, built with Zenith's cantilever construction of beautiful cuts of walnut wood, is the latest in smart radios. This is an 8-tube receiver, using Zenith chassis No. 5801. The same chassis is used in the table model 8-S-129. The console model lists at $89.95 and the table model at $74.95. Both sets, as well as all Zenith sets, except the 6-volt farm receivers, use the Metaglas type of tubes which have the octal base and the same characteristics as metal tubes, only Zenith utilizes a glass shell instead of one of steel. Metaglas and metal tubes are interchangeable in Zenith receivers.

Model 8-S radio tunes American and foreign stations, police, amateur, aviation fields and planes and ships at sea. It has an auditorium 12-inch electro-dynamic loud speaker, voice-music high fidelity control, sensitivity control, lightning station finder, target tuning, split-second short-wave re-locater, overtone amplifier, and acoustic adapter. The cabinet of the 154 console model is 41 inches high, while that of the No. 129 table model is 22 inches high.

The Circuit

This circuit embraces three wave bands. The "A" band covers 550 to 1750 kilocycles; the "B" band tunes from 1750 to 6000 kilocycles; and the "C" band runs from 6000 to 19,000 kilocycles. The input from the antenna passes through an antenna choke into the antenna coil assembly. The output of this assembly, which is a radio-frequency stage, feeds the grid of a 6K7 tube. From this tube the signal passes through the detector coil assembly to the dual-purpose first-detector and oscillator tube, a type 6A8.

The output of this tube, after flowing through the first i-f transformer, enters the intermediate-amplifier tube—a type 6K7. Its output passes through the second i-f coil assembly and on to the grid of the dual-purpose second-detector and AVC tube. This is a type 6H6. Resistance coupled to the output of the second-detector tube is a type 6F5 first audio tube. And, with another resistance coupling unit, the amplified signal goes into a type 6F6 power output tube. It is then transformer coupled to the loud speaker. A type 5Y3 tube is used as rectifier. For the shadowmeter or bullet and target tuning, a type 6C5 tube is utilized. This circuit can be easily altered so that a phonograph pickup can be used.

The Stations Look *at the* All-Night Problem

● ● ● *By* CARLETON LORD

FOR the past few years, the all-night stations have been the predominant topic of discussion among the DXers. Operating at times when listeners were accustomed to go after DX reception, these stations have become the pet peeve of the midnight marauders.

Idea men among the DXers have propounded ways and means of eliminating the so-called menace. These have ranged from direct Federal legislation to an effective bit of bombing on the side. From the most likely ideas, there came one plan which might have worked.

This called for a definite classification of stations with regard to operating policies. On one side would be the broadcasters who wanted to transmit regular daily programs after, say, 0200 local time. On the other, there would be those who were glad to call it a day at midnight or 0100 local time.

Stations with 24-hour ideas would be segregated on a few channels and permitted to broadcast all night without interference to anyone but similar stations. The other broadcasters would continue their present assignments and schedules, signing off at a sensible hour and leaving their channel free for test and DX transmission.

That would be the DXers' idea of Utopia and long might he roam the air lanes to his heart's content.

To support such a proposal before the proper authorities, listeners have counted on the assistance of the stations whose occasional test transmissions were blocked by the all-nighters. It was assumed that these broadcasters would be interested in having a clear channel when they desired to test equipment and conduct experiments. In a campaign against the 24-hour transmitters, these stations would have been valuable allies.

Accordingly, letters were sent to 40 representative stations on channels blocked by one or more all-nighters. The stations were picked for their friendly attitude towards DXers and their past willingness to co-operate with special programs. The problem was stated in its entirety, the suggested solution set forth, and the opinions of the individual stations solicited.

Immediate agreement with the ideas of the DXers was forthcoming from J. C. Lee, one of the owners

The candid camera caught George Burns, Gracie Allen and Tony Martin in one of their sober moments during a broadcast. This trio is heard over the CBS Chain on Wednesdays from 8:30 to 9 p.m., EST.

of KFXM, San Bernardino, Calif.

"We have found that for the past two seasons," he wrote, "congestion has become so acute on our channel, and co-operation so poor by stations requested to make way for DX programs, that the value of such programs has been almost a total loss. We feel as you do that stations broadcasting on all-night transmission schedules should be assigned to definite channels, and that other frequencies should be kept open during the early-morning hours for DX and test programs."

That a so-called DX program has no particular value to any of the broadcasting stations, is the opinion of Irving Vermilya, General Manager of WNBH, New Bedford, Mass. "We do not dispute your opinion that every station is entitled to a chance to reach a distant audience," he said, "but at the same time I cannot see what value this has to the station executives, owners or engineers. However, while we hold this view, we do not uphold the action of any group of broadcasters remaining on the air 24 hours a day, 7 days a week.

"I cannot agree that stations committed to a policy of all-night transmissions should be assigned to specific channels. This would cause more confusion on the broadcast band, and goodness knows there is enough now. I am, however, in agreement with part of your suggestion that during early morning hours certain days should be set aside for DX programs and equipment tests, during which hours the other stations remain quiet."

"I realize that many stations need to make expenses," replied James R. Curtis, President of KFRO, Longview, Texas, "and perhaps it is just as important for those stations to be able to maintain their expenses as for the DX listener to add to his list of stations. Since we do not operate 24 hours a day, I can say this without prejudice."

There are three replies from 40 letters sent out. One of them agreed with the suggested solution in its entirety; the second agreed in part, but discounted the value of DX programs to the stations; and the third granted that there was a case for the all-nighters. The other 37 stations did not consider the matter of sufficient importance to reply.

So, let's see what the all-night broadcasters have to say about the problem. A copy of the plan was sent to 10 stations with a request for comment. By far the best reply came from M. J. Weiner, Chief Engineer of WNEW, Newark, N. J.

"The question arises as to the value of these all-night programs," he wrote. "In the first place, is it reasonable to assume that we would maintain a large staff and run expensive electrical equipment continuously just for our own amusement and that of a few scattered listeners? The answer is definitely 'No!' Since the inception of these all-night programs, popularly known as the 'Milkman's Matinee,' the audience response has been tremendous.

"According to the Starch Survey, there are 108,000 radio sets in homes in the Metropolitan area which are tuned in during the 'Milkman's Matinee.' There are 35,000 radio cabs in New York City alone, cruising the streets between 2:00 and 7:00 a.m. In the same area, there are 42,000 restaurants, bars, grills, taverns, gasoline stations, cigar stores and drug stores which are open all night.

"Request numbers on this program are played only upon receipt of telegrams or mail. In one year, Stan Shaw, the announcer on the 'Milkman's Matinee,' received 26,453 telegrams paid for by the listeners. This is a record for any individual not connected with a telegraph company. The record is interesting from the standpoint of comparison with ordinary fan mail. For in-

stance, during the seven months from January to July of 1936, the 'Milkman's Matinee' received 14,589 telegrams. Penny postcards would, of course, have cost the senders only $145.89. But Mr. Shaw's listeners paid $4829.52 to communicate with him during this seven months.

"Breakdown of the records show Mr. Shaw receives telegrams on the average of one every three minutes during the five hours he is on the air each night. Sixty-eight per cent comes from the Metropolitan area, while 32 per cent are from outside cities.

"Analysis of the mail response indicates that a great number of shut-ins and bedridden invalids use this program as their only source of amusement during the dreary morning hours when no other form of entertainment is available.

"The experience of the past year has shown that we are rendering a valuable service to the public at large. Our aim in the future will be to make the 'Milkman's Matinee' a household institution, giving good, clean entertainment where it will do the greatest good."

That WNEW is not alone in attracting a large audience of late listeners is shown by letters from other all-night stations. Ellis C. Thompson, manager of WEXL, Royal Oak, Mich., estimated "an average audience of several hundred thousand on our early morning programs."

Says Frank Kotnour, Commercial Manager of WEDC, Chicago, which broadcast all-night up until last spring: "These broadcasts were not made for profit, as we did not accept any advertising. We merely attempted to satisfy thousands upon thousands of listeners who wrote us to continue our program through the long, weary nights.

"As far as listeners are concerned, whenever we put on a request program after midnight, our eleven trunk lines were kept busy. In fact, many people could not get their connection due to busy lines and the telephone company would be in the next day asking us to install additional lines.

"It is surprising to know the vast audience that listens in from midnight to 6 a.m. They include doctors, nurses and internes at hospitals, night-watchmen, customers in restaurants, gas stations, men working late shifts in factories, fire departments, police departments, people afflicted with insomnia, and many others."

KGFJ, Los Angeles, Calif., has been broadcasting on a 24-hour basis for nearly eight years, and they estimate an average nightly audience in excess of half a million listeners. Says H. Duke Hancock, Assistant Manager:

"You suggest that stations running all night be assigned to a special frequency for the purpose. This would not be practical from a tech-

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Georgia Ann is the radio name of this young woman with the white feather bird in her hair. You also know her as Honey Dean, and she sings on the Maxwell House Show Boat Program on Thursdays.

The New MBS

The network affiliations of close to fifty stations in the west have been altered. The Mutual Broadcasting System, tieing in with the Don Lee System of Calif., now numbers 36 stations from coast-to-coast. Six California stations comprise a new chain known as the California Radio System. Two independent stations, KNX of Hollywood and KSFO San Francisco, have joined the CBS.

The new MBS includes the following stations: Basic stations, WOR Newark, WGN Chicago, WLW or WSAI Cincinnati and CKLW Windsor; from the Colonial network: WAAB Boston, WEAN Providence, WICC Bridgeport, WTHT Hartford, WFEA Manchester, WSAR Fall River, WSPR Springfield, WNBH New Bedford, WLLH Lowell, W1XBS Waterbury. Other eastern stations are WFIL Philadelphia, WBAL Baltimore, WRVA Richmond, WCAE Pittsburgh, WGAR Cleveland, WSM Nashville, WIRE Indianapolis. From the Don Lee Network: KHJ Los Angeles, KFRC San Francisco, KGB San Diego, KDB Santa Barbara. Other western stations: KWK St. Louis, WHB Kansas City, KSO Des Moines, WMT Cedar Rapids, KOIL Omaha, KFOR Lincoln, KFEL Denver, KFXM San Bernardino, KMPC Bakersfield, KDON Del Monte and KGDM at Stockton.

Reallocation

Reallocation is in the air. No changes in the broadcasting setup can be made until 1939 or later, but the FCC and other bodies are studying the problems from all angles and trying to determine a course to follow when the Cairo Convention meets. At the present time the problem of frequency separation is commanding the attention of the Commission in its round table discussions with persons and organizations interested in broadcasting. In a questionnaire it was pointed out that the present 10 kcs. separation between stations was adopted in 1932 when most of the receivers in use were of the tuned radio frequency type. Present day receivers, generally, are superheterodynes and admittedly more selective, so a separation of 7.5 or of even 5 kcs. between stations is under consideration.

No doubt some of our readers have their own opinions on how they would reallocate the United States stations if they had a chance. We will be glad to print any opinions we receive from readers on this subject.

It has been generally believed that ultra high frequencies could be transmitted no further than the horizon, but when west coast police broadcasts below ten meters interfered with eastern stations it became evident that these signals travelled further than was supposed. With reasonably high power, television stations may be able to serve rural as well as urban communities.

COMING EVENTS

Followers of RADEX have been promised a special treat by our Technical Editor, Mr. B. Francis Dashiell. He advises us that a series of articles on television is being prepared and will be ready to commence in the March number of this magazine. The series, to be known as "The Story of Television," will explain in plain, every day language how television works. Readers will be taken on a personally escorted tour through a television receiver by this expert guide, after which even our youngest enthusiast will know what it is that makes the pictures come in.

LAST September, our official prognosticator went on record with the prediction that the current DX season would bring a repetition of the generally poor reception conditions which prevailed last year.

The forecast was based on the established scientific fact that this world of ours is obliged to go through a cycle of sun-spots. When the sun-spots are at a minimum, as was the case in 1933, reception on the broadcast band is practically perfect. When they reach their maximum period of activity, as they will in 1939, medium wave reception isn't so good.

For a time this fall, it looked as though radio was going to make a sucker out of our radio weatherman. As recorded in the last issue, November was rather a good month for the broadcast band. Signals were strong from all sections of the country and the general noise level was much lower than last season.

However, you can't keep a good scientist down. December descended on the DX world with a dull thud and fulfilled all predictions of punk reception. Static and noise increased several fold. An invisible blanket appeared to be stretched around a radius of 1500 miles, effectively holding up signals from a distance.

Reception from Australia and New Zealand, which had shown to some advantage the previous month, went haywire. A few early signals from Europe went with the wind. Even the big boys across the continent were unreliable. One Sunday in particular, an attempt to preview the broadcast of "One Man's Family" from the West Coast found it necessary to swing repeatedly from KFI to KPO and back again, with both stations fading rapidly and seldom coming much above the general noise level.

A Barometer For DXing

It was during those fitful nights that an interesting discovery was made. A few years ago, several DX-ers wrote in about the effects of general weather conditions on radio reception. They went to great length to tell how a weather map could forecast how signals would be received.

At the time, I was inclined to rely pretty much on the turn of a dial and the listen of an ear for my knowledge of how such-and-such a station would come in. This weatherman stuff made good reading, but me for the earphones every time.

However, the freaky reception during December and a chance visit to the post office brought the matter to mind. A map was posted which showed the barometric pressure throughout the country, so a check was made to see how it might affect the previous night's reception.

The map showed a region of low pressure stretching across the

Southern states from Virginia to Tennessee. Beyond the Mississippi river and all the way to the Southwestern states, there was an area of higher pressure. In the Northwestern states—Washington, Oregon, Idaho and Montana—there was another region of low pressure. Making a note of these conditions, I went home to check on the log of the previous night.

Well, sir, the comparison really showed a thing or two. In the first place, it was noted that stations directly to the South—WSB, WWL, WSMB and a few others—had been received with very poor volume and a high degree of fading. As their waves had to cross this region of low pressure, that seemed to prove something. To confirm the theory, it was noted that KEX, KTW, KJR and KGA had also been unreliable —and they, too, had been in a region of low pressure.

Secondly, stations in Texas, Colorado, New Mexico and Southern California had enjoyed very decent reception. It was noted that a direct line of high pressure existed between the receiving location and these states. That seemed to show that there was a very definite relation between barometric pressure and radio signals.

On another occasion, there was a region of low pressure extending South from Minnesota to Alabama. On that particular evening, stations South and West of this barrier were most unreliable, while broadcasters in Cuba and Buenos Aires fairly drowned out everything near them. LS2 completely ruined WOAI, LR4 rode all over WBZ, LR5 spoiled KOA.

The only time the tests from Belfast and Rennes were heard with any degree of success was on two nights when the maps showed a low pressure area extending Northeast along the St. Lawrence Valley and out to sea.

It was observed on several occasions that it was possible to look ahead a few days and predict what kind of reception was in store for the DXers. By noting two successive weather maps and observing the directions in which the different pressure areas were travelling, it was possible to estimate what sections of the country would have high and low pressures in the next day or two. Thus, a listener would be able to decide what nights would be good for DXing and could tell the direction from which the best signals would come.

The Twin Stars, Helen Claire and Rosemarie Brancato. Helen, the actress and Rosemarie, the soprano, are featured stars on the program known as Twin Stars, heard on the NBC-Blue on Fridays at 9:30 pm.

Not For Children

As a general rule, fairy stories don't appeal to me. The mere mention of a magic wand or a magic carpet leaves me colder than last night's hash. I am also inclined to shy away from magic terminology applied to radio receivers or their component parts. While experience has shown that the various eyes and ears and brains function quite well, they are generally quite ordinary circuits or gadgets found in other receivers under different titles.

This thought came to mind when it was discovered that a "Magic Link" was included on the Scott re-

ceiver now on test. Investigation showed that this was the name of the coupling system by which the new Scott supershield antenna was hooked on to the receiver.

The literature accompanying the set told of an elaborate demonstration at the laboratories. Two receivers had been set up, one with the new antenna and coupling unit, the other without it. The second set had been tuned to Berlin and the signals practically ruined by a blast of man-made static. The set with the "magic link" was then tuned to the same station and the noise disappeared. Sort of an "I sat down at the piano" story!

At the laboratories, the noise was created by a vacuum cleaner and a spark coil set up along side the receivers. I didn't have a spark coil for a test, but there was an exceedingly noisy vacuum cleaner in the house which could easily challenge a battery of X-ray machines.

So the little confirmation test was started. The new receiver was connected with the special antenna and the older Deluxe model was tied to the inverted L aerial. The vacuum cleaner was started and the noise drowned out all but the powerful local stations. Switching to the new Scott, it was found that the noise practically vanished and there was no difficulty tuning any of the usual stations to be heard at that hour.

The secret of the "magic link" seems to be that it is built right into the shielded receiver. Other couplings that have come to attention were external, and therefore not as effective. For a DXer who really wants to go places, this would be a "missing link" if you didn't have one in a noisy location.

Questioning Television

Following a precedent established in the January RADEX, when the alleged menace of the all-night stations was challenged, the debunker

Mr. and Mrs. Oswald Nelson, better known as Ozzie Nelson and Harriet Hilliard. Harriet is expected to join Ozzie again on the airways soon, singing their romantic duets. Ozzie is heard now at 7:30 pm Sundays on the Blue with Robert Ripley

now chooses another target—television.

From the press releases from the broadcasting companies, one would imagine that visual broadcasting was just around the corner and that the public is demanding its early appearance. Part of that idea may be true, but it's an odds-on bet that most people don't realize what is coming.

Recent demonstrations by NBC and RCA have shown that technical developments are progressing nicely. Although not finally perfected, the pictures are good and clear, and indicate that the present system will most probably be the basis of future transmitter and receiver design.

But it seems to an unprejudiced observer that technical developments will play but a minor part in the real future of television. The important point is whether or not the public is going to like visual broadcasting when it becomes a daily occurrence.

Engineers will eventually overcome all obstacles to the problems of transmission and reception, but it is questionable whether even per-

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GLOBE TROTTING *Via* Shortwaves

• • • *The* World's *a* Stage

AROUND and around the shortwave dial spins and whether it will come to rest in Iceland or in the Antipodes no one knows. Every imaginable kind of entertainment is available, from all the civilized points and not a few uncivilized spots on this little globe of ours. Thanks to s. w. transmission, the world becomes smaller and smaller with each succeeding year. Continents and countries are becoming closer knit together by invisible bands of radio waves. Let our readers tell you, in the paragraphs that follow, what they have been hearing during the past month.

One of the most active shortwavers on the west coast at this time is Robert Park, East Blvd., Vancouver, B. C. That the world is at Mr. Park's fingertips can be seen from his report following. "I have now heard Japan in four different bands. On 15 megs. reception is best near 2:30 pm. PST; on 11 megs. near 10:30 pm; on 9.5 megs. the best reception is obtained late in the evening and in the 6 megacycle band six o'clock in the morning is the best time.

"The new Chinese station XGOX, Nanking, 6.820 megs., has been heard several times near 11 pm. and the programs consist of Chinese recordings and announcements. This station will verify reports, addressed to Mr. Woo.

"I was surprised on tuning in at 11:15 one night to hear French spoken on 9.02 megs. This station was very similar to Radio Coloniale except announcements were given each fifteen minutes in French. The transmission continued until midnight, when the station closed down after striking some chimes. KWY at Dixon, Calif. talks in the mornings with XOJ at Shanghai before 8 am. PST. There is a new radiophone service between Canton and Shanghai working on 54 and 80 meters with 2 kw power. XGW, the Shanghai 'phone station is heard daily around 10 o'clock in the morning on about 10.4 megs."

Walter C. Snyder, 1401 Logan St., S. E., Grand Rapids, Mich., while listening to JZJ at Nazaki, Japan on 11800 kcs., heard the announcer state that stations JZI, 9535 kcs. and JZJ tested every Monday and Friday. The transmissions conclude at 1700 EST.

Hong Kong Improved

"I traded my old Kennedy for an RCA model K10 and it has made me interested again in s. w. reception," admits George K. Glass, 9284 Bolyen St., Detroit, Mich. "The first morning we had it we listened to ZBW in Hong Kong come in perfectly on 9525 kcs. I thought at the time that was freak reception but it certainly was not as the station continued to come in well ever since, although at the present time it is not as strong as it was in the fall. Other stations heard are VPD2 on 9.540 daily except Sunday from 5:30 to 7 am, EST. This station has quite good volume at times. PMN and PLP are heard daily as early as 7 and as late as 10 am; they generally are weak, although I have copied half hour programs for verifications."

A new modern broadcast transmitter was installed in the Hong Kong station and this accounts for the good reports of reception that are being recorded. The new transmitter is of 2 to 2.6 kw. power while the old station rated only ½ kw. Any one of four different frequencies can be used, the selection of the particular frequency being governed

by seasonal conditions. The frequencies are 6090, 9525, 15190 and 17755 kcs. Both European and Chinese programs are broadcast, the transmissions commencing daily at 11:30 pm, EST, except Saturday, when they start at 9 pm.

Another report on the Hong Kong 9525 kcs. station comes from Randolph S. Rothschild, Ingram Hall Apts., Baltimore, Md. "In addition to Hong Kong, I have had the pleasure of listening to Tokyo, Japan between 4 and 5 pm, EST, on 15.16 megs.," he adds. "The station, surprisingly, has been consistently QSA5, R8 to 9 and the programs as enjoyable and interesting as they are weird—weird because the music is so different from anything ever heard before by this listener. The announcer, speaking in broken English as well as good Japanese stated the program was a test directed to North and South America, and requested reports on reception and conditions. The call letters of this station were JVK, and it was mentioned that the same program was being radiated on JVI on 9.535.

"I wish also to report reception of ZTJ at Johannesburg, Union of South Africa, on several evenings on its freq. of 6.090 megs. This, however, was very faint and badly interfered with by W9XF and W9XAA on adjacent channels."

War Zone Station

"On an approximate frequency of 9.45 megs. I heard a station in Madrid, Spain, contacting Mackay Radio. I first ran across it at 3:50 pm, when it was announced in English that I was listening to an experimental transmission." J. Herbert Hyde, P. O. Box 82, Elmwood, Conn. says he believes the call was "Madrid Radioaire." Information concerning quality of reception was requested and it was hinted the transmitter may be used for rebroadcasting.

"I have recently received a verification from the new YV1RH in Maracaibo," Mr. Hyde continues. "This station is known as Ondas del Lago and operates on 6.350 megs. The owner is Nicolas Vale Quintero. P. O. Box 261."

"Since I have been tuning my Midwest 18 tube radio for only about a month and a half, I hardly know whether I am doing well or not on the shortwaves," wonders Homer Koon, Shawmut, Ala. "I have positively identified forty eight stations; included in this number are seven of the Daventry stations, five German, 2ME, 3LR and 3ME from Australia, five Cubans, TI4NRH, EAQ, Prague on 11 megs. and several South Americans. CSW, the new Portuguese station, can be identified by a clock that strikes midnight at 6 pm. CSY. I have heard the frequency announced at 9.940 megs. several times."

The alteration of the frequency of CSW was reported also by Donald Freeman, 573 Potomac Ave., Buffalo, N. Y.; C. Hasselius, 118-18 Metropolitan Ave., Kew Gardens, N. Y., and J. O. Lee, Texon, Texas.

Help Wanted

"I heard a station on the 11 meg. band which I cannot identify," reports James G. Shock, Jr., 4045 Ashland St., Philadelphia, Pa. "The announcer calls 'Hello, hello,' in English and mentioned Vienna. It was heard between DJB on 11.77 and W1XAL on 11.79 megs. between 2:15 and 4 p. m., EST. Can this be OER3?"

A broadcast band DXer, Dewey Doyle, Jr., 1041 Hall St., S. E., Grand Rapids, Mich., is planning to build a s. w. receiver and would like to hear from users of the Cosman 4 or Powertown 4-tube all-wave receivers.

An Australian reader wishes to correspond with radio fans in the United States. He is Mr. V. V. Dafter, 25 Bernard St., Claremont, W. Va., Australia.

Bits of News

A new s.w. transmitter in French Indo-China has come on the air within recent weeks broadcasting French, English and native programs, on 11.795 megs., between the hours of 6:40 and 9:40 am, EST. Reception has been reported on the west coast.

Four regular sustaining programs of entertainment have been booked by the National Broadcasting Co. for their South American Good Will programs which are transmitted daily except Sunday over the NBC station W3XAL at Bound Brook, N. J. Vaughn De Leath, one of radio's most popular singers, is featured on the Wednesday programs.

It is understood that the Marconi Co. has received a contract for the construction of five radio stations in Afghanistan. The principal station will be a Kabul, being capable of transmitting on wavelengths between 15 and 80 meters with from five to six kilowatts power.

N. Y. and Paris Linked

The Radio Corp. of Puerto Rico, at San Juan, has been granted a license for a new point-to-point telephone station, for communication between San Juan and Miami, Fla. The frequency will be 9940 kcs. with 400 watts. At the same time, four new stations were licensed for the American Telephone and Telegraph Co., Lawrenceville, N. J. The transmitters, each with 20 kw power, will work on 7555, 7565, 5053 and 5068 kcs. The first named frequency is for communication with London and the second for direct communication with Paris.

The new direct telephone circuit to Paris was opened on Dec. 1, 1936. The American transmitting station is at Lawrenceville, and its signals are picked up at Noiseau, France, while the French transmitter at Pontoise sends the voice from Paris to the American receiving station at Netcong. The circuit is about 3600 miles in length.

This is the first direct contact that the Bell System has made with continental Europe, telephone service to France having been heretofore handled through London. It will be recalled by some old timers, however, that Paris was the first to hear a voice by radio from this side of the Atlantic. In 1915 Bell System engineers were permitted to set up receiving apparatus in the Eiffel Tower and the experiment ended successfully with the reception of speech from Arlington, Va.

The cost of a three minute call between New York and Paris is $21 on weekdays and $15 at night and on Sundays.

Here and There

Twenty and forty meter amateur 'phones reported by Ralph Gozen, 1090 Eastern Parkway, Brooklyn, N. Y. this month include XE1FY, CO2QQ, VE2FZ, VO2Z, LU6KE and PY2CK. In Stockholm, Sweden, the Royal Technical University station SM5SX is being heard in the afternoons signing off at 5 pm., on a frequency of 11.705 megs. RV15 at Khabarovsk, USSR, is heard with a very powerful signal on its new frequency of 5.68 megs. PMH of Bandoeng, Java, 6.72 megs., is heard well every morning. YBG, Medan, Sumatra, 10.43 megs., is heard around 6:30 am., contacting PLV. YV1RH, Maracaibo, Venezuela gives its frequency on its card as 6.35 megs. but is actually heard on 6.37, relaying YV1RG. The slogan is "Ondas del Lago" and the addresss Apartado 261. Another new Venezuelan is YV1RV at Valera, known as "Radio Valera" and working on 6.35 megs.

Another new Venezuelan is reported, this one by Leo Herz, 3757 Ellis Ave., Chicago, Ill. YV15RV, "Radio Valencia," Valencia, Venezuela, heard working late in the evening on 5.190 megs., requests reports from listeners picking up its signals.

A new transmitter in David, Chiriqui, Panama, HP5L, is expected

to inaugurate regular program service soon, according to information received from the operator by Capt. R. B. Oxrieder, 122 E. Hamilton, State College, Pa. This station, using 350 watts on the 11740 kcs. frequency, is owned by Leo Marchosky, Mgr. Cia. Chiricana de Radio-difusion y Television, S. A.

From South Orrington, Maine, Frank Hoxie reports he has a new Philco 650X on which he has already logged about 680 amateurs on the 15 meg. band in addition to about 125 regular stations throughout the entire world. The best catch recorded so far is the Hong Kong transmitter on 9.525 and 15.190 megs.

"A verification from HIN in Trujillo, Dominican Republic, gives information concerning their two stations," contributes Howard M. Phillips, 2016 Otis St., N. E., Washington, D. C. "The correct frequencies are 6243 and 11280 kcs., with a power output of 750 watts. The daily schedule is, on 6243, from noon to 2 pm. and from 7:30 to 9:30 pm., EST. On 11.28 megs. from 5 to 6 pm."

"I have noticed recently that PMN, 10.26 megs., PLP, 11 megs., and YDC, 15.15 megs. can be heard here in the early evening, from 7-8 p. m., Atlantic Time," preambles E. L. Peters, Box 65, Westport, N. S. "Sometimes they are heard later but they generally fade out. They are on every day except Saturday, commencing at 7 p. m. with a signal not unlike the Germans use. YDC can be held a little longer than the other two, but they all have good signals.

"It is my theory that I am receiving them from the east instead of from the west. The fact that they fade instead of getting stronger, that they are better on my "east" aerial, and that the greater part of the distance eastwards is in daylight, add strength to my theory.

"Another unusual station being heard here is OER2 in Vienna, Austria, on about 11.78 megs. The schedule was given over the air as Monday to Friday from 10 a. m. to 5 p. m., and Saturday to 5:30 p. m., EST. The announcer says 'Radio Wien.' This is not a very strong signal but is easily copied."

An assortment of reports comes from A. C. Tarr, 909 W. Lee St., Seattle, Wash. The paragraphs which follow are his.

XEDQ is a new Mexican on 9520 kcs. with quite a strong signal. They announce "XED, long wave, and XEDQ, shortwave." They gave their address as Apartado 197, Guadalajara. I have heard them from 2000 to 2400 EST. Their interval signal is 4 chimes in descending scale.

Another new Mexican is XETW on 6045 kcs. This signal is rather weak. I noticed they announced

(*Please turn to Page* 35)

Nelson Eddy and his attractive protege, Francia White, are shown while polishing up a duet for the "Vick's Open House" broadcast, heard on Sundays from 8 to 8:30 on the CBS. Miss White was Eddy's choice over all of Hollywood's youthful sopranos in picking a co-star for his current air show.

Listeners Wanted

The following amateur radio stations in the United States will be on the air at the times indicated and the operators would appreciate it if listeners and amateurs overseas will look for and report on their signals. Accurate reports, (from abroad only) will be verified for return postage, which can be sent in the form of International Reply Coupons. These stations will be recognized by the phrase "Calling CQ DX on schedule." Address all reports to the stations in care of The Radex Press, Conneaut, Ohio.

(March 15 to April 15)

W2BYP, Chappaqua, N. Y. 3932 kcs. Tues. and Fri. 0400-0500 (all countries).

W3NU, Spring City, Pa. 14200 or 14229 kcs. Tues., Wed., Fri., Sat., 0500-1100. On 3918 or 3996 Thurs., Sun. and Mon. 0500-1100 (all countries).

W8BKM, Conneaut, Ohio. 3985 kcs. Every hour on the hour from 2300 Sat. to 1200 Sun. (all countries).

W8JIO, Conneaut, Ohio. 3910 or 3930 kcs. Daily 0800-1100.

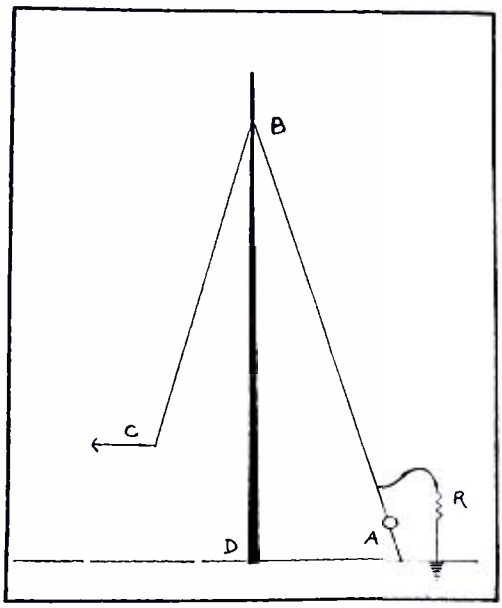
W8PNF, Conneaut, Ohio. 14206 kcs. Every half hour from 2000 to 2300 on Sat. and Sun. (Africa and Asia.)

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

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

An NBC program originating in San Francisco features an orchestra without a leader.

The Bruce Aerial System



ONE of the most talked-about aerials at the present time is the Bruce, a type which has been found to be very efficient between 13 meters and 51 meters.

The diagram accompanying this article shows quite clearly the method of construction. BD is the pole supporting the aerial, and the aerial wire is continuous from A, over B, to C, insulated from the pole at B, of course. The "A" end of the aerial is well insulated from the ground, and the resistance shown there, "R", is connected between the aerial and a piece of metal or anything handy which can be buried in the ground. This resistance is 400 ohms.

The length of the aerial is 84 feet, being 42 feet from A to B and 42 feet from B to C. The lead-in from C to the receiver should be as short as possible. CD and AD are 14 feet.

Users of this aerial have reported tremendous increase in signal strength over ordinary aerials, especially on the 16 and 19 meter bands.

The HOME Without Electricity

●●● *By* B. FRANCIS DASHIELL

MILLIONS of families in America live in homes that are not serviced by electricity, although the use of electrical power is gradually spreading throughout the rural sections, and more and more farms are becoming electrified. And the Government, through the creation of great, new power units, such as the recently opened Boulder Dam, and the extension of electric lines by the Rural Electrification Administration, is assisting in making this great source of power and light cheaper and more easily available.

However, the change is taking place too slowly. Countless homes remain without electricity, and furthermore, they are without the prospects of electricity for many years to come. In these homes the pleasure of modern radio has been denied to a great extent. This is because in such cases it has been impossible to make use of the large receiving sets that are so familiar in the urban areas where alternating current is available. So, as a result, radio engineers have jumped far ahead of the power companies in the race to provide radio service and entertainment to the residents of isolated sections of the country.

"B" Batteries Obsolete

Of course, battery sets have been used in these homes for many years. They are expensive to run, the volume is low, and tone is far from being faithful. The ordinary type of battery set, although it is inordinately expensive and consumes much power from a great array of "B" batteries, will seldom compare to the audio power and far-reaching sensitivity of the modern a.c. receiver used where electric power is available.

Radio engineers have at last produced satisfactory radios for the home without electricity. These sets operate on even terms with the best of the multi-tube a.c. receivers. And the advantage of these new radios—call them battery sets, if you wish—is that they use the large standard tubes with all the effectiveness of an a.c. set, but without the bother and muss of expensive "B" and "C" batteries. Now, only one battery is needed; it is not an "A" battery in the sense that most of us know the old "A" or filament battery. It is an "A", "B" and "C" battery combined.

Only One Battery

The batteries required to operate these modern receivers are simply 6-volt storage batteries; one to the set, and just the same as the battery in your automobile. The battery first provides the current to light the filaments of the tubes; then its six volts are stepped up to several hundreds of volts for the plate circuits; and it is even reduced so far as to furnish a negative or "C" biasing potential for certain tubes!

These new sets for homes without electricity—farm radios if you care to call them such—will do everything that is performed by the modern a.c. radios used by the farmers' city cousins. They use the famous superheterodyne circuit; have three and four wave bands; tune in American and Foreign long and short wave stations; pick up police, amateur, aviation, ship and weather reports; provide perfect clarity of tone, have large dynamic speakers; sensitivity controls, dial illumination and

tuning shadows; voice and music control for tone; high fidelity of reproduction; sensitivity controls for foreign reception; quick tuning and band-spread slow dials; power audio output; automatic volume control; and, of course, every style of cabinet that may be desired.

Modern Receivers

These radios, as mentioned above, use a single battery, but this is only because the fully established auto radio has shown the way. When radio engineers wanted to build radio sets for automobiles they were confronted with the problem of providing high voltages from the 6-volt car battery so as to eliminate "B" batteries. The auto principle, now so satisfactorily demonstrated after several years of experience, is being applied to radio sets for use out where the power lines end.

The modern battery radio now receives all its energy from a standard 6-volt storage battery. Built into the set, as an integral part of the chassis, is a device called a "vibrator". This unit takes the original 6-volt battery current and steps it up, just like any house current, and makes it provide the high potentials so necessary to operate a receiver using modern glass or metal tubes.

The Vibrator

The 6-volt battery output, besides being utilized to heat the tubes, also passes through a vibrating unit. This resembles somewhat an ordinary door-bell buzzer assembly. It is adjusted so that it buzzes at a high rate —120 times a second. And carried on the buzzer arm is a contact point which swings between two other contacts. As the vibrator swings back and forth it closes the contact on each side 60 times every second.

In this way the direct, steady current from the storage cell is reversed 120 times a second. Each of these breaks and reversals corresponds to one alternation of house current, and two of them make one cycle of operation. This cycle is the same as the cycle that occurs in our standard 110-volt 60-cycle alternating current, for the vibrator, too, completely reverses the current at the rate of 60 cycles a second.

A. C. From D. C.

Thus the vibrator unit provides a reversed, pulsating current which can be fed into the primary of a power transformer, the wiring of which is designed to carry only 6 volts instead of the 110 volts utilized in the standard a.c. receiver. (For an explanation of transformer action we suggest you refer to pages 11, 12 and 13, of the Beginners' Story of Radio). This current, flowing back and forth through the primary, instantly induces an alternating current of the same frequency in the secondary coil, but, because of the step-up characteristic of the secondary, it has a much higher voltage. The output may be as high as 200, or more, volts. The whole thing is somewhat reminiscent of the spark coil, except that the spark coil vibrator is different and its output has a high potential of 20,000 or more volts so as to produce a spark.

The alternating-current output of the power transformer is then passed into a standard rectifying tube, such as an 80, and rectified to a direct, pulsating current. After passing through a standard filtering unit in the powerpack, it becomes a smooth direct current, suitable for the plates of the tubes, just the same as that obtained from a large number of unsightly "B" batteries. (Again we refer the reader to page 73 of the Beginners' Story of Radio, for a description of the rectifier and filter.)

Sets Are Reliable

In this type of power unit the direct current from a low-voltage storage battery is stepped up and changed to a high-voltage alternating current, then rectified and changed back to a direct current, but at a much higher voltage. The invention of this

very simple circuit and its parts has made the use of large a.c. receivers possible on small sources of direct current. It means as much to the home without electricity as to the automobile.

The mechanical rectifier or vibrator is very reliable. But its action must be smooth and constant so that its frequency will be maintained without variation. Steady action depends upon whether the adjustments, air gaps and contact materials remain fixed. Contact points must be self cleaning and capable of resisting wear. A defective vibrator can become noisy and cause buzzing in the loud speaker, but if the unit is perfectly shielded no trouble from this source can be expected in the new receivers. In fact, since radio has now had several years of automobile experience, the home-owner, where electric service is unobtainable, can count on excellent performance with this new type of radio. Most all of the prominent manufacturers are offering receivers of this type in their forthcoming 1937 line.

Charging The Battery

The fly in the ointment appears as soon as we think of the storage battery. Of course, it must be recharged at intervals; that duty cannot be escaped. Any large set, using from 5 to 8 modern 8-pin metal or glass tubes, and having a large dynamic loud speaker, will pull pretty heavily on any storage battery. It is economy, therefore, to procure a good, heavy-duty battery of more than 100 ampere-hours capacity. Most radio sets of this type are sold at a price which includes a suitable battery.

Battery charging plants are located throughout the rural areas, as most any garage will be found to possess one. However, a small gasoline engine, such as is used to pump water, if belted to a second-hand automobile generator with its automatic cutoff in place, will furnish all the power that is needed quickly to recharge the battery one or twice a week in order to keep it at its full capacity at all times. Then there is a device called the "Wincharger", which keeps the battery charged all the time, simply by utilizing every little breeze that springs up. Or the motor car itself can be pressed into service merely by running two leads to the terminals of the car battery when the engine is idling at a rather rapid rate.

* * *

Monkey Tricks

In a recent issue the *Indian Listener* printed the following paragraph:

"A short time ago AIR (All-India Radio) installed a radio set in a Punjab village. As soon as the program was started all the trees nearby were crowded with monkeys, who seemed to take a keen interest in the talks. The program assistant present was inclined to shy at the compliment, but accepted it. Last week there was a call from the village for attention to the receiver. It was found that the aerial had proved too tempting, and all the monkeys had used it for trapeze practice, with the result that it had broken down."

* * *

A matter of gross discrimination was unwittingly brought to light by a writer in an Australian magazine. He comments, "I should say, from personal experience, that the South American stations are very reliable in the matter of prompt verification of reports." And we should say, from personal experience, that the South Americans, generally speaking, are the most tardy of all stations, also generally speaking, in the matter of prompt verifications.

* * *

The little town of Cantinac, seventeen miles north of Bordeaux, has been selected as the site of the 120-kilowatt broadcasting station which is to act as the main regional transmitter in western France.

The Monthly DX FORUM

• • • READERS' OPINIONS

THE readers' Forum has proved to be the most popular section of RADEX. Letters from readers interested in broadcast band or shortwave reception have appeared in these columns for many years and opinions relative to the many problems confronting DXers are reflected here. Verifications, clear channels, special programs and aerials are some of the items about which our readers write this month, with comments by the Broadcast Editor.

Verifications and Such

"Why won't these so-called DXers stop complaining about stations that won't verify," asks J. M. Hutchison, 729 14th St., Merced, Calif., "and start checking themselves for a change? I have found that most stations will verify if they receive a report that actually helps them."

"In checking through past issues of RADEX," recalls Okie Clark, P. O. Box 242, Merced, Calif., "I find that someone is always complaining that some station did not verify their report. I feel that every DXer should give a station plenty of time to verify a report before sending a second one. They should also remember that there is always the chance that the first report did not reach the station.

"I believe that if a DXer sends a correct report of reception, and gives all the information he can regarding reception in his locality most stations will show their appreciation by sending a card or letter of verification."

As has been pointed out many times in the past, a good report is a primary requisite for a verification. Even if program details are correct and the listener is entitled to a confirmation, a station has the right to expect details of reception. To some stations, such information may be of little importance; to others, it may mean a great deal. To all stations, it is a necessary gesture of courtesy which should never be overlooked.

However, as many a DXer has learned to his sorrow, even the best of reports may fail to produce the desired confirmation. For various reasons, a number of broadcasters are unwilling to spend the time and money necessary to answer the DX mail.

Stations WJRD and WMFO belong in this classification. Originally listed as a non-verifier, WJRD did sign and return a few prepared confirmation cards. WMFO promised to

Here is the man who listened to the sound of ice cream soda drawn through a straw and evolved the new "rippling rhythm" style of orchestra music. Shep Fields here shows how he produces the new sounds by blowing through a straw into a small bowl held near the microphone.

verify reports at first, failed to do so, then signed some return cards. However, both stations now say they will not verify future reports.

From Arthur E. Foerster, 1213 Bosart Ave., Indianapolis, Ind., come the details: "I have just received a letter from James Cobble, General Manager of WJRD and WMFO. He states that a new engineer made an incorrect announcement during the November frequency checks when he said the stations would QSL. This was contrary to orders given to the engineer.

"Mr. Cobble has, however, given me permission to verify all reports for WMFO and WJRD. I have prepared a fine two-color verification card for each station. These may be obtained by addressing reports on frequency tests only to me, personally. Listeners in the United States should send me a three-cent stamp, while those in foreign countries should send either a U. S. five-cent piece or an International Reply Coupon. Return cards, filled in and ready for signing, will not be honored.

"I will personally monitor the FCC checks of these two stations. All DXers who follow the rules set out above can be assured of a verification card that will look good in any collection. Should any other stations institute a similar policy and be listed for an FCC check, I will also monitor those stations."

We believe that RADEXers owe a vote of gratitude to Mr. Foerster, who is Indiana Director of the Newark News Radio Club, for this splendid service to DXers everywhere.

Reports and Records

"The 1936-37 DX season has started with a bang," asserts Peter A. Clarius, 11 Marianne St., Port Richmond, Staten Island, N. Y. "Using a Sparton 5-tube midget, I have brought my log up to 428 stations, with 280 verified. Some of my better catches are KGIW, KIUN, KWSC, KFBK, KOY, KADA, KGFF, KFJZ, KGA, HHK, CMOX, CMCD, CHNS, KABR, CJLS, CJIC, WPRP, XEW, XEP, WCOC, KCMC and KMA."

"Please inform Theodore Johnson that his mystery station on 974 kcys is CMBY," states Bill Petty, R.F.D. 1, Saltville, Va. "I received this station on October 24th from 2030 to 2130 EST, QSA5, R7-8. That Spanish-speaking station on 1070 kcys is a Cuban, although I have never been able to get their call. You say it is LR1, but I have never received that station here.

"Have your readers had any trouble getting veries from XEMO, XEW and XEWZ? I logged these three on February 1, 1936. They requested reports and said all which were correct would be verified. I sent good reports, enclosed enough money to pay for the expense of handling, and not a word from any one of them."

"WJAY is now using its new transmitter at Seven Hills Village, nine and a half miles south of downtown Cleveland," notes James L. Black, 2252 Bellfield Ave., Cleveland, Ohio. "The new layout has a 300 foot vertical antenna, with a 'wagon-wheel' type radiator at the top. This is located on a 20-acre site adjoining the WHK transmitter. WGAR is applying for a new transmitter and 5000 watts."

"As of September 1st," advises Bruce C. Lundy, Jr., RFD 1, Jersey Shore, Pa., "I had 781 stations on my log. Since then, I have added many more on the frequency checks and now have more than 850. I am now making a new log of my stations heard. On a 3x5 index card, I am listing each station as it is logged, giving call letters, location, power, frequency, date heard, details of reception, weather conditions and all other bits of information which may be interesting. These cards are then filed away in a small cabinet for future reference at any time."

"I started DXing in March of 1935," admits James L. Steele, 34 Hill St., Morristown, N. J., "and since then have heard 539 active stations in 48 states. A few good catches include Poste Parisien, Radio Normandie, Rennes, Lyons, Paris, Bordeaux, LR1, LS2, WPRP, KRKO, KRNR, KERN, KRLC, KDON and KSUN. I only started verifying recently, so KXO, TGW, WKAQ, KIUN and KFAC are the only decent veries. For all my listening, I have used a Pilot Dragon 7-tuber, model 58. P.S. I am still waiting for my coffee from TGW!"

"I logged three of my latest catches," reports Lloyd Rees, Ridgewood, N. J., "solely because of your time schedule list. Thanks very much! I understand from FCC notes that the calls of WEHS and WKBI on 1420 kcys are to be deleted. Have any readers been able to verify WHP? They have failed to answer two correct reports for me."

"The other morning I heard WHDL testing on 1400 instead of 1420 kcys," relates Alfred Razzando, R. F. D. 1, Fayette City, Pa. "Can you give me any information on the two stations which are heard on 710 after 0230 EST? Also, what foreign station—sounds like a Mexican—is coming through on 820 after 0200 EST? They play American recordings.

"Most of my DXing is concentrated on the Pacific Coast. At present, the log shows 36 veries from California, 12 from Washington, 7 from Oregon, three each from British Columbia and Lower California, and one from Nevada—making a total of 62 on the West Coast. I'll be glad to hear from other readers and promise to give Eastern tips in exchange for tips on Western stations."

We imagine that the two stations on 710 are KIRO and KMPC. The latter shows the better signal in Ohio, over-riding KIRO without trouble. KMPC signs off at 0400 EST daily, so KIRO can be heard for another hour on week-days. The question about the station on 820 kcys seems to be answered in the report of Dale Smith, Route 3, Box 536, Eugene, Ore.

"I have been DXing for a year and still like to spin a dail or two," he writes. "I am using a 5-tube Atwater Kent, 1935 model, and have logged 310 stations on the broadcast band. Some of the better catches are WALR, KHBC and WHJB. The log shows eight stations of 100 watts power which are more than 1500 miles distant. A Mexican station at Tijuana, B. C., is operating on 820 kcys with the call of XEBG. I don't know their exact schedule, but they are heard late at night."

Likes Silvertone

"My new receiver is a 12-tube Silvertone all-wave model," supplies Frank Wheeler, Erie, Pa. "Using it since October 6th, I have added the following stations which had not been heard before: KRNT, CKSO, CMBY, WAPO, WJRD, WEAO, KELD, WFOR, KNEL, XEP, KVSO and LR1. The latter is the first foreign station I have heard since March 24, 1935, when I logged CX26. I expect to get a lot more of them now that I have a 12-tube set. At present, my BCB log stands at 757 heard and 158 verified.

"Last year was the worst of five years of DXing. At this time last year, I only had 10 new DX stations and none off the North American continent."

Regardless of what has been said and written in the past, DXers of North America owe Doctor Brinkley a vote of thanks for a recent action.

Lined up for a program on January 4th was PRF3, Sao Paulo, Brazil, which operates on 960 kcys with 5000 watts. The broadcast was to take place between 0130 and 0330, EST, being dedicated for the first hour to the NRC and for the second hour to the NNRC. With powerful

XEAW on the same frequency going all night, DXers wouldn't have a chance to hear the program.

After receiving letters asking that XEAW might stand by for a portion of the broadcast, Doctor Brinkley graciously granted the request and agreed to sign off between 0200 and 0300. As we go to press before that date, we are unable to say what happened. However, DXers have a promise and that was a great deal.

Clear Channels

"I have always been under the impression," notes Bernard J. Clancy, 425 Twelfth St. S., Lethbridge, Alta., "that the frequencies of 690, 730, 840, 910, 960 and 1030 kcys were reserved for the Canadian stations. However, out here in Alberta, we are faced with the complete obliteration of Canadian stations after sundown. On 730, XEPN interferes with CJCA; on 840, XERA blots out CFQC; on 910, XENT ruins CJAT; on 960, XEAW spoils CKY; and on 1030, XEB prevents reception of CFCN. Only on 690 is there no Mexican, and that is probably because NAA operates on this frequency.

"Have the Mexican stations the right to operate on these so-called clear channels? If so, why place any restrictions on the American stations? The Americans, at any rate, broadcast programs that are worth hearing—and ALL of them don't stay on the air ALL night!"

As we understand the situation, the channels mentioned by Mr. Clancy are supposed to be reserved for stations not in the United States. They were not intended for the exclusive use of Canadian broadcasters, but are also open to stations in Mexico, Cuba and Central America.

Most listeners agree that the United States has far too many channels at present and that eventually it will have to relinquish claims to not a few frequencies. However, while it is easy to appreciate that the existing super-power border stations spoil reception in Canada, we cannot help but feel that the answer to the problem rests with the Canadian government.

Looking at the power of the stations concerned, we note an interesting comparison. XEPN is 100 times as powerful as CJCA. XERA is 350 times as powerful as CFQC, 70 times more powerful than CRCT. XENT uses 150 kilowatts to one for CJAT. XEAW is four times as powerful as CKY. Only XEB has the same power as CFCN.

Furthermore, the Mexican border stations are relatively new and probably have more efficient equipment than the majority of the Canadian stations with which they interfere.

As long as the Canadian stations are content to get by on flea power and the government doesn't build bigger transmitters, they cannot hope to compete with better and more powerful equipment. It may take years to get a more favorable distribution of frequencies, but it would take only a few months to add the kilowatts that would mean satisfactory coverage.

Special Programs

RADEX has long advocated the substitution of *Quality* for *Quantity* when scheduling DX broadcasts and special programs. Thus, we are looking forward to a program over WOR which the NNRC has arranged for the morning of January 17th. The announcement reached us too late for inclusion in the January issue, which is already on the newsstands, and this notice will be too late to call attention to the program.

Nevertheless, the early plans promise some rare entertainment which cannot be overlooked. Writing of the program, Milton W. Fleischman, Executive Secretary, advises:

"The novel feature will be the re-

(*Please turn to Page* 66)

First Aid *for* RADIO TROUBLES

● ● ● *By* B. FRANCIS DASHIELL

On the "A" or standard broadcast band of my Zenith set the tuning of local stations is very broad, and the out-of-town stations are subject to fading, mushy noises; I have to turn on "Foreign" to full on the sensitivity control so as to get sufficient power to bring them in. What causes this, and do you think it is in the aerial used with this 6-S-152 *model receiver?*

If you are using a proper antenna with this set there should be no difficulty of this kind. It seems as if some of the tuning adjustments are not properly set. Have you been making any changes in the tuning circuit other than those fixed by the factory before this new model came to you? You should never attempt to adjust the set, for, unless you have the proper equipment and knowledge, trouble is certain to ensue.

It seems to us that this set is simply in need of a little alignment and adjusting of its tuning circuits so as to give it greater selectivity. The noisy mushy sounds are usually two interfering stations, close together, and can be eliminated simply by making careful adjustments.

This set has a sensitivity control switch in the first I-F unit. This sharpens the set for distant stations and gives it more sensitivity, but naturally with a little loss of perfect tone. When the switch is open the sensitivity is reduced and the tuning is broadened so as to provide a full path for all the audio frequencies when local and powerful broadcast stations are received. This switch should not be used when distant stations are received. Fading and a lack of power may be caused, too, by one of the tubes in the set not being in good condition. A test should determine this. Perhaps a simple adjustment of the wave-trap trimmer, which you can make yourself, might help. This is an adjusting screw on the rear of the chassis, near the power cord.

If you wish to have the set checked for alignment, we suggest that, in this type of work, it be done by a competent service man. He must set the signal generator at 456 kcs., and carefully adjust the four I-F trimmers so they give the highest readings on the output meter. These adjustments should be repeated several times. Then set generator to 6,000 kcs., and switch the set to band "B" and adjust oscillator trimmer on gang to correct dial reading. Then set generator to 1400 kcs., and on band "A" adjust broadcast trimmer (in front of 6A8 tube) for correct dial reading. Set generator to 18,000 kcs., and switch to band "C," and adjust short-wave trimmer. Then on band "A" set generator to 600 kcs., and adjust broadcast trimmer. Finally, readjust the broadcast and antenna trimmers at 1400 kcs., on band "A." These adjustments should place the set in close tuning and alignment and eliminate interference to a great extent, as well as providing higher sensitivity. All of the adjustments, with the exception of the first, are made with the service man's oscillator connected to the antenna and ground terminals of the set. The first, or I-F adjustment, is made with the generator leads connected to the 1st-detector grid and the chassis. The output meter is connected to the speaker transformer leads.

Flat-Top Antenna

In the September issue of RADEX appeared an article on antennas. The inverted L-type antenna was mentioned. We are troubled a great

Deanna Durbin, the 13-year-old soprano heard with Eddie Cantor on Sunday nights over the CBS Network. Following her initial broadcast she was signed to a contract by Universal Pictures and will be seen on the screen in the near future.

deal with noise from power lines and would like to use a 78-foot span of flat top antenna. What sort of coupling transformers should we use. Is it possible to make them, and if so, please give specifications. Would this antenna work with the "all-wave" sets?

Any flat-top antenna, or long, horizontal wire, supported as high as may be practicable above the surface of the earth or objects below, will serve as a satisfactory aerial on all-waves. The only fundamental reason for the so-called doublet and other types of commercial antennas is that these odd lengths of wire in the doublet become resonant to the majority of short waves that are used today. Seventy-eight feet of flat top wire is enough.

A low-impedance leadin wire can be used, with an antenna transformer at the top and a set transformer at the bottom. We do not recommend making these coils, but, if you care to attempt the job, we suggest that you follow instructions given in the chapter on antennas and grounds in the Beginner's Story Of Radio. Manufactured transformers, together with a metallic covered leadin wire that is grounded at either end and connected to the transformers, will give satisfaction, but not so much as the ungrounded doublet antenna.

Manufacturers have gone to great difficulty to provide transformers for the doublet systems which will withstand all kinds of weather conditions, but in some instances the cable that has been utilized to connect the two transformers is not suitably weatherproofed. A new special transmission line, developed by Arthur H. Lynch, has proved very satisfactory after long periods of use.

This cable, used with your 78-foot flat top antenna, if the latter is cut into two unequal lengths and separated with an insulator, may provide excellent protection against the noise of which you speak. We suggest that you write, mentioning RADEX, of course, to: The Lynch Division of the L. S. Brach Manufacturing Co., 55 Dickerson Street, Newark, N. J., and state your desires. They will be glad to assist you. Mr. Arthur Lynch is one of the foremost authorities on antennas in this country today.

Balancing A Majestic 132

I have a Majestic radio, model 132, of the year 1930. I think this set needs to be rebalanced or to be put in line. Can you tell me how I can do this job, and is it very difficult?

This Majestic receiver is an old model tuned-radio-frequency circuit employing seven tubes—three type 24 radio-frequency amplifiers, one 24 detector, and two 45 power amplifiers in push-pull, with a type 80 rectifier. There is an antenna compensating condenser between the antenna terminal and the upper end of the antenna coil. This should be

adjusted to a maximum signal on all of the broadcast band wave lengths.

Also, the five-condenser gang unit must be balanced. Each of the five, large variable condensers, with the exception of the one nearest to the antenna compensating condenser, is shunted with a small condenser or trimmer. Often in old sets, when this trouble is due to bent or warped plates in the condensers, the best that can be done is to straighten them to their original shapes and spacing. If there is a major injury in an old set to one or more of the units of the tuning gang, it may be wise to replace the entire gang with a new unit. Sometimes a new tuning unit makes a new receiver of the set.

But no matter how accurate the manufacture of a new condenser, or how carefully an old one has been handled, it is not possible to balance all of them at the same time. So this calls for trimmer condensers shunted across each larger unit. These are adjusted when aligning the tuned radio-frequency circuits.

An oscillator that operates over the broadcast band is best for this purpose, but you, like thousands of others, must rely on your ears to determine the degree of power output. You must select four radio stations operating approximately on 600 kc., 900 kc., 1100 kc., and about 1400 kc. Set the tuning dial to one of these, adjusting the numbers on the dial to the frequency of the station, as given in RADEX, even if the station is not properly tuned in. This means that the set is not tuning exactly to that wave length. Now slowly adjust the various balancing or trimmer condensers—all four—until a maximum volume is obtained. It is best, in this case, to set the volume control to a low degree, so that the greatest volume can be easily detected by the ear.

Set the dial to another station, about 900 kc., and repeat the adjustments; then set to 1100 kc., and finally to 1400 kc., and repeat the adjustments. Working back and forth, even bending an end plate a bit in some unit of the gang, you will at last arrive at an adjustment that will bring the four stations in at their proper readings on the dial. Once this is accomplished, all other stations will appear when the dial is set to their assigned frequencies, as given in the lists in RADEX.

All tube and coil shields must be firmly in their places. Always remember that the first adjustment is far from being the final one, for it may be necessary to repeat the operations over and over before a perfect adjustment is obtained. And, if the trimmers are adjusted by a screw, as most of them are, use a dry, wooden or fiber stick, sharpened at one end to resemble a screw driver, and keep your hand as far away from the chassis and its coils and parts as you possibly can. All of this has been thoroughly discussed in the April, 1934, issue of RADEX.

Amateurs On Radiola 33

I have an old Radiola, model 33. *I would like to change it so that it will receive the* 160 *meter stations, operated by radio amateurs. Can you give me directions to make the change?*

As this is an old type tuned r-f receiver, it is possible to shorten the coils so that they will resonate at lower wave lengths instead of simply on the broadcast band as at present. Instead of covering a band of from 200 to 500 meters, the set may be altered so as to cover a band of from 150 to 400-450 meters.

The tuning circuit consists of three variable condensers directly connected in a gang. Each of these condensers is shunted across the terminals of a coil which they tune. These three coils are the secondaries of three r-f transformers. By reducing the number of turns of

wire on each coil, you make them respond to shorter wave lengths.

Try removing five complete turns from the top or grid end of each of the three secondary coils. Be careful that exactly the same number of turns and length of wire is taken from each coil. Again connect the lead to the tuning condenser and grid of the type 26 tube, in each case, as it was before you removed the turns of wire. If you find the set still does not tune low enough try removing one or more turns from each coil, repeating the operation slowly until the desired short-wave tuning is obtained. Of course, your dial will no longer be useful, unless new numbers are substituted. The detector trimmer condenser, across the detector tuning condenser, and the r-f compensating condenser, attached to the bottom coil of the first r-f secondary, will require some readjusting to line the set up in better shape.

Globe Trotting

(*Continued from page* **23**)

their frequency as 6110 but they were on 6045. Their slogan is "La Voz del Aguila Azteca desde Mexico" and the address is Apartado 8403, Mexico City.

Still another contribution by Mexico to the QRM situation is XERV on 5920. It is very irregular in operation.

JZJ was logged on 11800 kcs from 2300 to 2400 EST, playing a mixture of Japanese, Spanish and American music. Announcements were all in Japanese. Another J- is JVT on 6750, heard R8 here every morning at 0400 EST.

The Russian which I reported in January RADEX on 5680 is no longer heard. However, RV15 is being heard on 4273. The higher frequency gave much better reception than the present one.

The S. S. "Awatea" was heard testing on exactly 34 meters late at night. The call is ZMBJ and they requested reports addressed to the Union S. S. Co., Auckland, N. Z.

The statement of the Javanese not verifying reports after Jan. 1 does not pertain to the regular NIROM broadcasts.

Some strange Coast Guard stations are reported by our Portneuf Station, Quebec, listener Allan Ford. He would appreciate further information on these stations. "A Coast Guard station in New York was heard, no call, on 2670 at 1032 p.m. One in Massachusetts, no call, was heard on 2676 at 10:39 p.m. WWMH at Highgate Springs and WWMD at Derby Line were heard working each other at 10:40 p.m. New amateurs on 15 megs. heard are G2XV, G2HK, YN1HS, CO2XF, OA4AR, VP7NA and OA4AG. I would like to hear from anyone in Mexico, Central America, Cuba or South America and will answer all letters. Stamp collectors especially welcome."

"The receiver in use here is a two-tube battery operated rig on which I have already heard all continents and 47 countries," explains Charles Bilharz, 2054 E. Venango St., Philadelphia, Pa. "I am principally interested in the hams, although I listen on all the bands. Stations logged are VK3ME, 2ME, 3LR, SUV, HAT4, RKI, OLR and many others. Among the amateurs are PK1MX, SU1CH, EI2V, W1OXDA, EA2BT, F8DW, ON4VK and CX1CC. I would like to hear from fans about 15 years of age who employ small sets like mine."

Mystery Contest

(*Continued from page* 5)

them the best service.

The contest will take place between 0200 *and* 0600 *Eastern Standard Time on the mornings of February* 20, 21 *and* 22, 1937. *All entries, including our official report cards and summary sheet, must be mailed to our Conneaut office no later than midnight February* 24, 1937.

Packages postmarked after this time wil not be considered. Contestants should make sure that sufficient postage has been used to insure delivery to us. Any reports re-received with postage due will be refused.

Additional Prizes

Just as we go to press we learn of two additional prizes which will be awarded winners in the Mystery Contest. One of these awards will be a Hallicrafters Sky Buddy Receiver, and the other a replacement set of 12 National Union tubes.

Month's Changes

(*Continued from inside cover*)

1430	CMJP	Moron, Cuba, from Camaguey
1550	WQXR	New York, N. Y., from Long Island City
		CALL LETTERS
1530	KXBY	Kansas City, Mo., from W9XBY
1550	KPMC	Bakersfield, Calif., from W6XAI
	WQXR	New York, N. Y., from W2XR
		NETWORK
560	WFIL	Philadelphia, Pa., new Mutual
600	WICC	Bridgeport, Conn., Mutual from CBS
	WMT	Cedar Rapids, Iowa, new Mutual
610	KFRC	San Francisco, Calif., new Mutual
630	WPRO	Providence, R. I., new CBS
650	WSM	Nashville, Tenn., new Mutual
700	WLW	Cincinnati, Ohio, new Mutual
710	KPMC	Beverly Hills, Calif., new Mutual
	WOR	Newark, N. J., new Mutual
720	WGN	Chicago, Ill., new Mutual
760	WBAL	Baltimore, Md., new Mutual
780	WEAN	Providence, R. I., Mutual from CBS
860	WHB	Kansas City, Mo., new Mutual
890	KARK	Little Rock, Ark., new NBC
900	KHJ	Los Angeles, Calif., Mutual from CBS
920	KFEL	Denver, Colo., new Mutual
1030	CKLW	Windsor, Ont., new Mutual
1100	KGDM	Stockton, Calif., new Mutual
1110	WRVA	Richmond, Va., new Mutual
1140	WSPR	Springfield, Mass., new Mutual
1200	WJNO	W. Palm Beach, Fla., new CBS
	WTHT	Hartford, Conn., new Mutual
1210	KDON	Del Monte, Calif., new Mutual
	KFOR	Lincoln, Nebr., new Mutual
	KFXM	San Bernardino, Calif., new Mutual
1220	WCAE	Pittsburgh, Pa., new Mutual
1260	KOIL	Omaha, Nebr., new Mutual
1310	WNBH	New Bedford, Mass., new Mutual
1330	KGB	San Diego, Calif., new Mutual
	WSAI	Cincinnati, Ohio, new Mutual
1340	WFEA	Manchester, N. H., NBC from CBS
1350	KWK	St. Louis, Mo., new Mutual
1370	WLLH	Lowell, Mass., new Mutual
1400	WIRE	Indianapolis, Ind., new Mutual
1410	KGNC	Amarillo, Texas, new NBC
	WAAB	Boston, Mass., new Mutual
1430	KSO	Des Moines, Iowa, new Mutual
1450	WGAR	Cleveland, Ohio, new Mutual
	WSAR	Fall River, Mass., new Mutual
1500	KDB	Santa Barbara, Calif., Mutual from CBS
1530	W1XBS	Waterbury, Conn., new Mutual
		DELETE
1230	CMCB	Havana, Cuba
1420	WEHS	Cicero, Ill.
	WKBI	Cicero, Ill.
1480	WHIP	Hammond, Ind.

Frequency Check Revisions

The following corrections are made to the frequency check schedule as given in the October RADEX. The complete revised schedules will be given in the March number:

		Add to the List	
		The Second Monday	
3:00-3:20	WMSD	1420	Sheffield, Ala.
5:10-5:30	WMIN	1370	St. Paul, Minn.
5:30-5:50	KWG	1200	Stockton, Calif.
		The Second Tuesday	
3:00-3:20	KDAL	1500	Duluth, Minn.
3:20-3:40	KOKN	1310	Kansas City, Kans.
4:40-5:00	KTEM	1370	Temple, Texas
5:00-5:20	KGCX	1450	Wolf Point, Mont.
		The Second Wednesday	
4:40-5:00	WJRD	1200	Tuscaloosa, Ala.
5:10-5:30	KPDN	1310	Pampa. Texas
5:20-5:40	WAYX	1200	Waycross, Ga.
5:40-6:00	KRBC	1420	Abilene, Texas
		The Second Thursday	
3:50-4:10	WHAT	1310	Philadelphia, Pa.
4:00-4:20	WHDL	1420	Olean, N. Y.
4:40-5:00	KRRV	1310	Sherman, Texas
		The Second Friday	
3:00-3:20	WABI	1200	Bangor, Maine
4:00-4:20	WTHT	1200	Hartford, Conn.
4:10-4:30	WNLC	1500	New London, Conn.
5:50-6:10	KANS	1210	Wichita, Kans.
		The Second Saturday	
3:40-4:00	WFOR	1370	Hattiesburg, Miss.
5:30-5:50	KBIX	1500	Muskogee, Okla.
5:40-6:00	KFJM	1370	Grand Forks, N. D.
		Delete From The List	
		The Second Monday	
4:10-4:30	WHDL	1420	Olean, N. Y.
		The Second Tuesday	
3:00-3:20	KGFK	1500	Moorhead, Minn.
3:20-3:40	KBIX	1500	Muskogee, Okla.
4:40-5:00	KFJM	1370	Grand Forks, N. D.
5:30-5:50	KGCX	1310	Wolf Point, Minn.
		The Second Wednesday	
4:00-4:20	WJNO	1200	Should be W. Palm Beach, Fla.
		The Second Thursday	
4:40-5:00	WDAH	1310	El Paso, Texas
		The Second Saturday	
3:40-4:00	WPFB	1370	Hattiesburg, Miss.

Shortwaves

(*Continued from page* 10)

hour (100) to EST.

For Central Standard Time, subtract 1 hour (0100) from EST.

For Mountain Standard Time, subtract two hours (0200).

For Pacific Standard Time, subtract three hours (0300).

For Hawaiian time, subtract five hours and thirty minutes, (0530) from EST.

To convert Eastern Standard to Greenwich Mean Time, add five hours (0500).

Greenwich Mean Time

Greenwich Mean Time is the time system in which noon occurs at the time the sun passes over the meridian of Greenwich, England, and the standard time of nearly every locality in the world is calculated to agree with Greenwich in minutes and seconds, but to differ in hours by whole numbers. The true sun time of New York City is 4 hours 56 minutes slower than Greenwich, but the standard time differs by exactly five hours.

Greenwich Mean Time is universally understood and local time should be converted to GMT when writing to foreign stations for verifications.

Abbreviations

Various standard abbreviations for the standard times in use in different parts of the world should be understood if one reads any of the foreign radio journals. These abbreviations are freely used in RADEX.

AST, Atlantic Standard Time.
EST, Eastern Standard Time.
EDST, Eastern Daylight Saving Time.
CST, Central Standard Time.
CDST, Central Daylight Saving Time.
MST, Mountain Standard Time.
PST, Pacific Standard Time.
PDST, Pacific Daylight Saving Time.
JST, Japanese Standard Time.
EAST, Eastern Australia Standard Time.
LST, Local Standard Time.
CET, Central European Time.
GMT, Greenwich Mean Time.
GST, Greenwich Summer Time.

This discussion of the shortwaves will be continued next month with an explanation of Greenwich Mean Time, the QSA and R codes, suggested methods of writing to stations and "short-cuts" to aid in the identification of stations speaking in strange languages.

Jacques Fray is the newest addition to the CBS bandleaders, but he has the oldest theme song in radio, "Au Clair de la Lune," a French folk song dating back to the seventeenth century.

Al Pearce as "Elmer Blurp, low pressure salesman." This is one of the many characterizations he may spring without notice as the rollicking master-of-ceremonies on his matinee series over the CBS. Al Pearce and his gang are heard Monday, Tuesday and Thursday afternoons from 3 to 3:30 p.m.

GLIMPSES *of* Your FAVORITE STARS

● ● ● *By* BETTY

MYRT AND MARGE: After an absence of several months, Myrt and Marge are returning to the airwaves with a new series of backstage adventures. This popular series featuring an actress and her daughter is heard five times weekly over the nationwide Columbia Network on Monday to Friday inclusive, from 2:45 to 3 p.m., EST. Myrtle Vail conceived the idea for this program six years ago when she was forced to return to work following heavy financial losses. The "Marge" of the series is played by her daughter, Donna.

LOW PRESSURE SALESMANSHIP: The new comedy and musical half hour series known as "Watch the Fun Go By," stars Al Pearce, the Low Pressure Salesman and all his gang. This program replaces Fred Waring's Pennsylvanians. The madcap pack of buffoons which make up the cast is already well known to radio listeners. Arlene Harris, the human chatterbox, tops the show (thinks Betty).

Hollywood's ace gossiper in action during his Tuesday night NBC broadcast. Here Jimmy Fidler is giving a bright bit of inside information, or his unbiased opinion of a film previewed during the week.

OYEZ! OYEZ! OYEZ!: The return of Alexander Woollcott to his familiar "Towne Crier" role brings to the airwaves again the breezy informality, provocative discussions and salty charm that mark his adventures about town and about the nation. The programs this year are broadcast twice weekly, on Tuesdays and Thursdays from 7:30 to 7:45 p.m., EST. over the CBS.

JOLSON'S NEW COMIC: Sid Silvers, the diminutive singer, dancer, song-plugger, stooge and comedian, is full of mysteries. He wonders how and why he ever entered the theater. He is still trying to figure out why his wife named their little girl Saundra Ann. And he isn't quite sure if he was ever born or not as his birth was never recorded. He achieved his first important role in moving pictures because of his weight, 110 pounds, and size, 5 feet three . . . it was found he could be tossed around easier than Stuart Erwin who was scheduled for the role. Sid buys all his clothing in the boys' department. His present radio show is his first as a star and culminates his one great ambition.

A RAYE OF SUNSHINE: Martha Raye is the newest in singers, appearing with Sid Silvers on the Al Jolson Show. Critics describe her best by saying she is a cross between the late Marie Dressler and Clara Bow. In contrast to her flair and love for comedy roles, singing

and dancing, her hobby is collecting classical phonograph records. She speaks Italian and Spanish as well as English, and her favorite sports are tennis, golf and swimming.

SPONSOR RENEWED: Colonel Lemuel Q. Stoopnagle and Budd take pleasure in announcing that they have renewed their sponsor for thirteen weeks. This means that the person who has been paying their salaries will be allowed to continue doing so. "Usually," says the Colonel, "the sponsor renews the talent. As we wish to be different, we are reversing the standard procedure. Our willingness to continue broadcasting is a real break for him, but he is an extra peachy guy and we are glad to do him a favor."

IT'S UNBELIEVABLE: Listeners were assured of another thirteen weeks of monkeyshines every Sunday from 6 to 6:30 p.m. on the CBS when it was announced that "Blacksheep" Penner and his Park Avenue family would continue their insane adventures. Gene Austin is a featured star but the real highlight of the program is Penner's inimitable songs.

HAVEN MACQUARRIE: The new show, "Do You Want to be an Actor?" replaces the ill-fated Good Will Court, which was ruled off the air by a decision of the New York Appellate Court. Would-be actors are chosen on the spot and put through little dramas, coached by MacQuarrie. Sometimes the amateur actors are good, but the show is pretty much Haven MacQuarrie. His wit, humor and nonchalant manner keep the show from going stale.

WHITEMAN RETIRES: The Woodbury program on Sunday nights has been taken over by Shep Fields of "Rippling Rhythm," and it is reported that the "Old Maestro" Paul Whiteman will retire from radio. He may become an NBC Vice President.

Johnny Davis thinks it's funny to withhold the indispensable mouthpiece while bewildered Priscilla Lane tries to figure out what makes the music come out of the trumpet. Priscilla has her revenge, however, when she matches him wit for wit in one of the comedy selections featured by Waring's Pennsylvanians on the CBS every Tuesday.

NEW SOPRANO: Nadine Connor, young California soprano, has won the coveted role as featured feminine vocalist with Nelson Eddy to be heard on his programs for the remainder of the season, replacing Francia White. She not only will appear with him on the radio but will accompany him on his concert tour. Miss Connor is 27 and has

never been out of California before. This is her first big radio spot, although she has been heard on the CBS previously on "California Melodies."

SIDELIGHTS: Most radio performers require only one mike but ED WYNN needs a pair because he jumps around so much . . . they are set up about three yards apart. PHIL LORD gives each person appearing on WE, THE PEOPLE, a present . . . It is a recording of the broadcast on which he told his unusual story. This human interest program has been renewed for another 13 weeks. COL. STOOPNAGLE spends half an hour daily cutting out pictures of chorus girls from the newspapers and pasting photos of BUDD's face on the chorines' bodies. He sticks these strange figures on post cards and mails them to friends.

Scrapbook

(*Continued from page* 19)

fect television broadcasts will appeal to the spectators. It's all a question of whether the public can successfully combine the directional sense of sight with the non-directional sense of hearing.

Radio today requires little effort on the part of the listener. You can wander around the house, talk with family and friends, read your newspaper, or even play cards. The sound follows you and you can listen under most any condition.

With television, it will be an entirely different story. It will be necessary to turn out all the lights in the room, crowd around the receiver, and concentrate attention on a tiny screen no larger than a sheet of typewriter paper. That will require conscious effort on the part of the spectator.

The movies have demonstrated that a double-feature program can be most tiresome.

The ORIGINAL RADIO STATION

THIS is the story of KQW in San Jose, California. It may come as a surprise to many readers to find that KQW was the first radio station in the United States, and perhaps in the entire world, to broadcast entertainment programs.

This station came on the air in 1908, and was duly licensed as a regular broadcaster in 1912. KDKA was established in 1920 at Pittsburgh, Pa. The General Electric Co. commenced operation of WGY in Schenectady in 1922. WWJ in Detroit broadcast its first program in 1920.

The original KQW transmitter consisted of a few electrical doodads, a piece of stove pipe, an old phonograph turntable and several bales of wire. If there was ever a "haywire" outfit, this was it. But it worked. This marvel was assembled by its inventor, Dr. Charles D. Herrold and his co-worker, Mr. E. A. Portal.

It was way back in 1912 that KQW successfully carried out the first two-way wireless telephone test, and in 1915 music was broadcast from San Jose to receiving booths set up at the Panama Pacific Exposition in San Francisco.

In the first edition of RADEX ever issued, in 1925, KQW is listed on 240 meters or 1249 kilocycles, operating with 500 watts power. At that time the owner was its inventor, Dr. Charles D. Herrold. It now works on 1010 kcs. with one kilowatt power. Today studios are maintained in Sacramento, San Francisco and San Jose, with the offices and main studio at 87 E. San Antonio St., San Jose, Calif.

RADEX is indebted to Mr. H. O. Fiebig, the Manager of KQW, for information which made possible the preparation of this article.

WHAT'S ON THE AIR TONIGHT

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

COLUMBIA.....(C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

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

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

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

MONDAY

E-6:15 p.m., C-5:15, M-4:15, P-3:15
C — News of Youth
KMOX WABC WADC WBBM WBNS WCAO WCAU WDRC WEEI WFBL WHK WIBX WKBN WLBZ WMAS WOKO WORC WPRD WWVA

E-6:45 p.m., C-5:45, M-4:45, P-3:45
C — Renfrew of the Mounted
KFAB KFH KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTUL KWKH WABC WADC WBBM WBNS WCCO WDRC WFBM WGR WHEC WHK WIBX WICC WISN WJR WJSV WKBN WMAS WMBG WNAC WNBH WOC WREC WSMK WSPD WWVA

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

E-7:00 p.m., C-6:00, M-5:00, P-4:00
C — Poetic Melodies; Jack Fulton
WABC WADC WBT WCAO WCAU WDRC WEAN WEEI WFBL WGR WHEC WHK WJAS WJR WJSV WKRC WOKO WSPD WTOC WWVA
R — Amos 'n' Andy
KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WJAR WLW WRC WTAG WTIC

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Popeye the Sailor
KFAB KLZ KMBC KMOX KRNT KSL WABC WADC WBBM WBNS WCAO WCAU WDRC WEAN WFBL WFBM WGR WHAS WHEC WHK WIBX WICC WJAS WJSV WKRC WNAC WOC WOKO WORC WSMK
R — Uncle Ezra's Radio Station
KPRC KTBS KTHS KVOO KYW WBAP WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WGY WHIO WIRE WJAR WKY WMAQ WOAI WOOD WOW WRC WTAG WTAM WTIC

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Goose Creek Parson
KFAB KMBC WABC WBBM WBNS WBT WCAO WCAU WDAE WDBJ WDBO WDRC WEAN WFBL WGR WGST WHEC WHK WICC WJAS WJR WJSV WKRC WLBZ WMBG WMBR WNAC WOKO WORC WQAM WTOC
B — Lum and Abner
WBZ WBZA WENR WJZ WLW WMC WSM WSYR

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Horace Heidt and Orchestra
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WBBM WBRC WBT WCAO WCAU WCCO WDRC WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WLAC WMBR WNAC WNAX WOKO WREC WWL
R — Fibber McGee and Molly
KSD KYW WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WGY WHO WIRE WJAR WMAQ WOOD WOW WRC WTAG WTAM WTIC WWJ
B — Helen Hayes, Drama
KDKA KOIL KSO KWK WABY WBAL WBZ WBZA WEBR WFBR WFIL WGAR WHAM WJZ WLS WMAL WMT WREN WSAI WSYR WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Pick and Pat
KFAB KMBC WABC WADC WBBM WBT WCAO WCAU WDRC WEAN WFBL WGR WGST WHEC WHK WHP WICC WJAS WJR WJSV WKRC WLBZ WMAS WNAC WOKO WORC WSPD
R — Voice of Firestone
CFCF CRCT KFYR KPRC KSD KSTP KTBS KVOO KYW WAVE WBEN WCAE WCSC WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBC WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC
B — Melodiana; Abe Lyman
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WJZ WLS WMAL WMT WREN WSYR WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Lux Radio Theatre
CFRB CKAC KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WNAC WNAX WOKO WORC WQAM WREC WWL
R — Warden Lawes, Prison Drama
KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KYW WBEN WCAE WCKY WCSH WDAF WEAF WGY WHO WHIO WIRE WJAR WMAQ WNAC WOW WRC WTAM WTIC WWJ
B — Sinclair Greater Minstrels
KDKA KDYL KFYR KOA KOIL KPRC KSO KSTP KTBS KTHS KVOO KWK WBAL WBZ WBZA WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WLS WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WTMJ WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
R — Richard Himber and Orchestra
KFYR KPRC KSD KSTP KTBS KVOO KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFAA WFBR WGY WHO WIBA WJAR WKY WLW WMAQ WOAI WOW WRC WTAG WTAM WTIC WTMJ WWJ
B — Jack Pearl; Morton Bowe
KDKA KECA KFSD KGA KGO KJR

MONDAY (*Continued*)

KLO KOIL KSO KWK WABY WAVE WBAL WBZ WBZA WCKY WCOL WEAN WEBR WENR WFIL WFLA WGAR WHAM WICC WIOD WIS WJAX WJDX WJZ WMAL WMC WMT WOOD WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WWNC WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
R — Contented Program
CFCF CRCT KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WFLA WGY WHO WIOD WIS WJAR WJAX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WTAG WTAM WTAR WTIC WWJ WWNC

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

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

E-10:45 p.m., C-9:45, M-8:45, P-7:45
C — Goose Creek Parson
KDB KERN KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMJ KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KTUL KVI KWG KWKH WBRC WCCO WFBM WHAS WISN WLAC WREC WWL

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

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

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

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

C — Pick and Pat
KDB KERN KFBK KFPY KFRC KFB KGKO KHJ KLRA KLZ KMJ KMOX KOIN KOL KOMA KRLD KRNT KSCJ KSL KTUL KVI KWG KWKH WACO WBRC WCCO WFBM WHAS WLAC WREC

TUESDAY

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

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

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

E-7:15 p.m., C-6:15, M-5:15, P-4:15
R — Voice of Experience
KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHO WIBA WJAR WLW WMAQ WOW WRC WTAG WTAM WTIC

B — Jimmy Braddock, Life Sketch
KDKA KOIL KSO KWK WABY WBAL WBZ WBZA WEBR WENR WFIL WGAR WHAM WJZ WMAL WMT WSAI WSYR

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

C — Alexander Woollcott
KFAB KFH KLRA KMOX KRLD KTRH KTSA KWKH WABC WADC WALA WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBO WDRC WEEI WFBL WFBM WGR WGST WHAS WHEC WHIO WHK WIBM WISN WJAS WJR WJSV WKRC WLAC WLBZ WMAS WMBG WMBR WOKO WORC WPRO WQAM WREC WTOC WWL WWVA

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

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

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

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

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Al Jolson; Sid Silvers
CFRB KFAB KFH KLRA KMBC KMOX KOMA KRLD KRNT KTRH KTSA KTUL WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDRC WEEI WFBL WFBM WGR WGST WHAS WHEC WHIO WHK WIBX WJAS WJR WJSV WKRC WLAC WMAS WMBD WMBG WNAX WOKO WORC WPRO WQAM WREC WWL

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

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

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Al Pearce and Gang
CFRB CKAC KFAB KFH KGKO KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTRH KTSA KTUL KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WMMN WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSBT WSFA WSJS WSPD WTOC WWL

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

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

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Jack Oakie's College
KFAB KFH KFPY KGKO KLRA KLZ KMBC KMOX KNX KOIN KOL KOMA KRLD KRNT KSCJ KSFO KSL KTRH KTSA KTUL KVI KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEEI WFBL WFBM WGST WHAS WHEC WHIO WHK WHP WIBW WIBX WISN WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WPRO WQAM WREC WSBT WSFA WSJS WTOC WWL

R — Fred Astaire; Johnny Green
CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ

TUESDAY (*Continued*)

WMC WOAI WOW WPTF WRC WRVA WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

E-10:00 p.m., C-9:00, M-8:00, P-7:00
B — Armco Concert Band
KDKA KECA KFSD KGA KGO KJR KLO KOIL KSO KVOD WBAL WBZ WBZA WEBR WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

E-10:30 p.m., C-9:30, M-8:30, P-7:30
R—Jimmy Fiddler Hollywood Gossip
KDYL KFI KGW KHQ KOA KOMO KPO KSD KTAR KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHO WJAR WLW WMAQ WNAC WOOD WOW WRC WTAG WTAM WTIC WWJ

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

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

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

C — Al Jolson; Sid Silvers
KFPY KGMB KLZ KNX KOIN KOL KSFO KSL KVI

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

WEDNESDAY

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

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

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

E-7:15 p.m., C-6:15, M-5:15, P-4:15
C — Popeye, see Monday
R — Uncle Ezra, See Monday
B — Jimmy Braddock, See Tues.

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

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

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

B — Follies de Paree
KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WHIO WIRE WJZ WLS WMAL WMT WREN WSYR WXYZ

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

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Burns and Allen
CKAC KFAB KFH KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTRH KTSA KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WFEA WGR WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSPD WWL

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

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Chesterfield Program
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KGMB KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBG WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSFA WSJS WSPD WTOC WWL

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

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Jessica Dragonette
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGMB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KTUL KVI KWG KWKH WABC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMBG WMBR WNAC WOKO WORC WOWO WQAM WREC WTOC WWL

R — Your Hit Parade
KDYL KEX KFI KFYR KGHL KGIR KGU KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WCAE WCSC WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WNAC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WSUN WSYR WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

E-10:45 p.m., C-9:45, M-8:45, P-7:45
C — Goose Creek Parson, See Mon.

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

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

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

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

THURSDAY

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

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

E-7:15 p.m., C-6:15, M-5:15, P-4:15
R — Experience, See Tuesday
B — Jimmy Braddock, See Tues.

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C — Alexander Woollcott, See Tues.

THURSDAY (*Continued*)

B — Lum and Abner, See Monday

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Kate Smith; Babe Ruth
KFAB KMBC KMOX KRLD KRNT KTRH WABC WADC WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDRC WEAN WEEI WFBL WFBM WGR WGST WHAS WHK WHP WIBX WJAS WJR WJSV WKBN WKRC WLBZ WMAS WMBG WMBR WOC WOKO WSPD WTOC WWL WWVA

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

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Major Bowes' Amateurs
CFRB CKAC KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KLRA KLZ KMBC WMJ KMOX KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WMMN WNAC WNAX WOC WOKO WORC WOWO WPG WQAM WREC WSFA WSJS WSPD WTOC WWL

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

E-10:00 p.m., C-9:00, M-8:00, P-7:00
R — Bing Crosby; Bob Burns
CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

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

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

FRIDAY

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

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

B — Lowell Thomas, See Monday

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

R — Amos 'n' Andy, See Monday

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

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

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
C — Broadway Varieties
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KOMA KRNT KSL KVI KWG WABC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WMAS WMBG WNAC WOKO WWL

R — Cities Service Concert
CRCT KFYR KOA KPRC KSD KSTP KTBS KTHS KVOO KYW WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WGY WHO WHIO WIBA WIOD WJAR WKY WMAQ WOAI WOW WRC WRVA WSAI WTAG WTAM WTIC WTMJ WWJ

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

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

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Hal Kemp; Kay Thompson
KFAB KFH KGKO KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTRH KTSA KTUL KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEEI WFBL WFBM WFEA WGR WGST WHAS WHEC WHIO WHK WHP WIBW WIBX WISN WJAS WJR WJSV WKBN WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WMMN WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WPRO WQAM WREC WSFA WSJS ,WSPD WTOC WWL

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

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Hollywood Hotel
CFRB CKAC KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSPD WWL

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

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

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

B — Buddy Rogers; Helen Broderick
KDKA KECA KFSD KFYR KGA KGHL KGIR KGO KJR KLO KOIL KPRC KSO KSTP KTAR KTBS KTHS KWK WABY WAPI WAVE WBAL WBZ WBZA WCKY WCSC WDAY WEBC WEBR WENR WFAA WFBC WFIL WFLA WGAR WHAM WIBA WIOD WIRE WIS WJAX WJDX WJZ WKY WMAL WMC WMT WOAI WOOD WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WTMJ WWNC WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
R — First Nighter; Drama
KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA

FRIDAY (*Continued*)

WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

E-11:00 p.m., C-10:00, M-9:00, P-8:00
C — Mortimer Gooch, Sketch
KERN KFAB KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KVI WBBM WBRC WCCO WFBM WGST WLAC WREC WWL
R — Amos 'n' Andy, See Monday

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

E-11:30 p.m., C-10:30, M-9:30, P-8:30
C — Hal Kemp; Kay Thompson
KFBB KFPY KGMB KGVO KLZ KNX KOH KOIN KOL KSFO KSL KVI KVOR

SATURDAY

E-6:45 p.m. C-5:45, M-4:45, P-3:45
C — Saturday Swing Club
CFRB CKAC KFBB KFH KGB KLZ KMBC KNOW KOH KRLD KSL KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBNS WCAO WDAE WDBJ WDBO WDNC WDRC WEEI WFBL WFBM WFEA WHAS WHEC WHK WIBX WICC WJAS WLBZ WMBG WMBR WMMN WOC WOKO WORC WQAM WSBT WSJS WSPD

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

E-8:00 p.m., C-7:00, M-6:00, P-5:00
R — Saturday Night Party
KSD KYW WAPI WAVE WBEN WCAE WCSC WCSH WDAF WEAF WFBR WFLA WGY WHO WIOD WIS WJAR WJAX WJDX WMAQ WMC WNAC WOW WPTF WRC WSB WSMB WSOC WSUN WTAG WTAM WTAR WTIC WWJ WWNC

B — Ed Wynn; Don Voorhees
KDKA KFYR KOIL KPRC KSO KSTP KTBS KWK WABY WBAL WBAP WBZ WBZA WCKY WDAY WEBC WEBR WFIL WGAR WHAM WIBA WIRE WJZ WKY WLS WMAL WMT WOAI WREN WSYR WTMJ WXYZ

E-8:30 p.m., C-7:30, M-6:30, P-5:30
C — Columbia Workshop; Drama
KFAB KFBM KFPY KLZ KMBC KMOX KNX KOIN KOL KOMA KRLD KRNT KSFO KSL KTRH KTSA KTUL KVI KVOR WABC WBBM WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEEI WFBL WGR WGST WHAS WHEC WHK WISN WJAS WJNO WJR WJSV WKRC WLAC WMBG WMBR WOKO WORC WPRO WQAM WREC WWL

E-9:00 p.m., C-8:00, M-7:00, P-6:00
C — Floyd Gibbons; Vincent Lopez
KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KVI KWG WABC WBBM WBNS WBT WCAO WCAU WCCO WDAE WDBO WDRC WEAN WFBL WFBM WGST WHAS WHK WISN WJAS WJR WJSV WKBW WKRC WMBR WOKO WQAM WREC WSPD WWL

R — Snow Village Sketches
KSD KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WJAR WMAQ WNAC WOW WRC WTAG WTAM WTIC WWJ

B — National Barn Dance
KDKA KOIL KPRC KSO KTBS KTHS KWK WABY WAPI WAVE WBAL WBAP WBZ WBZA WFIL WFLA WGAR WHAM WIOD WIRE WIS WJAX WJDX WJZ WKY WLS WMAL WMC WMT WOAI WOOD WPTF WREN WRVA WSB WSMB WSOC WSUN WSYR WTAR WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30
C — Mary Eastman; Gus Haenschen
KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KTRH KTSA KTUL KVI KWG KWKH WALA WBBM WBIG WBNS WBRC WBT WCAO WCOA WDAE WDBO WDOD WEAN WFBL WFBM WGST WHAS WHEC WHK WJAS WJR WJSV WKBW WLAC WMBD WMBR WNOX WOC WQAM WREC WSFA WSPD WTOC WWL WWVA

R — Shell Chateau
KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KSD KSTP KTAR KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WIBA WJAR WLW WMAQ WOW WRC WTAG WTAM WTIC WTMJ WWJ

E-10:00 p.m., C-9:00, M-8:00, P-7:00
C — Your Hit Parade
KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KGMB KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSFA WSJS WSPD WTOC WWL WWVA

E-10:30 p.m., C-9:30, M-8:30, P-7:30
C — World Dances; Lud Gluskin
CFRB CKAC KERN KFBB KFBK KFH KFPY KGB KGVO KLZ KMBC KNOW KOH KOL KRLD KTRH KTSA KVI KVOR KWG KWKH WABC WACO WADC WALA WBNS WCAO WDAE WDBJ WDBO WDNC WDOD WDRC WEEI WFBL WFBM WFEA WGR WHAS WHEC WHK WIBX WJAS WJR WKRC WLBZ WMBD WMBG WMBR WMMN WOKO WORC WPG WQAM WSBT WSJS WSPD

R — Ervin S. Cobb
KDYL KFI KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFBR WFLA WGY WIBA WIOD WIS WJAR WJAX WJDX WKY WMAQ WMC WNAC WOOD WOW WPTF WRC WRVA WSB WSMB WSOC WSUN WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

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

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

SUNDAY

E-11:30 a.m., C-10:30, M-9:30, P-8:30
C — Major Bowes' "Family"
CFRB KERN KFAB KFBB KFBK KFH KFPY KFRC KGB KGVO KMBC KOH KOL KRLD KSL KTRH KTSA KVI KVOR KWG KWKH WABC WACO WADC WALA WBNS WBRC WCAO WCCO WDAE WDBJ WDBO WDNC WESG WFBL WFEA WHAS WHK WIBX WJAS WJR WKRC WLBZ WMBD WMBR WMMN WOC WOKO WORC WPG WQAM WSBT WSJS WSPD WTOC

B — Morton Bowe, Tenor
KOIL KPRC KSO KSTP KWK WAPI WAVE WBAL WBZ WBZA WFIL WIBA WJDX WJZ WLW WMAL WMAQ WMC WMT WREN WSB WSM WSMB WXYZ

SUNDAY (*Continued*)

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

C — Salt Lake Tabernacle Choir

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

B — Radio City Music Hall

CFCF CRCT KDKA KDYL KFI KFYR KGO KGW KHQ KOIL KOMO KPRC KSO KVOO WAPI WBAL WBZ WBZA WCKY WDAY WEBC WGAR WHAM WIS WJDX WJZ WKY WMAL WOAI WREN WSMB WSYR WWNC

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

C — Trans-Atlantic Broadcast

CFRB CKAC KFH KGKO KLRA KLZ KMBC KRLD KSCJ KTRH KTSA KVOR WABC WACO WADC WALA WBIG WBRC WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WESG WFBL WFBM WFEA WGR WHAS WIBX WJAS WJSV WKBN WLAC WLBZ WMBD WMBR WNAC WOC WOKO WORC WPG WQAM WREC WSJS WSMK WSPD WTOC WWL

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

C — Church of the Air

KFBK KFH KFPY KFRC KGB KHJ KMOX KOH KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KVI KVOR KWG WABC WALA WBNS WBT WCAO WCCO WDAE WDBJ WDBO WDRC WESG WFBL WFBM WGR WHAS WHP WIBX WJAS WJSV WKBN WKRC WLAC WLBZ WMBR WNBF WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC WWVA

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

R—Muriel Dickson; Morton Bowe

KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KYW WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WFBR WGY WIBA WIRE WJAR WMAQ WNAC WOW WRC WTAG WTAM WTIC WTMJ WWJ

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

C — Pittsburgh Symphony

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

B — Magic Key of RCA

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

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

C — Cook's Travelogue

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

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

C — New York Philharmonic

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

R — Metropolitan Auditions

CFCF KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KTAR KYW WAPI WAVE WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WFBR WGY WHO WIBA WIRE WJAR WJDX WMAQ WMC WNAC WOW WRC WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ

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

R — Grand Hotel; Drama

KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFBR WGY WHO WIBA WJAR WMAQ WNAC WOW WRC WSAI WTAG WTAM WTIC WWJ

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

R—Musical Camera; Willie Morris

KDYL KFI KGW KHQ KOA KOMO KPO KYW WBEN WCAE WCSH WEAF WGY WJAR WLW WMAQ WOW WRC WSB WSMB WTAM WTIC WWJ

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

C — Your Unseen Friend; Drama

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

R — Marion Talley, Soprano

KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSTP KYW WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WFBR WGY WHIO WIBA WIRE WJAR WMAQ WNAC WOW WRC WTAG WTAM WTIC WTMJ WWJ

B — We, The People; Phil Lord

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

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

C — Guy Lombardo and Orchestra

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

R — Smiling Ed McConnell

KDYL KFI KFYR KGIR KGW KHQ KOMO KPO KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFBR WGY WHO WIBA WJAR WLW WMAQ WNAC WOW WRC WTAG WTAM WTIC WTMJ WWJ

B — Stoopnagle and Budd

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

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

C — Joe Penner; Jimmy Grier

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

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

C — Rubinoff and His Violin

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

R — A Tale of Today

WBEN WEAF WGY WJAR WMAQ WOW WRC WTAM

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

C — Professor Quiz

KFAB KFBB KFH KFPY KGKO KGVO KNOW KOH KOIN KOL KOMA KRLD KRNT KSCJ KSFO KTRH KTSA KTUL KVOR KWKH WABC WACO WADC WALA WBBM WBNS WBRC WBT WCAO WCOA WDAE WDBO WDNC WFBL WFBM WGR WGST WHEC WHIO WHK WHP WIBX WJAS WJNO WLBZ WMAS WMBD WMBG WMMN WNOX WOKO WORC WPG WREC WSBT WSFA WSJS WSPD WTOC

R — Jack Benny; Mary Livingstone

KSD KYA KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHO WJAR WLW WMAQ WNAC WOW WRC WTAG WTAM WTIC WWJ

SUNDAY (*Continued*)

E-7:30 p.m., C-6:30, M-5:30, P-4:30
C—Phil Baker; Oscar Bradley
KLRA KLZ KRLD KTRH KTSA KTUL KWKH WABC WACO WADC WALA WBIG WBNS WBRC WBT WCAO WCAU WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGR WGST WHAS WHEC WHK WHP WIBX WICC WJAS WJR WJSV WKBN WKRC WLAC WLBZ WMAS WMBR WNAC WNOX WOKO WORC WQAM WREC WSBT WSFA WSJS WSMK WSPD WTOC WWL WWVA

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

B — Ozzie Nelson; Bob Ripley
KDKA KOIL KPRC KSO KTBS KTHS KVOO KWK WAPI WAVE WBAL WBAP WBZ WBZA WCKY WFIL WGAR WHAM WHIO WIRE WJDX WJZ WKY WLS WMAL WMC WMT WOAI WREN WSB WSM WSMB WSYR WXYZ

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

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

R — Want to be an Actor?
CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WNAC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WSUN WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

E-9:00 p.m., C-8:00, M-7:00, P-6:00
R — Manhattan Merry-Go-Round
CFCF KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KYW WAVE WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

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

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

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

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

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

R — General Motors Concert
CFCF CRCT KDYL KFI KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSTP KTAR KTBS KTHS KYW WAPI WAVE WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WNAC WOAI WOOD WOW WPTF WRC WRVA WSB WSM WSMB WSOC WSUN WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

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

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

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

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

Andre Kostelanetz used to be a foremost conductor of opera in pre war Russia, when he conducted for the Petrograd Grand Opera House. Now, he is the leader of the largest dance orchestra in radio; forty-five musicians play lively, popular tunes under his direction.

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Standard

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

CONCERTS

Frank Black, 2 p.m. Sun., B
Rosario Bourdon, 8 p.m. Fri., R
Ford Concert, 9 p.m. Sun., C
Metropolitan Auditions, 3 p.m. Sun., R
General Motors Concert, 10 p.m. Sun., R
New York Philharmonic, 3 p.m. Sun., C
Pittsburgh Symphony, 2 p.m. Sun., C
Radio City Music Hall, 12:30 p.m. Sun., B
Don Voorhees, 8 p.m. Wed., C

DANCE BANDS

Victor Arden, 8 p.m. Wed., B; 8 p.m. Fri., C; 1:30 p.m. Sun., R
Ben Bernie, 9:00 p.m. Tues., B
Bunny Berigan, 6:45 p.m. Sat., C
Ray Block, 10:30 p.m. Mon., R
Oscar Bradley, 7:30 p.m. Sun., C
Jimmie Dorsey, 10 p.m. Thurs., R
Tommy Dorsey, 9:30 Mon., B
Shep Fields, 9:15 and 11:30 p.m. Sun., B
Lud Gluskin, 10:30 Sat., C
Al Goodman, 9 and 11:15 p.m. Thurs., R
Benny Goodman, 9:30 and 11:30 p.m. Tues., C
Johnny Green, 9:30 p.m. Tues., R
Jimmy Grier, 6 p.m. Sun., C
Ferde Grofe, 8 p.m. Sat., R
Gus Haenschen, 9:30 p.m. Sat., C
Horace Heidt, 8 p.m. Mon., C
Richard Himber, 9:30 p.m. Mon., R
Hal Kemp, 8:30 and 11:30 p.m. Fri., C
Henry King, 8:30 and 11:30 p.m. Wed., C
Wayne King, 8:30 p.m. Tues. and Wed., R, 10 p.m. Mon., C
Andre Kostelanetz, 9 p.m. Wed., C
Benny Krueger, 8:30 and 11:30 p.m., Mon., C
Guy Lombardo, 5:30 Sun., C
Vincent Lopez, 9 p.m. Sat., C
Abe Lyman, 8:30 p.m. Mon., B, 9 p.m. Fri., R
Ozzie Nelson, 7:30 Sun., B
Raymond Paige, 9 p.m. Fri., C
Leo Reisman, 8 and 11:30 p.m. Tues., R
Jacques Renard, 8:30 and 11 p.m. Sun., C
Joe Rines, 11:30 a.m. Sun., B
Harry Salter, 10 p.m. Sat., C
Andy Sanella, 9 p.m. Sun., R
Harry Sosnik, 10 p.m. Wed., R; 10 p.m. Sun., B
Georgie Stoll, 9:30 p.m. Tues., C
Rudy Vallee, 8 p.m. Thurs., R
Peter Van Steeden, 9 p.m. Wed., R
Don Voorhees, 5:30 p.m. Sun., and 8 p.m. Sat., B
Fred Waring, 9:00 Tues., C.; 9:00 Fri., B
Victor Young, 8:30 and 11:30 p.m. Tues., C

DIALOG

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

DRAMA

Ethel Barrymore, 8:30 p.m., Wed., B
Jimmy Braddock, 7:15 p.m. Tues., Wed., Thurs., C
Helen Claire, 9:30 p.m. Fri., B
Columbia Workshop, 8:30 p.m. Sat., C
Death Valley Days, 8:30 p.m. Fri., B
First Nighter, 10 p.m. Fri., R
Gang Busters, 10 p.m. Wed., C
Goose Creek Parson, 7:30 and 10:45 Mon., Wed., Fri., C
Grand Hotel, 3:30 p.m. Sun., R
Helen Hayes, 8:00 Mon., B
Hollywood Hotel, 9 p.m. Fri., C
Warden Lawes, 9 p.m. Mon., R
Log Cabin Ranch, 8 p.m. Tues., B
Phillips Lord, 10 p.m. Wed., C
Lux Radio Theater, 9 p.m. Mon., C
News of Youth, 6:15 p.m. Mon., Wed., Fri., C
One Man's Family, 8 p.m. Wed., R
Renfrew of the Mounted, 6:45 and 11:15 p.m. Mon. thru Fri., C
Irene Rich, 8 p.m. Fri., B
Snow Village Sketches, 9 p.m. Sat., R
Tale of Today, 6:30 p.m., Sun., R
True Story Court, 9:30 p.m. Fri., R
Welcome Valley, 8:30 p.m. Tues., B
Your Unseen Friend, 5 p.m. Sun., C

POPULAR PROGRAMS

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

SINGERS

Fred Astaire, 9:30 p.m. Tues., R
Kenny Baker, 7 and 11:30 p.m. Sun., R
Morton Bowe, 1:30 p.m. Sun., R; 11:30 a.m. Sun., B; 9:30 p.m. Mon., B
Bobby Breen, 8:30 and 11 p.m. Sun., C
Rachel Carlay, 9 p.m. Sun., R
Bernice Claire, 9 p.m. Fri., R, and 8:30 Mon., B

Jerry Cooper, 10:30 p.m. Mon., R
Mario Cozzi, 7:15 p.m. Fri., B
Bing Crosby, 10 p.m. Thurs., R
Edith Dick, 10 p.m. Sat., C
Muriel Dickson, 1:30 p.m. Sun., R
Bing Crosby, 10 p.m. Thurs., R
Fifi D'Orsay, 8 p.m. Wed., B
Jessica Dragonette, 8 p.m. Fri., R; 9:30 p.m. Wed., C
Phil Duey, 8 and 11:30 p.m. Tues., R
Deanna Durbin, 8:30 and 11 p.m. Sun., C
Nelson Eddy, 8 p.m. Sun., C
Jack Fulton, 7 and 11 p.m. Mon. through Thurs., C
Wendell Hall, 10 p.m. Sun., C
Helen Jepson, 9 and 11:15 p.m. Thurs., R
Al Jolson, 8:30 and 11:30 p.m. Tues., C
Elizabeth Lennox, 8:00 p.m. Fri., C
Helen Marshall, 7:30 p.m. Sun., R
Tony Martin, 8:30 and 11:30 p.m., Wed., C
Ed McConnell, 5:30 p.m. Sun., R
Lucy Monroe, 9:30 p.m. Sun., R
Morin Sisters, 7:45 and 11 p.m. Sun., R
Willie Morris, 4:30 p.m. Sun., R
Frank Munn, 9:30 p.m. Sun. and 9 p.m. Fri., R
Frank Parker, 9:15 and 11:30 p.m. Sun., B
Jan Peerce, 6:30 p.m. Sun., C
Carmella Ponselle, 8:00 p.m. Fri., C
Dick Powell, 9 p.m. Fri., C
Virginia Rea, 6:30 p.m. Sun., C
Martha Raye, 8:30 and 11:30 p.m. Tues., C
Lanny Ross, 9 p.m. Thurs., R
Singin' Sam, 8:15 Fri., B
Sally Singer, 10:30 p.m. Mon., R
Kate Smith, 8 p.m. Thurs., C
Oliver Smith, 5 p.m. Sun., C
Marion Talley, 10 p.m. Fri., R
Conrad Thibault, 9:30 p.m. Tues., R
Kay Thompson, 8:30 and 11:30 Fri., C
Francia White, 9:30 p.m. Tues., R
Trudy Woods, 9:30 p.m. Tues., R

TALKS

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

When KYW of Philadelphia became, on Sept. 1, the 15th station managed by the NBC, a rather unusual arrangement was terminated. When this station was moved from Chicago to Philadelphia two years ago the NBC and Westinghouse officials arranged with the Levy Brothers, operators of WCAU, to manage the station in order that the extensive studio facilities of WCAU could be used. The Levy Brothers are among the largest stockholders in the CBS, and thus they were in the position of operating a CBS station and providing studios for an NBC station. Dr. Levy himself asked to be relieved of this arrangement as he felt that, although he endeavored to be fair in all his business arrangements, he felt that each station was being deprived of proper guidance.

New studios will be built by KYW, but the studios of WCAU will be used until their own are completed. Leslie Joy will be the manager of the station.

These are just a few sidelights on the progress radio has made. According to the log book kept by the CBS, their first program, Sept. 18, 1927, ran 46 minutes overtime. A recent entry in the log reads: "Program from Buenos Aires started three seconds late. Otherwise OK."

The further engineering progresses, the further there is to go. This is especially true in shortwave broadcasting. Increased knowledge of the behavior of these signals has enabled engineers to increase their strength considerably. But that is just the trouble. Traveling at a rate of 186,000 miles per second, and strong enough to encircle the globe, s.w. messages produce "round-the-world" echoes. The word "hello," going around the world seven and a half times in a second, is heard as a long "Hello-o-o-o-o-o."

Lithuania now possesses two broadcasting stations, one at Kaunas and the other at Klaipeda (Memel). Both stations are government owned and operated, and under the jurisdiction of the Postal Administration of the Ministry of Communications. The Klaipeda station came on the air early this year and has tested on several wavelengths. At the present time it is working on 531 meters (565 kcs) with a maximum power output of 10 kw.

Where to Get the DAY'S NEWS

The time given in these news flash schedules is daily except Sunday unless otherwise noted.

1 Thursday only
2 Sunday only
3 Monday only
4 Except Monday
5 Except Saturday
6 Tuesday and Friday
7 Tues., Thurs. and Sat.
8 Mon., Wed., and Fri.
9 Saturday only
a Including Sunday
b Tuesday and Wednesday
c Tues., Thurs. and Fri.
d Thurs., Fri. and Sat.

ATLANTIC TIME

7:15 a.m.
WKAQ 1240
8:00 a.m.
CFNB 550
8.15 a.m.
CJCB 1240
CKCW 1370
8:30 a.m.
CHNC 960
10:30 a.m.
CHNS 930
11:00 a.m.
CJCB 1240

Noon
CJCB 1240
12:30 p.m.
CHNC 1010
12:45 p.m.
CFNB 550
CHNS 930
1:15 p.m.
CKCW 1370
5:00 p.m.
CFNB 550
CHNC 1010

5:30 p.m.
CKCW 1370
6:00 p.m.
CJCB 1240
7:00 p.m.
CFNB 550
7:15 p.m.
CJCB 1240
WKAQ 1240
7:30 p.m.
CHNS 930
10:00 p.m.
WKAQ 1240

EASTERN STANDARD TIME

6:30 a.m.
WWJ 920
7:00 a.m.
WBZ 990
WCOP 1120
WDEV 550
WJR 750
WLS 870
WORL 920
7:15 a.m.
WHDH 830
WNBX 1260
WSAZ 1190
WSPR 1140
7:25 a.m.
WBAL 1060
WGY 790
WKRC 550
7:30 a.m.
WCMI 1310
WHKC 640
WMBC 1420
7:35 a.m.
WICC 600
WXYZ 1240
7:40 a.m.
WPTF 680
WWNC 570
7:45 a.m.
CFCF 600
WBEN 900
WDRC 1330
WEEI 590
WJAY 610
WNBC 1380
7:50 a.m.
WMAZ 1180
WQAM 560
7:55 a.m.
WFIL 560
WJZ 760
WRVA 1110
8:00 a.m.
CFRB 690
CJCS 1210
WBT 1080
WDAE 1220
WEAN 780
WEBR 1310
WFDF 1310
WGBI 880
WIIO 1260a
WHK 1390a
WJAS 1290
WNAC 1230
WOR 710

WORC 1280
WORL 920
WPRO 630
WSOC 1210
WSPA 920a
WSPD 1340
WTAG 580
WTIC 1040
WTNJ 1280
8:15 a.m.
KDKA 980
WCSC 1360
WDBJ 930
WDBO 580
WEAF 660
WIP 610
WIS 560
WMMN 890
WORK 1320
8:30 a.m.
WGH 1310
WJR 750
WLS 870
WMCA 570
WTFI 1450
8:45 a.m.
WEAN 780[2]
WNAC1230[2]
WORC1280[2]
WRUF 830
WSPR 1140[2]
WTIC 1040[2]
8:55 a.m.
WEAN 780
WSPD 1340
9:00 a.m.
WABY 1370
WAZL 1420
WBEN 900
WDEV 550
WGR 550
WMAL 630
WMFF 1310
WORL 920
9:15 a.m.
WBRE 1310
WNBC 1380
9:30 a.m.
WDRC 1330
WMCA 570
9:35 a.m.
WMAZ 1180
9:40 a.m.
WKRC 550
9:45 a.m.
WCOP 1120[2]

WGR 550[2]
WHDH 830
WJAY 600
WPG 1100
WQAM 560
WSPR 1140
9:55 a.m.
WDEL 1120
10:00 a.m.
WBAL 1060
WCOP 1120
WDEV 550
WFDF 1310
WFIL 560
WKBW 1480
WMAZ1180[2]
WMCA 570[2]
WNBH 1310
WNYC 810
WOR 710
WORL 920
WSOC 1210
10:15 a.m.
WNBC1380[2]
WSAR 1350
WSPD 1340
10:30 a.m.
WOV 1130
WRUF 830[2]
WSPA 920
WSPR 1140[2]
10:45 a.m.
W2XR 1550
11:00 a.m.
WBAL 1060
WDEV 550
WGBI 880
WGR 550
WLS 870
WMBC 1420
WORL 920
WPTF 680
WTFI 1450[2]
11:30 a.m.
CMJA 1010
WCOP 1120
11:45 a.m.
WKAR 850
WMAZ 1180
WQAM 560
11:55 a.m.
WJAY 610
WRUF 830

Noon
CHML 1010
KDKA 980

WALR 1210
WBAL 1060
WBZ 990
WDBO 580
WDEV 550
WELL 1420
WESG 850
WFDF 1310
WFIL 560
WHDH 830a
WHIO 1260a
WIP 610
WIS 560
WKBW 1480
WMMN 890
WOKO 1430
WORC 1280
WORL 920
WQAM 560
WSOC 1210
WSPA 920[2]
WSPD 1340
WXYZ 1240
12:10 p.m.
WGY 790
12:15 p.m.
WCAP 1280
WCLS 1310
WCSC 1360
WCSH 940
WDRC 1330
WEAN 780
WEBR 1310
WHAM 1150
WKBN 570
WLBZ 620
WMCA 570
WNBC 1380
WSPR 1140
WWNC 570
12:20 p.m.
WPTF 680
12:25 p.m.
CKNX 1200
WFBC 1300
WJZ 760
12:30 p.m.
CJCS 1210
CKCL 580
CKSO 780
WAZL 1420
WBEN 900
WCAE 1220
WDAE 1220
WDEL 1120
WDRC1330[2]

WGBI 880[2]
WGH 1310
WHKC 640
WJAS 1290
WNBX 1260
WOR 710
WORK 1320
WQAN 880
WRVA 1110
WWJ 920
12:35 p.m.
CJKL 1310
12:40 p.m.
WLS 870
12:45 p.m.
WMCA 570[2]
WNAC1230[2]
WSAR 1350
WTIC 1040[2]
12:55 p.m.
WBRE 1310
1:00 p.m.
CKCV 1310
CKPR 730
CMHJ 1160
WBT 1080
WCOP 1120
WDEV 550
WEAF 660
WEAN 780
WEEI 590
WGR 550
WJR 750
WKRC 550
WLLH 1370
WNAC 1230
WNBH 1310
WORL 920
WPRO 630
WTAG 580
WTIC 1040
1:10 p.m.
CFRB 690
WCAD 1220
1:15 p.m.
WDBJ 930
WFBC 1300[2]
WNBC1380[2]
1:30 p.m.
WEAN 780[2]
WGR 550[2]
WSPR 1140
WTFI 1450
1:50 p.m.
WMAZ 1180

1:55 p.m.
WRUF 830
2:00 p.m.
WDEV 550
WFDF 1310
WICC 600
WKBW 1480
WORL 920
2:30 p.m.
WORC 1280[2]
WSPA 920
2:45 p.m.
WNBC 1380
WSPR 1140
2:55 p.m.
WJAY 600
3:00 p.m.
WBRE 1310
WDEV 550
WDBR 1310
WELL 1420
WGBI 880
WGR 550
WHDH 830
WHIO 1260a
WKBW 1480
WMMN 890
WORL 920
WQAM 560
3:15 p.m.
WPTF 680
3:45 p.m.
WBAL 1060
3:55 p.m.
WRUF 830
4:00 p.m.
WCOP 1120
WDAE 1220
WDEV 550
WKBW 1480
WOR 710
WORL 920
WOV 1130
4:15 p.m.
WRVA 1110
4:30 p.m.
WCMI 1310
WQAM 560
WQAN 880
4:45 p.m.
WCOP 1120[2]
WCSH 940
WNBC1380[2]
4:50 p.m.
WMAZ 1180

5:00 p.m.
CFCF 600
WDEV 550
WGR 550
WMAL 630
WNBC 1380
WORL 920
WOV 1130
WQAM 560
WSAZ 1190
WSPR 1140a
5:15 p.m.
WBAL 1060
WGR 550[2]
WMFF 1310
5:25 p.m.
WJAY 610
WNYC 810
5:30 p.m.
WNBH 1310
5:35 p.m.
WPTF 680
5:40 p.m.
WKRC 550
5:45 p.m.
CMHJ 1160
WBRE1310[8]
WDRC 1330
WICC 600
WPG 1100
WSAR 1350
6:00 p.m.
CKCL 580
CKCV 1310
KDKA 980
WALR 1210
WBEN 900
WBZ 990
WDAE 1220
WDBO 580
WEAN 780a
WEEI 590
WGBI 880a
WGR 550
WGY 790
WHDH 830
WHKC 640
WJZ 760
WLBZ 620
WMMN 890
WNAC 1230
WORC1280a
WPTF 680
WQAM 560
WSOC 1210
WSPA 920[2]
WTIC 1040

6:10 p.m.
WSPD 1340a
6:15 p.m.
CJCS 1210
WBT 1080
WCBA 1440
WDEL 1120
WEAF 660
WEBR 1310
WJAS 1290
WORK 1320
6:20 p.m.
WMCA 570
6:25 p.m.
WRVA 1110
6:30 p.m.
CFRB 690
CHML 1010
CKSO 780
WDRC1330a
WFDF 1310
WFIL 560
WGH 1310
WIS 560
WLLH 1370
WNAC1230[2]
WPRO 630
WTAG 580
WTIC 1040
WTNJ 1280
WWJ 920
WWNC 570
WXYZ 1240
6:35 p.m.
WDBJ 930a
WHAM 1150
6:40 p.m.
WHK 1390
6:45 p.m.
WDBO 580
WEAN 780
WGBI 880a
WLWL 1100
WMAZ 1180
WOR 710a
WRVA 1110
W2XR 1550
7:00 p.m.
CMJA 1010
WAZL 1420
WCLS 1440
WHAM1150[2]
WKBN 570a
WKBW 1480
WLBZ 620[2]
WQAM 560[2]

7:05 p.m.
WCSC 1360a
WMAZ1180[2]
7:15 p.m.
CKNX 1200
WBRE 1310
WTFI 1450
7:30 p.m.
CRCM 910
WNBX 1260
7:45 p.m.
WMCA 570[2]
WTFI 1450
8:00 p.m.
WELL 1420
WFDF 1310
WKBW 1480
8:15 p.m.
WCAP 1280
9:00 p.m.
CMCD 950
WAZL 1420
WFBC 1300
WGBI 880[2]
WGH 1310
WGR 550
9:15 p.m.
WMCA 570
9:30 p.m.
CMJK 780
9:45 p.m.
WORK 1320
10:00 p.m.
WBRE 1310
WDEL 1120
WFDF 1310
WGBI 880
WGR 550
WMAL 630
WNBH 1310
10:30 p.m.
CKCK 1010
CMCD 950
WDBJ 930
WEBR 1310
WGR 550[2]
WMMN 890
WSPD 1340
10:45 p.m.
CKCL 580
CRCM 910
WCBA 1440
WMCA 570
11:00 p.m.
CFRB 690
KDKA 980
WBEN 900
WBT 1080
WBZ 990
WCAE 1220
WCSC 1360
WDAE 1220
WDBO 580
WDRC 1330
WEAF 660
WEAN 780a
WEEI 590a
WFIL 560
WGY 790
WHIO 1260a
WIS 560
WJAS 1290
WJR 750
WKBW 1480
WKRC 550a
WMCA 570[2]
WNAC1230a
WOR 710a
WORC1280a
WPG 1100a
WPRO 630
WQAM 560a
WRVA 1110
WSOC 1210
WTAG 580
WTIC 1040a
WWNC 570
11:10 p.m.
WOKO 1430
11:15 p.m.
WHK 1390
WICC 600a
11:30 p.m.
WJZ 760
11:45 p.m.
WIP 610

CENTRAL STANDARD TIME

5:45 a.m.
KFNF 890
6:00 a.m.
KARK 890
WIBW 580
WMIN1370a
6:05 a.m.
WAAW 660
6:15 a.m.
WBAP 800
6:25 a.m.
WJJD 1130
6:30 a.m.
WOW 590
6:35 a.m.
KMOX 1090
6:40 a.m.
KGGF 1010
WDGY 1180
6:45 a.m.
KFAB 770
KRLD 1040
KVOO 1140
WNAX 570
6:55 a.m.
WJJD 1130
7:00 a.m.
KARK 890
KFRU 630
KLPM 1240
KRGV1260a
KRNT 1320
KSO 1430
KUSD 890[2]
WIBW 580
WMIN1370a
WMT 600
7:15 a.m.
KGGF 1010
KMBC 950
WGST 890
WHO 1000
7:25 a.m.
WDAF 610
7:30 a.m.
KFEQ 680
KUOA 1260
KWTO 560
WAAW 660
WDGY 1180
WDSU 1250
WIBA 1280
WMC 780
WSFA 1410
WTMJ 620
7:45 a.m.
KOMA 1480
KSOO 1110
KVOO 1140
WGST 890[2]
WNBR 1430
WOAI 1190
WOW 590
KARK 890
KFDM 560
KLPM 1240
KMOX 1090
KRGV1260a
WCOC 880
WFBM 1230
WKBH 1380
WMIN1370a
WSMB 1320
XET 690
8:05 a.m.
WILL 580
WSM 650
8:10 a.m.
WGST 890
8:15 a.m.
KFJM 1370
WDOD 1280
WJBY 1210
8:30 a.m.
KGBX 1230
WDGY 1180
WDSU 1250
WHBF 1210
8:45 a.m.
KFAB 770
WTAQ 1330
9:00 a.m.
KARK 890
KLPM 1240
KRGV 1260a
WJDX 1270
WMIN1370a
WMT 600
WNBR 1430
WROK 1410
WTMJ 620
9:15 a.m.
WNAX 570
9:30 a.m.
KOMA 1480
KRNT 1320[2]
KSO 1430[2]
KWTO 560
WAAW 660[2]
KGNF 1430
KMBC 950
WTRC 1310
9:45 a.m.
WDGY 1180
WJJD 1130
9:50 a.m.
WMFO 1370
10:00 a.m.
KARK 890
KFRU 630
KLPM 1240
KRGV 1260a
KSOO 1110
WMIN1370a
WSMB 1320
10:05 a.m.
WDGY 1180
10:15 a.m.
KGGF 1010
10:30 a.m.
KTAT 1240[5]
KUOA 1260
WDSU 1250
WIBA 1280
WJBY 1210
WNBR 1430
10:50 a.m.
KFH 1300
WAVE 940
WSM 650
WSMB 1320
11:00 a.m.
KARK 890
KFNF 890
KLPM 1240
KRGV 1260a
WISN 1120
WJDX 1270
WMIN1370a
WTRC 1310
11:10 a.m.
WCOC 880a
WDAY 940
WHO 1000
WKBH 1380
WQBC 1360
11:50 p.m.
WDGY 1180
1:00 p.m.
KARK 890
KGKL 1370
KRGV 1260a
WAAW 660
WGST 890
11:45 a.m.
WMT 600
11:50 a.m.
WBAA 890
WDAF 610
WOAI 1190
Noon
KARK 890
KFRU 630
KGNF 1430
KVOL 1310
WJAG 1060
WKBH1380[2]
WNAX 570
WROK 1410
KFJM 1370
KUOA 1260
KWTO 560
KGBX 1230
KTAT 1240[5]
WDSU 1250
WHBF 1210
WIBA 1280
WJBY 1210
WNBR 1430
WOW 590
WSFA 1410
WSM 650
WSMB 1320
12:35 p.m.
KFEQ 680
KLPM 1240
12:40 p.m.
WOI 640
12:45 p.m.
KSOO 1110a
WCOC 880a
WDAY 940
WHO 1000
WKBH 1380
WQBC 1360
12:50 p.m.
WDGY 1180
1:00 p.m.
KARK 890
KGKL 1370
KRGV 1260a
WAAW 660[2]
WAVE 940[9]
WMIN1370a
WTRC 1310
WTAQ1330a
1:05 p.m.
KWTO 560[2]
1:15 p.m.
KWTO 560
KGNF 1430
KMBC 950
KRGV 1260a
WIBW 580
1:50 p.m.
WMFO 1370
1:55 p.m.
WGST 890
2:00 p.m.
KARK 890
KRGV 1260a
WAVE 940
WMIN1370a
2:15 p.m.
WDGY 1180
2:30 p.m.
WDSU 1250a
WNBR 1430
WSFA 1410
WTAQ 1330
2:45 p.m.
WBAP 800
WIBW 580
2:55 p.m.
KFNF 890
3:00 p.m.
KARK 890
KFRU 630
KGNF 1430
KRGV 1260a
KSOO 1110
KWTO 560
WGST 890
WMIN1370a
WNAX 570
XEB 1030a
3:30 p.m.
WAVE 940
WDGY 1180
WGBF 630
WISN 1120
WJJD 1130
3:45 p.m.
KVOO 1140
WOW 590
4:00 p.m.
KARK 890
KMBC 950
KRGV 1260a
KUSD 890[5]
WMIN1370a
WTAQ 1330
4:15 p.m.
WAAW 660[2]
WJAG 1060
4:30 p.m.
WAAW 660
WDAF 610
WDGY 1180
WOI 640
4:45 p.m.
WTMJ 620
4:50 p.m.
WMFO 1370
5:00 p.m.
KARK 890
KFAB 770
KFDM 560
KOMA 1480
KRGV 1260a
KSOO 1110a
KUSD 890[5]
WDAF 610[9]
WHBF 1210
WMIN1370a
5:15 p.m.
WAAW 660
5:30 p.m.
KFEQ 680
KUOA 1260
KVOO 1140
WBBZ 1200
WDGY 1180
WJDX 1270
5:45 p.m.
KLPM1240[2]
WDGY 1180
WDSU 1250a
WIBA 1280[2]
WSMB 1320
XET 690
5:50 p.m.
WDGY1180[2]
WSUI 880
5:55 p.m.
KFJM 1370
WJBY 1210
6:00 p.m.
KARK 890
KLPM 1240
KMOX 1090
KRGV 1260a
KVOL 1310
KGBX 1230a
WDOD 1280
WHBF 1210
WIBW 580a
WMIN1370a
WOAI 1190
WOW 590
WSFA 1410[2]
6:05 p.m.
WGST 890a
6:30 p.m.
KSO 1430
WHO 1000
WIBZ 1280
WMT 600
WNAX 570
WNBR1430a
WSFA 1410
WTAQ 1330a
6:35 p.m.
XEB 1030
6:45 p.m.
WFBM 1230
WKBH 1380
WSMB 1320
7:00 p.m.
KARK 890
KFAB 770
KFDM 560
KOMA 1480
KRGV 1260a
KSOO 1110a
KUSD 890[5]
WDAF 610[9]
WHBF 1210
WMIN1370a
KRGV 1260a
WFBM 1230
WKBH 1380
WSMB 1320
7:00 p.m.
WDAF 610
WHBF 1210
WMIN1370a
7:15 p.m.
KFNF 890
7:45 p.m.
KUSD 890[2]
8:00 p.m.
KARK 890
KGBX 1230
KGKL 1370
KRGV 1260a
KUSD 890[5]
WHBF 1210
WIBW 580a
WMIN1370a
WNBR1430[2]
WSUI 880
9:15 p.m.
KFPW 1210
KFRU 630
KTAT 1240
WGBF 630a
WSFA 1410[2]
9:45 p.m.
KMBC 950
WDOD 1280
WDSU 1250a
WFBM1230[2]
WIBW 580a
WROK 1410
10:00 p.m.
KARK 890
KPRC 920
KRGV 1260a
KRLD 1040
KUSD 890[5]
WDAY 940a
WHBF 1210
WJDX 1270a
WMIN1370a
WMT 600
WNBR 1430
WOAI 1190
WTMJ 620a
10:05 p.m.
WGST 890
10:15 p.m.
KLPM 1240
KRNT 1320a
KSO 1430a
WFBM 1230
WMC 780
WOAI 1190
WCOC 880a
WTAQ1330a
10:30 p.m.
KMOX 1090
WOW 590
WSMB 1320
XEB 1030
10:45 p.m.
KOMA1480a
11:00 p.m.
KARK 890
KFH 1300a
WGST 890a
WHBF 1210
WIBW 580
WMIN1370a
11:15 p.m.
KMOX1090[2]
WHO 1000a
11:30 p.m.
WMC 780
11:45 p.m.
WDSU 1250
Midnight
KARK 890
KMBC 950
WHBF 1210

MOUNTAIN STANDARD TIME

6:30 p.m.
KOBH 1370
6:50 a.m.
KFXD 1200
7:00 a.m.
KOA 830
7:15 a.m.
KGVO 1260
KTFI 1240
KVOR 1270
7:30 a.m.
KDYL 1290
7:45 a.m.
KLZ 560
KOBH 1370
7:55 a.m.
KSL 1130
8:00 a.m.
CHAB 1200
CJCJ 690
CJRM 540
CKCK 1010
KFEL 920

8:15 a.m.
KLO 1400
8:30 a.m.
KDFN 1440
KDYL 1290
KSEI 900
8:45 a.m.
KIUN 1420
9:00 a.m.
KOBH 1370
KVOD 920
9:30 a.m.
KDYL 1290
KGHF 1320
KTFI 1240
9:45 a.m.
KFBB 1280
9:50 a.m.
KFXD 1200
KSEI 900

10:00 a.m.
KDFN 1440
KOY 1390
KTAR 620
KVOD 920a
10:30 a.m.
KDFN 1440
KIDO 1350
KOBH 1370
11:00 a.m.
KDFN 1440
11:10 a.m.
KDYL 1290
11:15 a.m.
KLZ 560[2]
11:30 a.m.
KOA 830
11:50 a.m.
KLO 1400
Noon
KFEL 920a

KGIR 1340
KIDO 1350
KTAR 620
12:15 p.m.
KDFN 1440[2]
KFBB 1280
KGVO 1260
KLZ 560
KVOR 1270
XEAF 990
12:20 p.m.
KOY 1390a
12:30 p.m.
CHAB 1200
CKCK 1010
KDFN 1440
KFKA 880
KFXD 1200
KGCU 1240
12:45 p.m.
CJRM 540

KSL 1130
12:55 p.m.
KDYL 1290
KTFI 1240
1:00 p.m.
KVOD 920
1:30 p.m.
KGHF 1320
1:50 p.m.
KFXD 1200
KIDO 1350
2:00 p.m.
KVOD 920
2:30 p.m.
KSL 1130[2]
KTFI 1240
3:00 p.m.
KDYL 1290
KIDO 1650
KOY 1390

3:15 p.m.
KGVO 1260
KSL 1130
3:45 p.m.
KLZ 560a
4:00 p.m.
KDFN 1440
KDYL 1290[2]
KFEL 920a
4:30 p.m.
KOA 830
4:45 p.m.
KIBO 1350[2]
5:00 p.m.
CKCK 1010
KIDO 1350
KVOD 920
5:30 p.m.
KDFN 1440
KSEI 900
KTFI 1240

5:45 p.m.
KVOR 1270
5:55 p.m.
KDYL 1290
6:00 p.m.
KGIR 1340
KLO 1400
KOY 1390
6:15 p.m.
CHAB 1200
KGVO 1260
6:30 p.m.
KOBH 1370
KSL 1130
KTFI 1240
6:45 p.m.
KDFN 1440
KIUN 1420
7:00 p.m.
KFBB 1280
KFEL 920a

KIDO 1350
7:30 p.m.
KTFI 1240
8:00 p.m.
KSEI 900a
KVOD 920a
8:15 p.m.
KOB 1180
8:30 p.m.
KDFN 1440
KFXD 1200
8:45 p.m.
CKCK 1010
XEAF 990
9:00 p.m.
KGIR 1340
KTAR 620
9:15 p.m.
KGVO 1260
9:30 p.m.
CJCJ 690

10:00 p.m.
CJRM 540
KFBB 1280
KLZ 560a
KOBH 1370
KOY 1390
KVOD 920[2]
10:35 p.m.
KSL 1130
10:45 p.m.
KSL 1130a
11:00 p.m.
KDYL 1290a
KGIR 1340
KOA 830
11:15 p.m.
KTAR 620

PACIFIC STANDARD TIME

7:00 a.m.
KGDM 1100
KHSL 950
KQW 1010
7:15 a.m.
KFBK 1490
KMJ 580
7:30 a.m.
KFAC 1300
KIEM 1450
KIRO 710
KJR 970
KNX 1050
KRNR 1500
KWSC 1220
7:45 p.m.
KVI 570
8:00 p.m.
KGA 1470
KHQ 590
KIT 1310
KOL 1270
8:30 a.m.
CKOV 630
KFRC 610
KIRO 710
KOIN 940

KYOS 1040
8:45 a.m.
KFVD 1000
KWJJ 1040
9:00 a.m.
KFI 640
KFPY 890
KOL 1270
KPO 680
9:15 a.m.
KGDM 1100
KJR 970
KOOS 1390
9:30 a.m.
KHSL 950
KIRO 710
9:45 a.m.
KFWB 950
KNX 1050
10:00 a.m.
KJBS 1070
KQW 1010
10:15 a.m.
KFVD 1000
10:20 a.m.
KLX 880

10:30 a.m.
KIRO 710
11:30 a.m.
CJAT 910
KIRO 710
11:45 a.m.
KHQ 590
Noon
KFAC 1300
KIT 1310
KNX 1050
KOAC 550
KROW 930
KSFO 560
12:15 p.m.
CKOV 630
KFBK 1490
KHSL 950
12:30 p.m.
KFPY 890
KFRC 610
KFVD 1000
KGBU 900
KIEM 1450
KIRO 710
KJBS 1070

KMJ 580
KOL 1270
KOOS 1390a
KVI 570
12:45 p.m.
KOIN 940
KRNR 1500
KWSC 1220
KYOS 1040
1:00 p.m.
KFRC 610[2]
KGA 1470
1:15 p.m.
KGER 1360
1:30 p.m.
KIRO 710
1:45 p.m.
KHSL 950
2:00 p.m.
KFVD 1000
KGDM1100[2]
KLX 880
2:15 p.m.
KGDM 1100
2:30 p.m.
KIRO 710

KPO 680
2:45 p.m.
KYOS 1040
3:00 p.m.
KJBS 1070
KQW 1010
3:30 p.m.
KIRO 710
KOIN 940
3:40 p.m.
KFAC 1300
3:45 p.m.
KGER 1360
KOL 1270
KYOS 1040
4:00 p.m.
KFVD 1000
KGA 1470
KLX 880[2]
4:15 p.m.
KHSL 950
KRNR 1500
KWJJ 1040
4:30 p.m.
KIRO 710

4:45 p.m.
KFRC 610
KGDM 1100
KYOS 1040
5:00 p.m.
KFPY 890
5:15 p.m.
KOOS 1390
5:30 p.m.
CIOV 630
KIRO 710
5:45 p.m.
KPO 680
6:00 p.m.
KECA 1430
KFAC 1300
KFWB 950a
KQW 1010
KROW 930
XEMO 860
6:15 p.m.
KJR 970
KNX 1050
6:30 p.m.
KGBU 900

7:00 p.m.
KIT 1310
KLX 880
7:45 p.m.
KOAC 550
8:00 p.m.
KGA 1470
8:15 p.m.
KGBU 900
9:00 p.m.
KGFJ 1200
KIEM 1450
KJR 970a
KNX 1050a
KOIN 940[2]
KQW 1010
KROW 930
KSFO 560
9:15 p.m.
KGMB 1320
9:30 p.m.
KFPY 890a
KLX 880
KVI 570[2]
9:45 p.m.
KIT 1310

KOL 1270a
KVI 570
KYA 1230
10:00 p.m.
KFI 640a
KFRC 610a
KFWB 950a
KGA 1470
KGB 1330a
KOMO 920[5]
10:10 p.m.
KGER 1360a
10:30 p.m.
KFVD 1000
10:45 p.m.
KXA 750
11:00 p.m.
KECA 1430
11:45 p.m.
KROW 930
Midnight
KFWB 950
KNX 1050
1:00 a.m.
KGBU 900

The medium frequency television band, 2000-2100 kcs. was dropped from this service, but Purdue University and National Television Corp. of New York were granted special temporary authority to continue their tests in this band, provided no interference will be caused to the new inter city police radiotelegraph networks working between 2000 and 2850 kcs.

* * *

Freeman F. Gosden (Amos) has decided to convert his soldiers' Bonus into a fund to provide for the education of four Negro youths. The boys will be selected by the Editor of the "Chicago Defender" from the ranks of students at Tuscaloosa and the Hampton Institutes. Amos was a wireless operator in the navy during the World War.

* * *

An American airline, the Transcontinental and Western Air, Inc., is advertising now on station 2GB, Sydney, Australia. The contract is for three spot programs each week for 52 weeks.

SHORTWAVE STATIONS BY FREQUENCIES

Part I. (1.600 to 6.000 megs.)

Frequencies are given in megacycles per second. Power is given in parentheses in kilowatts and decimals thereof. Entering dial numbers in squares provided will aid in accurately calibrating the receiver.

Abbreviations:

Ann: Announces
Add: Address
Int: Interval signal
s/o: Sign off
(*): Will not verify

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

1.606

KIKP Ruby, Alaska

1.610

WQPC Chicago, Ill. (1). State of Ill.
WQPD DeQuoin, Ill. (1). State of Ill.
WQPF Effingham, Ill. (1). State of Ill.
WQPG Sterling, Ill. (1). State of Ill.
WQPM Macomb, Ill. (1). State of Ill.
WQPP Pontiac, Ill. (1). State of Ill.
WQPS Springfield, Ill. (1). State of Ill.

1.630

WEY Boston, Mass.
WKDT Detroit, Mich.

1.634

WPHE Marion County, Ind. (1). State of Ind.
WPHS Culver, Ind. (1). State of Ind.
WPHU Jasper, Ind. (1). State of Ind.
WQFE Seymour, Ind. (1). State of Ind.
WQFW Columbia City, Ind. (1). State of Ind.

1.638

Aeronautical:
KIFM Fairbanks, Alaska
KINH Ketchikan, Alaska
KINL Juneau, Alaska
KINZ Skagway, Alaska
KNBF Mekapu, T. H. (.2). Pan American Airways
KNBH Sand Island, Midway (.2). Pan American Airways
KNBI Wake Island. (.2). Pan American Airways

1.642

WRDP Paw Paw, Mich. (1). State of Mich.
WRDS E. Lansing, Mich. (1 kw nite; 5 kw day)

1.658

KNHD Redwood Falls, Minn. (.4). State of Minn
KSW Berkeley, Calif.
WPGC S. Schenectady, N. Y. (1 kw. nite, 5 kw day)

1.666

WMP Framingham, Mass. (1). Commonwealth of Mass.
WPEL W. Bridgewater, Mass. (1). Commonwealth of Mass.
WPEV Portable in Mass. (.05). Commonwealth of Mass.
WPEW Northampton, Mass. (1). Commonwealth of Mass.
..... Nashville, Tenn.

1.674

KGHK Palo Alto, Calif. (.02)
KGZT Santa Cruz, Calif. (.1)
KIUK Jefferson, Mo. (1 kw nite; 2.5 kw days)
WPSP Harrisburg, Pa. (1)

1.682

KACC Fairfield, Iowa. (.5). State of Iowa
KACD Atlantic, Iowa. (.5). State of Iowa
KGHO Des Moines, Iowa
KNFN Waterloo, Iowa. (.4)
KNFO Storm Lake, Iowa (.4)

1.692

WQFT Portable in Ohio. (.1). State of O.

1.698

KNGG Phoenix, Ariz. (1). State of A.
WAKJ Duval County, Fla. (.35). State of Fla.
..... W. Palm Beach, Fla. (.25)
..... Portable in Md. (.25)

1.706

KGPC St. Louis, Mo.
WKDU Cincinnati, Ohio
WPET Lexington, Ky.

1.710

CZ6F Hamilton, Ont.

1.712

COL2 Havana, Cuba
KACU Gladewater, Texas (.05)
KGHY Whittier, Calif. (.05)
KGJX Pasadena, Calif. (.4)
KGPJ Beaumont, Texas (.1)
KGPL Los Angeles, Calif.
KGPQ Honolulu, Hawaii (.5)
KGPR Fort Worth, Texas
KGZB Houston, Tex.
KGZL Shreveport, La.
KGZQ Waco, Tex.
KGZY San Bernardino, Calif. (.05)
KNFJ Pomona, Calif. (.05)
KNGE Cleburne, Tex. (.05)
KNGL Galveston, Tex. (.05)
KNHF Denton, Tex. (.05)
KVP Dallas, Texas. (.5)
VYR Montreal, P. Q. (.4)
WAKF Everett, Mass. (.05)
WAKV Fall River, Mass. (.05)
WPDB Chicago, Ill.
WPDC Chicago, Ill.
WPDD Chicago, Ill.
WPDU Pittsburgh, Pa.
WPED Arlington, Mass.
WPEH Somerville, Mass.
WPEI E. Providence, R. I.
WPFA Newton, Mass.
WPFN Fairhaven, Mass.
WPGF Providence, R. I.
WPGU Cohasset, Mass.
WPGV Boston, Mass. (.5)
WPHG Medford, Mass. (.05)
WQFL Oak Park, Ill. (.05)
WQFX Waukegan, Ill. (.1)

1.715 to 2.000 megs.

Amateurs. 'Phones work between 1.875 and 2.000 megs.

2.110

Boston fishing vessels, work WOU.
..... S. S. Denihy

2.150

Ships on Great Lakes, work WMI
..... S. S. Powhattan
..... S. S. Upson

2.318

CYQ Toronto, Ont. (.4)

2.342

CGZ Vancouver, B. C. (.4)

2.366

WAKC Freehold, N. J. (.1)

2.382

KGHT	Brownsville, Tex. (.025)
KGHV	Corpus Christi, Tex. (.05)
KNFE	Duluth, Minn.
KNHB	Green Bay, Wis. (.1)
WAKE	Oshkosh, Wis. (.1)
WPDN	Auburn, N. Y.
WPEA	Syracuse, N. Y.
WPFM	Birmingham, Ala. (.4)
WPGW	Mobile, Ala. (.4)

2.390

CJW	St. John, N. B. (.015)
CJZ	Verdun, P. Q. (.02)

2.396

VYW	Winnipeg, Man. (.6)

2.406

KGHZ	Little Rock, Ark.
KGPW	Salt Lake City, Utah
KNHE	Fort Smith, Ark. (.1)

2.414

KACE	Olympia, Wash. (.05)
KACJ	Wenatchee, Wash. (.25)
KACK	Bellingham, Wash. (.05)
KACN	San Buenaventura, Calif. (.05)
KACO	Tracy, Calif. (.015)
KACS	Bakersfield, Calif. (.5)
KACV	Walla Walla, Wash. (.05)
KGHS	Spokane, Wash. (.1)
KGHW	Centralia, Wash. (.05)
KGPA	Seattle, Wash.
KGPF	Santa Fe, N. Mex. (.025)
KGPS	Bakersfield, Calif. (.05)
KGZA	Fresno, Calif. (.5)
KGZM	El Paso, Texas
KGZN	Tacoma, Wash.
KGZO	Santa Barbara, Calif.
KGZV	Aberdeen, Wash. (.125)
KGZX	Albuquerque, N. Mex.
KNFA	Clovis, N. Mex. (.05)
KNFI	Mt. Vernon, Wash. (.05)
KNFP	Everett, Wash. (.05)
KNGU	Yakima, Wash. (.1)
KNGY	Lodi, Calif. (.04)
WAKN	Herkimer, N. Y. (.05)
WCK	Detroit, Mich.
WMO	Highland Park, Mich.
WPDA	Tulare, Calif. (.15)
WPDJ	Passaic, N. J.
WPDX	Detroit, Mich.
WPDY	Atlanta, Ga. (.4)
WPFH	Baltimore, Md.
WPFI	Columbus, Ga.
WPGH	Albany, N. Y. (.3)
WPGJ	Utica, N. Y. (.1)
WPGM	La Grange, Ga. (.05)
WQFB	Macon, Ga. (.05)
WQFJ	Oneonta, N. Y. (.05)
WQFV	Augusta, Ga. (.25)
WRDR	Grosse Pointe, Mich.
.....	Stockton, Calif. (.4)

2.422

KACA	Atchison, Kans. (.05)
KACI	Eureka, Calif. (.1)
KGPE	Kansas City, Mo.
KGPG	Vallejo, Calif.
KGZC	Topeka, Kans.
KNGF	Sacramento, Calif. (.5)
KNGV	Salina, Kans. (.05)
WMJ	Buffalo, N. Y. (.5)
WNFP	Niagara Falls, N. Y. (.135)
WPDR	Rochester, N. Y.
WPDW	Washington, D. C.
WPFU	Portland, Maine
WPHB	Nashua, N. H. (.05)

2.430

KGPB	Minneapolis, Minn. (.5)
KGZJ	Phoenix, Ariz.
KNGP	Shreveport, La. (.1)
KNHG	Prescott, Ariz. (.01)
WAKH	Bloomfield, N. J. (.05)
WAME	Baton Rouge, La. (.05)
WCPD	Charleston, S. C. (.05)
WPDI	Columbus, Ohio
WPDM	Dayton, Ohio
WPDS	St. Paul, Minn.
WPEK	New Orleans, La.
WPFD	Highland Park, Ill.
WPFK	Hackensack, N. J. (.5)
WPGI	Portsmouth, Ohio (.1)
WPHO	Zanesville, Ohio (.05)
WQFO	Lancaster, Ohio (.05)

2.442

KGHU	Austin, Tex. (.1)
KGPP	Portland, Ore.
KGPX	Denver, Colo.
KGZH	Klamath Falls, Ore.
KGZR	Salem, Ore. (.05)
KNHM	Fargo, N. Dak. (.1)
WAKO	Ft. Lauderdale, Fla. (.05)
WAMB	Connersville, Ind. (.04)
WMDZ	Indianapolis, Ind.
WPDE	Louisville, Ky.
WPDF	Flint, Mich.
WPDH	Richmond, Ind.
WPDL	Lansing, Mich.
WPEB	Grand Rapids, Mich. (.5)
WPES	Saginaw, Mich.
WPFC	Muskegon, Mich.
WPFE	Reading, Pa.
WPFG	Jacksonville, Fla.
WPFT	Lakeland, Fla. (.05)
WPFX	Palm Beach, Fla. (.05)
WPFY	Yonkers, N. Y. (.4)
WPFZ	Miami, Fla. (.5)
WPGL	Binghamton, N. Y. (.4)
WPGP	Muncie, Ind. (.1)
WPHM	Orlando, Fla.
WQFM	Wilkes-Barre, Pa. (.1)
WQFQ	Lafayette, Ind. (.05)
.....	Miami, Fla. (.04)
.....	York, Pa. (.04)

2.450

KACF	Chickasha, Okla. (.05)
KACL	Altus, Okla. (.05)
KACP	Ponca City, Okla. (.05)
KACR	Seminole, Okla. (.05)
KAPB	Cushing, Okla. (.05)
KAPC	Drumright, Okla. (.05)
KAPD	Eldorado, Kans. (.05)
KAPE	Norman, Okla. (.1)
KAPF	Okmulgee, Okla. (.05)
KGHN	Hutchinson, Kans. (.05)
KGHP	Lawton, Okla. (.05)
KGPH	Oklahoma City, Okla.
KGPO	Tulsa, Okla.
KGPZ	Wichita, Kans. (.25)
KGZF	Chanute, Kans. (.025)
KGZP	Coffeyville, Kans.
KNGK	Duncan, Okla. (.05)
KNGM	Rapid City, S. Dak. (.05)
KNGT	Muskogee, Okla. (.05)
KNHC	Ada, Okla. (.05)
KVPB	Huron, S. Dak. (.04)
WPDK	Milwaukee, Wis.
WPEE	Brooklyn, N. Y.
WPEF	Bronx, N. Y.
WPEG	New York, N. Y.
WPEP	Kenosha, Wis. (.1)
WPHF	Richmond, Va. (.15)
WQFG	Roanoke, Va. (.1)
WQFH	Lynchburg, Va. (.05)
WQFI	Petersburg, Va. (.25)
.....	Iola, Kans. (.05)

2.458

KACM	Big Spring, Tex. (.05)
KGZI	Wichita Falls, Tex. (.2)
KGZW	Lubbock, Tex. (.15)
KNFB	Idaho Falls, Idaho (.5)
KNGW	Brownwood, Tex. (.05)
WPDG	Youngstown, Ohio (.25)
WPDO	Akron, Ohio (.25)
WPDV	Charlotte, N. C. (.25)
WPFS	Asheville, N. C. (.5)
WPGD	Rockford, Ill.
WPHD	Steubenville, Ohio (.1)
WQFZ	Ottawa, Ill. (.5)
WRBH	Cleveland, Ohio
.....	Urbana, Ill. (.04)

2.466

KGOZ	Cedar Rapids, Iowa. (.05)
KGPD	San Francisco, Calif.
KGPI	Omaha, Nebr. (.4)
KGPK	Sioux City, Iowa
KGPM	San Jose, Calif.
KGPN	Davenport, Iowa
KGZG	Des Moines, Iowa
WAKB	New London, Conn. (.05)
WAKG	Clearwater, Fla. (.05)
WPEC	Memphis, Tenn.
WPEM	Woonsocket, R. I.
WPFV	Pawtucket, R. I.
WPFW	Bridgeport, Conn. (.05)
WPGA	Bay City, Mich.
WPGB	Port Huron, Mich.
WPGK	Cranston, R. I. (.05)
WPGX	Worcester, Mass. (.1)
WPHA	Fitchburg, Mass. (.05)
WPHN	Tampa, Fla. (.1)
WPHP	Jackson, Mich. (.05)
WQFA	New Haven, Conn. (.1)
WQFC	Gainesville, Fla. (.05)
WQFK	Clearwater, Fla. (.05)

2.474

KGHG	Las Vegas, Nev. (.05)
KGHM	Reno, Nev. (.05)
KNFH	Garden City, Kans. (.05)
KNGH	Dodge City, Kans. (.05)
WAKI	Sandusky, Ohio (.05)
WPDP	Philadelphia, Pa.
WPFO	Knoxville, Tenn.
WPFQ	Swarthmore, Pa.
WPFS	Asheville, N. C. (.5)
WPGZ	Johnson City, Tenn. (.05)
WPHY	Elizabethton, Tenn. (.1)

WQFY Mansfield, Ohio (.05)
WRDQ Toledo, Ohio (.4)

2.482

KGZE San Antonio, Tex.
WPGT New Castle, Pa. (.05)
WPHZ Oil City, Pa. (.05)
WQFF Monessen, Pa. (.05)
WQFU Sharon, Pa. (.05)

2.490

KACQ Kalaloch, Wash. (.01)
KGHD Seattle, Wash. (.05)
KGHX Santa Ana, Calif. (.4)
KGZD San Diego, Calif. (.05)
KGZU Lincoln, Nebr.
KNFC Pt. Angeles, Wash.
KNFG Olympia, Wash. (.05)
KNFK Bellingham, Wash. (.05)
KNFM Compton, Calif. (.025)
KNFX Ellenburg, Wash. (.01)
KNGB Yakima, Wash. (.05)
KNGC Vancouver, Wash. (.05)
KNGD Walla Walla, Wash. (.01)
KNGJ El Centro, Calif. (.05)
KNGN Norfolk, Nebr. (.025)
KNGQ Wenatchee, Wash. (.05)
KNGR Spokane, Wash. (.05)
KNGZ Ephrata, Wash. (.01)
WAKA Huntington, Ind. (.05)
WAKK Frankfort, Ind. (.05)
WPDT Kokomo, Ind.
WPDZ Fort Wayne, Ind.
WPFP Clarksburg, W. Va.
WPGN South Bend, Ind. (.1)
WPGO Huntington, N.Y. (.025)
WPGS Mineola, N. Y.
WPHI Charleston, W. Va. (.05)
WPHJ Fairmont, W. Va. (.1)
WPHQ Parkersburg, W. Va. (.05)
..... Marion. Ind. (.05)

2.506

KLH SanRafael,Calif.Pacific Tel. & Tel. Co.
WOU Marshfield, Mass. Phones fishing vessels. New England Tel. & Tel. Co.

2.512

KGM Ketchikan, Alaska
KLE Rose Inlet, Alaska
..... Ships owned by Alaska Pacific Salmon Co.

2.514

..... Hialeah, Fla. (.4) (*). Pub. coastal telephone.

2.522

KOW Edmonds, Wash. Pacific Telephone & Teleg. Co.

2.538

KDK Wrangell, Alaska
KILD Cordova, Alaska

2.550

WMI Lorain, Ohio. Works Great Lakes Ships.

2.566

KFF Union Bay, Alaska
KHV Nakeen, Alaska
KLA Waterfall, Alaska
KLD Hidden Inlet, Alaska
..... Ships owned by Nakat Packing Corp.

2.604

WVD Seattle, Wash. (.5). Alaskan Telephone Co., 517 Federal Office Bldg.
WXH Ketchikan, Alaska

2.608

Aeronautical Point - to - point, Green Chain:
KNCI Monroe, La.
KNCJ Dallas, Tex.
KNCY Shreveport, La.
WAJD Jackson, Miss.
WAJE Birmingham, Ala.
WEEA Atlanta, Ga.
WEEC Charleston, S. C.
WEEF Spartanburg, S. C.
WEEG Greensboro, N. C.
WEEJ Jacksonville, Fla.
WEEK S. Washington, Va.
WEEM Miami, Fla.
WEEO Summit, Ill.
WEEP Newark, N. J.
WOEN New Orleans, La.
WOEO Atlanta, Ga.
WOEV Louisville, Ky.

2.612

Aeronautical point - to - point, Brown Chain:
KGTF Fort Worth, Texas
KGUA El Paso, Texas
KGUG Big Spring, Texas
KGUP Phoenix, Ariz.
KGUQ Indio, Calif.
KGUR Glendale, Calif.
KGUS Blythe, Calif.
KGUT Robertson, Mo.
KIOO Oklahoma City, Okla.
KIOS Springfield, Mo.
KIOT Tulsa, Okla.
WAEI Detroit, Mich.
WNEH S. Washington, Va.
WSDC Newark, N. J.
WSDD Boston, Mass.
WSDG Chicago, Ill.
WSDH Murfreesboro, Tenn.
WSDI Cincinnati, Ohio
WSDK Memphis, Tenn.
WSDM Albany, N. Y.
WSDO Buffalo, N. Y.
WSDQ Berea, Ohio

2.616

KAEB Hydaburg, Alaska. (.04)
KAED Angoon, Alaska. (.04)
KAEF Jack Wade, Alaska. (.04)
KAEP Tenakee, Alaska

2.632

KIJW Shearwater Bay,Aaa (.05)
KIJX Kodiak Isl., Alaska
KIMA Pt. Hobron, Alaska
KIOC Pt. Wakefield, Aas. (.01)
KIOD Nellie Juan, Alaska. (.05)
KIOH Iron Creek, Alaska. (.05)
KIOI Akutan, Alaska. (.05)

2.636

Aeronautical point - to - point, Brown Chain:
See 2.612 megs.

2.640

Aeronautical point - to - point, Yellow Chain:
KNBJ Dallas, Texas
KNBK Brownsville, Texas
KNBM Oklahoma City, Okla.
KNBN Houston, Texas
KNBO Kansas City, Mo.
KNBP Wichita Falls, Texas
KNBQ Amarillo, Texas
KNBR Corpus Christi, Tex.
KNBS Austin, Texas
KNBU San Antonio, Texas
KNBV Fort Worth, Texas
KNBW Waco, Texas
KNCB Wichita, Kans.
KNCT Tulsa, Okla.
KNCX Robertson, Mo.
WAJC Memphis, Tenn.
WAJD Jackson, Miss.
WOEZ Chicago, Ill.

2.644

KGSK Billings, Mont.
KNCV Miles City, Mont.
KNWA St. Paul, Minn.
KNWB Fargo, N. Dak.
KNWD Bismark, N. Dak.
WAEH Milwaukee, Wis.
WSDS Chicago, Ill.

2.648

Aero, point - to - point, Orange Chain:
KGJW Brownsville, Tex.
KGUA El Paso, Texas
KGUG Big Spring, Texas
KGUR Glendale, Calif.
KNCH El Paso, Texas
WKDL Miami, Fla.
WMDU San Juan, Puerto Rico

2.670

United States Coast Guard Stations

2.676

United States Coast Guard, Atlantic Coast. Calling frequency.

2.684

United States Coast Guard, Great Lakes Stations.

2.688

U. S. Coast Guard, Great Lakes stations.

2.692

U. S. Coast Guard, Great Lakes stations.

2.704

U. S. Coast Guard, Great Lakes stations.

2.705

U. S. Coast Guard, Atlantic Coast. Working frequency.

2.720

Aero, point-to-point, Blue Chain:

KAFH	Burbank, Calif.
KGTH	Salt Lake City, Utah
KGTJ	Las Vegas, Nev.
KSI	Glendale, Calif.
KST	Kansas City, Mo.
KSX	Albuquerque, N. Mex.
WAEF	Newark, N. J.
WAEO	Chicago, Ill.
WHG	Columbus, Ohio

2.726

KIIY	Los Angeles, Calif. (.4)
WAJN	Portable in Fla. (.1)
WANB	Dinsmore, Fla. (.1)

2.732

Aero. point-to-point, Blue Chain: See 2.720 megs.

2.738

Ships in Alaskan waters.

2.748

Aero. point-to-point, Green Chain: See 2.608 megs.

2.760

KOU	Wilmington, Calif. Southern Calif. Tel. & Tel. Co.

2.854

Aircraft and aero., Green Chain:

KNCI	Monroe, La.
KNCJ	Dallas, Texas
KNCY	Shreveport, La.
WAJD	Jackson, Miss.
WAJE	Birmingham, Ala.
WAJF	Daytona Beach, Fla.
WAJH	Murfreesboro, Tenn.
WAJI	Vero Beach, Fla.
WAJY	St. Petersburg, Fla.
WEEA	Atlanta, Ga.
WEEC	Charleston, S. C.
WEEF	Spartanburg, S. C.
WEEG	Greensboro, N. C.
WEEJ	Jacksonville, Fla.
WEEK	S. Washington, Va.
WEEM	Miami, Fla.
WEEO	Summit, Ill.
WEEP	Newark, N. J.
WEER	Richmond, Va.
WNEY	Baltimore, Md.
WNEZ	Camden, N. J.
WOEC	Chattanooga, Tenn.
WOEL	Mobile, Ala.
WOEM	Montgomery, Ala.
WOEN	New Orleans, La.
WOEO	Atlanta, Ga.
WOER	Raleigh, N. C.
WOES	Savannah, Ga.
WOEV	Louisville, Ky.

Purple Chain:

KAFA	Aberdeen, S. Dak.
KAFB	St. Paul, Minn.
KAFC	Sioux City, Iowa
KAFD	Kansas City, Mo.
KAFE	Bismark, N. Dak.
KAFF	Sioux Falls, S. Dak.
KAFG	Omaha, Nebr.
KGSK	Billings, Mont.
KGSL	Glendive, Mont.
KGSW	Helena, Mont. (.4)
KGSX	Spokane, Wash.
KGSY	Missoula, Mont.
KGSZ	Seattle, Wash.
KGTY	Butte, Mont.
KIKU	Wenatchee, Wash.
KNCV	Miles City, Mont.
KNWA	St. Paul, Minn.
KNWB	Fargo, N. Dak.
KNWD	Bismark, N. Dak.
WAEH	Milwaukee, Wis.
WSDS	Chicago, Ill.

2.870

Aircraft and aero., Orange Chain:

KGJW	Brownsville, Texas
KGUA	El Paso, Texas
KGUG	Big Spring, Texas
KGUN	Douglas, Ariz.
KGUR	Glendale, Calif.
KNCH	El Paso, Texas
WKDL	Miami, Fla.
WMDU	San Juan, Puerto Rico

2.906

Aircraft and aero., Blue Chain:

KAFH	Burbank, Calif.
KGSV	Great Falls, Mont.
KGSW	Helena, Mont. (.4)
KGTA	Winslow, Ariz.
KGTD	Wichita, Kans.
KGTH	Salt Lake City, Utah
KGTJ	Las Vegas, Nev.
KGTL	Kingman, Ariz.
KGTR	Robertson, Mo.
KGTX	Pocatello, Idaho
KGTY	Butte, Mont.
KNCS	W. Yellowstone, Mont.
KSI	Glendale, Calif.
KST	Kansas City, Mo.
KSV	Amarillo, Texas
KSX	Albuquerque, N. Mex.
WAEC	Pittsburgh, Pa.
WAEE	Philadelphia, Pa.
WAEF	Newark, N. J.
WAEG	Cresson, Pa.
WAEO	Chicago, Ill.
WHDP	Wilmington, Del.
WHG	Columbus, Ohio
WHM	Indianapolis, Ind.

2.912

KHW	Akutan, Alaska
KHZ	Port Hobron, Alaska

Aircraft and aero., Yellow Chain:

KNBJ	Dallas, Texas
KNBK	Brownsville, Texas
KNBM	Oklahoma City, Okla.
KNBN	Houston, Texas
KNBO	Kansas City, Mo.
KNBP	Wichita Falls, Texas
KNBQ	Amarillo, Texas
KNBR	Corpus Christi, Texas
KNBS	Austin, Texas
KNBU	San Antonio, Texas
KNBV	Fort Worth, Texas
KNBW	Waco, Texas
KNCB	Wichita, Kans.
KNCT	Tulsa, Okla.
KNCX	Robertson, Mo.
WAJC	Memphis, Tenn.
WAJD	Jackson, Miss.
WAQA	Chicago, Ill.
WAQB	New Orleans, La.
WOEZ	Chicago, Ill.

2.922

Aircraft and aero., Green Chain: See 2.854 megs.

2.930

Lighter-than-air craft and aero., stations serving them:

KIKL	Los Angeles, Calif.
WMEP	Suffield, Ohio
WREO	S. Washington, Va.

2.946

Aircraft and aero., Brown Chain:

KGTF	Fort Worth, Texas
KGTV	Beaumont, Texas
KGUO	El Paso, Texas
KGUG	Big Spring, Texas
KGUL	Abilene, Texas
KGUN	Douglas, Ariz.
KGUO	Tucson, Ariz.
KGUP	Phoenix, Ariz.
KGUQ	Indio, Calif.
KGUR	Glendale, Calif.
KGUS	Blythe, Calif.
KGUT	Robertson, Mo.
KGUU	Little Rock, Ark.
KIOO	Oklahoma City, Okla.
KIOS	Springfield, Mo.
KIOT	Tulsa, Okla.
WAEI	Detroit, Mich.
WAEJ	Springfield, Mo.
WAEQ	Elmira, N. Y.
WAER	Roanoke, Va.
WAES	Syracuse, N. Y.
WAET	E. Hartford, Conn.
WAEV	Knoxville, Tenn.
WAJZ	Boston, Mass.
WNEG	Charleston, W. Va.
WNEH	S. Washington, Va.
WREP	Peoria, Ill.
WSDC	Newark, N. J.
WSDD	Boston, Mass.
WSDF	Louisville, Ky.
WSDG	Chicago, Ill.
WSDH	Murfreesboro, Tenn.
WSDI	Cincinnati, Ohio

WSDJ Elkins, W. Va.
WSDK Memphis, Tenn.
WSDM Albany, N. Y.
WSDO Buffalo, N. Y.
WSDP Columbus, Ohio
WSDQ Berea, Ohio
WSDZ Indianapolis, Ind.
Green Chain: See 2.854 megs.

2.986

KGQ Todd, Alaska. (.05)
Aeronautical:
KIFM Fairbanks, Alaska
KINH Ketchikan, Alaska
KINL Juneau, Alaska
KINZ Skagway, Alaska
Aircraft and aero., Green Chain: See 2.854 megs.
Orange Chain:
KGUR Glendale, Calif.
Clipper Ship Pacific Service:
KNBD Alameda, Calif. (.2).
KNBE Glendale, Calif. (.2).
KNBF Mokapy, Oahu, T. H. (.2).
KNBG Sumay, Guam. (.2).
KNBH Sand Island, Midway. (.2)
KNBI Wake Island. (.2)

2.994

KILY Excursion Inlet, Alaska. (.05)
Aircraft and aero., Purple Chain: See 2.854 megs.

2.998

WXE Anchorage, Alaska.

3.005

Aircraft and aero., Purple Chain: See 2.854 megs.

3.040

YDA Tandjong Priok, Java, N.E.I. (10.) s/o: "End of a Perfect Day."

3.063

Aircraft and aero., Blue Chain:
KGTD Wichita, Kans.
KGTH Salt Lake City, Utah
KGTR Robertson, Mo.
KST Kansas City, Mo.
KSV Amarillo, Texas
KSX Albuquerque, N. Mex.
WAEC Pittsburgh, Pa.
WAEO Chicago, Ill.
WHG Columbus, Ohio
WHM Indianapolis, Ind.

3.073

Aircraft and aero., Blue Chain: See 2.906 megs.

3.083

Aero., Orange Chain: See 2.648 and 2.870 megs.

3.088

Aircraft and aero., Blue Chain: See 2.906 megs.

3.093

KIAY Ketchikan, Alaska

3.125

GBTT R. M. S. Queen Mary. Works WOO.

3.128

Aircraft and aero., Brown Chain: See 2.946 megs.

3.148

Aircraft and aero., Red Chain:
KEU Burbank, Calif.
KFM Sacramento, Calif.
KFO Oakland, Calif.
KGE Medford, Ore.
KGQZ San Diego, Calif.
KGT Fresno, Calif.
KGTZ Spokane, Wash.
KIJE Pendleton, Ore.
KJE Reno, Nev.
KKO Elko, Wyo.
KMP Omaha, Nebr.
KMR North Platte, Nebr.
KNCK Casper, Wyo.
KNCL Cheyenne, Wyo.
KNCM Billings, Mont.
KNCN Sheridan, Wyo.
KNCO Denver, Colo.
KOE Cheyenne, Wyo.
KQC Rock Springs, Wyo.
KQD Salt Lake City, Utah
KQM Des Moines, Iowa
KQQ Iowa City, Iowa
KQX Bakersfield, Calif.
KRA Boise, Idaho
KRD Pasco, Wash.
KFR Lincoln, Nebr.
KTU Redding, Calif.
KVO Portland, Ore.
KZJ Seattle, Wash.
WNAJ Toledo, Ohio
WNAK Cleveland, Ohio
WNAM Kylertown, Pa.
WNAO Newark, N. J.
WNAU Moline, Ill.
WUCG Chicago, Ill.

3.163

Aircraft and aero., Red Chain: See 3.148 megs.

3.173

Aircraft and aero., Red Chain: See 3.148 megs.

3.183

Aircraft and aero., Red Chain: See 3.148 megs.

3.223

Aircraft and aero., Brown Chain, Daytime only:
KGTF Fort Worth, Texas
KGTV Beaumont, Texas
KGUA El Paso, Texas
KGUG Big Spring, Texas
KGUL Abilene, Texas
KGUN Douglas, Ariz.
KGUO Tucson, Ariz.
KGUP Phoenix, Ariz.
KGUQ Indio, Calif.
KGUR Glendale, Calif.
KGUS Blythe, Calif.
KGUT Robertson, Mo.
KGUU Little Rock, Ark.
KIOO Oklahoma City, Okla.
KIOS Springfield, Mo.
KIOT Tulsa, Okla.
WAEJ Springfield, Ill.
WAER Roanoke, Va.
WAEV Knoxville, Tenn.
WNEG Charleston, W. Va.
WREP Peoria, Ill.
WSDF Louisville, Ky.
Red Network:
See 3.148 megs.

3.233

Aircraft and aero., Brown Chain: See 2.946 megs.

3.243

Aircraft and aero., Brown Chain: See 2.946 megs.

3.258

Aircraft and aero., Brown Chain: See 2.946 megs.

3.433

Aircraft and aero., Yellow Chain:
KNBJ Dallas, Texas
KNBK Brownsville, Texas
KNBN Houston, Texas
KNBR Corpus Christi, Texas
KNBS Austin, Texas
KNBU San Antonio, Texas
KNBV Fort Worth, Texas
KNBW Waco, Texas

3.448

Aircraft and aero., Brown Chain: See 2.946 megs.

3.453

Aircraft and aero., Yellow Chain: See 2.912 megs.

3.458

Aircraft and aero., Brown Chain: See 2.946 megs.

3.468

Aeronautical, Brown Chain: See 2.612 and 2.946 megs.

3.485

Aircraft and aero., Yellow Chain: See 2.912 megs.

3.500 to 4.000

Amateurs. Amateur 'phones work between 3.900 megs and 4.000 megs.

4.002

CT2AJ Ponta Delgada, Azores

4.098

WND Hialeah, Fla. (.4) (*). Works ZFS.

4.110

Aero. point-to-point, Blue Chain: See 2.720 megs.

4.123

Aircraft and aero., Green Chain: See 2.854 megs.

4.178

WOO Ocean Gate, N. J. (20.) (*). Works ships.

4.253

WKF Lawrenceville, N. J. (*).

4.273

RV15 Khabarovsk, USSR.

4.280

Italian Ships. Work IAC and WOO. Add: Italian Lines, 1 State St., NYC.

IBEJ S.S. Conte Rosso
IBGI S. S. Conte Verde
IBLI S. S. Conte di Savoia
ICEJ S. S. Rex

4.288

..... Hialeah, Fla. (.4) (*). Public coastal telephone

4.295

WTDV St. Thomas, Virgin Isl. (.25)
WTDW St. Croix, Virgin Isl., (.25)
WTDX St. John, Virgin Isl., (.25)

4.335

Aircraft and aero., Red Chain: See 3.148 megs.

4.390

FNSK S. S. Normandie. Works Paris. French Lines, Pier 88, North River, Foot of W. 48th St., NYC.

4.410

FNSK S. S. Normandie. Works WOO. See 4.390 megs.

4.413

British Ships. Work GBC and WOO. Add: International Marine Radio, Conneaut House, 63 Aldwych, London WC2.

GBZW S. S. Berengaria
GDLJ S. S. Homeric
GFWV S. S. Majestic
GLRZ S. S. Aquitania
GMBJ S. S. Empress of Britain

French Ships. Work WOO. Add: French Lines, Pier 57, Hudson River, NYC.

FNSM S. S. Paris
FNTQ S. S. Ile de France

German Ships. Work DAF and WOO.

DDBR S. S. Berlin, North German Lloyd, Pier 42, North River, Foot of Morton St., NYC.
DDCP S. S. Cap Polonio
DDFF S. S. Reliance
DDFT S. S. Oceana
DHAO S. S. Hansa, Hamburg American Lines, Pier 86, North River, W. 46th St., NYC.
DHDL S. S. Cap Arcona
DHEY S. S. Deutschland
DHJZ S. S. Hamburg. Add: DHAO
DHRL S. S. New York. Add: DHAO
DOAH S. S. Bremen, North German Lloyd, Pier 4, Foot of 58th St., Brooklyn, N. Y.
DOAI S. S. Europa. Add: DOAH

4.430

Furness-Bermuda Lines. Work ZFA-B and WOO.

VQJM Monarch of Bermuda
VQJP Queen of Bermuda

4.436

VDO Vancouver, B. C. (.4) North-West Telephone Co., 768 Seymour St., V.

4.465

CFA2 Drummondville, P. Q. Canadian Marconi Co., Box 1690, Montreal, P. Q.

4.480

Aeronautical: See 2.930 megs.

4.495

Aero: See 2.930 megs.

4.512

ZFS Nassau, Bahamas. Works WNC. Supt. of Telegraphs, Central Bay St., Nassau N. P.

4.550

WDN Rocky Point, N. Y. (*) (W2XBJ)

4.600

HC2ET Guayaquil, Ecuador. Int: 12 chimes. Add: Box 249

4.650

Aero. point-to-point, Yellow Chain: See 2.640 megs.

4.690

Aero. point-to-point, Brown Chain: See 2.612 megs.

4.740

Aero. point-to-point, Green Chain: See 2.608 megs.

4.743

Aircraft and aero., Green Chain: See 2.854 megs.

4.745

Aero. point-to-point, Green Chain: See 2.608 megs.

4.753

WOO Ocean Gate, N. J. (20.) (*). Works Ships. "Easy" frequency.

4.755

CFU Rossland, B. C. Consolidated Mining and Smelting Co. of Can., Ltd.

4.795

VE9BK Vancouver, B. C. (.25). Add: Radio Sales Service, Ltd., 780 Beatty St.

4.820

GDW Rugby, Gt. Britain. Works NYC nights. Add: Engineer-in-Chief, GPO (Radio Section), Armour House, St. Martin's le Grand, London EC1

4.865

VDO Vancouver, B. C. (.4). See: VDO, 4.436 megs.

YDG5 Batavia, Java, N.E.I. (.25). Bataviasche Radio Vereeniging.

4.918

Aircraft and aero., Brown Chain: See 2.946 megs.

4.938

Aircraft and aero., Blue Chain: See 2.906 megs.

4.948

Aircraft and aero., Blue Chain: See 2.906 megs.

4.953

Aero., Blue Chain: See 2.906 megs.

4.968

Aero., Blue Chain: See 2.906 megs.

4.975

GBC Rugby, Gt. Britain. (5.). Works Ships, nights. See GDW 4.820 megs.

5.000

WWV Beltsville, Md. (1.) Standard frequency transmissions Tues., Wed., Fri., 1430-1530 EST. Add: National Bureau of Standards, Washington, D. C.

5.025

ZFA Hamilton, Bermuda. (1.5) (*). Phones NYC nights.

5.033

Aircraft and aero., Yellow Chain: See 3.433 megs.

5.043

Aircraft and aero., Yellow Chain: See 2.912 megs.

5.123

Aircraft and aero., Red Chain: See 3.148 megs.

5.140

PMY Bandoeng, Java, N.E.I. (.6). Add: Vereeniging van Radio Amateurs voor Bandoeng en Omstreken, Nillmijgebouw

5.165

Clipper Service, see 2.986 megs.
Orange Chain: See 2.648 and 2.870 megs.
Aero: See 2.986 megs.

5.200

YAH Kabul, Afghanistan

5.310

Aero., Green Chain: See 2.608megs.
Aero. point-to-point, Red Chain:

KNCK	Casper, Wyo.
KNCL	Cheyenne, Wyo.
KNCM	Billings, Mont.
KNCN	Sheridan, Wyo.
KNCO	Denver, Colo.

5.375

Aero., Orange Chain: See 2.648 and 2.870 megs.

5.378

Aircraft and aero., daytime only, Purple Chain: See 2.854 megs.

5.405

Aircraft and aero., daytime only, Orange Chain: See 2.870 megs.

5.415

PMY Bandoeng, Java, N.E.I. (.45). Add: Bandoengsche Radio Vereeniging

5.500

TI5HH San Ramon, Costa Rica. (.2). "La Voz de S.R."

5.573

Aircraft and aero., Red Chain: See 3.148 megs.

5.583

Aircraft and aero., Red Chain: See 3.148 megs.

5.593

Aircraft and aero., Red Chain: See 3.148 megs.

5.603

Aircraft and aero., Brown Chain: See 2.946 megs.

5.613

Aircraft and aero., Brown Chain: See 2.946 megs.

5.634

Aircraft and aero., Brown Chain: See 2.946 megs.

5.653

Aircraft and aero:
Blue Chain: See 2.906 megs.
Brown Chain: See 2.946 megs.
Green Chain: See 2.854 megs.

5.663

Aircraft and aero., Red Chain: See 3.148 megs.

5.673

Aircraft and aero., Blue Chain: See 2.906 megs.

5.683

Aircraft and aero., Yellow Chain: See 2.912 megs.

5.693

Aircraft and Aero:
Blue Chain: See 2.906 megs.
Orange Chain: See 2.870 megs.

5.708

Aircraft and aero., daytime only, Green Chain:

KNCI	Monroe, La.
KNCJ	Dallas, Texas
KNCY	Shreveport, La.
WAJD	Jackson, Miss.
WAJE	Birmingham, Ala.
WAJF	Daytona Beach, Fla.
WAJI	Vero Beach, Fla.
WAJY	St. Petersburg, Fla.
WEEA	Atlanta, Ga.
WEEC	Charleston, S. C.
WEEF	Spartanburg, S. C.
WEEG	Greensboro, N. C.
WEEJ	Jacksonville, Fla.
WEEM	Miami, Fla.
WOEL	Mobile, Ala.
WOEM	Montgomery, Ala.
WOEN	New Orleans, La.

WOEO Atlanta, Ga.
WOER Raleigh, N. C.
WOES Savannah, Ga.

5.710

TGS Guatemala City, Guat. (.2) Radiotransmisora de la Casa Presidencial.

5.720

RV15 Khabarovsk, USSR. (20.)
YV10RSC San Cristobal, Venez. "La Voz de Tachira." s/o: "El Capitan."

5.730

JVV Nazaki, Japan. (10.). Works Formosa. Kokusai Denwa Kaisha, Osaka Bldg., Tokyo.

5.758

YNOP Managua, Nicaragua. "Radiodifusora Bayer."

5.760

HJ4ABD Medellin, Colombia. "La Voz de Catia."

5.780

OAX4D Lima, Peru. "Radio DUSA", "La Voz de Peru." s/o: in code. Add: All America Cables, Inc., Casilla 2336.

5.793

JVU Nazaki, Japan. (10.). See JVV 5.730 megs.

5.800

YV2RC Caracas, Venez. (1.). "Radio Caracas." Ann: "La Habla a la Nacion." Relays YV1RC. s/o: "March one RC". Add: Aptdo 2009.

5.820

CEC Santiago, Chile. Add: Cia. Internacional de Radio, Casilla 16D
TIGPH San Jose, Costa Rica. "Alma Tica"

5.830

TDD Shinkio, Manchukuo. (20.). Add: Manchukuo Telegraph & Telephone Co., Ltd.

5.850

WOB Lawrenceville, N. J. (*). Works Bermuda.
YV5RMO Maracaibo, Venez. "Ecos del Zulia." Relays 1300 kcs. s/o: "Strike up the Band." Add: Aptdo 37

5.865

HI1J San Pedro de Macoris, D. R. (.04). s/o: "All I Do is Dream of You." Add: Aptdo 204

5.875

HRN Tegucigalpa, Honduras. (.4) (*). "La Voz de Honduras."

5.880

IUA Addis Ababa, Ethiopia.

5.885

HCK Quito, Ecuador. (.2) "Radiodifusora del Estado."

5.888

Aircraft and aero.:
Brown Chain: See 2.946 megs.
Purple Chain: See 2.854 megs.
Yellow Chain: See 2.912 megs.

5.900

YV8RB Barquisimeto, Venez. "La Voz de Lara."

5.910

HH2S Port-au-Prince, Haiti. Societe Haitienne de Radiodiffusion, Boite Postal 103

5.940

TG2X Guatemala City, Guat. (.2) "Policia Nacional"

5.950

HJN Bogota, Colombia. (freq. varies). Add: Ministerio de Correos y Telegrafos.

5.970

TDF Shinkio, Manchukuo. Works Berlin. Add: TDD 5.830 megs.

5.980

HJ2ABD Bucaramanga, Colombia. (.67). "Radio Bucaramanga." Add: Calle 2a No. 1205

5.985

XEWI Mexico City, D. F. Add: Aptdo 2874

5.996

RV59 Moscow, USSR. (20.). Add: Mme. Inna Marr, Central Radio Committee, Sollanka 12.

The four stations in the special broadcast group from 1500-1600 kcs. will have new call letters. Three have already been changed.

W2XR in New York has been changed to WQXR. W9XBY Kansas City is now KXBY. The Bakersfield station W6XAI becomes KPMC. The fourth station is W1XBS in Waterbury, Vt.

THE BALANCE OF THE SHORTWAVE STATIONS, from 6.000 to 30.000 megacycles, will be given in the March issue of RADEX, and a completely revised list of these stations arranged by locations and call letters, will feature the April edition.

ARGENTINA (LOA-LVZ)

Buenos Aires

LRU	15.290
LRX	9.660
LSL	10.250
LSN	9.895
LSN	14.480
LSX	10.350

AUSTRALIA (VHA-VMZ)

Melbourne

VK3LR	9.580
VK3ME	9.490

Perth

VK6ME	9.590

Sydney

VK2ME	9.585
VLK	8.095

BAHAMAS (ZF-)

Nassau

ZFS	4.512

BELGIAN CONGO (OP-)

Leopoldville

OPM	10.135

BELGIUM (ONA-OTZ)

Brussels

ORK	10.330

BERMUDA (ZF-)

Hamilton

ZFA	5.025
ZFB	10.055

St. George

ZFD	10.335

BRAZIL (PPA-PYZ)

Rio de Janeiro

PRF5	9.500
PSH	10.220

BRITISH GUIANA

Georgetown

VP3BG	7.220

BULGARIA (LZA-LZZ)

Sofia

LZA	14.970

CANADA (CFA-CKZ; CYA-CZZ; VAA-VGZ; VXA-VYZ)

BRITISH COLUMBIA

Rossland

CFU	4.755

Vancouver

CGZ	2.342
VDO	4.865
VE9BK	4.795
VE9CS	6.070

MANITOBA

Winnipeg

CJRO	6.150
CJRX	11.720
VYW	2.396

NEW BRUNSWICK

St. John

CJW	2.390

NOVA SCOTIA

Halifax

VE9HX	6.130

Sydney

CJCX	6.010

ONTARIO

Hamilton

CZ6F	1.710

Toronto

CFRX	6.070
CRCX	6.090
CYQ	2.318

QUEBEC

Montreal

CFCX	6.005
VYR	1.712

Verdun

CJZ	2.390

CHILE (CAA-CEZ)

Santiago

CB615	6.150
CB960	9.600
CEC	5.820
CEC	10.670

CHINA (XGA-XUZ)

Nanking

XGOX	9.460

COLOMBIA (HJA-HKZ)

Barranquilla

HJ1ABB	6.447
HJ1ABG	6.042

Bogota

HJN	5.950
HJ3ABD	6.055
HJ3ABF	6.170
HJ3ABH	6.012
HJ3ABX	6.122

Bucaramanga

HJ2ABD	5.980

Buenaventura

HJU	9.510

Cali

HJ5ABD	6.085

Cartagena

HJ1ABD	7.280
HJ1ABE	9.500
HJ1ABP	9.615

Cucuta

HJ2ABC	9.575

Ibague

HJ4ABC	6.450

Manizales

HJ4ABL	6.100

Medellin

HJ4ABD	5.760
HJ4ABE	6.092
HJ4ABP	6.135

Quibdo

HJ1ABC	6.010

Santa Marta

HJ1ABJ	6.025

Tunja

HJ2ABA	6.170

COSTA RICA (TIA-TIZ)

Heredia

TI4NRH	9.670

San Jose

TIEP	6.700
TIGPH	5.820
TIPG	6.410
TIRCC	6.550

CUBA (CLA-CMZ; COA-COZ)

Camaguey

CO9JQ	8.665

Havana

COCD	6.130
COCH	9.428
COCO	6.010
COCQ	9.755
COCX	11.650
COL2	1.712

Sancti Spiritus

CO9WR	6.280

Santiago

COKG	6.155

CZECHO-SLOVAKIA

Prague

.....	6.115
.....	11.760
.....	15.230

DENMARK (OUA-OZZ)

Copenhagen

OXY	9.490

DOMINICAN REPUBLIC (HIA-HIZ)

La Romana

HI3C	6.750

Puerto Plata

HI1S	6.420

San Pedro de Macoris

HIH	6.814
HI1J	5.865

Santiago de Los Caballeros

HI-1-A	6.185
HI3U	6.014
HI5N	6.150
HI9B	6.045

Trujillo

HIG	6.280
HIL	6.500
HIN	6.243
HIN	11.290
HIT	6.630
HIX	6.340
HIZ	6.315
HI4D	6.500
HI4V	6.480
HI7P	6.800

ECUADOR (HCA-HCZ)

Guayaquil

HC2ET	4.600
HC2JSB	7.850
HC2RL	6.650

Quito

HCJB	8.900
HCK	5.885

Riobamba

PRADO	6.620

EGYPT (STA-SUZ)

Cairo

SUV	10.055

EL SALVADOR

San Salvador

YSL	14.960

FIJI (VPA-VSZ)

Suva

VPD	13.075
VPD2	9.540

FRANCE (F; TYA-TZZ)

Pontoise

TPA2	15.245
TPA3	11.880
TPA4	11.715

GERMANY (D)

Zeesen

DJA	9.560
DJB	15.200
DJC	6.020
DJD	11.770
DJM	6.080
DJN	9.540
DJO	11.795
DJP	11.855
DJQ	15.280
DJR	15.340
DZA	9.675
DZB	10.042
DZC	10.285
DZG	15.360

GREAT BRITAIN (G; M)

Daventry

GSA	6.050
GSB	9.510
GSC	9.580
GSD	11.750
GSE	11.860
GSF	15.140
GSG	17.790
GSH	21.470
GSI	15.260
GSJ	21.530
GSK	26.100
GSL	6.110
GSN	11.820
GSO	15.180
GSP	15.310

Rugby

GAA	20.380
GAD	19.480
GAS	18.310
GAU	18.620
GBA2	13.990
GBB	13.585
GBC	8.680
GBC	17.080
GBU	12.290
GBW	14.440
GBX	16.140
GCB	9.280
GCP	10.770
GCS	9.020
GCU	9.950
GDP	7.920
GDS	6.905
GDW	4.820

GUATEMALA (TGA-TGZ)

Guatemala City

TGS	5.710
TGWA	6.000
TG2X	5.940

HAITI

Port au Prince

HH2S	5.915
HH3W	9.617

HONDURAS (HRA-HRZ)

La Ceiba

HRD	6.235

San Pedro Sula

HRP1	6.356

Tegucigalpa

HRN	5.875

HONKONG (Z)

Honkong

ZBW	8.750

HUNGARY (HAA-HAZ)

Budapest

HAS3	15.370
HAT3	8.565
HAT4	9.125

ICELAND (TFA-TFZ)

Reykjavik

TFJ	12.225

INDIA (VTA-VWZ)

VWY	9.045
VWY2	17.480
VWZ	8.690

ITALY (I)

I2RO	9.635
I2RO	11.810

JAMAICA

Stoney Hill

VRR4	11.595

JAPAN (J)

Nazaki

JVM	10.740
JVN	10.660
JVT	6.750
JVU	5.790
JVV	5.730

KENYA (VQ7-)

Nairobi

VQG	19.630

MACAU

Macau

CQN	9.700

MANCHUKUO (J)

Shinkio

TDD	5.830

SHORT WAVE STATIONS BY LOCATIONS

MEXICO (XAA-XFZ)

Mexico City
XEBT 6.000
XECR 7.380
XEWI 5.985
XEXA 6.182

Veracruz
XEFT 9.505
XEUW 6.020

MOROCCO

Rabat
CNR 12.830

NETHERLANDS (PAA-PIZ)

Hilversum
PCJ 9.590
PCJ 15.220
PHI 11.730
PHI 17.775

NETHERLAND EAST INDIES (PKA-POZ; YBA-YHZ)

Bandoeng
PLE 18.830
PLP 11.000
PLV 9.415
PMN 10.260
YDA5 6.120

Sourabaya
YDB 9.640

Tandjongpriok
YDA 3.040
YDA 6.040

NEW GUINEA

Raboul
VJZ 13.880

NICARAGUA (YNA-YNZ)

Managua
YNLF 9.650
YNVA 8.590

NORWAY (LAA-LNZ)

Jeloy
LKJ1 9.540

PANAMA (HPA-HPZ)

Colon
HP5F 6.080
HP5K 6.005

Panama City
HP5B 6.030
HP5J 9.605

PERU (OAA-OCZ)

Lima
OAX4D 5.780
OAX4G 6.230

PHILIPPINE ISLANDS (K)

Manila
KAZ 9.990

PORTUGAL (CSA-CUZ)

Lisbon
CSW 9.380
CT1AA 9.650

SIAM (HSA-HSZ)

Bangkok
HS8PJ 10.955

SPAIN (EAA-EHZ)

Madrid
EAQ 9.862

STRAITS SETTLEMENTS

Singapore
ZHI 6.018

SWITZERLAND (HBA-HBZ)

Geneva
HBL 9.595
HBP 7.797

TAHITI

Papeete
FO8AA 7.100

UNION OF SOCIALIST SOVIET REPUBLICS (R; U)

Baku
RIO 10.160
Khabarovsk
RV15 4.273
Moscow
RAN 9.520
RKI 15.090
RNE 12.000
RV96 15.175

UNITED STATES (K; N; W)

ALABAMA

Birmingham
WPFM 2.382
Mobile
WPGW 2.382

ALASKA

Akutan
KHW 2.912
KIOI 2.632
Anchorage
WXE 2.998
Angoon
KAED 2.616
Cordova
KILD 2.538
Excursion Inlet
KILY 2.994
Hydaburg
KAEB 2.616
Iron Creek
KIOH 2.632
Jack Wade
KAEF 2.616
Juneau
WXA 8.050
Kadiak Island
KIJX 2.632
Ketchikan
KGM 2.512
KIAY 3.093
WXH 2.604
WXH 6.662
Nakeen
KHV 2.566
Nellie Juan
KIOD 2.632
Port Hobron
KHZ 2.912
KIMA 2.632
P. Wakefield
KIOC 2.632
Rose Inlet
KLE 2.512
Shearwater Bay
KIJW 2.632
Tenakee
KAEP 2.616
Uganik
KIJP 2.986
Union Bay
KFF 2.566
Waterfall
KLA 2.566
Wrangell
KDK 2.538

ARIZONA

Phoenix
KNGG 1.698
KGZJ 2.430
Prescott
KNHG 2.430

ARKANSAS

Fort Smith
KNHE 2.406
Little Rock
KGHZ 2.406

CALIFORNIA

Bakersfield
KACS 2.414
KGPS 2.414
Berkeley
KSW 1.658
Bolinas
KEE 7.715
KEJ 9.010
KEL 6.860
KES 9.480
Compton
KNFM 2.490
Dixon
KWO 15.415
KWU 15.355
KWV 10.840
El Centro
KNGJ 2.490
Eureka
KACI 2.422
Fresno
KGZA 2.414
Lodi
KNGY 2.414
Los Angeles
KGPL 1.712
Palo Alto
KGHK 1.674
Pasadena
KGJX 1.712
Pomona
KNFJ 1.712
Sacramento
KNGF 2.422
San Bernardino
KGZY 1.712
San Buenaventura
KACN 2.414
San Diego
KGZD 2.490
San Francisco
KGPD 2.466
San Jose
KGPM 2.466
Santa Ana
KGHX 2.490
Santa Barbara
KGZO 2.414
Santa Cruz
KGZT 1.674
Tracy
KACO 2.414
Tulare
WPDA 2.414
Vallejo
KGPG 2.422
Whittier
KGHY 1.712

COLORADO

Denver
KGPX 2.442

CONNECTICUT

Bridgeport
WPFW 2.466
New Haven
WQFA 2.466
New London
WAKB 2.466

DISTRICT OF COLUMBIA

Washington
WPDW 2.422

FLORIDA

Clearwater
WAKG 2.466
WQFK 2.466
Dinsmore
WANB 2.726
Duval County
WAKJ 1.698
Ft. Lauderdale
WAKO 2.442
Gainesville
WQFC 2.466
Hialeah
WND 4.098
WNC 15.055
Jacksonville
WPFG 2.442
Lakeland
WPFT 2.442
Miami
WPFZ 2.442
W4XB 6.040
Orlando
WPHM 2.442
Palm Beach
WPFX 2.442
Tampa
WPHN 2.466

GEORGIA

Atlanta
WPDY 2.414
Augusta
WQFV 2.414
Columbus
WPFI 2.414
La Grange
WPGM 2.414
Macon
WQFB 2.414

HAWAII

Honolulu
KGPQ 1.712
Kahuku
KKH 7.520

IDAHO

Idaho Falls
KNFB 2.458

ILLINOIS

Chicago
WPDB 1.712
WPDC 1.712
WPDD 1.712
WQPC 1.610
W9XAA 6.080
W9XAA 11.830
W9XBS 6.425
W9XF 6.100
W9XF 6.425
DeQuoin
WQPD 1.610
Effingham
WQPF 1.610
Highland Park
WPFD 2.430
Macomb
WQPM 1.610
Oak Park
WQFL 1.712
Ottawa
WQFZ 2.458
Pontiac
WQPP 1.610
Rockford
WPGD 2.458
Sterling
WQPG 1.610
Springfield
WQPS 1.610
Waukegan
WQFX 1.712

INDIANA

Columbia City
WQFW 1.634
Connersville
WAMB 2.442
Culver
WPHS 1.634
Fort Wayne
WPDZ 2.490
Frankfort
WAKK 2.490
Huntington
WAKA 2.490
Indianapolis
WMDZ 2.442
Jasper
WPHU 1.634
Kokomo
WPDT 2.490
Lafayette
WQFQ 2.442
Marion County
WPHE 1.634
Muncie
WPGP 2.442
Richmond
WPDH 2.442
Seymour
WQFE 1.634
South Bend
WPGN 2.490

IOWA

Atlantic
KACD 1.682
Cedar Rapids
KGOZ 2.466
Davenport
KGPN 2.466
Des Moines
KGHO 1.682
KGZG 2.466
Fairfield
KACC 1.682
Sioux City
KGPK 2.466
Storm Lake
KNFO 1.682
Waterloo
KNFN 1.682

KANSAS

Atchison
KACA 2.422

Chanute
KGZF 2.450
Coffeyville
KGZP 2.450
Dodge City
KNGH 2.474
Eldorado
KAPD 2.450
Garden City
KNFH 2.474
Hutchinson
KGHN 2.450
Salina
KNGV 2.422
Topeka
KGZC 2.422
Wichita
KGPZ 2.450

KENTUCKY

Lexington
WPET 1.706
Louisville
WPDE 2.442

LOUISIANA

Baton Rouge
WAME 2.430
New Orleans
WPEK 2.430
Shreveport
KGZL 1.712
KNGP 2.430

MAINE

Portland
WPFU 2.422

MARYLAND

Baltimore
WPFH 2.414
Beltsville
WWV 5.000
WWV 10.000
WWV 15.000

MASSACHUSETTS

Arlington
WPED 1.712
Boston
WPGV 1.712
W1XAL 6.040
W1XAL 11.790
Cohasset
WPGU 1.712
Everett
WAKF 1.712
Fairhaven
WPFN 1.712
Fall River
WAKV 1.712
Fitchburg
WPHA 2.466
Framingham
WMP 1.666
Marshfield
WOU 2.506
Medford
WPHG 1.712
Newton
WPFA 1.712
Northampton
WPEW 1.666
Somerville
WPEH 1.712
W. Bridgewater
WPEL 1.666
Worcester
WPGX 2.466

MICHIGAN

Bay City
WPGA 2.466
Detroit
WCK 2.414
WPDX 2.414
E. Lansing
WRDS 1.642
Flint
WPDF 2.442
Grand Rapids
WPEB 2.442
Grosse Pointe
WRDR 2.414
Highland Park
WMO 2.414
Jackson
WPHP 2.466
Lansing
WPDL 2.442
Muskegon
WPFC 2.442
Paw Paw
WRDP 1.642
Port Huron
WPGB 2.466
Saginaw
WPES 2.442

MINNESOTA

Duluth
KNFE 2.382
Minneapolis
KGPB 2.430
Redwood Falls
KNHD 1.658
St. Paul
WPDS 2.430

MISSOURI

Jefferson
KIUK 1.674
Kansas City
KGPE 2.422
St. Louis
KGPC 1.706

NEBRASKA

Lincoln
KGZU 2.490
Norfolk
KNGN 2.490
Omaha
KGPI 2.466

NEVADA

Las Vegas
KGHG 2.474
Reno
KGHM 2.474

NEW HAMPSHIRE

Nashua
WPHB 2.422

NEW JERSEY

Bloomfield
WAKH 2.430
Bound Brook
W3XAL 6.100
W3XAL 17.780
W3XL 6.425
W3XL 17.310
Freehold
WAKC 2.366
Hackensack
WPFK 2.430
Lawrenceville
WKF 4.253
WKF 19.220
WLA 18.350
WMN 14.590
WOA 6.755
WON 9.870
New Brunswick
WKJ 9.460
Ocean Gate
WOO 4.178
WOO 4.753
WOO 8.560
WOO 12.840
WOO 17.120
Passaic
WPDJ 2.414

NEW MEXICO

Albuquerque
KGZX 2.414
Clovis
KNFA 2.414
Santa Fe
KGPF 2.414

NEW YORK

Albany
WPGH 2.414
Auburn
WPDN 2.382
Binghamton
WPGL 2.442
Bronx
WPEF 2.450
Brooklyn
WPEE 2.450
Buffalo
WMJ 2.422
Herkimer
..... 2.414
Hicksville
W2XGB 6.425
Huntington
WPGO 2.490
Mineola
WPGS 2.490
New York
WPEG 2.450
W2XE 6.120
W2XE 11.830
W2XE 15.270
W2XE 17.760
W2XE 21.520
Niagara Falls
WNFP 2.422
Oneonta
WQFJ 2.414
Rochester
WPDR 2.422
Rocky Point
WEA 10.610
WES 9.448
WET 9.470
WEZ 8.075
Schenectady
W2XAD 15.330
W2XAF 9.530
S. Schenectady
WPGC 1.658
Syracuse
WPEA 2.382
Utica
WPGJ 2.414
Yonkers
WPFY 2.442

NORTH CAROLINA

Asheville
WPFS 2.458
WPFS 2.474
Charlotte
WPDV 2.458

NORTH DAKOTA

Fargo
KNHM 2.442

OHIO

Akron
WPDO 2.458
Cincinnati
WKDU 1.706
Cleveland
WRBH 2.458
Columbus
WPDI 2.430
Dayton
WPDM 2.430
Findlay
WPGG 1.596
Lancaster
WQFO 2.430
Mansfield
WQFY 2.474
Portsmouth
WPGI 2.430
Sandusky
WAKI 2.474
Steubenville
WPHD 2.458
Toledo
WRDQ 2.474
Youngstown
WPDG 2.458
Zanesville
WPHO 2.430

OKLAHOMA

Ada
KNHC 2.450
Altus
KACL 2.450
Chickasha
KACF 2.450
Cushing
KAPB 2.450
Drumright
KAPC 2.450
Duncan
KNGK 2.450
Lawton
KGHP 2.450
Muskogee
KNGT 2.450
Norman
KAPE 2.450
Oklahoma City
KGPH 2.450
Okmulgee
KAPF 2.450
Ponca City
KACP 2.450
Seminole
KACR 2.450
Tulsa
KGPO 2.450

OREGON

Klamath Falls
KGZH 2.442
Portland
KGPP 2.442
Salem
KGZR 2.442

PENNSYLVANIA

Harrisburg
WPSP 1.674
Monessen
WQFF 2.482
New Castle
WPGT 2.482
Oil City
WPHZ 2.482
Philadelphia
WPDP 2.474
W3XAU 6.060
W3XAU 9.590
Pittsburgh
WPDU 1.712
W8XK 6.140
W8XK 11.870
W8XK 15.210
W8XK 21.540
Reading
WPFE 2.442
Sharon
WQFU 2.482
Swarthmore
WPFQ 2.474
Wilkes-Barre
WQFM 2.442

PUERTO RICO

San Juan
WCT 13.410

RHODE ISLAND

Cranston
WPGK 2.466
E. Providence
WPEI 1.712
Pawtucket
WPFV 2.466
Providence
WPGF 1.712
Woonsocket
WPEM 2.466

SOUTH CAROLINA

Charleston
WCPD 2.430

SOUTH DAKOTA

Huron
KVPB 2.450
Rapid City
KNGM 2.450

TENNESSEE

Elizabethton
WPHY 2.474
Johnson City
WPGZ 2.474
Knoxville
WPFO 2.474
Memphis
WPEC 2.466
Nashville
..... 1.666

TEXAS

Austin
KGHU 2.442
Beaumont
KGPJ 1.712
Big Spring
KACM 2.458
Brownsville
KGHT 2.382
Brownwood
KNGW 2.458
Cleburne
KNGE 1.712
Corpus Christi
KGHV 2.382
Dallas
KVP 1.712
Denton
KNHF 1.712

SHORT WAVE STATIONS BY LOCATIONS

El Paso
KGZM 2.414
Fort Worth
KGPR 1.712
Galveston
KNGL 1.712
Gladewater
KACU 1.712
Houston
KGZB 1.712
Lubbock
KGZW 2.458
San Antonio
KGZE 2.482
Waco
KGZQ 1.712
Wichita Falls
KGZI 2.458

UTAH

Salt Lake City
KGPW 2.406

VIRGINIA

Lynchburg
WQFH 2.450
Petersburg
WQFI 2.450
Richmond
WPHF 2.450
Roanoke
WQFG 2.450

WASHINGTON

Aberdeen
KGZV 2.414
Bellingham
KACK 2.414
KNFK 2.490
Centralia
KGHW 2.414
Ellenburg
KNFX 2.490
Ephrata
KNGZ 2.490
Everett
KNFP 2.414
Kalaloch
KACQ 2.490
Mt. Vernon
KNFI 2.414
Olympia
KACE 2.414
KNFG 2.490
Seattle
KGPA 2.414
WVD 2.604
WVD 8.620
Spokane
KGHS 2.414
KNGR 2.490
Tacoma
KGZN 2.414
Vancouver
KNGC 2.490
Walla Walla
KACV 2.414
KNGD 2.490
Wenatchee
KACJ 2.414
KNGQ 2.490
Yakima
KNGB 2.490
KNGU 2.414

WEST VIRGINIA

Charleston
WPHI 2.490
Clarksburg
WPFP 2.490
Fairmont
WPHJ 2.490
Parkersburg
WPHQ 2.490

WISCONSIN

Green Bay
KNHB 2.382
Kenosha
WPEP 2.450
Milwaukee
WPDK 2.450
Oshkosh
WAKE 2.382

VATICAN STATE (HVA-HVZ)

Vatican City
HVJ 15.120

VENEZUELA (YVA-YWZ)

Barquisimeto
YV8RB 5.895
Bolivar
YV11RB 6.545
Caracas
YV2RC 5.800
YV3RC 6.165
YV4RC 6.375
YV9RC 6.400
Maracaibo
YV5RMO 5.850
YV7RMO 5.810
Maracay
YVQ 6.672
YVR 9.168
YV12RM 6.300
San Cristobal
YV10RSC 5.720
Valencia
YV6RV 6.520

YUGO SLAVIA

Belgrade
..... 6.100

All Night Problem

(*Continued from Page* 15)

nical standpoint, as most stations are now using tuned vertical radiators. To change the frequency of a station using this system would involve matters to an extent making it impractical. During the time we have operated on a 24-hour schedule, it has been proven that a very definite service has been rendered to the public."

Other letters tell similar stories and it becomes apparent that the all-night stations may have a definite place in the radio field. If any one station actually served an audience equal to that claimed by WNEW, WEXL or KGFJ, the few thousand DXers would be a very small group in comparison.

As was pointed out in the Court DeVeries article in the January RADEX, the problem isn't nearly as bad as some would have us believe. Over a full winter season, the average DXer today can log more stations than he could before the advent of the all-nighter. And what's more, he has a clear channel shot at nearly 300 local stations every month. Before the frequency checks, it would have been difficult, if not impossible, to hear those stations over the course of one or two full seasons.

Consequently, unless something drastic occurs which will alter the whole present set-up, it might be just as well to forget about the all-nighters and concentrate all our energy on clean DXing.

It is interesting to note that windmill chargers have already proven useful in far-away Estonia. Although this little country is well supplied with radio broadcasting facilities of the most modern type, it is not so well advanced as far as general electrification of the country is concerned. Most of the receivers are battery operated and the owners have little or no facilities for recharging the batteries. Recently the Director of Broadcasting hit upon the idea of using windmill chargers, and ordered 120 of them from this country. These have been placed at various localities to serve listeners in the area. It is expected that more chargers will be acquired from time to time.

CB615	6.150	GSG	17.790	JVT	6.750	KGZA	2.414	KNGZ	2.490	VPD	13.075	WPDV	2.458
CB960	9.600	GSH	21.470	JVU	5.790	KGZB	1.712	KNHB	2.382	VPD2	9.540	WPDW	2.422
CEC	5.820	GSI	15.260	JVV	5.730	KGZC	2.422	KNHC	2.450	VP3BG	7.220	WPDX	2.414
CEC	10.670	GSJ	21.530	KACA	2.422	KGZD	2.490	KNHD	1.658	VP3MR	7.080	WPDY	2.414
CED	10.230	GSK	26.100	KACC	1.682	KGZE	2.482	KNHE	2.406	VQG	19.630	WPDZ	2.490
CFCX	6.005	GSL	6.110	KACD	1.682	KGZF	2.450	KNHF	1.712	VRR4	11.595	WPEA	2.382
CFRX	6.070	GSN	11.820	KACE	2.414	KGZG	2.466	KNHG	2.430	VWY	9.045	WPEB	2.442
CFU	4.755	GSO	15.180	KACF	2.450	KGZH	2.442	KNHM	2.442	VWY2	17.480	WPEC	2.466
CFU	6.720	GSP	15.310	KACI	2.422	KGZI	2.458	KSW	1.658	VWZ	8.690	WPED	1.712
CGZ	2.342	HAS3	15.370	KACJ	2.414	KGZJ	2.430	KVP	1.712	VYR	1.712	WPEE	2.450
CJCX	6.010	HAT4	9.125	KACK	2.414	KGZL	1.712	KVPB	2.450	VYW	2.396	WPEF	2.450
CJRO	6.150	HBL	9.595	KACL	2.450	KGZM	2.414	KWO	15.415	WAJN	2.726	WPEG	2.450
CJRX	11.720	HBP	7.797	KACM	2.458	KGZN	2.414	KWU	15.355	WAKA	2.490	WPEH	1.712
CJW	2.390	HCJB	8.900	KACN	2.414	KGZO	2.414	KWV	10.840	WAKB	2.466	WPEI	1.712
CJZ	2.390	HCK	5.885	KACO	2.414	KGZP	2.450	LKJ1	9.540	WAKC	2.366	WPEK	2.430
CNR	12.830	HC2ET	4.600	KACP	2.450	KGZQ	1.712	LRU	15.290	WAKE	2.382	WPEL	1.666
COCD	6.130	HC2JSB	7.850	KACQ	2.490	KGZR	2.442	LRX	9.660	WAKF	1.712	WPEM	2.466
COCH	9.428	HC2RL	6.650	KACR	2.450	KGZT	1.674	LSL	10.250	WAKG	2.466	WPEP	2.450
COCO	6.010	HH2S	5.910	KACS	2.414	KGZU	2.490	LSN	9.895	WAKH	2.430	WPES	2.442
COCQ	9.750	HH3W	9.617	KACU	1.712	KGZV	2.414	LSN	14.480	WAKI	2.474	WPET	1.706
COCX	11.650	HIG	6.280	KACV	2.414	KGZW	2.458	LSN5	19.650	WAKJ	1.698	WPEV	1.666
COKG	6.155	HIH	6.814	KAEB	2.616	KGZX	2.414	LSX	10.350	WAKK	2.490	WPEW	1.666
COL2	1.712	HIL	6.500	KAED	2.616	KGZY	1.712	LZA	14.970	WAKN	2.414	WPFA	1.712
CO9JQ	8.665	HIN	6.243	KAEF	2.616	KHV	2.566	OAX4D	5.780	WAKO	2.442	WPFC	2.442
CO9WR	6.280	HIN	11.290	KAEP	2.616	KHW	2.912	OAX4G	6.230	WAKV	1.712	WPFD	2.430
CRCX	6.090	HIT	6.630	KAPB	2.450	KHZ	2.912	OPM	10.135	WAKO	2.442	WPFE	2.442
CSW	9.380	HIX	6.340	KAPC	2.450	KIAY	3.093	ORK	10.330	WANB	2.726	WPFG	2.442
CT1AA	9.650	HIZ	6.315	KAPD	2.450	KIIY	2.726	OXY	9.490	WCK	2.414	WPFH	2.414
CXA4	6.125	HI1A	6.185	KAPE	2.450	KIJW	2.632	PCJ	9.590	WCPD	2.430	WPFI	2.414
CYQ	2.318	HI1J	5.865	KAPF	2.450	KIJX	2.632	PCJ	15.220	WCT	13.410	WPFK	2.430
CZ6F	1.710	HI1S	6.420	KAZ	9.990	KIKP	1.606	PHI	11.730	WEA	10.610	WPFM	2.382
DJA	9.560	HI3C	6.750	KDK	2.538	KILD	2.538	PHI	17.775	WES	9.448	WPFN	1.712
DJB	15.200	HI3U	6.014	KEE	7.715	KILY	2.994	PLE	18.830	WET	9.470	WPFO	2.474
DJC	6.020	HI4D	6.500	KEJ	9.010	KIMA	2.632	PLP	11.000	WEY	1.630	WPFP	2.490
DJD	11.770	HI4V	6.480	KEL	6.860	KIOC	2.632	PLV	9.415	WEZ	8.075	WPFQ	2.474
DJE	17.760	HI5N	6.150	KES	9.480	KIOD	2.632	PMN	10.260	WKDT	1.630	WPFS	2.458
DJM	6.080	HI7P	6.800	KFF	2.566	KIOH	2.632	PMY	5.140	WKDU	1.706	WPFS	2.474
DJN	9.540	HI9B	6.045	KGHD	2.490	KIOI	2.632	Prado	6.620	WKF	4.253	WPFT	2.442
DJO	11.795	HJB	14.930	KGHG	2.474	KIUK	1.674	PRA8	6.040	WKJ	9.460	WPFU	2.422
DJP	11.855	HJN	5.950	KGHK	1.674	KKH	7.520	PRF5	9.500	WLA	18.350	WPFV	2.466
DJQ	15.280	HJU	9.510	KGHM	2.474	KLA	2.566	PSH	10.220	WMDZ	2.442	WPFW	2.466
DJR	15.340	HJ1ABB	6.447	KGHN	2.450	KLD	2.566	RAN	9.520	WMJ	2.422	WPFX	2.442
DZA	9.675	HJ1ABC	6.010	KGHO	1.682	KLE	2.512	RNE	12.000	WMN	14.590	WPFY	2.442
DZB	10.042	HJ1ABD	7.280	KGHP	2.450	KNBE	5.165	RV15	4.273	WMO	2.414	WPFZ	2.442
DZC	10.285	HJ1ABE	9.500	KGHS	2.414	KNFA	2.414	RV59	5.996	WMP	1.666	WPGA	2.466
DZG	15.360	HJ1ABG	6.042	KGHT	2.382	KNFB	2.458	RV96	15.175	WNC	15.055	WPGB	2.466
DZH	14.460	HJ1ABJ	6.025	KGHU	2.442	KNFE	2.382	SUV	10.055	WND	4.098	WPGC	1.658
EAQ	9.862	HJ1ABP	9.615	KGHV	2.382	KNFG	2.490	TDA	6.762	WNFP	2.422	WPGD	2.458
EHZ	10.370	HJ2ABA	6.170	KGHW	2.414	KNFH	2.474	TDD	5.830	WOA	6.755	WPGF	1.712
FO8AA	7.100	HJ2ABC	9.575	KGHX	2.490	KNFI	2.414	TDF	5.970	WOB	5.850	WPGH	2.414
GAA	20.380	HJ2ABD	5.980	KGHY	1.712	KNFJ	1.712	TFJ	12.225	WON	9.870	WPGI	2.430
GAD	19.480	HJ3ABD	6.055	KGHZ	2.406	KNFK	2.490	TGF	14.545	WOO	4.178	WPGJ	2.414
GAS	18.310	HJ3ABF	6.170	KGJX	1.712	KNFM	2.490	TGS	5.710	WOO	4.753	WPGK	2.466
GAU	18.620	HJ3ABH	6.012	KGM	2.512	KNFN	1.682	TGWA	6.000	WOO	8.560	WPGL	2.442
GBA2	13.990	HJ3ABX	6.122	KGOZ	2.466	KNFO	1.682	TG2X	5.940	WOO	12.840	WPGM	2.414
GBB	13.585	HJ4ABC	6.450	KGPA	2.414	KNFP	2.414	TIEP	6.700	WOO	17.120	WPGN	2.490
GBC	4.975	HJ4ABD	5.760	KGPB	2.430	KNFX	2.490	TIGPH	5.820	WOU	2.506	WPGO	2.490
GBC	8.680	HJ4ABE	6.097	KGPC	1.706	KNGB	2.490	TIN	14.545	WPDA	2.414	WPGP	2.442
GBC	17.080	HJ4ABP	6.135	KGPD	2.466	KNGC	2.490	TIPG	6.410	WPDB	1.712	WPGS	2.490
GBS	12.150	HJ5ABD	6.085	KGPE	2.422	KNGD	2.490	TI4NRH	9.670	WPDC	1.712	WPGT	2.482
GBU	12.290	HPF	14.545	KGPF	2.414	KNGE	1.712	TI5HH	5.520	WPDD	1.712	WPGU	1.712
GBW	14.440	HP5B	6.030	KGPG	2.422	KNGF	2.422	TPA2	15.245	WPDE	2.442	WPGV	1.712
GBX	16.140	HP5F	6.080	KGPH	2.450	KNGG	1.698	TPA3	11.880	WPDF	2.442	WPGW	2.382
GCB	9.280	HP5J	9.605	KGPI	2.466	KNGH	2.474	TPA4	11.715	WPDG	2.458	WPGX	2.466
GCP	10.770	HP5K	6.005	KGPJ	1.712	KNGJ	2.490	TYA2	9.040	WPDH	2.442	WPGZ	2.474
GCS	9.020	HRD	6.235	KGPK	2.466	KNGK	2.450	VDO	4.436	WPDI	2.430	WPHA	2.466
GCU	9.950	HRN	5.875	KGPL	1.712	KNGL	1.712	VDO	4.865	WPDJ	2.414	WPHB	2.422
GDP	7.920	HRP1	6.356	KGPM	2.466	KNGM	2.450	VE9BJ	6.090	WPDK	2.450	WPHD	2.458
GDS	6.905	HS8PJ	10.955	KGPN	2.466	KNGN	2.490	VE9BK	4.795	WPDL	2.442	WPHE	1.634
GDW	4.820	HVJ	15.120	KGPO	2.450	KNGO	2.450	VE9CS	6.070	WPDM	2.430	WPHF	2.450
GSA	6.050	I2RO	9.635	KGPP	2.442	KNGP	2.430	VE9HX	6.130	WPDN	2.382	WPHG	1.712
GSB	9.510	I2RO	11.810	KGPQ	1.712	KNGQ	2.490	VJZ	13.880	WPDO	2.458	WPHI	2.490
GSC	9.580	JIB	10.535	KGPR	1.712	KNGR	2.490	VK2ME	9.585	WPDP	2.474	WPHJ	2.490
GSD	11.750	JVH	14.640	KGPS	2.414	KNGT	2.450	VK3LR	9.580	WPDR	2.422	WPHM	2.442
GSE	11.860	JVM	10.740	KGPW	2.406	KNGU	2.414	VK3ME	9.490	WPDS	2.430	WPHN	2.466
GSF	15.140	JVN	10.660	KGPX	2.442	KNGV	2.422	VK6ME	9.590	WPDT	2.490	WPHO	2.430
				KGPZ	2.450	KNGW	2.458	VLK	8.095	WPDU	1.712	WPHP	2.466
				KGQ	2.986	KNGY	2.414					WPHQ	2.490

WPHS	1.634	WQFO	2.430	WRDP	1.642	W2XAD	15.330	W8XK	6.140	XGOX	9.460	YV5RMO	5.850
WPHU	1.634	WQFQ	2.442	WRDQ	2.474	W2XAF	9.530	W8XK	11.870	YDA	3.040	YV6RV	6.520
WPHY	2.474	WQFT	1.596	WRDR	2.414	W2XE	6.120	W8XK	15.210	YDA	6.040	YV7RMO	5.810
WPHZ	2.482	WQFU	2.482	WRDS	1.642	W2XE	11.830	W8XK	21.540	YDA5	6.120	YV8RB	5.895
WPSP	1.674	WQFV	2.414	WVD	2.604	W2XE	15.270	W9XAA	6.080	YDB	9.640	YV9RC	6.400
WQFA	2.466	WQFW	1.634	WVD	8.620	W2XE	17.760	W9XAA	11.830	YNA	14.480	YV10RS	5.720
WQFB	2.414	WQFX	1.712	WWV	5.000	W2XE	21.520	W9XBS	6.425	YNLF	9.650	YV11RB	6.545
WQFC	2.466	WQFY	2.474	WWV	10.000	W2XGB	6.425	W9XF	6.100	YNVA	8.590	YV12RM	6.300
WQFE	1.634	WQFZ	2.458	WWV	15.000	W3XAL	6.100	W9XF	6.425	YSL	14.960	ZBW	8.750
WQFF	2.482	WQPC	1.610	WXA	8.050	W3XAL	17.780	XEBT	6.060	YVQ	6.672	ZFA	5.025
WQFG	2.450	WQPD	1.610	WXE	2.998	W3XAU	6.060	XECR	7.380	YVQ	13.337	ZFB	10.055
WQFH	2.450	WQPF	1.610	WXH	2.604	W3XAU	9.590	XEFT	9.505	YVR	9.168	ZFD	10.335
WQFI	2.450	WQPG	1.610	WXH	6.662	W3XL	6.425	XEUW	6.020	YV2RC	5.800	ZFS	4.512
WQFJ	2.414	WQPM	1.610	WXH	8.050	W3XL	17.310	XEWI	5.985	YV3RC	6.165	ZHI	6.018
WQFK	2.466	WQPP	1.610	W1XAL	6.040	W4XB	6.040	XEXA	6.182	YV4RC	6.375	ZLT4	11.000
WQFL	1.712	WQPS	1.610	W1XAL	11.790	W8XAL	6.060						
WQFM	2.442	WRBH	2.458	W1XK	9.570								

DX Forum

(*Continued from Page* 31)

production of the voices of NNRC members from all over the Western Hemisphere. Present plans include re-broadcasts of transmissions from LR5, a station in Caracas, Venezuela; a station in England, CKLW, and possibly a station in Cuba. From Buenos Aires, we hope to present our honorary member, A. B. Dougall, owner of LR5. From Caracas, we will hear the voice of our director, Jesus Maria Garcia. Milton P. Christa, our Michigan director, will speak from CKLW. We also expect to include John Baxter, our English representative. All these will, of course, be heard on WOR's wavelength.

"In addition, we will present recorded greetings from many of our club directors in all parts of the country. We feel that we are presenting something of especial interest to all DXers, even though all of those who take part will be NNRC members."

"Station CMCD will present a special three-hour program on Sunday, January 24th," notifies Alec Kinghorn, P. O. Box 2488, Havana, Cuba. "The broadcast will commence at 0100 EST, will consist of typical Cuban dance music, and will be announced by myself. Verification cards will be sent to all who report the program correctly."

Every Saturday morning between 0600 and 0700, Station WCOP broadcasts a program of DX tips. The station management was convinced that DXers wanted this type of program, agreed to go on, and now listeners are reminded that they can show their appreciation by reporting regularly. Letters should be sent to Joe Lippencott, Box 2, Tufts College, Boston, Mass.

More About Aerials

"I am now using an aerial which is 65 feet high and clears the roof by 18 feet," contributes Harry M. Gordon, 317 East 10th St., Erie, Pa. "It consists of two wires 100 feet long and strung 16 inches apart by steel spreaders. This has less noise than any other type I have used. At present, a friend and I are putting up a real antenna out in the country, two and a half miles from the nearest telephone or electric light line. We are going to have four wires 1000 feet long and 200 feet high running from a center to the four principal points of the compass. Taps from all four wires will be taken from the end at the center point. We have the wire and one aerial is already up. I am planning to make this a GCDXC listening post and think it should give us a real set-up."

540 kcys. (555.2)

CJRM	ak	1000	F	Moose Jaw, Sask.

550 kcys. (545.1)

CFNB	mk	500	F (1)	Fredericton, N. B.
KFUO	ae	500	2 (1)	St. Louis, Mo.
KFYR	ae	1000	N (5)	Bismarck, N. D.
KOAC	ak	1000	....	Corvallis, Ore.
KSD	ak	1000	2R (5)	St. Louis, Mo.
KTSA	ak	1000	C (5)	San Antonio, Tex.
WDEV	ae	500	D	Waterbury, Vt.
WGR	ae	1000	C	Buffalo, N. Y.
WKRC	ak	1000	CX	Cincinnati, Ohio
WSVA	ak	500	D	Harrisonburg, Va.
XEFC	ak	250	....	Merida, Yuc.

560 kcys. (535.4)

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

570 kcys. (526.0)

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

580 kcys. (516.9)

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

590 kcys. (508.2)

KHQ	ak	1000	R (2.5)	Spokane, Wash.
WEEI	ak	1000	CX	Boston, Mass.
WKZO	ak	1000	D	Kalamazoo, Mich.
WOW	ae	5000	R	Omaha, Nebr.

600 kcys. (499.7)

CFCF	ae	400	FN	Montreal, Que.
CJOR	ak	500	....	Vancouver, B. C.
CMW	ak	1400	....	Havana, Cuba
CRCW	ak	500	F (1)	Windsor, Ont.
FQN	z	250	609	St. Pierre, Miq.
KFSD	ae	1000	B	San Diego, Calif.
WCAO	ae	500	C (1)	Baltimore, Md.
WICC	ak	500	M (1)	Bridgeport, Conn.
WMT	ak	1000	BM(5)	Cedar Rapids, Ia.
WREC	c	1000	C (5)	Memphis, Tenn.

610 kcys. (491.5)

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

620 kcys. (483.6)

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

630 kcys. (475.9)

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

640 kcys. (468.5)

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

650 kcys. (461.3)

TIGPH	ak	1000	....	San Jose, C. R.
WSM	ak	50000	NM	Nashville, Tenn.

660 kcys. (454.3)

WAAW	ae	500	D	Omaha, Neb.
WEAF	ak	50000	R	New York, N. Y.

670 kcys. (447.5)

WMAQ	ak	50000	N	Chicago, Ill.

680 kcys. (440.9)

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

690 kcys. (434.5)

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

700 kcys. (428.3)

WLW	ak	500000	NM	Cincinnati, Ohio

710 kcys. (422.3)

KIRO	ak	1000	....	Seattle, Wash.
KMPC	ak	500	M	Beverly Hills, Cal.
WOR	ak	50000	M	Newark, N. J.
XEN	ak	1000	....	Mexico City, D. F.

720 kcys. (416.4)

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

730 kcys. (410.7)

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

740 kcys. (405.2)

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

750 kcys. (399.8)

CMCW	dk	150	....	Havana, Cuba
KGU	aj	2500	N	Honolulu, T. H.
WJR	ak	50000	C	Detroit, Mich.
XEAM	z	7.5	....	Matamoros, Tams.

760 kcys. (394.5)

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

770 kcys. (389.4)

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

780 kcys. (384.4)

CHWK	dk	100	F	Chilliwack, B. C.
CKSO	ak	1000	F	Sudbury, Ont.
CMJK	ak	250	....	Camaguey, Cuba
KEHE	ak	1000	(5)	Los Angeles, Calif.
KFDY	ae	1000	D	Brookings, S. D.
KFQD	ck	250	....	Anchorage, Alaska
KGHL	ak	1000	N (5)	Billings, Mont.
WEAN	ak	1000	M	Providence, R. I.
WMC	ak	1000	N (5.)	Memphis, Tenn.
WTAR	ae	500	NX (1)	Norfolk, Va.
XEYZ	z	10000	....	Mexico City, D. F.

790 kcys. (379.5)

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

800 kcys. (374.8)

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

810 kcys. (370.2)

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

820 kcys. (365.6)

CMHW	ak	100	....	Cienfuegos, Cuba
WHAS	aj	50000	C	Louisville, Ky.
XEBZ	ae	100	....	Mexico City, D. F.
XEMZ	z	....	....	Coronado Isle, L. C.

830 kcys. (361.2)

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

840 kcys. (356.9)

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

850 kcys. (352.7)

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

860 kcys. (348.6)

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

870 kcys. (344.6)

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

880 kcys. (340.7)

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

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

890 kcys. (336.9)

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

900 kcys. (333.1)

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

910 kcys. (329.6)

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

920 kcys. (325.9)

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

930 kcys. (322.4)

CFAC	ak	100	F	Calgary, Alta.
CFCH	ak	100	F	North Bay, Ont.
CFLC	ae	100	....	Prescott, Ont.
CHNS	ae	1000	F	Halifax, N. S.
CKPC	ae	100	F	Brantford, Ont.
KMA	ak	1000	(5)	Shenandoah, Iowa
KROW	ak	1000	....	Oakland, Calif.
TIRH	z	50	....	San Jose, C. R.
WBRC	ak	1000	C	Birmingham, Ala.
WDBJ	ae	1000	C (5)	Roanoke, Va.
XEBH	ak	500	....	Hermosillo, Sonora

940 kcys. (319.0)

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

950 kcys. (315.6)

CJOC	ak	100	F	Lethbridge, Alta.
CMCD	ak	250	....	Havana, Cuba
CRCS	ak	100	F	Chicoutimi, Que.
KFWB	ak	1000	(5)	Hollywood, Calif.
KHSL	ak	250	D	Chico, Calif.
KMBC	ae	1000	C (5)	Kansas City, Mo.
WRC	ak	500	R (1)	Washington, D. C.
YNVA	z	30	....	Managua, Nic.

960 kcys. (312.3)

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

970 kcys. (309.1)

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

980 kcys. (306.0)

KDKA	c	50000	B	Pittsburgh, Pa.

990 kcys. (302.8)

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

1000 kcys. (299.8)

CMBZ	ak	500	(1)	Havana, Cuba
KFVD	ae	250	DnX	Los Angeles, Calif
TIGH	z	500	....	San Jose, C. R.
WHO	ak	50000	R	Des Moines, Iowa
XEBK	ak	100	....	Nuevo Laredo, Tams.
XEY	z	10	....	Merida, Yuc.

1010 kcys. (296.9)

CHML	ak	100	F	Hamilton, Ont.
CKCD	ak	100	1	Vancouver, B. C.
CKCK	ak	500	F	Regina, Sask.
CKCO	ak	100	F	Ottawa, Ont.
CKIC	ak	50	....	Wolfville, N. S.
CKWX	ak	100	F 1	Vancouver, B. C.
CMJA	ak	300	....	Camaguey, Cuba
KGGF	ak	1000	2	Coffeyville, Kans.
KQW	ae	1000	....	San Jose, Calif.
TIGA	z	30	1014	Cartago, C. R.
WHN	ae	1000	(5)	New York, N. Y.
WNAD	ae	1000	2	Norman, Okla.
WNOX	ak	1000	C (2)	Knoxville, Tenn.
XEU	ak	250	....	Veracruz, Ver.

1020 kcys. (293.9)

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

1030 kcys. (291.1)

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

1040 kcys. (288.3)

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

1050 kcys. (285.5)

CMKD	ak	250	....	Santiago, Cuba
CRCK	ak	1000	F	Quebec, Que.
KFBI	ak	5000	Dn	Abilene, Kans.
KNX	ak	50000	C	Hollywood, Calif.
TIFA	z	75	....	San Jose, C. R.
WEAU	z	1000	DP	Eau Claire, Wis.

1060 kcys. (282.8)

KTHS	ak	10000	N	Hot Springs, Ark.
VOAC	z	40	1065	St. John's, Nfld.
WBAL	ak	10000	B (25)	Baltimore, Md.
WJAG	ak	1000	D	Norfolk, Neb.
XEA	ak	500	....	Guadalajara, Jal.

1070 kcys. (280.2)

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

1080 kcys. (277.6)

WBT	ak	50000	C	Charlotte, N. C.
WCBD	ak	5000	1Dn	Chicago, Ill.
WMBI	ak	5000	1Dn	Chicago, Ill.

1090 kcys. (275.1)

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

1100 kcys. (272.6)

CMCJ	ak	500	....	Havana, Cuba
CRCV	ak	1000	FX	Vancouver, B. C.
KGDM	ak	1000	DM	Stockton, Calif.
KWKH	ae	10000	C	Shreveport, La.
WLWL	ae	5000	1	New York, N. Y.
WPG	ak	5000	1C	Atlantic City, N. J.
XEL	z	250	....	Mexico City, D. F.

1110 kcys. (270.1)

KSOO	ak	2500	Dn	Sioux Falls, S. D.
WRVA	ak	5000	CM	Richmond, Va.
XELO	ak	50000	....	Piedras Negras, Co.

1120 kcys. (267.7)

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

1130 kcys. (265.3)

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

1140 kcys. (263.0)

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

1150 kcys. (260.7)

CMJF	z	200	....	Camaguey, Cuba
WHAM	ae	50000	B	Rochester, N. Y.
XEFL	ak	250	....	Tijuana, L. C.
XEWZ	ak	100	....	Mexico City, D. F.

1160 kcys. (258.5)

CMHJ	ak	175	....	Cienfuegos, Cuba
WOWO	c	10000	1C	Fort Wayne, Ind.
WWVA	ak	5000	1C	Wheeling, W. Va.
XEAS	z	100	....	Saltillo, Coah.
XEC	z	30	....	Tijuana, L. C.
XED	ak	2500	....	Guadalajara, Jal.
XEP	ak	500	....	Juarez, Chih.

1170 kcys. (256.3)

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

1180 kcys. (254.1)

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

1190 kcys. (252.0)

HIJ	z	15	1195	Trujillo, D. R.
VONF	ak	500	1195	St. John's, Nfld.
WATR	ak	100	D	Waterbury, Conn.

WOAI	ak	50000	C	San Antonio, Tex.
WSAZ	ak	1000	....	Huntington, W. Va.

1200 kcys. (249.9)

CHAB	ak	100	F	Moose Jaw, Sask.
CKNX	ak	50	....	Wingham, Ont.
CKTB	ag	100	F	St. Catherines,Ont.
CMCO	ad	250	....	Havana, Cuba
KADA	ak	100	D	Ada, Okla.
KBTM	ak	100	D	Jonesboro, Ark.
KDNC	z	100	P(.25)	Lewistown, Mont.
KELO	z	100	P	Sioux Falls, S. Dak.
KFJB	ak	100	(.25)	Marshalltown, Iowa
KFXD	ae	100	(.25)	Nampa, Idaho
KFXJ	ak	100	(.25)	Grand Junc., Colo.
KGDE	ak	100	(.25)	Fergus Falls, Minn.
KGEK	ak	100	....	Sterling, Colo.
KGFJ	ae	100	....	Los Angeles, Calif.
KGHI	ak	100	(.25)	Little Rock, Ark.
KMLB	ak	100	(.25)	Monroe, La.
KOOS	ae	250	D	Marshfield, Ore.
KSUN	c	100	(.25)	Lowell, Ariz.
KVCV	z	100	P	Redding, Calif.
KVEC	z	250	DP	San Luis Obispo, Cal.
KVOS	dk	100	....	Bellingham, Wash.
KWG	ak	100	N	Stockton, Calif.
WABI	ak	100	....	Bangor, Maine
WAIM	ak	100	XZ	Anderson, S. C.
WAYX	ak	100	....	Waycross, Ga.
WBBZ	ak	100	....	Ponca City, Okla.
WBHP	z	100	P	Huntsville, Ala.
WBNO	ak	100	1	New Orleans, La.
WCAT	ak	100	D	Rapid City, S. D.
WCAX	ak	100	..	Burlington, Vt.
WCLO	ak	100	(.25)	Janesville, Wis.
WCPO	ak	100	(.25)	Cincinnati, Ohio
WEST	ae	100	3 (.25)	Easton, Pa.
WFAM	ak	100	8	South Bend, Ind.
WFTC	z	100	(.25)P	Kinston, N. C.
WHBC	ak	100	(.25)	Canton, Ohio
WHBY	ak	100	(.25)	Green Bay, Wis.
WIBX	ak	100	(.3) C	Utica, N. Y.
WIL	ak	100	(.25)	St. Louis, Mo.
WJBC	ak	100	6(.25)	Bloomington. Ill.
WJBL	ak	100	6	Decatur, Ill.
WJBW	ak	100	1	New Orleans, La.
WJNO	ak	100	C	W. Palm Beach, Fla.
WJRD	c	100	D	Tuscaloosa, Ala.
WKBO	ak	100	3 (.25)	Harrisburg, Pa.
WLVA	ak	100	(.25)	Lynchburg, Va.
WMFR	ae	100	D	High Point, N. C.
WMPC	ak	100	(.25)	Lapeer, Mich.
WNRI	ak	100	(.25)	Newport, R. I.
WRBL	ak	100	....	Columbus, Ga.
WTHT	ak	100	DM	Hartford, Conn.
WWAE	ae	100	8	Hammond, Ind.

1210 kcys. (247.8)

CJCS	ak	50	....	Stratford, Ont.
CJCU	z	50	....	Aklavik, N. W. T.
CKBI	ak	100	F	Prince Albert, Sask.
CKCH	ak	100	F	Hull, Que.
CKMC	ak	50	....	Cobalt, Ont.
CMHI	ak	150	....	Santa Clara, Cuba
KANS	ak	100	....	Wichita, Kans.
KASA	ck	100	....	Elk City, Okla.
KDLR	ak	100	....	Devils Lake, N. D.
KDON	z	100	M	Del Monte, Calif.
KFJI	ak	100	....	Klamath Falls, Ore.
KFOR	ak	100	CM(.25)	Lincoln, Neb.
KFPW	ak	100	....	Fort Smith, Ark.
KFVS	ak	100	6(.25)	Cape Girardeau. Mo.
KFXM	ak	100	M9	San Bernardino, Calif.
KGLO	z	100	P	Mason City, Iowa
KGY	ak	100	....	Olympia, Wash.
KIUL	ak	100	....	Garden City, Kans.
KLAH	ak	100	....	Carlsbad, N. Mex.
KOCA	z	100	P	Kilgore, Texas
KPPC	ak	100	9	Pasadena, Calif.
KVSO	ak	100	....	Ardmore, Okla.
KWTN	ak	100	....	Watertown, S. D.
TGW	ak	10000	....	Guatemala City
WALR	ak	100	....	Zanesville, Ohio
WBAX	ae	100	....	Wilkes Barre, Pa.
WBBL	ak	100	S	Richmond, Va.
WBLY	ak	100	D	Lima, Ohio
WBRB	ak	100	3	Red Bank, N. J.
WCOL	ak	100	N	Columbus, Ohio
WCRW	ae	100	4	Chicago, Ill.
WEBQ	ae	100	6(.25)	Harrisburg, Ill.
WEDC	ae	100	4	Chicago, Ill.
WFAS	ak	100	3	White Plains, N. Y.
WFOY	z	100	P	St. Augustine, Fla.
WGBB	ae	100	3	Freeport, N. Y.
WGCM	ae	100	(.25)	Gulfport, Miss.
WGNY	ak	100	3	Newburgh, N. Y.
WHBF	ak	100	(.25)	Rock Island, Ill.
WHBU	ak	100	(.25)	Anderson, Ind.
WIBU	ak	100	(.25)	Poynette, Wis.
WJBY	ak	100	....	Gadsden, Ala.
WJEJ	ae	100	D	Hagerstown, Md.
WJIM	z	100	(.25)	Lansing, Mich.
WJTN	ak	50	...	Jamestown, N. Y.
WJW	ae	100	(.25)	Akron, Ohio
WKOK	ak	100	....	Sunbury, Pa.
WLMU	z	100	P	Middlesboro, Ky.
WMBG	ak	100	C(.25)	Richmond, Va.
WMFG	ak	100	X	Hibbing, Minn.
WMFN	ak	100	Y	Clarksdale, Miss.
WOMT	ak	100	....	Manitowoc, Wis.
WPAX	ak	100	D	Thomasville, Ga.
WSAY	z	100	D	Rochester, N. Y.
WSBC	ae	100	4	Chicago, Ill.
WSIX	ak	100	Y	Springfield, Tenn.
WSOC	ak	100	N(.25)	Charlotte, N. C.
WTAX	ak	100	....	Springfield, Ill.
XEAT	ak	300	(.25)	Hidalgo, Chih.
XEE	ak	200	....	Durango, Dgo.
XEFV	ak	100	....	Juarez, Chih.
XETH	ak	100	....	Puebla, Pue.

1220 kcys. (245.8)

CMJE	z	50	....	Camaguey, Cuba
KFKU	ak	1000	a (5)	Lawrence, Kans.
KTW	ak	1000	S2	Seattle, Wash.
KWSC	ae	1000	2 (5)	Pullman, Wash.
TIVCA	ak	....	1225	San Jose, C. R.
WCAD	ak	500	D	Canton, N. Y.
WCAE	ak	1000	MR(5)	Pittsburgh, Pa.
WDAE	ae	1000	C (5)	Tampa, Fla.
WREN	ak	1000	Ba(5)	Lawrence, Kas.
XETF	ak	30	....	Veracruz, Ver.

1230 kcys. (243.8)

KGBX	ak	500	....	Springfield, Mo.
KGGM	ak	250	(.5)X	Albuquerque, N. M.
KYA	ak	1000	N	San Francisco, Calif.
WFBM	ae	1000	C(5)	Indianapolis, Ind.
WNAC	ak	1000	R (5)	Boston, Mass.
XEFJ	ak	100	....	Monterrey, N. L.
YNOP	z	100	....	Managua, Nic.

1240 kcys. (241.8)

CJCB	ak	1000	F	Sydney, N. S.
CMHB	z	50	....	Sancti Spiritus, Cuba
KGCU	ak	250	1	Mandan, N. D.

KLPM	ak	250	1	Minot, N. D.
KTAT	ak	1000	....	Fort Worth, Texas
KTFI	ak	1000	....	Twin Falls, Idaho
WKAQ	ae	1000	....	San Juan, P. R.
WXYZ	ak	1000	B	Detroit, Mich.
XEAC	z	250	....	Tijuana, L. C.
XEAI	z	100	....	Mexico City, D. F.
XEKL	z	500	....	Leon, Guan.
XELA	z	50	....	Saltillo, Coah.
XEME	z	15	....	Merida, Yuc.

1250 kcys. (239.9)

CMKC	ak	150	....	Santiago, Cuba
KFOX	ae	1000	....	Long Beach, Calif.
WAIR	z	250	DP	Winston-Salem
WCAL	ah	1000	2(2.5)	Northfield, Minn.
WDSU	ak	1000	....	New Orleans, La.
WHBI	ak	1000	1(2.5)	Newark, N. J.
WLB	ak	1000	2	Minneapolis, Minn.
WNEW	ak	1000	1(2.5)	New York, N. Y.
WTCN	ak	1000	B(5)	Minneapolis, Minn.

1260 kcys. (238.0)

KGVO	ak	1000	C	Missoula, Mont.
KOIL	ak	1000	MB(2.5)	Omaha, Nebr.
KPAC	ak	500	D	Port Arthur, Texas
KRGV	ae	500	X	Weslaco, Texas
KUOA	ak	1000	DX	Siloam Spgs., Ark.
KVOA	ak	500	X	Tucson, Ariz.
WHIO	ak	1000	C(5)	Dayton, Ohio
WNBX	ak	1000	....	Springfield, Vt.
WTOC	ae	1000	C	Savannah, Ga.

1270 kcys. (236.1)

CMHD	dk	250	....	Caibarien, Cuba
KGCA	ak	100	2D	Decorah, Iowa
KOL	ae	1000	C(5)	Seattle, Wash.
KVOR	ae	1000	C	Colorado Sp'gs, Colo.
KWLC	ak	100	2D	Decorah, Iowa
WASH	ak	500	aN	Grand Rapids, Mich.
WFBR	ae	500	R(1)	Baltimore, Md.
WJDX	ae	1000	N(2.5)	Jackson, Miss.
WOOD	ak	500	aN	Grand Rapids, Mich.
XEG	z	200	....	Ensenada, L. C.
XFB	ak	250	....	Jalapa, Ver.
YNLF	z	20	1275	Managua, Nic.

1280 kcys. (234.2)

CMCU	aed	500	....	Havana, Cuba
KFBB	ae	1000	C(2.5)	Great Falls, Mont.
KLS	ak	250	....	Oakland, Calif.
WCAM	ae	500	1	Camden, N. J.
WCAP	ae	500	1	Asbury Park, N. J.
WDOD	ak	1000	C(5)	Chattanooga, Tenn.
WIBA	ae	1000	N(5)	Madison, Wis.
WORC	ak	500	C	Worcester, Mass.
WRR	ak	500	....	Dallas, Texas
WTNJ	ak	500	1	Trenton, N. J.
XEMX	z	12	....	Mexico City, D. F.

1290 kcys. (232.4)

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

1300 kcys. (230.6)

KALE	ak	500	3C	Portland, Ore.
KFAC	ak	1000	....	Los Angeles, Calif.
KFH	ak	1000	C	Wichita, Kans.
KFJR	ag	500	3	Portland, Ore.
WBBR	ak	1000	1	Brooklyn, N. Y.
WEVD	ak	1000	1	New York, N. Y.
WFAB	ae	1000	1	New York, N. Y.
WFBC	ak	1000	(5)N	Greenville, S. C.
WHAZ	ae	500	1X	Troy, N. Y.
WHBL	ae	250	....	Sheboygan, Wis.
WIOD	ak	1000	N	Miami, Fla.

1310 kcys. (228.9)

CHCK	ak	50	....	Charlottetown, P.E.I.
CJKL	ak	100	F	Kirkland Lake, Ont.
CJLS	ak	100	....	Yarmouth, N. S.
CKCV	ak	100	F	Quebec, Que.
KAND	z	100	DP	Corsicana, Texas
KCKN	ak	100	....	Kansas City, Kans.
KCRJ	ak	100	D	Jerome, Ariz.
KFPL	dk	100	(.25)	Dublin, Texas
KFXR	ak	150	(.2)	Oklahoma City, Okla.
KFYO	ak	100	(.25)	Lubbock, Texas
KGEZ	ae	100	....	Kalispell, Mont.
KGFW	ak	100	....	Kearney, Neb.
KHUB	z	250	DP	Watsonville, Calif.
KINY	ak	100	....	Juneau, Alaska
KIT	ak	100	(.25)	Yakima, Wash.
KMED	ck	100	XZ(.25)	Medford, Ore.
KPDN	ak	100	D	Pampa, Texas
KRMC	z	100	1P	Jamestown, N. D.
KRMD	ak	100	....	Shreveport, La.
KROC	ak	100	....	Rochester, Minn.
KROY	z	100	DP	Sacramento, Calif.
KRQA	ak	100	....	Santa Fe, N. Mex.
KRRV	z	100	D	Sherman, Texas
KSRO	z	250	DP	Santa Rosa, Calif.
KSUB	z	100	P	Cedar City, Utah
KTSM	ak	100	....	El Paso, Texas
KVOL	ak	100	....	Lafayette, La.
KVOX	z	100	1P	Moorhead, Minn.
KWOS	z	100	DP	Jefferson City, Mo.
KXRO	ak	100	....	Aberdeen, Wash.
WAML	ak	100	....	Laurel, Miss.
WBEO	ae	100	....	Marquette, Mich.
WBOW	ak	100	(.25)	Terre Haute, Ind.
WBRE	ak	100	....	Wilkes Barre, Pa.
WCLS	ak	100	....	Joliet, Ill.
WCMI	ak	100	(.25)	Ashland, Ky.
WDAH	ak	100	S	El Paso, Texas
WEBR	ak	100	B(.25)	Buffalo, N. Y.
WEMP	ak	100	D	Milwaukee, Wis.
WEXL	ak	50	....	Royal Oak, Mich.
WFBG	ae	100	3	Altoona, Pa.
WFDF	ak	100	....	Flint, Mich.
WGH	ak	100	(.25)	Newport News, Va.
WHAT	ak	100	4	Philadelphia, Pa.
WJAC	ae	100	3	Johnstown, Pa.
WLAK	z	100	....	Lakeland, Fla.
WLBC	ak	100	6(.25)	Muncie, Ind.
WLNH	ak	100	....	Laconia, N. H.
WMBO	ak	100	....	Auburn, N. Y.
WMFF	ak	250	D	Plattsburg, N. Y.
WNBH	ak	100	M(.25)	New Bedford, Mass.
WOL	ae	100	XZ	Washington, D. C.
WRAW	ak	100	....	Reading, Pa.
WROL	ak	100	(.25)	Knoxville, Tenn.
WSAJ	ae	100	....	Grove City, Pa.
WSGN	ak	100	(.25)	Birmingham, Ala.
WSJS	ak	100	C	Winston-Salem, N.C.
WTAL	ak	100	....	Tallahassee, Fla.
WTEL	ce	100	4	Philadelphia, Pa.
WTJS	ak	100	(.25)	Jackson, Tenn.
WTRC	ak	100	6(.25)	Elkhart, Ind.
XEAG	z	10	....	Cordoba, Ver.
XECW	z	10	....	Mexico City, D. F.
XEFW	ak	250	....	Tampico, Tams.
XETB	ak	125	....	Torreon, Coah.

XEX	ak	125	....	Monterrey, N. L.
XFA	z	5	...	Aguascalientes, Ags.

1320 kcys. (227.1)

CMOX	ak	200	....	Havana, Cuba
KGHF	am	500	B	Pueblo, Colo.
KGMB	ak	1000	C	Honolulu, T. H.
KID	ae	500	(1)	Idaho Falls, Idaho
KRNT	ak	500	C(1)X	Des Moines, Iowa
WADC	ae	1000	C(5)	Akron, Ohio
WORK	ak	1000	....	York, Pa.
WSMB	ak	1000	N	New Orleans, La.

1330 kcys. (225.4)

CMHK	z	250	....	Cruces, Cuba
CMKW	z	....	....	Santiago, Cuba
KGB	ak	1000	M	San Diego, Calif.
KMO	ak	250	X	Tacoma, Wash.
KSCJ	ak	1000	C(2.5)	Sioux City, Iowa
WDRC	ae	1000	C(5)	Hartford, Conn.
WSAI	ak	1000	MR(2.5)	Cincinnati, Ohio
WTAQ	ae	1000	....	Green Bay, Wis.

1340 kcys. (223.7)

CMAB	z	....	....	Pinar del Rio, Cuba
CMJL	z	75	....	Camaguey, Cuba
HRN	z	50	....	Tegucigalpa, Hond.
KGDY	ak	250	D	Huron, S. D.
KGIR	ak	1000	N(2.5)	Butte, Mont.
KGNO	ak	250	....	Dodge City, Kans.
WCOA	ak	500	C	Pensacola, Fla.
WFEA	ak	500	NM(1)	Manchester, N. H
WSPD	ae	1000	C(5)	Toledo, Ohio
XEFE	z	250	....	Nuevo Laredo, Tams.
XFD	z	350	....	Jalapa, Ver.

1350 kcys. (222.1)

CMCA	ak	450	....	Havana, Cuba
KIDO	ak	1000	(.25)	Boise, Idaho
KWK	ak	1000	M(5)	St. Louis, Mo.
WAWZ	ae	500	1(1)	Zarephath, N. J.
WBNX	ae	1000	1	New York, N. Y.

1360 kcys. (220.4)

CMJH	dk	50	....	Ciego de Avila, Cuba
KCRC	ak	250	....	Enid, Okla.
KGER	ak	1000	....	Long Beach, Calif.
WCSC	ak	500	(1)N	Charleston, S. C.
WFBL	ak	1000	C(5)	Syracuse, N. Y.
WGES	ae	500	1	Chicago, Ill.
WQBC	ak	1000	D	Vicksburg, Miss.
WSBT	ak	500	1	South Bend, Ind.

1370 kcys. (218.8)

CKCW	ak	100	F	Moncton, N. B.
CMGE	ak	150	....	Cardenas, Cuba
HIZ	z	10	....	Trujillo, D. R.
KAST	ak	100	D	Astoria, Ore.
KCMO	ak	100	....	Kansas City, Mo.
KELD	z	100	....	El Dorado, Ark.
KERN	ak	100	....	Bakersfield, Calif.
KFGQ	ak	100	....	Boone, Iowa
KFJZ	ae	100	(.25)	Fort Worth, Texas
KFRO	ak	100	D	Longview, Texas
KGAR	ae	100	(.25)	Tucson, Ariz.
KGFG	bk	100	....	Oklahoma City, Okla
KGFL	ak	100	4	Roswell, N. M.
KGKL	ak	100	(.25)	San Angelo, Texas
KICA	ak	100	4	Clovis, N. M.
KIUP	ak	100	....	Durango, Colo.
KLUF	ak	100	(.25)	Galveston, Texas
KMAC	ak	100	5	San Antonio, Tex.
KOBH	ak	100	P	Rapid City, S. Dak.
KONO	ak	100	5	San Antonio, Tex.
KRE	ak	100	(.25)	Berkeley, Calif.
KRKO	ak	50	1	Everett, Wash.
KSLM	ak	100	....	Salem, Ore.
KTEM	z	100	DP	Temple, Texas
KUJ	ak	100	....	Walla Walla, Wash.
KVGB	z	100	P	Great Bend, Kans.
KVL	ak	100	1	Seattle, Wash.
KWYO	ak	100	(.25)	Sheridan, Wyo.
WABY	ak	100	B	Albany, N. Y.
WAGF	ak	250	D	Dothan, Ala.
WATL	ak	100	....	Atlanta, Ga.
WBLK	z	100	DP	Clarksburg, W. Va.
WBNY	ak	100	2(.25)	Buffalo, N. Y.
WBTM	ak	100	(.25)	Danville, Va.
WCBM	ae	100	(.25)	Baltimore, Md.
WDAS	ag	100	(.25)	Philadelphia, Pa.
WDWS	ak	100	DP	Champaign, Ill.
WEOA	z	100	....	Evansville, Ind.
WFOR	ak	100	....	Hattiesburg, Miss.
WGL	ck	100	C	Fort Wayne, Ind.
WGRC	ak	250	D	New Albany, Ind.
WHBQ	ak	100	....	Memphis, Tenn.
WHDF	ak	100	(.25)	Calumet, Mich.
WHLB	ak	100		Virginia, Minn.
WIBM	ak	100	(.25)	Jackson, Mich.
WLLH	ak	100	M(.25)	Lowell, Mass.
WMBR	ak	100	C(.25)	Jacksonville, Fla.
WMFD	ak	100	D	Wilmington, N. C.
WMFO	ak	100	D	Decatur, Ala.
WMIN	ak	100	(.25)	St. Paul, Minn.
WOC	ak	100	C(.25)	Davenport, Iowa
WPAY	ak	100	....	Portsmouth, Ohio
WPRA	z	100	(.25)P	Mayaguez, P. R.
WRAK	ak	100	(.25)	Williamsport, Pa.
WRDO	ae	100	....	Augusta, Maine
WRJN	ak	100	(.25)	Racine, Wis.
WSAU	z	100	DP	Wausau, Wis.
WSVS	ak	50	D2	Buffalo, N. Y.
XEFZ	ak	100	....	Mexico City, D. F.
XEI	ak	125	....	Morelia, Mich.
XEZZ	s	100	...	San Luis Potosi, SLP.

1380 kcys. (217.3)

CMCR	z	150	....	Havana, Cuba
KOH	ak	500	C	Reno, Nev.
KQV	ae	500	1C	Pittsburgh, Pa.
WALA	af	500	C(1)	Mobile, Ala.
WKBH	ae	1000	....	LaCrosse, Wis.
WNBC	ak	250	D	New Britain, Conn.
WSMK	ak	200	1C	Dayton, Ohio

1390 kcys. (215.7)

CJGX	ak	100	....	Yorkton, Sask.
CMJC	z	150	....	Camaguey, Cuba
HIH	ak	15	1395	San Ped. de Macoris
KLRA	ae	1000	C(2.5)	Little Rock, Ark.
KOY	ae	500	(1)	Phoenix, Ariz.
WHK	ae	1000	C(2.5)	Cleveland, Ohio
WQDM	d	1000	D	St. Albans, Vt.

1400 kcys. (214.2)

CMGC	ad	150	....	Matanzas, Cuba
CMKR	z	100	....	Santiago, Cuba
KHBC	z	250	....	Hilo, T. H.
KLO	ak	500	B	Ogden, Utah
KTUL	ak	500	C(1)	Tulsa, Okla.

TGX	ak	250	....	Guatemala City, Gt.
WARD	ak	500	2	Brooklyn, N. Y.
WBBC	ae	500	2(1)	Brooklyn, N. Y.
WEGL	z	500	P	Brooklyn, N. Y.
WHDL	ak	250	D	Olean, N. Y.
WIRE	ak	1000	MR(5)	Indianapolis, Ind.
WLTH	ak	500	2	Brooklyn, N. Y.
WVFW	ak	500	2	Brooklyn, N. Y.

1410 kcys. (212.6)

CKFC	ak	50	5	Vancouver, B. C.
CKMO	ag	100	5F	Vancouver, B. C.
CMCQ	ak	250	....	Havana, Cuba
KFJM	ak	500	(1)	Grand Forks, N. D.
KGNC	ak	1000	N(2.5)	Amarillo, Texas
WAAB	ak	500	M	Boston, Mass.
WBCM	ae	500	....	Bay City, Mich.
WHIS	ak	500	(1)	Bluefield, W. Va.
WROK	ak	500	....	Rockford, Ill.
WSFA	ak	500	C(1)	Montgomery, Ala.

1420 kcys. (211.1)

CKGB	ak	100	F	Timmins, Ont.
CRCY	ak	100	....	Toronto, Ont.
KABC	ak	100	(.25)	San Antonio, Texas
KABR	ak	100	....	Aberdeen, S. Dak.
KALB	z	100	D	Alexandria, La.
KBPS	ak	100	4	Portland, Ore.
KCMC	ak	100	Y	Texarkana, Ark.
KEUB	z	100	....	Price, Utah
KFIZ	ak	100	....	Fond du Lac, Wis.
KGFF	ak	100	(.25)	Shawnee, Okla.
KGGC	ak	100	....	San Francisco, Cal.
KGIW	ak	100	1	Alamosa, Colo.
KIDW	ak	100	1	Lamar, Colo.
KIUN	ak	100	....	Pecos, Texas
KNET	z	100	D	Palestine, Texas
KORE	ae	100	..	Eugene, Ore.
KRBC	ak	100	..	Abilene, Tex.
KRLC	ak	100	XZ	Lewiston, Idaho
KRLH	z	100	D	Midland, Tex.
KUMA	ak	100	....	Yuma, Ariz.
KWBG	ak	100	....	Hutchinson, Kans.
KXL	ak	100	4(.25)	Portland, Ore.
WACO	ak	100	C	Waco, Texas
WAGM	ae	100	....	Presque Isle, Maine
WAPO	ak	100	D	Chattanooga, Tenn.
WAZL	ak	100	2	Hazleton, Pa.
WCBS	ak	100	....	Springfield, Ill.
WCHV	ak	100	3(.25)	Charlottesville, Va.
WEED	ak	100	3 (.25)	Rocky Mt., N. C.
WELL	ak	100	....	Battle Creek, Mich.
WGPC	ak	100	....	Albany, Ga.
WHFC	ak	100	X	Cicero, Ill.
WILM	aj	100	2	Wilmington, Del.
WJBO	ak	100	....	Baton Rouge, La.
WJBR	z	100	P	Gastonia, N. C.
WJMS	ak	100	....	Ironwood, Mich.
WLAP	ak	100	(.25)	Lexington, Ky.
WLEU	ak	100	(.25)	Erie, Pa.
WMAS	ak	100	C(.25)	Springfield, Mass.
WMBC	ae	100	(.25)	Detroit, Mich.
WMBH	ak	100	(.25)	Joplin, Mo.
WMFJ	ak	100	....	Daytona Beach, Fla.
WMSD	ak	100	....	Sheffield, Ala.
WNNY	z	100	(.25)P	Watertown, N. Y.
WPAD	ak	100	(.25)	Paducah, Ky.
WPAR	ak	100	....	Parkersburg, W. Va.
WPRP	z	100	P(.25)	Ponce, P. R.
XEAZ	z	7	....	Guanajuato, Gto.
XEFB	ak	100	....	Monterrey, N. L.

1430 kcys. (209.7)

CMJP	ak	75	....	Moron, Cuba
KECA	ak	1000	(5) B	Los Angeles, Calif.
KGNF	ak	1000	D	North Platte, Neb.
KSO	ak	500	BM(1)	Des Moines, Iowa
WBNS	ak	500	C (1)	Columbus, Ohio
WHEC	ak	500	C (1)	Rochester, N. Y.
WHP	ak	500	C (1)	Harrisburg, Pa.
WNBR	ae	500	(1)	Memphis, Tenn.
WOKO	ae	500	C (1)	Albany, N. Y.

1440 kcys. (208.2)

CMOA	z	150	....	Havana, Cuba
HP50	z	25	....	Colon, Panama
KDFN	ak	500	....	Casper, Wyo.
KXYZ	ak	1000	....	Houston, Texas
TIFS	z	7.5	(1441)	Cartago, C. R.
WBIG	ae	500	C (1)	Greensboro, N. C.
WCBA	aj	500	a	Allentown, Pa.
WMBD	ak	500	C (1)	Peoria, Ill.
WSAN	aj	500	a	Allentown, Pa.
XEFI	ae	250	....	Chihuahua, Chih.

1450 kcys. (206.8)

CFCT	ae	75	(.05)	Victoria, B. C.
CHGS	ae	50	F	Summerside, P.E.I.
CMHM	z	....	....	Clenfuegos, Cuba
KGCX	ak	1000	....	Wolf Point, Mont.
KIEM	ak	500	....	Eureka, Calif.
KTBS	ak	1000	N	Shreveport, La.
WGAR	ak	500	MB(1)	Cleveland, Ohio
WHOM	ae	250	....	Jersey City, N. J.
WSAR	ak	1000	M	Fall River, Mass.
WTFI	ak	500	Y	Athens, Ga.
XEF	ak	100	....	Juarez, Chih.

1460 kcys. (205.4)

CMKF	z	50	....	Holguin, Cuba
CMOK	z	150	....	Havana, Cuba
KSTP	ak	10000	R (25)	St. Paul, Minn.
WJSV	ak	10000	C	Washington, D. C.

1470 kcys. (204.0)

KGA	ak	5000	B	Spokane, Wash.
WLAC	ak	5000	C	Nashville, Tenn.

1480 kcys. (202.6)

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

1490 kcys. (201.2)

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

1500 kcys. (199.9)

CJIC	ak	100	...	Sault Ste. Marie, Ont.
CMCN	z	....	....	Havana, Cuba
KBIX	z	100	....	Muskogee, Okla.
KBST	z	100	P	Big Spring, Tex.
KDAL	ak	100	....	Duluth, Minn.
KDB	ak	100	M	Santa Barbara, Cal.
KGFI	ak	100	(.25)	Corpus Christi, Tex.
KGKB	ak	100	....	Tyler, Texas
KGKY	ak	100	(.25)	Scottsbluff, Neb.

KNEL	ak	100	D	Brady, Texas
KNOW	ak	100	C	Austin, Texas
KOTN	ak	100	D	Pine Bluff, Ark.
KOVC	ak	100	....	Valley City, N. Dak.
KPLC	ak	100	....	Lake Charles, La.
KPLT	z	100	DP	Paris, Texas
KPQ	ak	100	(.25)	Wenatchee, Wash.
KRNR	ak	100	D	Roseburg, Ore.
KSJS	z	100	P	Salina, Kans.
KTEP	z	100	P	El Paso, Texas
KUTA	z	100	P	Salt Lake City, Utah
KVOE	ak	100	....	Santa Ana, Calif.
KXO	ak	100	....	El Centro, Calif.
WCNW	ak	100	1 (.25)	Brooklyn, N. Y.
WDNC	ae	100	C	Durham, N. C.
WGAL	ae	100	(.25)	Lancaster, Pa.
WHBB	ak	100	D	Selma, Ala.
WHEF	ak	100	(.25)	Kosciusko, Miss.
WJBK	ae	100	(.25)	Detroit, Mich.
WKBB	ak	100	(.25)	E. Dubuque, Ill.
WKBV	ak	100	(.25)	Richmond, Ind.
WKBZ	ak	100	(.25)	Muskegon, Mich.
WKEU	ak	100	D	Griffin, Ga.
WMBQ	ae	100	1	Brooklyn, N. Y.
WMEX	ak	100	(.25)	Boston, Mass.
WNBF	ae	100	C	Binghamton, N. Y.
WNLC	ak	100	D	New London,Conn.
WOPI	ae	100	....	Bristol, Tenn.
WRDW	ak	100	....	Augusta, Ga.
WRGA	ak	100	(.25)	Rome, Ga.
WSYB	ak	100	....	Rutland, Vt.
WTMV	ak	100	....	East St. Louis, Ill.
WWRL	ak	100	1 (.25)	Woodside, N. Y.
WWSW	ae	100	(.25)	Pittsburgh, Pa.
.....	z	100	P	El Paso, Texas
.....	z	100	P	Gallup, N. Mex.
.....	z	100	(.25)	P Prescott, Ariz.

1510 kcys. (198.6)

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

1530 kcys. (196.0)

W1XBS	ak	1000	....	Waterbury, Conn.
KXBY	ak	1000	....	Kansas City, Mo.

1550 kcys. (193.4)

KPMC	ak	1000	....	Bakersfield, Calif.
WQXR	ak	1000	....	New York, N. Y.

KEY TO SYMBOLS

As shown in the Index by Frequencies and Dial Numbers

Frequency is given in kilocycles; wave lengths in meters. Night power is shown in watts in third column. Daytime power is shown in parenthesis in fourth column in kilowatts, thus (.25) indicating 250 watts. Some stations outside the United States use a "split frequency." Their exact frequency is shown in fourth column.

Second Column Symbols

- a Verifies reception for return postage.
- b Verifies only occasionally.
- c Does not verify.
- d Verification 10c: letter 25c.
- h Sends own station stamp for 10c.
- i Sends own station stamp for 5c.
- j Sends own station stamp for postage.
- k Has no stamps.
- m Verifies for 5c.
- n Weather or time only.
- s No information available.

Fourth Column Symbols

- B National "Blue" network.
- C Columbia network.
- D Day time only.
- Dn Day time with occasional evening hours.
- F Canadian Radio Brdcstg. Commission.
- M Mutual Brdcstg. Sys.
- N National "Red" and "Blue" networks.
- P Has construction permit only.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
- X Has permit to increase power.
- Y Has permit to change location.
- Z Has permit to change frequency.
- a-b-c. Small letters show stations using same transmitter.
- 1-2-3. Figures denote stations sharing time.
- .... No information.

Time on the Air

All times are shown in Eastern Standard. The hours are given according to the International or 24-hour clock. To convert to ordinary time, subtract 12 where the time shown is greater than that figure. Thus, 1700 is 5:00 p.m.: 1200 is noon: midnight is either 0000 or 2400.

The new Colonial Network comprises eleven New England stations, as follows: WAAB, Boston; WATR, Waterbury; WEAN, Providence; WFEA, Manchester; WICC, Bridgeport; WLBZ, Bangor; WLLH, Lowell; WMAS, Springfield; WSAR, Fall River, and WTHT, Hartford. Mr. John Shepard 3rd is president of this chain, as well as of the Yankee Network. The Colonial chain will take programs from or feed them to the Mutual Network, the New York State Broadcasting System, or stations WOR, WHN and WINS.

* * *

The Mutual Broadcasting System has announced the addition of five new stations. At the same time it was learned that WLW, Cincinnati, had dissolved its corporate connection with the system, although they will continue as an outlet. The new affiliated stations are KWK, St. Louis; KSO, Des Moines; WMT, Cedar Rapids; KOIL, Omaha, and KFOR, Lincoln.

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Frequency in kilocycles in second column. Night power in watts in third column. Net work affiliations in fourth column: C Columbia, R National Red, B National Blue, N National Red and Blue. F Canadian, M Mutual.

ALABAMA

Birmingham			
WAPI	1140	5000	N
WBRC	930	1000	C
WSGN	1310	100	
Decatur			
WMFO	1370	100	
Dothan			
WAGF	1370	250	
Gadsden			
WJBY	1210	100	
Huntsville			
WBHP	1200	100	
Mobile			
WALA	1380	500	C
Montgomery			
WSFA	1410	500	C
Selma			
WHBB	1500	100	
Sheffield			
WMSD	1420	100	
Tuscaloosa			
WJRD	1200	100	

ALASKA

Anchorage			
KFQD	780	250	
Juneau			
KINY	1310	100	
Ketchikan			
KGBU	900	500	

ARIZONA

Jerome			
KCRJ	1310	100	
Lowell			
KSUN	1200	100	
Phoenix			
KOY	1390	500	
KTAR	620	1000	N
Prescott			
.....	1500	100	
Tucson			
KGAR	1370	100	
KVOA	1260	500	
Yuma			
KUMA	1420	100	

ARKANSAS

Blytheville			
KLCN	1290	100	
El Dorado			
KELD	1370	100	
Fort Smith			
KFPW	1210	100	
Hot Springs			
KTHS	1060	10000	N
Jonesboro			
KBTM	1200	100	
Little Rock			
KARK	890	500	N
KGHI	1200	100	
KLRA	1390	1000	C
Pine Bluff			
KOTN	1500	100	
Siloam Springs			
KUOA	1260	1000	
Texarkana			
KCMC	1420	100	

CALIFORNIA

Bakersfield			
KERN	1370	100	C
KPMC	1550	1000	
Berkeley			
KRE	1370	100	
Beverly Hills			
KMPC	710	500	M
Chico			
KHSL	950	250	
Del Monte			
KDON	1210	100	M
El Centro			
KXO	1500	100	
Eureka			
KIEM	1450	500	
Fresno			
KMJ	580	500	C
Glendale			
KIEV	850	250	
Hollywood			
KFWB	950	1000	
KMTR	570	1000	
KNX	1050	50000	C
Long Beach			
KFOX	1250	1000	
KGER	1360	1000	
Los Angeles			
KECA	1430	1000	B
KEHE	780	1000	
KFAC	1300	1000	
KFI	640	50000	R
KFSG	1120	500	
KFVD	1000	250	
KGFJ	1200	100	
KHJ	900	1000	M
KRKD	1120	500	
Merced			
KYOS	1040	250	
Modesto			
KTRB	740	250	
Oakland			
KLS	1280	250	
KLX	880	1000	
KROW	930	1000	
Pasadena			
KPPC	1210	100	
Redding			
KVCV	1200	100	
Sacramento			
KFBK	1490	5000	C
KROY	1310	100	
San Bernardino			
KFXM	1210	100	M
San Diego			
KFSD	600	1000	B
KGB	1330	1000	M
San Francisco			
KFRC	610	1000	M
KGGC	1420	100	
KGO	790	7500	B
KJBS	1070	500	
KPO	680	50000	R
KSFO	560	1000	
KYA	1230	1000	N
San Jose			
KQW	1010	1000	
San Luis Obispo			
KVEC	1200	250	
Santa Ana			
KVOE	1500	100	
Santa Barbara			
KDB	1500	100	M
Santa Rosa			
KSRO	1310	250	
Stockton			
KGDM	1100	1000	M
KWG	1200	100	N
Watsonville			
KHUB	1310	250	

COLORADO

Alamosa			
KGIW	1420	100	
Colorado Springs			
KVOR	1270	1000	C
Denver			
KFEL	920	500	M
KLZ	560	1000	C
KOA	830	50000	N
KPOF	880	500	
KVOD	920	500	B
Durango			
KIUP	1370	100	
Grand Junction			
KFXJ	1200	100	
Greeley			
KFKA	880	500	
Lamar			
KIDW	1420	100	
Pueblo			
KGHF	1320	500	
Sterling			
KGEK	1200	100	

CONNECTICUT

Bridgeport			
WICC	600	500	M
Hartford			
WDRC	1330	1000	C
WTIC	1040	50000	R
WTHT	1200	100	M
New Britain			
WNBC	1380	250	
New Haven			
WELI	900	500	
New London			
WNLC	1500	100	
Waterbury			
WATR	1190	100	
W1XBS	1530	1000	M

DELAWARE

Wilmington			
WDEL	1120	250	
WILM	1420	100	

DISTRICT OF COLUMBIA

Washington			
WJSV	1460	10000	C
WMAL	630	250	B
WOL	1310	100	
WRC	950	500	R

FLORIDA

Clearwater			
WFLA	620	1000	N
Daytona Beach			
WMFJ	1420	100	
Gainesville			
WRUF	830	5000	
Jacksonville			
WJAX	900	1000	N
WMBR	1370	100	C
Lakeland			
WLAK	1310	100	
Miami			
WIOD	1300	1000	N
WQAM	560	1000	C
Orlando			
WDBO	580	1000	C
Pensacola			
WCOA	1340	500	C
St. Augistine			
WFOY	1210	100	
St. Petersburg			
WSUN	620	1000	N
Tallahassee			
WTAL	1310	100	
Tampa			
WDAE	1220	1000	C
West Palm Beach			
WJNO	1200	100	C

GEORGIA

Albany			
WGPC	1420	100	
Athens			
WTFI	1450	500	
Atlanta			
WATL	1370	100	
WGST	890	1000	C
WSB	740	50000	N
Augusta			
WRDW	1500	100	
Columbus			
WRBL	1200	100	
Griffin			
WKEU	1500	100	
Macon			
WMAZ	1180	1000	
Rome			
WRGA	1500	100	
Savannah			
WTOC	1260	1000	C
Thomasville			
WPAX	1210	100	
Waycross			
WAYX	1200	100	

HAWAII

Hilo			
KHBC	1400	250	
Honolulu			
KGMB	1320	1000	C
KGU	750	2500	N

IDAHO

Boise			
KIDO	1350	1000	
Idaho Falls			
KID	1320	500	
Lewiston			
KRLC	1420	100	
Nampa			
KFXD	1200	100	
Pocatello			
KSEI	900	250	
Twin Falls			
KTFI	1240	1000	

ILLINOIS

Bloomington			
WJBC	1200	100	
Carthage			
WCAZ	1070	100	
Champaign			
WDWS	1370	100	
Chicago			
WAAF	920	1000	
WBBM	770	50000	C
WCBD	1080	5000	
WCFL	970	5000	B
WCRW	1210	100	
WEDC	1210	100	
WENR	870	50000	N
WGES	1360	500	
WGN	720	50000	M
WJJD	1130	20000	
WLS	870	50000	N
WMAQ	670	50000	N
WMBI	1080	5000	
WSBC	1210	100	
Cicero			
WHFC	1420	100	
Decatur			
WJBL	1200	100	
East Dubuque			
WKBB	1500	100	
East St. Louis			
WTMV	1500	100	
Harrisburg			
WEBQ	1210	100	
Joliet			
WCLS	1310	100	
Peoria			
WMBD	1440	500	C
Quincy			
WTAD	900	1000	
Rockford			
WROK	1410	500	
Rock Island			
WHBF	1210	100	
Springfield			
WCBS	1420	100	
WTAX	1210	100	
Tuscola			
WDZ	1020	250	
Urbana			
WILL	580	250	

INDIANA

Anderson			
WHBU	1210	100	
Elkhart			
WTRC	1310	100	
Evansville			
WEOA	1370	100	
WGBF	630	500	
Fort Wayne			
WGL	1370	100	C
WOWO	1160	10000	C
Gary			
WIND	560	1000	
Hammond			
WWAE	1200	100	
Indianapolis			
WFBM	1230	1000	C
WIRE	1400	1000	R
Muncie			
WLBC	1310	100	
New Albany			
WGRC	1370	250	
Richmond			
WKBV	1500	100	
South Bend			
WFAM	1200	100	
WSBT	1360	500	C
Terre Haute			
WBOW	1310	100	
West Lafayette			
WBAA	890	500	

IOWA

Ames			
WOI	640	5000	
Boone			
KFGQ	1370	100	
Cedar Rapids			
WMT	600	1000	B
Davenport			
WOC	1370	100	C
Decorah			
KGCA	1270	100	
KWLC	1270	100	
Des Moines			
KRNT	1320	500	C
KSO	1430	500	B
WHO	1000	50000	R
Iowa City			
WSUI	880	500	
Marshalltown			
KFJB	1200	100	
Mason City			
KGLO	1210	100	
Shenandoah			
KFNF	890	500	
KMA	930	1000	
Sioux City			
KSCJ	1330	1000	C

KANSAS

Abilene			
KFBI	1050	5000	
Coffeyville			
KGGF	1010	1000	
Dodge City			
KGNO	1340	250	
Garden City			
KIUL	1210	100	
Great Bend			
KVGB	1370	100	
Hutchinson			
KWBG	1420	100	
Kansas City			
KCKN	1420	100	
Lawrence			
KFKU	1220	1000	
WREN	1220	1000	B
Manhattan			
KSAC	580	500	
Pittsburg			
KOAM	790	1000	
Salina			
KSJS	1500	100	
Topeka			
WIBW	580	1000	C
Wichita			
KANS	1210	100	
KFH	1300	1000	C

KENTUCKY

Ashland			
WCMI	1310	100	
Covington			
WCKY	1490	5000	N
Lexington			
WLAP	1420	100	
Louisville			
WAVE	940	1000	N
WHAS	820	50000	C
Middlesboro			
WLMU	1210	100	
Paducah			
WPAD	1420	100	

LOUISIANA

Alexandria			
KALB	1420	100	
Baton Rouge			
WJBO	1420	100	
Lafayette			
KVOL	1310	100	
Lake Charles			
KPLC	1500	100	
Monroe			
KMLB	1200	100	
New Orleans			
WBNO	1200	100	
WDSU	1250	1000	
WJBW	1200	100	
WSMB	1320	1000	N
WWL	850	10000	C
Shreveport			
KRMD	1310	100	
KTBS	1450	1000	N
KWKH	1100	1000	C

MAINE

Augusta			
WRDO	1370	100	
Bangor			
WABI	1200	100	
WLBZ	620	500	C
Portland			
WCSH	940	1000	R
WGAN	640	500	
Presque Isle			
WAGM	1420	100	

MARYLAND

Baltimore			
WBAL	760	2500	B
WBAL	1060	10000	B
WCAO	600	500	C
WCBM	1370	100	
WFBR	1270	500	R
Cumberland			
WTBO	800	250	
Frederick			
WFMD	900	500	
Hagerstown			
WJEJ	1210	100	

MASSACHUSETTS

Boston			
WAAB	1410	500	M
WBZ	990	50000	C
WCOP	1120	500	
WEEI	590	1000	C
WHDH	830	1000	
WMEX	1500	100	
WNAC	1230	1000	R
WORL	920	500	
Fall River			
WSAR	1450	1000	M
Lowell			
WLLH	1370	100	M
New Bedford			
WNBH	1310	100	M
Springfield			
WBZA	990	1000	B
WMAS	1420	100	C
WSPR	1140	500	M
Worcester			
WORC	1280	500	C
WTAG	580	500	R

MICHIGAN

Battle Creek			
WELL	1420	100	
Bay City			
WBCM	1410	500	
Calumet			
WHDF	1370	100	
Detroit			
WJBK	1500	100	
WJR	750	50000	C
WMBC	1420	100	
WWJ	920	1000	R
WXYZ	1240	1000	B
East Lansing			
WKAR	850	1000	
Flint			
WFDF	1310	100	
Grand Rapids			
WASH	1270	500	N
WOOD	1270	500	N
Ironwood			
WJMS	1420	100	
Jackson			
WIBM	1370	100	
Kalamazoo			
WKZO	590	1000	B
Lansing			
WJIM	1210	100	
Lapeer			
WMPC	1200	100	
Marquette			
WBEO	1310	100	
Muskegon			
WKBZ	1500	100	
Royal Oak			
WEXL	1310	50	

MINNESOTA

Duluth			
KDAL	1500	100	
WEBC	1290	1000	N
Fergus Falls			
KGDE	1200	100	
Hibbing			
WMFG	1210	100	
Minneapolis			
WCCO	810	50000	C
WDGY	1180	1000	
WLB	1250	1000	
WTCN	1250	1000	
Moorhead			
KVOX	1310	100	
Northfield			
WCAL	1250	1000	
Rochester			
KROC	1310	100	
St. Paul			
KSTP	1460	10000	N
WMIN	1370	100	
Virginia			
WHLB	1370	100	

MISSISSIPPI

Clarksdale			
WMFN	1210	100	
Gulfport			
WGCM	1210	100	
Hattiesburg			
WFOR	1370	100	
Jackson			
WJDX	1270	1000	N
Kosciusko			
WHEF	1500	100	
Laurel			
WAML	1310	100	
Meridian			
WCOC	880	500	
Vicksburg			
WQBC	1360	1000	

MISSOURI

Cape Girardeau			
KFVS	1210	100	
Columbia			
KFRU	630	500	
Jefferson City			
WOS	630	500	
KWOS	1310	100	
Joplin			
WMBH	1420	100	
Kansas City			
KCMO	1370	100	
KMBC	950	1000	C
KXBY	1530	1000	
WDAF	610	1000	R
WHB	860	1000	M
St. Joseph			
KFEQ	680	2500	
St. Louis			
KFUO	550	500	
KMOX	1090	50000	C
KSD	550	1000	R
KWK	1350	1000	B
WEW	760	1000	
WIL	1200	100	
Springfield			
KGBX	1230	500	
KWTO	560	5000	

MONTANA

Billings			
KGHL	780	1000	N
Butte			
KGIR	1340	1000	N
Great Falls			
KFBB	1280	1000	C
Kalispell			
KGEZ	1310	100	
Lewistown			
KDNC	1200	100	
Missoula			
KGVO	1260	1000	C
Wolf Point			
KGCX	1450	1000	

NEBRASKA

Clay Center			
KMMJ	740	1000	
Kearney			
KGFW	1310	100	
Lincoln			
KFAB	770	10000	C
KFOR	1210	100	C
Norfolk			
WJAG	1060	1000	
North Platte			
KGNF	1430	1000	
Omaha			
KOIL	1260	1000	B
WAAW	660	500	
WOW	590	5000	R
Scottsbluff			
KGKY	1500	100	

NEVADA

Reno			
KOH	1380	500	C

NEW HAMPSHIRE

Laconia			
WLNH	1310	100	
Manchester			
WFEA	1340	500	N
Portsmouth			
WHEB	740	250	

NEW JERSEY

Asbury Park			
WCAP	1280	500	
Atlantic City			
WPG	1100	5000	C
Camden			
WCAM	1280	500	
Jersey City			
WAAT	940	500	
WHOM	1450	250	
Newark			
WHBI	1250	1000	
WNEW	1250	1000	
WOR	710	50000	M
Red Bank			
WBRB	1210	100	
Trenton			
WTNJ	1280	500	
Zarephath			
WAWZ	1350	500	

NEW MEXICO

Albuquerque			
KGGM	1230	250	
KOB	1180	10000	
Carlsbad			
KLAH	1210	100	
Clovis			
KICA	1370	100	
Gallup			
.....	1500	100	
Roswell			
KGFL	1370	100	
Santa Fe			
KRQA	1310	100	

NEW YORK

Albany			
WABY	1370	100	B
WOKO	1430	500	C
Auburn			
WMBO	1310	100	
Binghamton			
WNBF	1500	100	C
Brooklyn			
WARD	1400	500	
WBBC	1400	500	
WBBR	1300	1000	
WCNW	1500	100	
WEGL	1400	500	
WLTH	1400	500	
WMBQ	1500	100	
WVFW	1400	500	
Buffalo			
WBEN	900	1000	R
WBNY	1370	100	
WEBR	1310	100	B
WGR	550	1000	C
WKBW	1480	5000	C
WSVS	1370	50	
Canton			
WCAD	1220	500	
Elmira			
WESG	850	1000	C
Freeport			
WGBB	1210	100	
Jamestown			
WJTN	1210	50	
Newburgh			
WGNY	1210	100	
New York			
WABC	860	50000	C
WBNX	1350	10000	
WBOQ	860	50000	
WEAF	660	50000	R
WEVD	1300	1000	
WFAB	1300	1000	
WHN	1010	1000	
WINS	1180	1000	
WJZ	760	50000	B
WLWL	1100	5000	
WMCA	570	500	
WNEW	1250	1000	
WNYC	810	1000	
WOV	1130	1000	
WQXR	1550	1000	
Olean			
WHDL	1420	100	
Plattsburg			
WMFF	1310	250	
Rochester			
WHAM	1150	50000	B
WHEC	1430	500	C
WSAY	1210	100	
Saranac Lake			
WNBZ	1290	100	
Schenectady			
WGY	790	50000	R
Syracuse			
WFBL	1360	1000	C
WSYR	570	1000	B
Troy			
WHAZ	1300	500	
Utica			
WIBX	1200	100	C
Watertown			
WNNY	1420	100	
White Plains			
WFAS	1210	100	
Woodside			
WWRL	1500	100	

NORTH CAROLINA

Asheville			
WWNC	570	1000	N
Charlotte			
WBT	1080	50000	C
WSOC	1210	100	N
Durham			
WDNC	1500	100	C
Gastonia			
WJBR	1420	100	
Greensboro			
WBIG	1440	500	C
High Point			
WMFR	1200	100	
Kinston			
WFTC	1200	100	
Raleigh			
WPTF	680	1000	N
Rocky Mount			
WEED	1420	100	
Wilmington			
WMFD	1370	100	
Winston-Salem			
WAIR	1250	250	
WSJS	1310	100	C

NORTH DAKOTA

Bismarck			
KFYR	550	1000	N
Devils Lake			
KDLR	1210	100	
Fargo			
WDAY	940	1000	N
Grand Forks			
KFJM	1410	500	
Jamestown			
KRMC	1310	100	
Mandan			
KGCU	1240	250	
Minot			
KLPM	1240	250	
Valley City			
KOVC	1500	100	

OHIO

Akron			
WADC	1320	1000	C
WJW	1210	100	
Canton			
WHBC	1200	100	
Cincinnati			
WCPO	1200	100	
WKRC	550	1000	C
WLW	700	500000	N
WSAI	1330	1000	R
Cleveland			
WGAR	1450	500	B
WHK	1390	1000	C
WJAY	610	500	
WTAM	1070	50000	R
Columbus			
WBNS	1430	500	C
WCOL	1210	100	N
WHKC	640	500	
WOSU	570	750	
Dayton			
WHIO	1260	1000	C
WSMK	1380	200	C
Lima			
WBLY	1210	100	
Portsmouth			
WPAY	1370	100	
Toledo			
WSPD	1340	1000	C
Youngstown			
WKBN	570	500	C
Zanesville			
WALR	1210	100	

OKLAHOMA

Ada			
KADA	1200	100	
Ardmore			
KVSO	1200	100	
Elk City			
KASA	1210	100	

Enid
KCRC 1360 250
Muskogee
KBIX 1500 100
Norman
WNAD 1010 1000
Oklahoma City
KFXR 1310 150
KGFG 1370 100
KOMA 1480 5000 C
WKY 900 1000 N
Ponca City
WBBZ 1200 100
Shawnee
KGFF 1420 100
Tulsa
KTUL 1400 500 C
KVOO 1140 25000 N

OREGON

Astoria
KAST 1370 100
Corvallis
KOAC 550 1000
Eugene
KORE 1420 100
Klamath Falls
KFJI 1210 100
Marshfield
KOOS 1200 250
Medford
KMED 1310 100
Portland
KALE 1300 500 C
KBPS 1420 100
KEX 1180 5000 N
KFJR 1300 500
KGW 620 1000 R
KOIN 940 1000 C
KWJJ 1040 500
KXL 1420 100
Roseburg
KRNR 1500 100
Salem
KSLM 1370 100

PENNSYLVANIA

Allentown
WCBA 1440 500
WSAN 1440 500
Altoona
WFBG 1310 100
Easton
WEST 1200 100
Erie
WLEU 1420 100
Glenside
WIBG 970 100
Greensburg
WHJB 620 250 C
Grove City
WSAJ 1310 100
Harrisburg
WHP 1430 500 C
WKBO 1200 100
Hazleton
WAZL 1420 100
Johnstown
WJAC 1310 100
Lancaster
WGAL 1500 100
Philadelphia
KYW 1020 10000 R
WCAU 1170 50000 C
WDAS 1370 100
WFIL 560 1000 B
WHAT 1310 100
WIP 610 1000
WPEN 920 250
WRAX 920 250
WTEL 1310 100
Pittsburgh
KDKA 980 50000 B
KQV 1380 500 C
WCAE 1220 1000 R
WJAS 1290 1000 C
WWSW 1500 100
Reading
WEEU 830 1000
WRAW 1310 100
Scranton
WGBI 880 500
WQAN 880 250
Sunbury
WKOK 1210 100
Wilkes-Barre
WBAX 1210 100
WBRE 1310 100
Williamsport
WRAK 1370 100
York
WORK 1320 1000

PUERTO RICO

Mayaguez
WPRA 1370 100
Ponce
WPRP 1420 100
San Juan
WKAQ 1240 1000
WNEL 1290 1000

RHODE ISLAND

Newport
WNRI 1200 100
Providence
WEAN 780 1000M
WJAR 890 1000 R
WPRO 630 500 C

SOUTH CAROLINA

Anderson
WAIM 1200 100
Charleston
WCSC 1360 500 N
Columbia
WIS 560 1000 N
Greenville
WFBC 1300 1000 N
Spartanburg
WSPA 920 1000

SOUTH DAKOTA

Aberdeen
KABR 1420 100
Brookings
KFDY 780 1000
Huron
KGDY 1340 250
Pierre
KGFX 630 200
Rapid City
KOBH 1370 100
WCAT 1200 100
Sioux Falls
KELO 1200 100
KSOO 1110 2500
Vermillion
KUSD 890 500
Watertown
KWTN 1210 100
Yankton
WNAX 570 1000 C

TENNESSEE

Bristol
WOPI 1500 100
Chattanooga
WAPO 1420 100
WDOD 1280 1000 C
Jackson
WTJS 1310 100
Knoxville
WNOX 1010 1000 C
WROL 1310 100
Memphis
WHBQ 1370 100
WMC 780 1000 N
WNBR 1430 500
WREC 600 1000 C
Nashville
WLAC 1470 5000 C
WSM 650 50000 N
Springfield
WSIX 1210 100

TEXAS

Abilene
KRBC 1420 100
Amarillo
KGNC 1410 1000 N
Austin
KNOW 1500 100 C
Beaumont
KFDM 560 500
Big Spring
KBST 1500 100
Brady
KNEL 1500 100
College Station
WTAW 1120 500
Corpus Christi
KGFI 1500 100
Corsicana
KAND 1310 100
Dallas
KRLD 1040 10000 C
WFAA 800 50000 N
WRR 1280 500
Dublin
KFPL 1310 100
El Paso
KTEP 1500 100
KTSM 1310 100
WDAH 1310 100
..... 1500 100
Fort Worth
KFJZ 1370 100
KTAT 1240 1000
WBAP 800 50000 N
Galveston
KLUF 1370 100
Houston
KPRC 920 1000 N
KTRH 1290 1000 C
KXYZ 1440 1000
Kilgore
KOCA 1210 100
Longview
KFRO 1370 100
Lubbock
KFYO 1310 100
Midland
KRLH 1420 100
Palestine
KNET 1420 100
Pampa
KPDN 1310 100
Paris
KPLT 1500 100
Pecos
KIUN 1420 100
Port Arthur
KPAC 1260 500
San Angelo
KGKL 1370 100
San Antonio
KABC 1420 100
KMAC 1370 100
KONO 1370 100
KTSA 550 1000 C
WOAI 1190 50000 C
Sherman
KRRV 1310 100
Temple
KTEM 1370 100
Tyler
KGKB 1500 100
Waco
WACO 1420 100 C
Weslaco
KRGV 1260 500
Wichita Falls
KGKO 570 250 C

UTAH

Cedar City
KSUB 1310 100
Ogden
KLO 1400 500 B
Price
KEUB 1420 100
Salt Lake City
KDYL 1290 1000 R
KSL 1130 50000 C
KUTA 1500 100

VERMONT

Burlington
WCAX 1200 100
Rutland
WSYB 1500 100
St. Albans
WQDM 1390 1000
Springfield
WNBX 1260 1000
Waterbury
WDEV 550 500

VIRGINIA

Arlington
NAA 690 1000
Charlottesville
WCHV 1420 100

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

WASHINGTON

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

WEST VIRGINIA

Bluefield		
WHIS	1410	500
Charleston		
WCHS	580	500
Clarksburg		
WBLK	1370	100
Fairmont		
WMMN	890	500 C
Huntington		
WSAZ	1190	1000
Parkersburg		
WPAR	1420	100
Wheeling		
WWVA	1160	5000 C

WISCONSIN

Eau Claire		
WEAU	1050	1000
Fond du Lac		
KFIZ	1420	100
Green Bay		
WHBY	1200	100
WTAQ	1330	1000
Janesville		
WCLO	1200	100
LaCrosse		
WKBH	1380	1000
Madison		
WHA	940	5000
WIBA	1280	1000 N
Manitowoc		
WOMT	1210	100
Milwaukee		
WEMP	1310	100
WISN	1120	250 C
WTMJ	620	1000 N
Poynette		
WIBU	1210	100
Racine		
WRJN	1370	100
Sheboygan		
WHBL	1300	250
Stevens Point		
WLBL	900	2500
Wausau		
WSAU	1370	100

WYOMING

Casper		
KDFN	1440	500
Sheridan		
KWYO	1370	100

CANADA

ALBERTA

Calgary		
CFAC	930	100 F
CFCN	1030	10000
CJCJ	690	100 F
Edmonton		
CFRN	960	100 F
CJCA	730	1000 F
CKUA	580	500
Lethridge		
CJOC	950	100 F

BRITISH COLUMBIA

Chilliwack		
CHWK	780	100 F
Kamloops		
CFJC	880	100 F
Kelowna		
CKOV	630	100 F
Prince Rupert		
CFPR	580	50
Trail		
CJAT	910	1000 F
Vancouver		
CJOR	600	500
CKCD	1010	100
CKFC	1410	50
CKMO	1410	100 F
CKWX	1010	100 F
CRCV	1100	1000 F
Victoria		
CFCT	1450	75

MANITOBA

Brandon		
CKX	1120	100 F
Winnipeg		
CJRC	630	1000 F
CKY	910	15000 F

NEW BRUNSWICK

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

N. W. TERRITORY

Aklavik		
CJCU	1210	50

NOVA SCOTIA

Glace Bay		
VAS	685	2000
Halifax		
CHNS	930	1000 F
Sydney		
CJCB	1240	1000 F
Wolfville		
CKIC	1010	50
Yarmouth		
CJLS	1310	100

ONTARIO

Brantford		
CKPC	930	100 F
Chatham		
CFCO	630	100 F
Cobalt		
CKMC	1210	50
Fort William		
CKPR	730	100 F
Hamilton		
CHML	1010	100 F
CKOC	1120	500 F
Kingston		
CFRC	1510	100 F
Kirkland Lake		
CJKL	1310	100 F
London		
CFPL	730	100 F
North Bay		
CFCH	930	100 F
Ottawa		
CKCO	1010	100 F
CRCO	880	1000 F
Prescott		
CFLC	930	100
St. Catherines		
CKTB	1200	100 F
Sault Ste. Marie		
CJIC	1500	100
Stratford		
CJCS	1210	50
Sudbury		
CKSO	780	1000 F
Timmins		
CKGB	1420	100 F
Toronto		
CFRB	690	10000 C
CKCL	580	100 F
CRCT	840	5000 N
CRCY	1420	100
Waterloo		
CKCR	1510	100
Windsor		
CKLW	1030	5000M
CRCW	600	500 F
Wingham		
CKNX	1200	50

PRINCE EDWARD ISLAND

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

QUEBEC

Chicoutimi		
CRCS	950	100 F
Hull		
CKCH	1210	100 F
Montmagny		
VE9EK	1185	10
Montreal		
CFCF	600	400 N
CHLP	1120	100 F
CKAC	730	5000 C
CRCM	910	5000 F
New Carlisle		
CHNC	960	1000 F
Quebec		
CHRC	580	100
CKCV	1310	100 F
CRCK	1050	1000 F

SASKATCHEWAN

Moose Jaw		
CHAB	1200	100 F
CJRM	540	1000 F
Prince Albert		
CKBI	1210	100 F
Regina		
CKCK	1010	500 F
Saskatoon		
CFQC	840	1000 F
Yorkton		
CJGX	1390	100

NEWFOUNDLAND

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

MIQUELON

St. Pierre		
FQN	609	250

CENTRAL AMERICA

COSTA RICA

Cartago		
TIFS	1441	7.5
TIGA	1014	30
San Jose		
TIEP	850	500
TIFA	1050	75
TIGH	1000	500
TIGPH	650	1000
TIRH	930	50
TIVCA	1225	....
TIX	800	....

GUATEMALA

Guatemala City		
TGW	1210	10000
TGX	1400	250

HONDURAS

Tegucigalpa		
HRN	1340	100

NICARAGUA

Managua		
YNLF	1275	20
YNOP	1230	100
YNVA	950	30

PANAMA

Colon		
HP50	1440	25

EL SALVADOR

San Salvador		
RDN	680	500

MEXICO

AGUASCALIENTES

Aguascalientes		
XFA	1310	5
XFC	810	350

CHIHUAHUA

Chihuahua		
XEFI	1440	250
Hidalgo		
XEAT	1210	300
Juarez		
XEFV	1210	100
XEF	1450	100
XEJ	1020	1000
XEP	1160	500

COAHUILA

Piedras Negras		
XELO	1110	50000
XEPN	730	100000
Saltillo		
XEAS	1160	100
XELA	1240	50
XEOX	640	500
Torreon		
XETB	1310	125
Villa Acuna		
XERA	840	350000

D. F.

Mexico City		
XEAI	1240	100
XEB	1030	10000
XEBZ	820	100
XECW	1310	10
XEFA	1180	500
XEFO	940	5000
XEFZ	1370	100
XEK	990	100
XEL	1100	250
XEMX	1280	12
XEN	710	1000
XEW	890	50000
XEWZ	1150	100
XEXM	610	....
XEYZ	780	10000
XFX	610	1000

DURANGO

Durango		
XEE	1210	200

GUANAJUATO

Guanajuato		
XE[illegible]Z	1420	7
Leon		
XEKL	1240	500

JALISCO

Guadalajara		
XEA	1060	500
XED	1160	2500

LOWER CALIFORNIA

Agua Caliente		
XEBC	730	5000
Coronado Island		
XEMZ	820	....
Ensenada		
XEG	1270	200
Mexicali		
XEAA	920	200
XEAO	560	250
Rosarito		
XEAQ	1090	1000
Tijuana		
XEAC	1240	250
XEC	1160	30
XEFL	1150	250
XEMO	860	5000
XEOK	760	250

MICHOACAN

Morelia		
XEI	1370	125

NUEVO LEON

Monterrey		
XEFB	1420	100
XEFJ	1230	100
XEH	1150	250
XET	690	500
XEX	1310	125

PUEBLA

Puebla		
XETH	1210	100

SAN LUIS POTOSI

San Luis Potosi		
XEZZ	1370	100

SONORA

Hermosillo		
XEBH	930	500
Nogales		
XEAF	990	250

TAMAULIPAS

Matamoros		
XEAM	750	7.5
Nuevo Laredo		
XEBK	1000	100
XEFE	1340	250
XENT	910	150000
Reynosa		
XEAW	960	50000
Tampico		
XEFW	1310	250
XES	990	250

VERACRUZ

Cordoba		
XEAG	1310	10
Jalapa		
XFB	1270	250
XFD	1340	350
Veracruz		
XETF	1220	30
XEU	1010	250

YUCATAN

Merida		
XEFC	550	250
XEME	1240	15
XEY	1000	10
XEZ	630	500

WEST INDIES

CUBA

Caibarien		
CMHD	1270	250
Camaguey		
CMJA	1010	300
CMJC	1390	150
CMJE	1220	50
CMJF	1150	200
CMJK	780	250
CMJL	1340	100
CMJX	830	500
Cardenas		
CMGE	1370	150
Ciego de Avila		
CMJH	1360	100
CMJI	1130	150
CMJO	1180	50
Cienfuegos		
CMHJ	1160	175
CMHM	1450	....
CMHW	820	100
CMHX	760	200
Cruces		
CMHK	1330	250
Havana		
CMBD	1170	500
CMBG	1140	200
CMBN	850	150
CMBS	770	150
CMBX	1070	500
CMBY	970	150
CMBZ	1000	500
CMCA	1350	450
CMCB	640	150
CMCD	950	250
CMCF	810	600
CMCG	680	1000
CMCJ	1100	500
CMCN	1450	....
CMCO	1200	250
CMCQ	1410	250
CMCR	1380	150
CMCU	1280	500
CMCW	750	150
CMCX	570	150
CMCY	1030	5000
CMK	730	3000
CMOA	1440	150
CMOK	1460	150
CMOX	1320	200
CMQ	880	500
CMW	600	1400
CMX	920	1000
Holguin		
CMKF	1460	250
Manzanillo		
CMKM	1120	200
Matanzas		
CMGC	1400	150
CMGF	1120	150
CMGH	790	500
Moron		
CMJP	1430	75
Pinar del Rio		
CMAB	1340	....
Sagua la Grande		
CMHA	1070	50
Sancti Spiritus		
CMHB	1240	50
Santa Clara		
CMHI	1210	150
Santiago		
CMKC	1250	150
CMKD	1050	250
CMKR	1400	100
CMKW	1330	....

DOMINICAN REPUBLIC

San Pedro de Macoris		
HIH	1395	15
Trujillo		
HIJ	1195	15
HIX	800	800
HIZ	1370	10

HAITI

Port-au-Prince		
HHK	920	1000

CFAC 930 100
Calgary, Alta.

CFCF 600 400
Montreal, Que.

CFCH 930 100
North Bay, Ont.

CFCN 1030 10000
Calgary, Alta.

CFCO 630 100
Chatham, Ont.

CFCT 1450 75
Victoria, B. C.

CFCY 630 1000
Charlottetown, P.E.I.

CFJC 880 100
Kamloops, B. C.

CFLC 930 100
Prescott, Ont.

CFNB 550 500
Fredericton, N. B.

CFPL 730 100
London, Ont.

CFPR 580 50
Prince Rupert, B. C.

CFQC 840 1000
Saskatoon, Sask.

CFRB 690 10000
Toronto, Ont.

CFRC 1510 100
Kingston, Ont.

CFRN 960 100
Edmonton, Alta.

CHAB 1200 100
Moose Jaw, Sask.

CHCK 1310 50
Charlottetown, P. E. I.

CHGS 1450 50
Summerside, P. E. I.

CHLP 1120 100
Montreal, Que.

CHML 1010 100
Hamilton, Ont.

CHNC 960 1000
New Carlisle, Que.

CHNS 930 1000
Halifax, N. S.

CHRC 580 100
Quebec, Que.

CHSJ 1120 500
St. John, N. B.

CHWK 780 100
Chilliwack, B. C.

CJAT 910 1000
Trail, B. C.

CJCA 730 1000
Edmonton, Alta

CJCB 1240 1000
Sydney, N. S.

CJCJ 690 100
Calgary, Alta.

CJCS 1210 50
Stratford, Ont.

CJCU 1210 50
Aklavik, N. W. T.

CJGX 1390 100
Yorkton, Sask.

CJIC 1500 100
S. Ste. Marie, Ont.

CJKL 1310 100
Kirkland Lake, Ont.

CJLS 1310 100
Yarmouth, N. S.

CJOC 950 100
Lethbridge, Alta.

CJOR 600 500
Vancouver, B. C.

CJRC 630 1000
Winnipeg, Man.

CJRM 540 1000
Moose Jaw, Sask.

CKAC 730 5000
Montreal, Que.

CKBI 1210 100
Prince Albert, Sask.

CKCD 1010 100
Vancouver, B. C.

CKCH 1210 100
Hull, Que.

CKCK 1010 500
Regina, Sask.

CKCL 580 100
Toronto, Ont.

CKCO 1010 100
Ottawa, Ont.

CKCR 1510 100
Waterloo, Ont.

CKCV 1310 100
Quebec, Que.

CKCW 1370 100
Moncton, N. B.

CKFC 1410 50
Vancouver, B. C.

CKGB 1420 100
Timmins, Ont.

CKIC 1010 50
Wolfville, N. S.

CKLW 1030 5000
Windsor, Ont.

CKMC 1210 50
Cobalt, Ont.

CKMO 1410 100
Vancouver, B. C.

CKNX 1200 50
Wingham, Ont.

CKOC 1120 500
Hamilton, Ont.

CKOV 630 100
Kelowna, B. C.

CKPC 930 100
Brantford, Ont.

CKPR 730 100
Fort William, Ont.

CKSO 780 1000
Sudbury, Ont.

CKTB 1200 100
St. Catherines, Ont.

CKUA 580 500
Edmonton, Alta.

CKWX 1010 100
Vancouver, B. C.

CKX 1120 100
Brandon, Man.

CKY 910 15000
Winnipeg, Man.

CMAB 1340 ....
Pinar del Rio, Cuba

CMBD 1170 500
Havana, Cuba

CMBG 1140 200
Havana, Cuba

CMBN 850 150
Havana, Cuba

CMBS 770 150
Havana, Cuba

CMBX 1070 500
Havana, Cuba

CMBY 970 150
Havana, Cuba

CMBZ 1000 500
Havana, Cuba

CMCA 1350 450
Havana, Cuba

CMCB 640 150
Havana, Cuba

CMCD 950 250
Havana, Cuba

CMCF 810 600
Havana, Cuba

CMCG 680 1000
Havana, Cuba

CMCJ 1100 500
Havana, Cuba

CMCN 1500 ....
Havana, Cuba

CMCO 1200 250
Havana, Cuba

CMCQ 1410 250
Havana, Cuba

CMCR 1380 150
Havana, Cuba

CMCU 1280 500
Havana, Cuba

CMCW 750 150
Havana, Cuba

CMCX 570 150
Havana, Cuba

CMCY 1030 5000
Havana, Cuba

CMGC 1400 150
Matanzas, Cuba

CMGE 1370 150
Cardenas, Cuba

CMGF 1120 150
Matanzas, Cuba

CMGH 790 500
Matanzas, Cuba

CMHA 1070 50
Sagua la Grande, Cu.

CMHB 1240 50
Sancti Spiritus, Cuba

CMHD 1270 250
Caibarien, Cuba

CMHI 1210 150
Santa Clara, Cuba

CMHJ 1160 175
Cienfuegos, Cuba

CMHK 1330 250
Cruces, Cuba

CMHM 1450 ....
Cienfuegos, Cuba

CMHW 820 100
Cienfuegos, Cuba

CMHX 760 200
Cienfuegos, Cuba

CMJA 1010 300
Camaguey, Cuba
CMJC 1390 150
Camaguey, Cuba
CMJE 1220 50
Camaguey, Cuba
CMJF 1150 200
Camaguey, Cuba
CMJH 1360 100
Ciego de Avila, Cuba
CMJI 1130 150
Ciego de Avila, Cuba
CMJK 780 250
Camaguey, Cuba
CMJL 1340 100
Camaguey, Cuba
CMJO 1180 50
Ciego de Avila, Cuba
CMJP 1430 75
Camaguey, Cuba
CMJX 830 500
Camaguey, Cuba
CMK 730 3000
Havana, Cuba
CMKC 1250 150
Santiago, Cuba
CMKD 1050 250
Santiago, Cuba
CMKF 1460 250
Holguin, Cuba
CMKM 1120 200
Manzanillo, Cuba
CMKR 1400 100
Santiago, Cuba
CMKW 1330 ....
Santiago, Cuba
CMOA 1440 150
Havana, Cuba
CMOK 1460 150
Havana, Cuba
CMOX 1320 200
Havana, Cuba
CMQ 880 500
Havana, Cuba
CMW 600 1400
Havana, Cuba
CMX 920 1000
Havana, Cuba
CRCK 1050 1000
Quebec, Que.
CRCM 910 5000
Montreal, Que.
CRCO 880 1000
Ottawa, Ont.
CRCS 950 100
Chicoutimi, Que.
CRCT 840 5000
Toronto, Ont.
CRCV 1100 1000
Vancouver, B. C.
CRCW 600 500
Windsor, Ont.
CRCY 1420 100
Toronto, Ont.
FQN 609 250
St. Pierre, Miq.
HHK 920 1000
Port-au-Prince, Haiti
HIH 1395 15
San Pedro de M., D. R.

HIJ 1195 15
Trujillo, D. R.
HIX 800 800
Trujillo, D. R.
HIZ 1370 10
Trujillo, D. R.
HP50 1440 25
Colon, Panama
HRN 1340 100
Tegucigalpa, Hond.
KABC 1420 100
San Antonio, Texas
KABR 1420 100
Aberdeen, S. Dak.
KADA 1200 100
Ada, Okla.
KALB 1420 100
Alexandria, La.
KALE 1300 500
Portland, Ore.
KAND 1310 100
Corsicana, Texas
KANS 1210 100
Wichita, Kans.
KARK 890 500
Little Rock, Ark.
KASA 1210 100
Elk City, Okla.
KAST 1370 100
Astoria, Ore.
KBIX 1500 100
Muskogee, Okla.
KBPS 1420 100
Portland, Ore.
KBST 1500 100
Big Spring, Texas
KBTM 1200 100
Jonesboro, Ark.
KCKN 1310 100
Kansas City, Kans.
KCMC 1420 100
Texarkana, Ark.
KCMO 1370 100
Kansas City, Mo.
KCRC 1360 250
Enid, Okla.
KCRJ 1310 100
Jerome, Ariz.
KDAL 1500 100
Duluth, Minn.
KDB 1500 100
Santa Barbara, Calif.
KDFN 1440 500
Casper, Wyo.
KDKA 980 50000
Pittsburgh, Pa.
KDLR 1210 100
Devils Lake, N. D.
KDNC 1200 250
Lewistown, Mont.
KDON 1210 100
Del Monte, Calif.
KDYL 1290 1000
Salt Lake City, Utah
KECA 1430 1000
Los Angeles, Calif.
KEHE 780 1000
Los Angeles, Calif.
KELD 1370 100
El Dorado, Ark.
KELO 1200 100
Sioux Falls, S. Dak.

KERN 1370 100
Bakersfield, Calif.
KEUB 1420 100
Price, Utah
KEX 1180 5000
Portland, Ore.
KFAB 770 10000
Lincoln, Neb.
KFAC 1300 1000
Los Angeles, Calif.
KFBB 1280 1000
Great Falls, Mont.
KFBI 1050 5000
Abilene, Kans.
KFBK 1490 5000
Sacramento, Calif.
KFDM 560 500
Beaumont, Texas
KFDY 780 1000
Brookings, S. D.
KFEL 920 500
Denver, Colo.
KFEQ 680 2500
St. Joseph, Mo.
KFGQ 1370 100
Boone, Iowa
KFH 1300 1000
Wichita, Kans.
KFI 640 50000
Los Angeles, Calif.
KFIO 1120 100
Spokane, Wash.
KFIZ 1420 100
Fond du Lac, Wis.
KFJB 1200 100
Marshalltown, Iowa
KFJI 1210 100
Klamath Falls, Ore.
KFJM 1410 500
Grand Forks, N. D.
KFJR 1300 500
Portland, Ore.
KFJZ 1370 100
Fort Worth, Texas
KFKA 880 500
Greeley, Colo.
KFKU 1220 1000
Lawrence, Kans.
KFNF 890 500
Shenandoah, Iowa
KFOR 1210 100
Lincoln, Neb.
KFOX 1250 1000
Long Beach, Calif.
KFPL 1310 100
Dublin, Texas
KFPW 1210 100
Fort Smith, Ark.
KFPY 890 1000
Spokane, Wash.
KFQD 780 250
Anchorage, Alaska
KFRC 610 1000
San Francisco, Calif.
KFRO 1370 100
Longview, Texas
KFRU 630 500
Columbia, Mo.
KFSD 600 1000
San Diego, Calif.

KFSG 1120 500
Los Angeles, Calif.

KFUO 550 500
St. Louis, Mo.

KFVD 1000 250
Los Angeles, Calif.

KFVS 1210 100
Cape Girardeau, Mo.

KFWB 950 1000
Hollywood, Calif.

KFXD 1200 100
Nampa, Idaho

KFXJ 1200 100
Grand Junction, Colo.

KFXM 1210 100
San Bernardino, Calif.

KFXR 1310 100
Oklahoma City, Okla

KFYO 1310 100
Lubbock, Texas

KFYR 550 1000
Bismarck, N. D.

KGA 1470 5000
Spokane, Wash.

KGAR 1370 100
Tucson, Ariz.

KGB 1330 1000
San Diego, Calif.

KGBU 900 500
Ketchikan, Alaska

KGBX 1230 500
Springfield, Mo.

KGCA 1270 100
Decorah, Iowa

KGCU 1240 250
Mandan, N. D.

KGCX 1450 1000
Wolf Point, Mont.

KGDE 1200 100
Fergus Falls, Minn.

KGDM 1100 1000
Stockton, Calif.

KGDY 1340 250
Huron, S. D.

KGER 1360 1000
Long Beach, Calif.

KGEZ 1310 100
Kalispell, Mont.

KGFF 1420 100
Shawnee, Okla.

KGFG 1370 100
Oklahoma City, Okla.

KGFI 1500 100
Corpus Christi, Texas

KGFJ 1200 100
Los Angeles, Calif.

KGFL 1370 100
Roswell, N. M.

KGFW 1310 100
Kearney, Neb.

KGFX 630 200
Pierre, S. D.

KGGC 1420 100
San Francisco, Calif.

KGGF 1010 1000
Coffeyville, Kans.

KGGM 1230 250
Albuquerque, N. M.

KGHF 1320 500
Pueblo, Colo.

KGHI 1200 100
Little Rock, Ark.

KGHL 780 1000
Billings, Mont.

KGIR 1340 1000
Butte, Mont.

KGIW 1420 100
Alamosa, Colo.

KGKB 1500 100
Tyler, Texas

KGKL 1370 100
San Angelo, Texas

KGKO 570 250
Wichita Falls, Texas

KGKY 1500 100
Scottsbluff, Neb.

KGLO 1210 100
Mason City, Iowa

KGMB 1320 1000
Honolulu, T. H.

KGNC 1410 1000
Amarillo, Texas

KGNF 1430 1000
North Platte, Neb.

KGNO 1340 250
Dodge City, Kans.

KGO 790 7500
San Francisco, Calif.

KGU 750 2500
Honolulu, T. H.

KGVO 1260 1000
Missoula, Mont.

KGW 620 1000
Portland, Ore.

KGY 1210 100
Olympia, Wash.

KHBC 1400 250
Hilo, T. H.

KHJ 900 1000
Los Angeles, Calif.

KHQ 590 1000
Spokane, Wash.

KHSL 950 250
Chico, Calif.

KHUB 1310 250
Watsonville, Calif.

KICA 1370 100
Clovis, N. M.

KID 1320 500
Idaho Falls, Idaho

KIDO 1350 1000
Boise, Idaho

KIDW 1420 100
Lamar, Colo.

KIEM 1450 500
Eureka, Calif.

KIEV 850 250
Glendale, Calif.

KINY 1310 100
Juneau, Alaska

KIRO 710 1000
Seattle, Wash.

KIT 1310 100
Yakima, Wash.

KIUL 1210 100
Garden City, Kans.

KIUN 1420 100
Pecos, Texas

KIUP 1370 100
Durango, Colo.

KJBS 1070 500
San Francisco, Calif.

KJR 970 5000
Seattle, Wash.

KLAH 1210 100
Carlsbad, N. Mex.

KLCN 1290 100
Blytheville, Ark.

KLO 1400 500
Ogden, Utah

KLPM 1240 250
Minot, N. D.

KLRA 1390 1000
Little Rock, Ark.

KLS 1280 250
Oakland, Calif.

KLUF 1370 100
Galveston, Texas

KLX 880 1000
Oakland, Calif.

KLZ 560 1000
Denver, Colo.

KMA 930 1000
Shenendoah, Iowa

KMAC 1370 100
San Antonio, Texas

KMBC 950 1000
Kansas City, Mo.

KMED 1310 100
Medford, Ore.

KMJ 580 500
Fresno, Calif.

KMLB 1200 100
Monroe, La.

KMMJ 740 1000
Clay Center, Neb.

KMO 1330 250
Tacoma, Wash.

KMOX 1090 50000
St. Louis, Mo.

KMPC 710 500
Beverly Hills, Calif.

KMTR 570 1000
Hollywood, Calif.

KNEL 1500 100
Brady, Texas

KNET 1420 100
Palestine, Texas

KNOW 1500 100
Austin, Texas

KNX 1050 50000
Hollywood, Calif.

KOA 830 50000
Denver, Colo.

KOAC 550 1000
Corvallis, Ore.

KOAM 790 1000
Pittsburg, Kans.

KOB 1180 10000
Albuquerque, N. M.

KOBH 1370 100
Rapid City, S. Dak.

KOCA 1210 100
Kilgore, Texas

KOH 1380 500
Reno, Nev.

KOIL 1260 1000
Omaha, Nebr.
KOIN 940 1000
Portland, Ore.
KOL 1270 1000
Seattle, Wash.
KOMA 1480 5000
Oklahoma City, Okla.
KOMO 920 1000
Seattle, Wash.
KONO 1370 100
San Antonio, Texas
KOOS 1200 250
Marshfield, Ore.
KORE 1420 100
Eugene, Ore.
KOTN 1500 100
Pine Bluffs, Ark.
KOVC 1500 100
Valley City, N. Dak
KOY 1390 500
Phoenix, Ariz.
KPAC 1260 500
Port Arthur, Texas
KPDN 1310 100
Pampa, Texas
KPLC 1500 100
Lake Charles, La.
KPLT 1500 100
Paris, Texas
KPMC 1550 1000
Bakersfield, Calif.
KPO 680 50000
San Francisco, Calif.
KPOF 880 500
Denver, Colo.
KPPC 1210 100
Pasadena, Calif.
KPQ 1500 100
Wenatchee, Wash.
KPRC 920 1000
Houston, Texas
KQV 1380 500
Pittsburgh, Pa.
KQW 1010 1000
San Jose, Calif.
KRBC 1420 100
Abilene, Texas
KRE 1370 100
Berkeley, Calif.
KRGV 1260 500
Weslaco, Texas
KRKD 1120 500
Los Angeles, Calif.
KRKO 1370 50
Everett, Wash.
KRLC 1420 100
Lewiston, Idaho
KRLD 1040 10000
Dallas, Texas
KRLH 1420 100
Midland, Texas
KRMC 1310 100
Jamestown, N. Dak.
KRMD 1310 100
Shreveport, La.
KRNR 1500 100
Roseburg, Ore.
KRNT 1320 500
Des Moines, Iowa
KROC 1310 100
Rochester, Minn.

KROW 930 1000
Oakland, Calif.
KROY 1310 100
Sacramento, Calif.
KRQA 1310 100
Santa Fe, N. Mex.
KRRV 1310 100
Sherman, Texas
KRSC 1120 100
Seattle, Wash.
KSAC 580 500
Manhattan, Kans.
KSCJ 1330 1000
Sioux City, Iowa
KSD 550 1000
St. Louis, Mo.
KSEI 900 250
Pocatello, Idaho
KSFO 560 1000
San Francisco, Calif.
KSJS 1500 100
Salina, Kans.
KSL 1130 50000
Salt Lake City, Utah
KSLM 1370 100
Salem, Ore.
KSO 1430 500
Des Moines, Iowa
KSOO 1110 2500
Sioux Falls, S. D.
KSRO 1310 250
Santa Rosa, Calif.
KSTP 1460 10000
St. Paul, Minn.
KSUB 1310 100
Cedar City, Utah
KSUN 1200 100
Lowell, Ariz.
KTAR 620 1000
Phoenix, Ariz.
KTAT 1240 1000
Fort Worth, Texas
KTBS 1450 1000
Shreveport, La.
KTEM 1370 100
Temple, Texas
KTEP 1500 100
El Paso, Texas
KTFI 1240 1000
Twin Falls, Idaho
KTHS 1060 10000
Hot Springs, Ark.
KTRB 740 250
Modesto, Calif.
KTRH 1290 1000
Houston, Texas
KTSA 550 1000
San Antonio, Texas
KTSM 1310 100
El Paso, Texas
KTUL 1400 500
Tulsa, Okla.
KTW 1220 1000
Seattle, Wash.
KUJ 1370 100
Walla Walla, Wash.
KUMA 1420 100
Yuma, Ariz.
KUOA 1260 1000
Siloam Springs, Ark.
KUSD 890 500
Vermillion, S. D.

KUTA 1500 100
Salt Lake City, Utah
KVCV 1200 100
Redding, Calif.
KVEC 1200 250
San Luis Obispo, Calif.
KVGB 1370 100
Great Bend, Kans.
KVI 570 1000
Tacoma, Wash.
KVL 1370 100
Seattle, Wash.
KVOA 1260 500
Tucson, Ariz.
KVOD 920 500
Denver, Colo.
KVOE 1500 100
Santa Ana, Calif.
KVOL 1310 100
Lafayette, La.
KVOO 1140 25000
Tulsa, Okla.
KVOR 1270 1000
Colorado Spgs., Colo.
KVOS 1200 100
Bellingham, Wash.
KVOX 1310 100
Moorhead, Minn.
KVSO 1210 100
Ardmore, Okla.
KWBG 1420 100
Hutchinson, Kans.
KWG 1200 100
Stockton, Calif.
KWJJ 1040 500
Portland, Ore.
KWK 1350 1000
St. Louis, Mo.
KWKH 1100 10000
Shreveport, La.
KWLC 1270 100
Decorah, Iowa
KWOS 1310 100
Jefferson City, Mo.
KWSC 1220 1000
Pullman, Wash.
KWTN 1210 100
Watertown, S. D.
KWTO 560 5000
Springfield, Mo.
KWYO 1370 100
Sheridan, Wyo.
KXA 760 250
Seattle, Wash.
KXBY 1530 1000
Kansas City, Mo.
KXL 1420 100
Portland, Ore.
KXO 1500 100
El Centro, Calif.
KXRO 1310 100
Aberdeen, Wash.
KXYZ 1440 1000
Houston, Texas
KYA 1230 1000
San Francisco, Calif.
KYOS 1040 250
Merced, Calif.
KYW 1020 10000
Philadelphia, Pa.
NAA 690 1000
Arlington, Va.

RDN 680 500
San Salvador, E. S.
TGW 1210 10000
Guatemala, Gua.
TGX 1400 250
Guatemala City
TIEP 850 500
San Jose, C. R.
TIFA 1050 75
San Jose, C. R.
TIFS 1441 7.5
Cartago, C. R.
TIGA 1014 30
Cartago, C. R.
TIGH 1000 500
San Jose, C. R.
TIGPH 650 1000
San Jose, C. R.
TIRH 930 50
San Jose, C. R.
TIVCA 1225 ....
San Jose, C. R.
TIX 800 ....
San Jose, C. R.
VAS 685 2000
Glace Bay, N. S.
VE9EK 1185 10
Montmagny, Que.
VOAC 1065 40
St. John's, Nfld.
VOAS 940 100
St. John's, Nfld.
VOGY 840 400
St. John's, Nfld.
VONF 1195 500
St. John's, Nfld.
VOWR 681 500
St. John's, Nfld.
WAAB 1410 500
Boston, Mass.
WAAF 920 1000
Chicago, Ill.
WAAT 940 500
Jersey City, N. J.
WAAW 660 500
Omaha, Neb.
WABC 860 50000
New York, N. Y.
WABI 1200 100
Bangor, Maine
WABY 1370 100
Albany, N. Y.
WACO 1420 100
Waco, Texas
WADC 1320 1000
Akron, Ohio
WAGF 1370 250
Dothan, Ala.
WAGM 1420 100
Presque Isle, Me.
WAIM 1200 100
Anderson, S. C.
WAIR 1250 250
Winston-Salem, N. C.
WALA 1380 500
Mobile, Ala.
WALR 1210 100
Zanesville, Ohio
WAML 1310 100
Laurel, Miss.

WAPI 1140 5000
Birmingham, Ala.
WAPO 1420 100
Chattanooga, Tenn.
WARD 1400 500
Brooklyn, N. Y.
WASH 1270 500
Grand Rapids, Mich.
WATL 1370 100
Atlanta, Ga.
WATR 1190 100
Waterbury, Conn.
WAVE 940 1000
Louisville, Ky.
WAWZ 1350 500
Zarephath, N. J.
WAYX 1200 100
Waycross, Ga.
WAZL 1420 100
Hazleton, Pa.
WBBA 890 500
West Lafayette, Ind.
WBAL 760 2500
Baltimore, Md.
WBAL 1060 10000
Baltimore, Md.
WBAP 800 50000
Fort Worth, Texas
WBAX 1210 100
Wilkes-Barre, Pa.
WBBC 1400 500
Brooklyn, N. Y.
WBBL 1210 100
Richmond, Va.
WBBM 770 50000
Chicago, Ill
WBBR 1300 1000
Brooklyn, N. Y.
WBBZ 1200 100
Ponca City, Okla.
WBCM 1410 500
Bay City, Mich.
WBEN 900 1000
Buffalo, N. Y.
WBEO 1310 100
Marquette, Mich.
WBHP 1200 100
Huntsville, Ala.
WBIG 1440 500
Greensboro, N. C.
WBLK 1370 100
Clarksburg, W. Va.
WBLY 1210 100
Lima, Ohio
WBNO 1200 100
New Orleans, La.
WBNS 1430 500
Columbus, Ohio
WBNX 1350 1000
New York, N. Y.
WBNY 1370 100
Buffalo, N. Y.
WBOQ 860 50000
New York, N. Y.
WBOW 1310 100
Terre Haute, Ind.
WBRB 1210 100
Red Bank, N. J.
WBRC 930 1000
Birmingham, Ala.

WBRE 1310 100
Wilkes-Barre, Pa.
WBT 1080 50000
Charlotte, N. C.
WBTM 1370 100
Danville, Va.
WBZ 990 50000
Boston, Mass.
WBZA 990 1000
Springfield, Mass.
WCAD 1220 500
Canton, N. Y.
WCAE 1220 1000
Pittsburgh, Pa.
WCAL 1250 100
Northfield, Minn.
WCAM 1280 500
Camden, N. J.
WCAO 600 500
Baltimore, Md.
WCAP 1280 500
Asbury Park, N. J.
WCAT 1200 100
Rapid City, S. D.
WCAU 1170 50000
Philadelphia, Pa.
WCAX 1200 100
Burlington, Vt.
WCAZ 1070 100
Carthage, Ill.
WCBA 1440 500
Allentown, Pa.
WCBD 1080 5000
Chicago, Ill.
WCBM 1370 100
Baltimore, Md.
WCBS 1420 100
Springfield, Ill.
WCCO 810 50000
Minneapolis, Minn.
WCFL 970 5000
Chicago, Ill.
WCHS 580 500
Charleston, W. Va.
WCHV 1420 100
Charlottesville, Va.
WCKY 1490 5000
Covington, Ky.
WCLO 1200 100
Janesville, Wis.
WCLS 1310 100
Joliet, Ill.
WCMI 1310 100
Ashland, Ky.
WCNW 1500 100
Brooklyn, N. Y.
WCOA 1340 500
Pensacola, Fla.
WCOC 880 500
Meridian, Miss.
WCOL 1210 100
Columbus, Ohio
WCOP 1120 500
Boston, Mass.
WCPO 1200 100
Cincinnati, Ohio
WCRW 1210 100
Chicago, Ill.
WCSC 1360 500
Charleston, S. C.

WCSH 940 1000
Portland, Me.
WDAE 1220 1000
Tampa, Fla.
WDAF 610 1000
Kansas City, Mo.
WDAH 1310 100
E Paso, Texas
WDAS 1370 100
Philadelphia, Pa.
WDAY 940 1000
Fargo, N. D.
WDBJ 930 1000
Roanoke, Va.
WDBO 580 1000
Orlando, Fla.
WDEL 1120 250
Wilmington, Del.
WDEV 550 500
Waterbury, Vt.
WDGY 1180 1000
Minneapolis, Minn.
WDNC 1500 100
Durham, N. C.
WDOD 1280 1000
Chattanooga, Tenn.
WDRC 1330 1000
Hartford, Conn.
WDSU 1250 1000
New Orleans, La.
WDWS 1370 100
Champaign, Ill.
WDZ 1020 250
Tuscola, Ill.
WEAF 660 50000
New York, N. Y.
WEAN 780 1000
Providence, R. I.
WEAU 1050 1000
Eau Claire, Wis.
WEBC 1290 1000
Duluth, Minn.
WEBQ 1210 100
Harrisburg, Ill.
WEBR 1310 100
Buffalo, N. Y.
WEDC 1210 100
Chicago, Ill.
WEED 1420 100
Rocky Mount, N. C.
WEEI 590 1000
Boston, Mass.
WEEU 830 1000
Reading, Pa.
WEGL 1400 500
Brooklyn, N. Y.
WELI 900 500
New Haven, Conn.
WELL 1420 100
Battle Creek, Mich.
WEMP 1310 100
Milwaukee, Wis.
WENR 870 50000
Chicago, Ill.
WEOA 1370 100
Evansville, Ind.
WESG 850 1000
Elmira, N. Y.
WEST 1200 100
Easton, Pa.

WEVD 1300 1000
New York, N. Y.
WEW 760 1000
St. Louis, Mo.
WEXL 1310 50
Royal Oak, Mich.
WFAA 800 50000
Dallas, Texas
WFAB 1300 1000
New York, N. Y.
WFAM 1200 100
South Bend, Ind.
WFAS 1210 100
White Plains, N. Y.
WFBC 1300 1000
Greenville, S. C.
WFBG 1310 100
Altoona, Pa.
WFBL 1360 1000
Syracuse, N. Y.
WFBM 1230 1000
Indianapolis, Ind.
WFBR 1270 500
Baltimore, Md.
WFDF 1310 100
Flint, Mich.
WFEA 1340 500
Manchester, N. H.
WFIL 560 1000
Philadelphia, Pa.
WFLA 620 1000
Clearwater, Fla.
WFMD 900 500
Frederick, Md.
WFOR 1370 100
Hattiesburg, Miss.
WFOY 1210 100
St. Augustine, Fla.
WFTC 1200 100
Kinston, N. C.
WGAL 1500 100
Lancaster, Pa.
WGAN 640 500
Portland, Me.
WGAR 1450 500
Cleveland, Ohio
WGBB 1210 100
Freeport, N. Y.
WGBF 630 500
Evansville, Ind.
WGBI 880 500
Scranton, Pa.
WGCM 1210 100
Gulfport, Miss.
WGES 1360 500
Chicago, Ill.
WGH 1310 100
Newport News, Va.
WGL 1370 100
Fort Wayne, Ind.
WGN 720 50000
Chicago, Ill.
WGNY 1210 100
Newburgh, N. Y.
WGPC 1420 100
Albany, Ga.
WGR 550 1000
Buffalo, N. Y.
WGRC 1370 250
New Albany, Ind.

WGST 890 1000
Atlanta, Ga.
WGY 790 50000
Schenectady, N. Y.
WHA 940 5000
Madison, Wis.
WHAM 1150 50000
Rochester, N. Y.
WHAS 820 50000
Louisville, Ky.
WHAT 1310 100
Philadelphia, Pa.
WHAZ 1300 500
Troy, N. Y.
WHB 860 1000
Kansas City, Mo.
WHBB 1500 100
Selma, Alabama
WHBC 1200 100
Canton, Ohio
WHBF 1210 100
Rock Island, Ill.
WHBI 1250 1000
Newark, N. J.
WHBL 1300 250
Sheboygan, Wis.
WHBQ 1370 100
Memphis, Tenn.
WHBU 1210 100
Anderson, Ind.
WHBY 1200 100
Green Bay, Wis.
WHDF 1370 100
Calumet, Mich.
WHDH 830 1000
Boston, Mass.
WHDL 1400 250
Olean, N. Y.
WHEB 740 250
Portsmouth, N. H.
WHEC 1430 500
Rochester, N. Y.
WHEF 1500 100
Kosciusko, Miss.
WHFC 1420 100
Cicero, Ill.
WHIO 1260 1000
Dayton, Ohio
WHIS 1410 500
Bluefield, W. Va.
WHJB 620 250
Greensburg, Pa.
WHK 1390 1000
Cleveland, Ohio
WHKC 640 500
Columbus, Ohio
WHLB 1370 100
Virginia, Minn.
WHN 1010 1000
New York, N. Y.
WHO 1000 50000
Des Moines, Iowa
WHOM 1450 250
Jersey City, N. J.
WHP 1430 500
Harrisburg, Pa.
WIBA 1280 1000
Madison, Wis.
WIBG 970 100
Glenside, Pa.

WIBM 1370 100
Jackson, Mich.
WIBU 1210 100
Poynette, Wis.
WIBW 580 1000
Topeka, Kans.
WIBX 1200 100
Utica, N. Y.
WICC 600 500
Bridgeport, Conn.
WIL 1200 100
St. Louis, Mo.
WILL 580 250
Urbana, Ill.
WILM 1420 100
Wilmington, Del.
WIND 560 1000
Gary, Ind.
WINS 1180 1000
New York, N. Y.
WIOD 1300 1000
Miami, Fla.
WIP 610 1000
Philadelphia, Pa.
WIRE 1400 1000
Indianapolis, Ind.
WIS 560 1000
Columbia, S. C.
WISN 1120 250
Milwaukee, Wis
WJAC 1310 100
Johnstown, Pa.
WJAG 1060 1000
Norfolk, Neb.
WJAR 890 1000
Providence, R. I.
WJAS 1290 1000
Pittsburgh, Pa.
WJAX 900 1000
Jacksonville, Fla.
WJAY 610 500
Cleveland, Ohio
WJBC 1200 100
Bloomington, Ill.
WJBK 1500 100
Detroit, Mich.
WJBL 1200 100
Decatur, Ill.
WJBO 1420 100
Baton Rouge, La.
WJBR 1420 100
Gastonia, N. C.
WJBW 1200 100
New Orleans, La.
WJBY 1210 100
Gadsden, Ala.
WJDX 1270 1000
Jackson, Miss.
WJEJ 1210 100
Hagerstown, Md.
WJIM 1210 100
Lansing, Mich.
WJJD 1130 20000
Chicago, Ill.
WJMS 1420 100
Ironwood, Mich.
WJNO 1200 100
W. Palm Beach, Fla.
WJR 750 50000
Detroit, Mich.

WJRD 1200 100
Tuscaloosa, Ala.
WJSV 1460 10000
Washington, D. C.
WJTN 1210 50
Jamestown, N. Y.
WJW 1210 100
Akron, Ohio
WJZ 760 50000
New York, N. Y.
WKAQ 1240 1000
San Juan, P. R.
WKAR 850 1000
East Lansing, Mich.
WKBB 1500 100
East Dubuque, Ill.
WKBH 1380 1000
LaCrosse, Wis.
WKBN 570 500
Youngstown, Ohio
WKBO 1200 100
Harrisburg, Pa.
WKBV 1500 100
Richmond, Ind.
WKBW 1480 5000
Buffalo, N. Y.
WKBZ 1500 100
Muskegon, Mich.
WKEU 1500 100
Griffin, Ga.
WKOK 1210 100
Sunbury, Pa.
WKRC 550 1000
Cincinnati, Ohio
WKY 900 1000
Oklahoma City, Okla.
WKZO 590 1000
Kalamazoo, Mich.
WLAC 1470 5000
Nashville, Tenn.
WLAK 1310 100
Lakeland, Fla.
WLAP 1420 100
Lexington, Ky.
WLB 1250 1000
Minneapolis, Minn.
WLBC 1310 100
Muncie, Ind.
WLBL 900 2500
Stevens Point, Wis.
WLBZ 620 500
Bangor, Me.
WLEU 1420 100
Erie, Pa.
WLLH 1370 100
Lowell, Mass.
WLMU 1210 100
Middlesboro, Ky.
WLNH 1310 100
Laconia, N. H.
WLS 870 50000
Chicago, Ill.
WLTH 1400 500
Brooklyn, N. Y.
WLVA 1200 100
Lynchburg, Va.
WLW 700 500000
Cincinnati, Ohio
WLWL 1100 5000
New York, N. Y.

WMAL 630 250
Washington, D. C.
WMAQ 670 50000
Chicago, Ill.
WMAS 1420 100
Springfield, Mass.
WMAZ 1180 1000
Macon, Ga.
WMBC 1420 100
Detroit, Mich.
WMBD 1440 500
Peoria, Ill.
WMBG 1210 100
Richmond, Va.
WMBH 1420 100
Joplin, Mo.
WMBI 1080 5000
Chicago, Ill.
WMBO 1310 100
Auburn, N. Y.
WMBQ 1500 100
Brooklyn, N. Y.
WMBR 1370 100
Jacksonville, Fla.
WMC 780 1000
Memphis, Tenn.
WMCA 570 500
New York, N. Y.
WMEX 1500 100
Boston, Mass.
WMFD 1370 100
Wilmington, N. C.
WMFF 1310 250
Plattsburg, N. Y.
WMFG 1210 100
Hibbing, Minn.
WMFJ 1420 100
Daytona Beach, Fla.
WMFN 1210 100
Clarksdale, Miss.
WMFO 1370 100
Decatur, Ala.
WMFR 1200 100
High Point, N. C.
WMIN 1370 100
St. Paul, Minn.
WMMN 890 500
Fairmont, W. Va.
WMPC 1200 100
Lapeer, Mich.
WMSD 1420 100
Sheffield, Ala.
WMT 600 1000
Cedar Rapids, Iowa
WNAC 1230 1000
Boston, Mass.
WNAD 1010 1000
Norman, Okla.
WNAX 570 1000
Yankton, S. D.
WNBC 1380 250
New Britain, Conn.
WNBF 1500 100
Binghamton, N. Y.
WNBH 1310 100
New Bedford, Mass.
WNBR 1430 500
Memphis, Tenn.

WNBX 1260 1000
Springfield, Vt.
WNBZ 1290 100
Saranac Lake, N. Y.
WNEL 1290 1000
San Juan, P. R.
WNEW 1250 1000
New York, N. Y.
WNLC 1500 100
New London, Conn.
WNNY 1420 100
Watertown, N. Y.
WNOX 1010 1000
Knoxville, Tenn.
WNRI 1200 100
Newport, R. I.
WNYC 810 1000
New York, N. Y.
WOAI 1190 50000
San Antonio, Texas
WOC 1370 100
Davenport, Iowa
WOI 640 5000
Ames, Iowa
WOKO 1430 500
Albany, N. Y.
WOL 1310 100
Washington, D. C.
WOMT 1210 100
Manitowoc, Wis.
WOOD 1270 500
Grand Rapids, Mich.
WOPI 1500 100
Bristol, Tenn.
WOR 710 50000
Newark, N. J.
WORC 1280 500
Worcester, Mass.
WORK 1320 1000
York, Pa.
WORL 920 500
Boston, Mass.
WOS 630 500
Jefferson City, Mo.
WOSU 570 750
Columbus, Ohio
WOV 1130 1000
New York, N. Y.
WOW 590 5000
Omaha, Neb.
WOWO 1160 10000
Fort Wayne, Ind.
WPAD 1420 100
Paducah, Ky.
WPAR 1420 100
Parkersburg, W. Va.
WPAX 1210 100
Thomasville, Ga.
WPAY 1370 100
Portsmouth, Ohio
WPEN 920 250
Philadelphia, Pa.
WPG 1100 5000
Atlantic City, N. J.
WPHR 880 500
Petersburg, Va.
WPRA 1370 100
Mayaguez, P. R.

WPRO 630 500
Providence, R. I.
WPRP 1420 100
Ponce, P. R.
WPTF 680 1000
Raleigh, N. C
WQAM 560 1000
Miami, Fla.
WQAN 880 250
Scranton, Pa.
WQBC 1360 1000
Vicksburg, Miss.
WQDM 1390 1000
St. Albans, Vt.
WQXR 1550 1000
New York, N. Y.
WRAK 1370 100
Williamsport, Pa.
WRAW 1310 100
Reading, Pa.
WRAX 920 250
Philadelphia, Pa.
WRBL 1200 100
Columbus, Ga.
WRC 950 500
Washington, D. C.
WRDO 1370 100
Augusta, Me.
WRDW 1500 100
Augusta, Ga.
WREC 600 1000
Memphis, Tenn.
WREN 1220 1000
Lawrence, Kans.
WRGA 1500 100
Rome, Ga.
WRJN 1370 100
Racine, Wis.
WROK 1410 500
Rockford, Ill.
WROL 1310 100
Knoxville, Tenn.
WRR 1280 500
Dallas, Texas
WRUF 830 5000
Gainesville, Fla.
WRVA 1110 5000
Richmond, Va.
WSAI 1330 1000
Cincinnati, Ohio
WSAJ 1310 100
Grove City, Pa.
WSAN 1440 500
Allentown, Pa.
WSAR 1450 1000
Fall River, Mass.
WSAU 1370 100
Wausau, Wis.
WSAY 1210 100
Rochester, N. Y.
WSAZ 1190 1000
Huntington, W. Va.
WSB 740 50000
Atlanta, Ga.
WSBC 1210 100
Chicago, Ill.
WSBT 1360 500
South Bend, Ind.
WSFA 1410 500
Mongtomery, Ala.

WSGN 1310 100
Birmingham, Ala.
WSIX 1210 100
Springfield, Tenn.
WSJS 1310 100
Winston-Salem, N. C.
WSM 650 50000
Nashville, Tenn.
WSMB 1320 1000
New Orleans, La.
WSMK 1380 200
Dayton, Ohio
WSOC 1210 100
Charlotte, N. C.
WSPA 920 1000
Spartanburg, S. C.
WSPD 1340 1000
Toledo, Ohio
WSPR 1140 500
Springfield, Mass.
WSUI 880 500
Iowa City, Iowa
WSUN 620 1000
St. Petersburg, Fla.
WSVA 550 500
Harrisonburg, Va.
WSVS 1370 50
Buffalo, N. Y.
WSYB 1500 100
Rutland, Vt.
WSYR 570 1000
Syracuse, N. Y.
WTAD 900 1000
Quincy, Ill.
WTAG 580 500
Worcester, Mass.
WTAL 1310 100
Tallahassee, Fla.
WTAM 1070 50000
Cleveland, Ohio
WTAQ 1330 1000
Green Bay, Wis.
WTAR 780 500
Norfolk, Va.
WTAW 1120 500
College Station, Tex.
WTAX 1210 100
Springfield, Ill.
WTBO 800 250
Cumberland, Md.
WTCN 1250 1000
Minneapolis, Minn.
WTEL 1310 100
Philadelphia, Pa.
WTFI 1450 500
Athens, Ga.
WTHT 1200 100
Hartford, Conn.
WTIC 1040 50000
Hartford, Conn.
WTJS 1310 100
Jackson, Tenn.
WTMJ 620 1000
Milwaukee, Wis.
WTMV 1500 100
East St. Louis, Ill.

WTNJ 1280 500
Trenton, N. J.

WTOC 1260 1000
Savannah, Ga.

WTRC 1310 100
Elkhart, Ind.

WVFW 1400 500
Brooklyn, N. Y.

WWAE 1200 100
Hammond, Ind.

WWJ 920 1000
Detroit, Mich.

WWL 850 10000
New Orleans, La.

WWNC 570 1000
Asheville, N. C.

WWRL 1500 100
Woodside, N. Y.

WWSW 1500 100
Pittsburgh, Pa.

WWVA 1160 5000
Wheeling, W. Va.

WXYZ 1240 1000
Detroit, Mich.

W1XBS 1530 1000
Waterbury, Conn.

XEA 1060 500
Guadalajara, Jal.

XEAA 920 200
Mexicali, B. C.

XEAC 1240 250
Tijuana, L. C.

XEAF 990 250
Nogales, Son.

XEAG 1310 10
Cordoba, Ver.

XEAI 1240 100
Mexico City, D. F.

XEAM 750 7.5
Matamoros, Tams.

XEAO 560 250
Mexicali, B. C.

XEAQ 1090 1000
Rosarito, L. C.

XEAS 1160 100
Saltillo, Coah.

XEAT 1210 300
Hidalgo, Chih.

XEAW 960 50000
Reynosa, Tams.

XEAZ 1420 7
Guanajuato, Gto.

XEB 1030 10000
Mexico City, D. F.

XEBC 730 5000
Agua Caliente, L. C.

XEBH 930 500
Hermosillo, Sonora

XEBK 1000 100
Nuevo Laredo, Tams.

XEBZ 820 100
Mexico City, D. F.

XEC 1160 30
Tijuana, L. C.

XECW 1310 10
Mexico City, D. F.

XED 1160 2500
Guadalajara, Jal.

XEE 1210 200
Durango, Dgo.

XEF 1450 100
Juarez, Chih.

XEFA 1180 500
Mexico City, D. F.

XEFB 1420 100
Monterrey, N. L.

XEFC 550 250
Merida, Yuc.

XEFE 1340 250
Laredo, Tams.

XEFI 1440 250
Chihuahua, Chih.

XEFJ 1230 100
Monterrey, N. L.

XEFL 1150 250
Tijuana, L. C.

XEFO 940 5000
Mexico City, D. F.

XEFV 1210 100
Juarez, Chih.

XEFW 1310 250
Tampico, Tams.

XEFZ 1370 100
Mexico City, D. F.

XEG 1270 200
Ensenada, B. C.

XEH 1150 250
Monterrey, N. L.

XEI 1370 125
Morelia, Mich.

XEJ 1020 1000
Juarez, Chih.

XEK 990 100
Mexico City, D. F.

XEKL 1240 500
Leon, Guan.

XEL 1100 250
Mexico City, D. F.

XELA 1240 50
Saltillo, Coah.

XELO 1110 50000
Piedras Negras, Coah.

XEME 1240 15
Merida, Yuc.

XEMO 860 5000
Tijuana, L. C.

XEMX 1280 12
Mexico City, D. F.

XEMZ 820 ....
Coronado Isl., L. C.

XEN 710 1000
Mexico City, D. F.

XENT 910 150000
Nuevo Laredo, Tams.

XEOK 760 250
Tijuana, L. C.

XEOX 640 500
Saltillo, Coah.

XEP 1160 500
Juarez, Chih.

XEPN 730 100000
Piedras Negras, Coah.

XERA 840 350000
Villa Acuna, Coah.

XES 990 250
Tampico, Tams.

XET 690 500
Monterrey, N. L.

XETB 1310 125
Torreon, Coah.

XETF 1220 30
Veracruz, Ver.

XETH 1210 100
Puebla, Pue.

XEU 1010 250
Veracruz, Ver.

XEW 890 50000
Mexico City, D. F.

XEWZ 1150 100
Mexico City, D. F.

XEX 1310 125
Monterrey, N. L.

XEXM 610 ....
Mexico City, D. F.

XEY 1000 10
Merida, Yuc.

XEYZ 780 10000
Mexico City, D. F.

XEZ 630 500
Merida, Yuc.

XEZZ 1370 100
San Luis Potosi, S. L. P.

XFA 1310 5
Aguascalientes, Ags.

XFB 1270 250
Jalapa, Ver.

XFC 810 350
Aguascalientes, Ags.

XFD 1340 350
Jalapa, Ver.

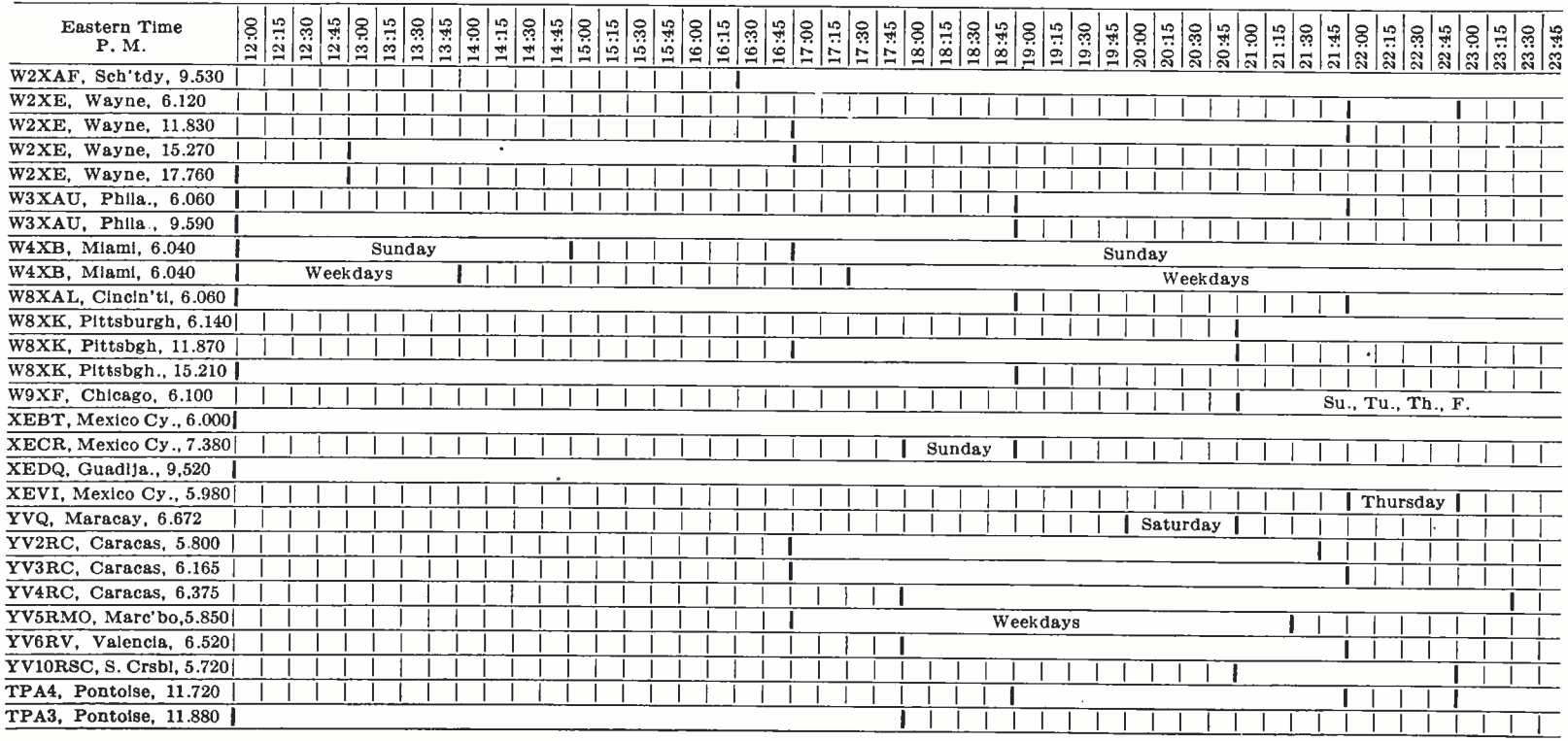
XFO 940 5000
Mexico City, D. F.

XFX 610 1000
Mexico City, D. F.

YNLF 1275 20
Managua, Nicaragua

YNOP 1230 100
Managua, Nicaragua

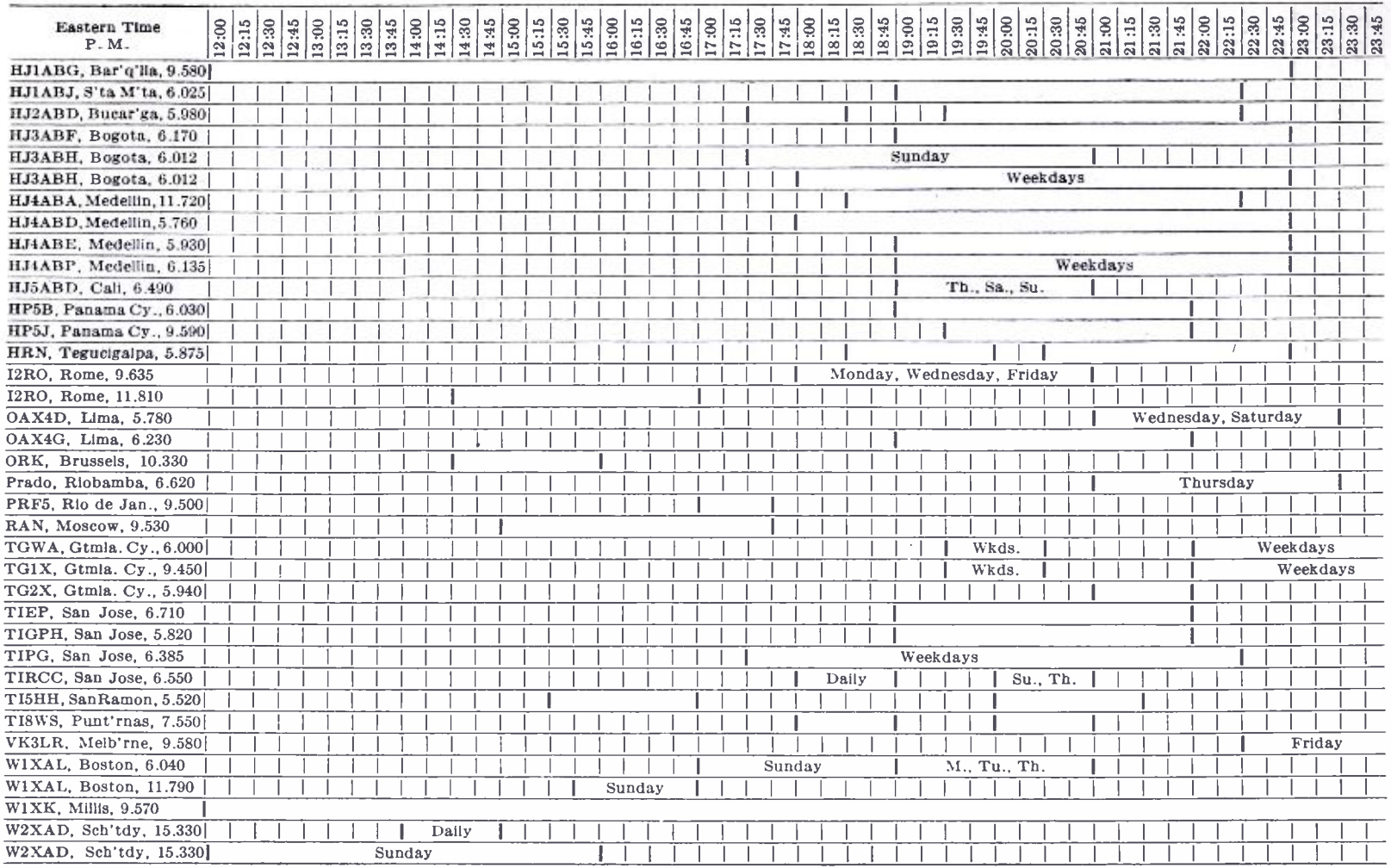
YNVA 950 30
Managua, Nicaragua

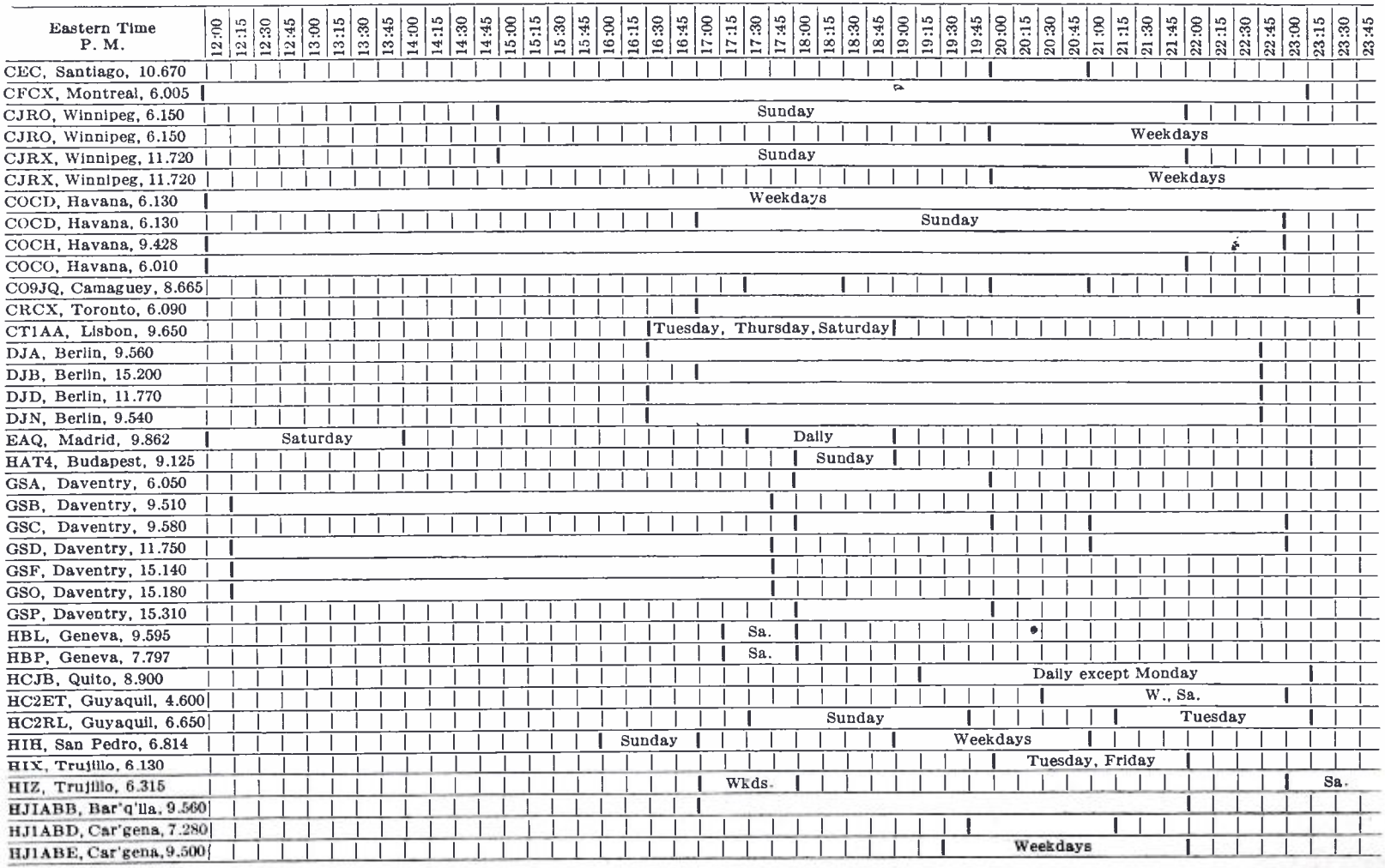


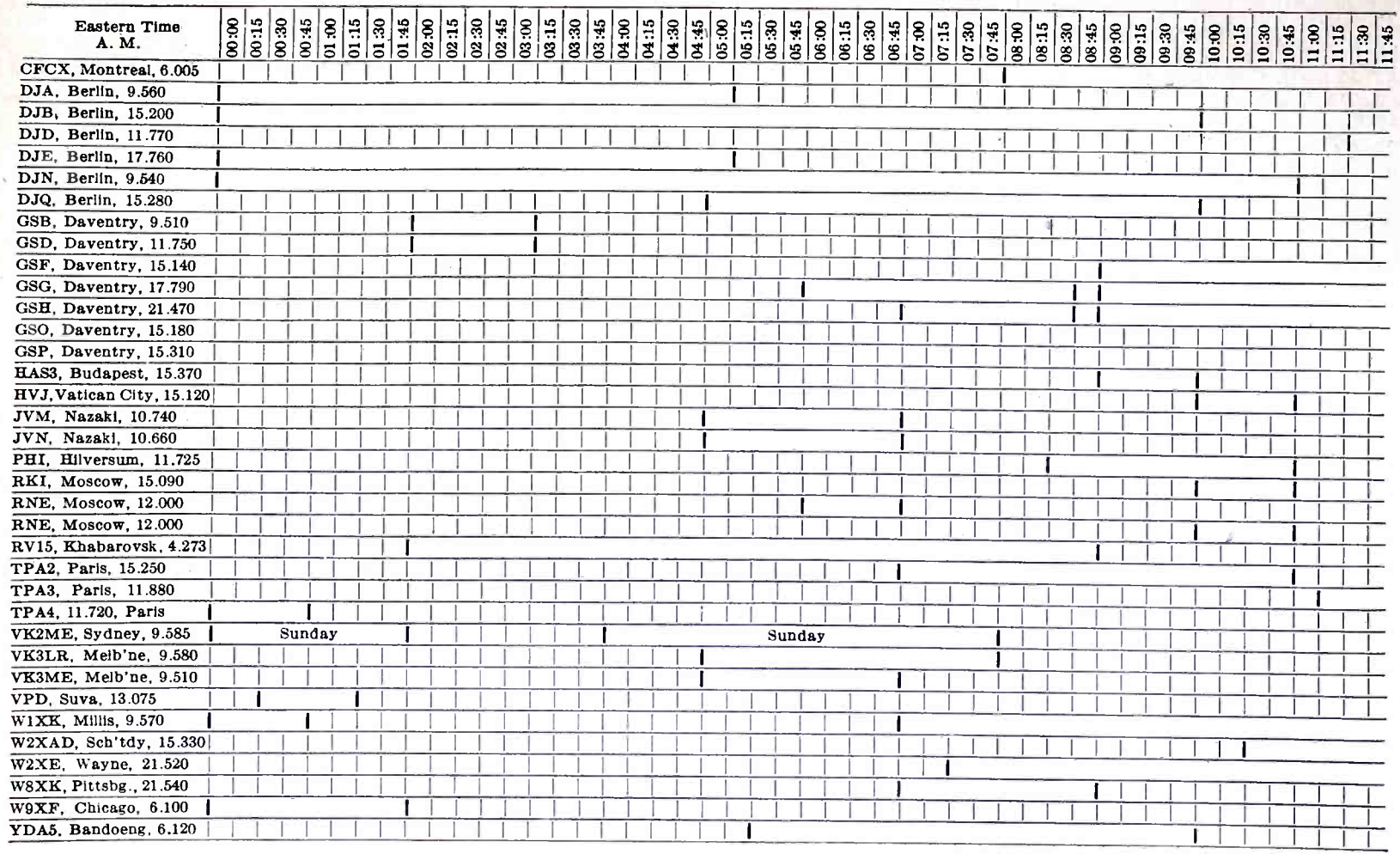
Hints on Tuning the Short Waves

It has been noted that shortwave reception follows certain definite trends. Stations between 5 and 7 megacycles favor darkness between the transmitter and the receiver. Transmitters working between about 8 and 10 megacycles are best when the station is in a night-time area and the receiver in daylight, so tuners should try for Europeans in this band in the early evening and for Australians near dawn. Below 10 megacycles the difficulty in tuning increases; here the path of the transmission should be as nearly as possible completely in daylight.

At night tune for South America between 5 and 10 megs. Europeans are good in the early evening and some of the higher powered Europeans are good all night. In the early morning tune for Australia and Asia between 6 and 10 megs. During the daytime tune for Europe, Africa and South America below 10 megacycles.







AROUND THE CLOCK ON THE SHORT WAVES

The time is given by the 24-hour clock. Noon is always 12:00 but midnight may be either 00:00 or 24:00. To change time to your own clock, subtract twelve from p.m. hours. Thus, 18:00 is 6 p.m. and 23:00 is 11:00 p.m. The time lines used in charts are for Eastern Standard. Those living in other zones may clip out the lines below and paste them over the EST lines. The following strips are for Central Standard Time. For MST, start with 10:00 and 22:00. For PST with 09:00 and 21:00.

Central Time P. M.	Central Time P. M.	Central Time P. M.	Central Time A. M.
11:00	11:00	11:00	23:00
11:15	11:15	11:15	23:15
11:30	11:30	11:30	23:30
11:45	11:45	11:45	23:45
12:00	12:00	12:00	00:00
12:15	12:15	12:15	00:15
12:30	12:30	12:30	00:30
12:45	12:45	12:45	00:45
13:00	13:00	13:00	01:00
13:15	13:15	13:15	01:15
13:30	13:30	13:30	01:30
13:45	13:45	13:45	01:45
14:00	14:00	14:00	02:00
14:15	14:15	14:15	02:15
14:30	14:30	14:30	02:30
14:45	14:45	14:45	02:45
15:00	15:00	15:00	03:00
15:15	15:15	15:15	03:15
15:30	15:30	15:30	03:30
15:45	15:45	15:45	03:45
16:00	16:00	16:00	04:00
16:15	16:15	16:15	04:15
16:30	16:30	16:30	04:30
16:45	16:45	16:45	04:45
17:00	17:00	17:00	05:00
17:15	17:15	17:15	05:15
17:30	17:30	17:30	05:30
17:45	17:45	17:45	05:45
18:00	18:00	18:00	06:00
18:15	18:15	18:15	06:15
18:30	18:30	18:30	06:30
18:45	18:45	18:45	06:45
19:00	19:00	19:00	07:00
19:15	19:15	19:15	07:15
19:30	19:30	19:30	07:30
19:45	19:45	19:45	07:45
20:00	20:00	20:00	08:00
20:15	20:15	20:15	08:15
20:30	20:30	20:30	08:30
20:45	20:45	20:45	08:45
21:00	21:00	21:00	09:00
21:15	21:15	21:15	09:15
21:30	21:30	21:30	09:30
21:45	21:45	21:45	09:45
22:00	22:00	22:00	10:00
22:15	22:15	22:15	10:15
22:30	22:30	22:30	10:30
22:45	22:45	22:45	10:45

QUICK INDEX TO ALL STATION DATA