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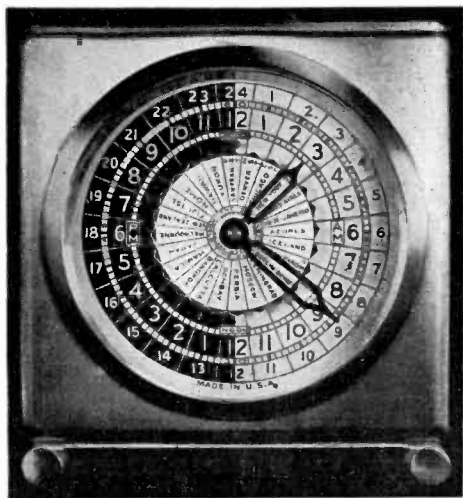
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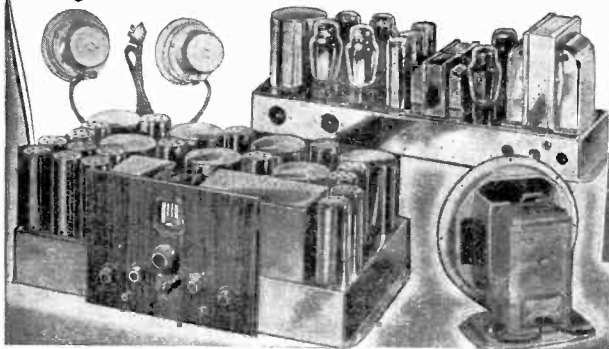
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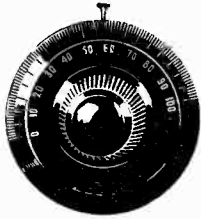
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RADIO INDEX



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ASSOCIATE EDITORS

B. FRANCIS DASHIELL, *Technical*

CARLETON LORD, *Broadcast*

THIRTEENTH YEAR

NUMBER 108

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Wednesday at 10:30 on the Red Network

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More STATIONS and Higher POWER

THE Engineering Department of the Federal Communications Commission has submitted a report based on the series of informal discussions which were held before the Commission last October. It will be recalled that radio station owners, engineers and others interested in the business of broadcasting were invited to discuss their problems, to report on results they had achieved and to offer their suggestions before the Commission. This testimony, consisting of 1741 pages, is the basis of a preliminary report submitted by Messrs. Craven and Ring, FCC Engineers.

The far-reaching changes suggested, which would be made gradually, would make possible the licensing of nearly 500 additional stations and, it is hoped, would increase the reliability and facility with which stations of any class would be heard in their service areas.

Frequency Separation

The engineers preparing the report state that, based on the evidence taken at the October hearings, the existing system of allocation of frequencies within the broadcast band is sound. It seems that the majority of those testifying feel that the fundamental 10 kcs. separation between stations is proper, and that the present use of clear and shared channels renders the best service.

It is recalled, however, that a few months ago questionnaires were sent to a number of broadcast engineers asking their opinions on frequency separations of 7.5 or of even 5 kcs. between channels. This plan does not meet with the approval of the Engineering Department. Quoting from the report, they state, "The evidence at the hearing showed

conclusively that 10. kcs. separation between channels is the minimum separation that can be accommodated with good service. With the trend toward higher fidelity, 10 kcs. is barely sufficient. . . . The Engineering Department recommends most strongly that the Commission not change the existing 10 kcs. separation to any separation lower in value."

Assigning Channels

The Commission's present policy of proceeding with improvements on a gradual, evolutionary basis, is upheld in the report. With the exception of a small group which intimated that the existing practice fails to provide a service which is economically fair, it was generally



Sally Singer has a vibrant voice so appealing in quality that she has not had a single week's vacation from the microphone since she started four years ago. Sally is heard on the Red Network every Monday at 10:30, on the Kreuzer Musical Toast.

agreed that the FCC is justified in continuing its policy of experimentation through voluntary action of stations rather than by "enforced costly radical changes."

In a summary, the Department recommended six classes of broadcast stations in the band 550-1600 kcs., as outlined in the table below: Class A, similar to clear channel stations, their purpose to include remote rural coverage. Night power of not less than 50 kw. is recommended.

Class B, similar to clear channel stations, except some other stations will be permitted to use the channel. The purpose is to include rural coverage, and night power of from 10 to 50 kw. is suggested.

Class C, similar to high power regional stations, with a large metropolitan district coverage as well as limited rural coverage. The power to range from 5 to 50 kw.

Class D, similar to regional stations, having metropolitan district coverage. It is recommended that these stations have from 1 to 5 kw.

Class E, similar to existing regional stations, separated by relatively short distances. With power from 500 watts to 1 kilowatt, they will serve the cities in which they are located.

Class F, similar to local stations, having from 100 to 250 watts power.

Excluding frequencies now assigned exclusively to Canada, it is recommended that not less than 25 channels be assigned to Class A stations, and that stations in the other classes be assigned the number of channels shown in the table following:

Class B, approximately	5
Class C, approximately	14
Class D, approximately	30
Class E, approximately	10
Class F, approximately	6

Comparing this recommendation with the present set up, we find that it would result in a reduction of the number of clear channels from 40 to 25. In Class D, similar to existing regional stations, 30 channels would be available as compared with 40 at present. This classification plan, it is felt, would result in much better service, and increases in power would be permitted wherever justified.

Inasmuch as this plan permits assignment of stations of different classes to the same channel, where technically sound, it would be possible to license from 40 to 50 additional stations in the regular broadcast band. In the 1500-1600 kcs. band, anywhere from 40 to 250 new stations could be licensed, depending upon the policy to be adopted by the Broadcast Commission.

1500-1600 kcs. Band

The report suggests to the Commission that three courses of action are open, with reference to the 1500 to 1600 kcs. band. First, the entire band can be assigned to Class F stations. Second, the band can be given to Class D stations. Third, the band can be distributed among stations in Classes D, E and F. The engineers seem to favor the latter arrangement, and they have requested the advice of the Commission on the course it wishes to follow.

Summaries

The department believes that two 50 kw. stations separated by great distances and operating simultaneously at night on the same frequency, are capable of rendering good service, particularly if directional antennae are used.

The general application of synchronization is not recommended, although it is believed that synchronization is useful in certain instances.

The use of power in excess of 50 kw. is believed to be technically sound and in the interest of scientific advancement, but the economic factors involved are apt to outweigh in importance the engineering considerations.

It is felt that there is a need for increased signal intensity, and general power increases are recommended. It is suggested, however, that regulations in this respect be flexible enough to enable the Commission to judge each individual case upon its merits.

TELEVISION Scans Its Subjects

• • • By B. FRANCIS DASHIELL

WE HEAR more and more about television every day. Even now we are told that television is to appear in colors. This latest contribution comes from one of America's pioneer television experts—D. E. Replogle. He has just patented this new color process. Then, too, we know that certain standards of television are being formulated by the Radio Manufacturers' Association, and will soon be adopted throughout the country. And the Nation's radio regulating bodies are about to fix certain television rules for the benefit of all.

Just now the leading investigators in America are Farnsworth Television, Inc., the General Electric Co., Hazeltine Corporation, Radio Corporation of America, and Philco Radio & Television Corporation. They are working on television that will "scan" the subject at an extraordinary rate of speed. This may be accomplished with 441 lines, from top to bottom, and a frequency of 30 "frames" or pictures every second. And very short waves, of course, will be used—perhaps from 42,000 to 90,000 kilocycles (42 to 90 megacycles).

But when such short waves are used it means that transmission will reach out for only visual distances. As nearly nation-wide coverage is desired, this will require more transmitters of limited range than the few now contemplated. Cities such as New York, Philadelphia, Baltimore, Washington, Cleveland, Chicago, Detroit, St. Louis and Los Angeles will have television first. And

people living within a 25-mile radius about each city will be permitted to enjoy the privileges of television. The rest of the country will wait a much longer time.

High Speed Scanning

The problem of scanning pictures with 441 horizontal and parallel lines to each frame or picture, and creating 30 of these frames a second, a total of 13,000 lines a second, seems well-nigh impossible. However, in England, where certain strides with television have been made, the Marconi-E. M. I. and the Philips concern, both use 405 lines, which comes very close to the present American objective of 441 lines.

We have seen in the preceding installment of this series, how the principle of scanning can be put to slow but actual use. Then television used another crude type of scanning, but obtained a shadowy blur in the receiver that could be distinguished easily as similar to the original subject. When 30 lines to a frame became possible we thought that great strides had been made. But this scanning rate was stepped up slowly through the past decade until now 343 lines have become consistently practicable. A recent demonstration utilized this rate of 343 lines with highly satisfactory results.

To accomplish all this, certainly it is neither practicable nor advisable to use the elementary scheme previously described. In that description we utilized a drawing, in black and white, upon some transparent base. A ray of white light remained stationary, and we moved the picture back and forth but at the same

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

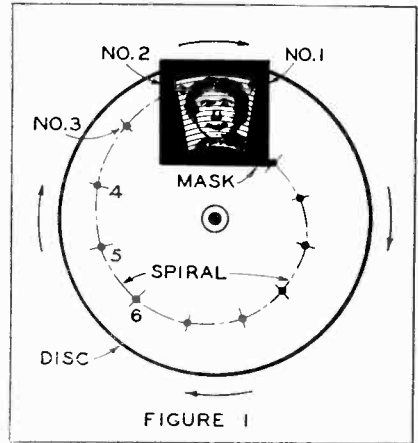
time advancing it ahead a line at a time. In this way the lines of the picture cut the light beam and reduced its illumination so that it changed the amount of electric current flowing through the "electric eye". This, in turn, varied the strength of a radio or telegraph signal and operated a pen or electric light, so that the picture was reproduced by mechanical or photographic means.

The Scanning Disc

Although the picture was completely scanned, the process took too much time and any idea of motion by television was idle thought. But the scanning of today is a much faster event. We have already discussed briefly a rotating disc invented by Nipkow. His principle is still in use, for, without it, television up to now would have been nothing more than a dream. Let us find out how the disc is used in modern scanning.

This disc, large of diameter, has many small holes centered at regular intervals along a single spiral laid out around the center and close to the rim. This spiral is very flat. Each hole or aperture is nearer the center of the disc by the width or diameter of a single opening. Figure 1 shows this form of scanning disc. When it is used it should be covered with an opaque plate provided with a small opening at the top. This opening or window is outlined in Figure 1 by dotted lines.

A spiral is laid out close to the edge of the disc. A number of holes are spaced along this spiral; the distance between being equal to the width of the window in front of the disc. In the earlier machines about 30 small holes were used, and this provided a scanning system that swept each frame of the series with 30 narrow lines. This became known as 30-line scanning. The definition of the finished picture depends, however, upon the number of lines, just



like any etching or cut in a magazine. Today, when it is planned to use a standard of 441 lines, it is readily seen that modern scanning is a far cry from pioneer methods.

How It Works

While the disc makes one complete revolution behind the opening of the masked cover, each of the apertures flash across the opening, one at a time. For instance, the first hole, or No. 1, shown in the drawing, enters the opening at the upper left-hand corner and passes out of sight at the upper left-hand corner. At that instant hole No. 2 enters at the upper left. But it is one width or diameter below the point where No. 1 entered. Then, No. 2 aperture passes across the opening and disappears just one diameter beneath the point where No. 1 was previously lost to view.

At this moment, hole No. 3 appears at the left, one width below the place where No. 2 entered, and two diameters under the point where hole No. 1 came into the opening. No. 3 quickly passes across and disappears, just as No. 4 enters. This operation continues on and on until the last aperture at the end of the spiral, nearest the center of the disc, sweeps across the opening at the bottom. This is the last line and

completes the "frame". The cycle is ready to begin again with the second frame as No. 1 hole at the outer terminal of the spiral once more enters the masked opening at the upper left-hand corner.

In order to observe just what happens a source of light must be placed behind the disc opposite the opening in the screen. Now, as each aperture passes in view, a spot of light will sweep across the opening, moving from left to right in horizontal, but really slightly curved and concentric lines. In this manner we appear to cut up a two-dimension picture into one-dimension lines which may be converted into flickering electric currents for broadcasting as a radio wave. This action was discussed in the previous article of this series.

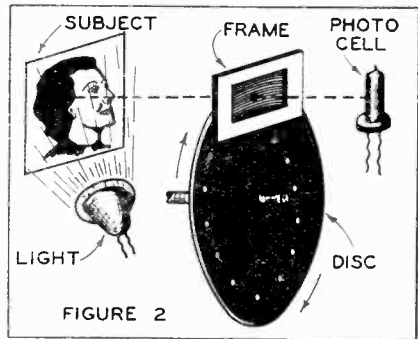
Quicker Than The Eye

In the motion picture age we came to realize that there is some persistence to human vision. The eye does not shift instantly from one scene to another when two separate light sources cast successive impressions on the retina. A fraction of a second is required so one vision will fade away and permit the second to make its appearance on the eye. Haven't we all heard that a magician's hand is quicker than the eye? Motion pictures are possible only because of this slight sluggishness in our normal eyesight.

Therefore, when the disc spins at 30 revolutions per second, the small window or mask, as it sometimes is called, will appear full of bright light. At the end of each revolution, one frame is ended. But, before it fades from view, the second revolution begins and again fills the place of the previous frame that is just fading from sight. Remember, all this takes place very rapidly. Similar to the motion picture, a series of progressively appearing frames are created, each coming so

quickly behind the preceding one that the eye fails to discern the tiny gap between each of the complete changes. If the changes occur too slowly, less than 16 per second, the eye begins to notice the gap or change, and flickering is noticeable. Many of us are familiar with the early, slower moving film, in the movies, and the annoying flicker that resulted.

Suppose we replace the eye which, in Figure 1, observed the sweeping of the light bands across the opening, by a highly sensitive photoelectric cell. If this cell is connected in an electric-current amplifiers circuit, with suitable power amplifiers, it will control the radio waves in harmony and step with the bands of light that fly across the frame during each revolution of the disc. This arrangement is shown in Figure 2.



"Televising" The Subject

But all our scheme so far accomplishes is the creation of bands of white light of unvarying intensity. For this reason the frame or masked opening is filled with a white glare of light. Let us, then, place some object of contrasting colors, such as black and white, with their different shadings, back of the disc. This still picture or moving object must, however, be brilliantly illuminated by a light reflected from properly placed high-power lamps, as shown also in Figure 2.

In this case, the disc as it rotates picks up the light and dark shadows reflected from the subject and lays them down in narrow bands or strips upon the photo-electric cell. These little bands of light, or lines, vary in illumination or shading exactly in proportion to the light reflected from the subject being "televised". Then as each little aperture races across the opening, the photo cell, which is not sluggish like the human eye, but instantly sensitive to every little change in illumination, creates a constantly varying flow of electric current. The electric signals from the cell pulse or fluctuate exactly in unison with, and in proportion to, the brilliancy of the reflected light from the view being "televised".

One of the greatest problems of the scanning disc is to provide a sufficient number of apertures along the spiral so that many fine lines will sweep across the frame. The finer the lines the smoother and more perfect the details of the final picture will be. This means, of course, very small holes in the disc. But, as we also desire to obtain a picture opening or frame as large as possible, it becomes necessary to space the apertures as far apart along the spiral as may be possible, and yet have a great number of holes along the entire distance.

Many Lines Necessary

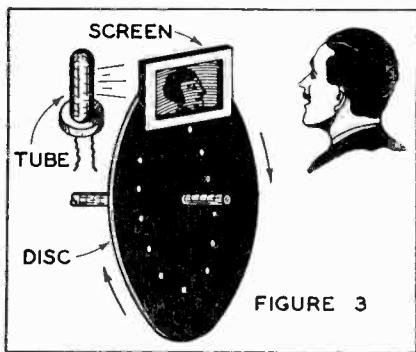
If the frame is 6 inches wide by 3 inches deep and 300 lines are laid across it, it would mean that 300 holes of little more than 1/100th inch in diameter would have to be spaced 6 inches apart along the spiral. This method calls for a scanning disc 1800 inches in circumference—something utterly impracticable. The frame openings, then, to be within reasonable limits, must be very small—less than an inch square. Sometimes a magnifying glass and mirror are necessary in order to see the picture that is received at the receiver.

In order that such high speeds may be maintained while a large number of scanning lines are laid down in one frame, a spot-light scanner, invented by Baird, of England, is employed for televising subjects in the studio. In such cases, nearby objects are scanned or televised directly by means of reflected light. But when the scene is large or some distance away, it is necessary first to make a photograph image by recording the view on a motion picture film. This is quickly developed and then passed through the scanning device where the resulting picture is dissected and converted into electrical impulses. This is the intermediate-film process system.

A beam of light from a high-power lamp is focused through a water-cooled frame at the top of the scanning disc. The disc runs in a vacuum at a speed of 6,000 revolutions per minute. It has 240 apertures (in this case) arranged, not in one, but in 4 spiral lines, close to the outer rim. A second disc acts as a rotating shutter so that only one scanning disc hole is exposed to the intense light at any single instant. The spot-light ray passing through the window and apertures of the scanning disc from the light source is focused through the window into the studio. There it sweeps across the subject itself, in lines from top to bottom, and is reflected back to a series of photo-electric cells.

Receiving The Image

The elementary television receiver also utilizes a scanning disc, but this, of course, is now out of date. In place of the disc the different systems use a cathode-ray tube. This tube is somewhat like the tall, pear-shaped, flat-bottomed flask bottles seem in chemical laboratories. Within the tube itself a very fine spot of light, caused by a thin stream of electrons, sweeps across the bottom in a series of horizontal lines,



very close together—343 to the opening or frame provided. The light moves across slowly and then flies back rapidly to begin the second and next lower horizontal lines. This action is repeated again and again indefinitely. The expressions just used—“slowly” and “rapidly”—are purely relative, for all the motion is extremely fast. Each line is flashed across the surface of the tube frame in about $1/10,000$ th of a second. Of this remarkable cathode ray tube more will be said.

We must return to our elementary receiver. In Figure 3 we see the disc. It is identical to the one used at the transmitting station, for, it too, must revolve at exactly the same speed. We learned last month that synchronous action is needed. So, if we drive both the scanning discs at the same speed by synchronous a.c. motors, little trouble will be experienced in obtaining suitable results. However, the perfect system makes use of a synchronizing signal that starts the two discs off in step every fraction of a second.

At the receiver we utilize a glow tube or neon light. This unit varies its degree of brilliancy exactly in step with the intensity of the electric current flowing through the tube from the radio receiver. In front of the disc is a masked opening or frame. This is filled with the light from the glow tube, as it is passed through the swiftly moving aper-

tures of the disc. Again we find the sluggishness of human vision permits each rapidly moving “finger” of light to be retained on the eye, until the next line is laid down in its place. In this way a picture or real image—moving or stationary—appears in the opening as we watch; and it moves exactly in accord with the original subject being televised in the transmitting studio.

Television's problem is synchronization. Mechanical television, of the kind described in these two articles, is a thing left to the pioneer ages. This is true as far as home television is concerned. Only simple, electrical methods can become popular in the home. To this end all American television investigators are working, and by now the electronic cathode-ray tube is presenting pictures that measure approximately 7 by 10 inches—something that only gigantic scanning discs might produce.

The cathode-ray tube (which falls in the same family group as the x-ray tube) has given us our answer. It simply and reliably provides electronic television without any moving or mechanical parts. There are unlimited possibilities to its speed and methods of application. It is not too much to believe that even transmitters will soon eliminate scanning discs and utilize, instead, a system of electronic scanning. In some cases a special form of cathode-ray tube with a large photoelectric plate (called a mosaic cell) is used for televising. The image to be transmitted is focused on the mosaic surface. By electronic emission, electric currents are set up which are in proportion to the intensity of the light falling upon the tiny light-sensitive particles making up the mosaic surface of the plate.

(In our next article we shall discuss electronic television by describing simply how the cathode-ray tubes work.

SW Prize Letter

By A. C. Tarr

Not only the most interesting reception, but for the most thrilling reception on the shortwaves, the 75-meter amateur 'phone band provided the listener with endless hours of breath-taking stories of humor, pathos and tragedy during the disastrous floods of the Ohio and Mississippi Rivers in January.

The first indication of any on-toward circumstances was a weak signal from the East Coast: "QST, QST, QST—clear all bands for emergency traffic in the flood area, by order of the FCC! All stations please repeat! QST, QST . . ." The call was picked up and rebroadcast by a W5, a W9, was intercepted by a W6, and soon the band was alive with "QST, QST—QRT for flood traffic!" In a magically short time the 160- and 75-meter 'phone and the 80- and 40-meter CW bands were cleared of extraneous traffic in an efficient, speedy and courteous way which should be highly commended.

Soon other signals appeared: "CQ, CQ Memphis, urgent! Emergency traffic for Memphis!" "CQ Louisville, important messages!" And messages that meant the safety of the lives and property of thousands of flood victims were swiftly transmitted to their destinations by amateur radio. Some operators erected emergency battery-operated transmitters, for want of power. Others, the central distributing points for traffic to the flood zone, had as many as seven receivers monitoring the bands in their "shacks." Many remained on the air 24 hours daily, the operators working in shifts.

To attempt to mention even a few of the incidents of human drama unfolded would require several pages. Suffice to say, it was more intensely interesting than listening to a dozen "News flashes" on the broadcast

BCB Prize Letter

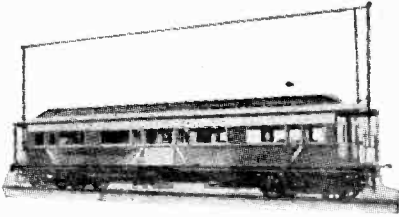
By Geo. K. Glass

I haven't done any broadcast band DXing since 6KW and PWX were swell catches, but I followed your Mystery Contest of 1936 with great interest and believe I'll give it a whirl this year. At least, I'll have the equipment ready if Morpheus doesn't stop me. My RCA is swell on the BCB and I have a new antenna system, so we'll see what is left of the old dial twisting ability.

I'll never forget the early thrill of DX when I lived in Western Pennsylvania and had a home-made 3-tube 'Reinartz audio generator.' Frank Jones of 6KW sent me a map of Cuba, showing all the amateur stations and PWX. KFI gave me a five-dollar gold piece for the first telegram from my state. Doc Brinkley was just beginning to spiel over KFKB and the heart of America was WHB, the Sweeny Automobile School.

From time to time, we all look back on the early days of broadcasting and recall the tremendous thrills which were in store for the original Midnight Marauders. KHJ and CZE were real DX for the lads on the East Coast. And who will forget the International Tests in 1926-27? A few of us were successful in dialing across the Atlantic, hearing flea-power stations with equipment that would be relegated to the junk pile by the DXer of today.

band, and too much credit cannot be given the tireless amateurs who, even as this is being written, are freely donating their services and equipment that human suffering and misery may be alleviated.



One of the most unique broadcasting stations in the world is 3YB, the mobile station of the Mobile Broadcasting Service, 430 Little Collins St., Melbourne C1, Australia. This station, installed in a railway car, has the privilege of moving throughout the state of Victoria and becoming for the time being the local station of the towns visited.

Station 3YB, rated at 50 watts power, works on 1060 kcs. from 3:30 to 7:30 am., EST.

Their itinerary for the months of April and May includes the cities of Camperdown (April 1 to 7); Terang (April 8 to 14); Warrnambool (April 15 to 28); Port Fairy (April 29 to May 1); Ararat (May 3rd to 12th); Warracknabeal (May 13 to 19); Kaniva (May 21 to 26) and Nhill (May 27 to June 2).

Opposite 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.

IF you are interested in television, you ought to understand radio. Mr. B. Francis Dashiell, the author of the Story of Television running currently in RADEX, has written a book called

The Beginners' Story of Radio

in which the fascinating story of radio is written in plain English so everyone can understand it.

This leatherette-bound book, illustrated with 63 diagrams, explains everything that takes place within a radio receiver.

**We will send you a copy for
only 35 cents.**

**The RADEX PRESS
Conneaut, Ohio**

Although WJSV always was in Washington, KOIL in Omaha and WEBC in Duluth, they have been fooling us by telling us they were in Alexandria, Council Bluffs and Superior, respectively. This was because the Davis amendment with its quota limitations prevented the assignment of these stations in the states where their main studios were located. With the repeal of the quota law the "auxiliary" studios of the stations became their main studios (which they always were in fact) and we can list them in our indices at their proper locations.

Many Unsolved RADIO PROBLEMS

• • • By RALPH STRANGER

Editor's Note: In these modern times when it is possible to maintain radio communication between the very ends of the earth without much apparent difficulty, it is quite natural to feel that the science of radio has progressed to a point where engineers know all the answers and can solve any problem that might arise. The truth is that many problems in connection with the propagation of wireless waves await solution.

Under the direction of Ralph Stranger, an organization known as the World Radio Research League was founded to utilize amateur mass listening for the purpose of scientific research and as an aid to scientists in their laboratories.

In the article which follows Mr. Stranger discusses the problems which are occupying the attention of the League.

Echoes of Long Delay

On April 14, 1927, the year of maximum of the sun spot cycle, a Norwegian experimenter, Mr. Jorgen Hals, heard a faint repetition of a morse signal three seconds after the signal was emitted. This, of course, constitutes an echo of long delay. Up to that time, round-the-world echoes occurring about one-seventh of a second after the emission of the original signal, were well known, and it is known today that they are due to a second wave which goes around the world and comes back again. But a delay of three seconds implied roughly that the signal travelled as far as the moon and back again.

Later, Hals heard an echo of 4 minutes 20 seconds delay, and on May 25, 1931, he heard on 25 meters an echo of 12 minutes 15 seconds delay. This last echo implied that, provided it was the case of direct reflection by some distant body, the signal travelled to and from a total of 136,710,000 miles. It should be noted that the average distance of the sun from the earth is 92,000,000 miles.

Echo Tests

The first tests for echoes were carried out from the British Empire

Station GSB working on 31.55 meters with 15 kw. power. Morse was transmitted, with a minute's interval between each letter. These tests were conducted at regular intervals between May and December, 1934.

We were all inexperienced at first and, at the commencement of the experiments, reports of echoes were coming in from all quarters. All kinds of noises were taken for echoes. As experience was gained, however, the "echoes" became less frequent and some serious work was done.

Unfortunately the requirements of the Empire Service made it necessary to conduct the tests in the early morning, while the best time for listening is in the early afternoon. Thus we were not disappointed when the GSB tests failed to provide any scientific evidence.

The next series of tests was broadcast by HBQ, the League of Nations station at Geneva, on 44.94 meters. While no echoes were heard during any of the transmissions, the broadcasts served to confirm the theory of Jorgen Hals that echoes could not be heard above 31.5 meters.

The Sun-Spot Influence

Since the ionization of the upper atmosphere is chiefly due to the sun's rays, especially the ultra-violet rays, any changes in the amount of the sun's radiation must affect the propagation of wireless waves. The mean distance from the sun to the earth is 92,900,000 miles, so that an electro-magnetic wave will take eight minutes 19.4 seconds on an average to reach the earth.

The sun-spots, frequently observed on the surface of the sun, vary in numbers every eleven years, so that there is an eleven year cycle of maxima and minima sun-spots.

Some of these spots attain a diameter ten times that of the earth. Their life may vary from a few hours to some weeks, while they appear to follow the rotation of the sun, although they may have independent movements in respect to each other. The sun-spots, being of a vortex nature, produce a powerful magnetic field.

For this reason, the appearance and disappearance of sun-spots is accompanied by vast magnetic variations. Since radiation from the sun affects the ionization of the earth's atmosphere, which in turn affects the propagation of wireless waves, a large number of sun-spots will have an influence on radio communications.

It has been found that the ionized layer surrounding the earth, known as the Heaviside layer, is more ionized during the maximum of sun-spot activity than during the minimum. But systematic observations on all wavelengths extended over a series of cycles of sun-spot activity are lacking.

The Influence of the Moon

It is suspected that the moon may have an effect upon the propagation of wireless waves. There has been a suggestion that wireless signals are stronger at full moon than at new moon when, it is said, they are at their minimum.

Owing to the tidal action exercised upon the earth and its atmosphere, it may be that the moon is varying the height of the ionized layers, and thus it affects wireless reception. It may also act as a reflector of the sun's radiation and thus influence the ionization of the earth's atmosphere.

The Influence of Weather

Although we know that wireless waves are of an electro-magnetic nature and are, therefore, propagated in the ether itself, weather is not to be disregarded as a possible factor affecting their propagation. Variations in barometric pressure



Frank Parker, veteran NBC tenor soloist and star of the sparkling new Rippling Rhythm Revue, is heard Sundays from 9:15 to 9:45 over the Blue Network.

will also affect the upper atmosphere and therefore its ionization. It has been shown too, that there is a connection between the propagation of radio waves and temperature.

High signal level is associated with low ground temperature. The interaction (i.e., interference) between stations proves to be more prominent during cold and frosty weather.

Observations in well-defined localities can be used in conjunction with meteorological charts and light may be thrown on the influence of temperature, pressure and atmospheric disturbances upon the transmission of radio. All radio listeners can make simple observations of this nature.

Reports from a number of reliable sources indicate that in different sections of the world there are so-called zones of silence, that is, zones in which wireless reception and transmission are either highly
(Please turn to page 75)

Checking the MYSTERY DX Contest

IF EARLY reports may be taken as a criterion, listeners who took part in the Mystery DX Contest over the week-end of February 20, 21 and 22 travelled a rock road. Letters from readers along the Eastern Seaboard and in the Central States indicate that reception was attempted only under the worst possible conditions.

Static apparently was severe throughout the country. Signals experienced pronounced difficulty in penetrating any distance, and even old reliable stations were conspicuous by their failure to reach many a pair of listening ears. Reports show that atmospheric disturbances were unusually heavy, and our own observations confirm this unfortunate fact.

How this rebellion of Nature will affect the outcome of the contest is, of course, impossible to state at this early date. It may be that listeners in the West worked under like difficulties, in which case all contestants would have listened under equal handicaps.

As the contest got under way, 42 stations were scheduled to take part. This was below our quota, although no less than nine cancellations resulted from the recent flood conditions in the Middle West. Following is the line-up of stations due to broadcast for the contest:

February 20th

0200-0300	CTIC	890	Sault Ste. Marie, Ont.
	KOMA	1480	Oklahoma City, Okla.
	KXBY	1530	Kansas City, Mo.
0300-0400	WHAM	1150	Rochester, N. Y.
	VRUF	830	Gainesville, Fla.
	CFCO	630	Chatham, Ont.
	KMPC	710	Beverly Hills, Calif.
	KFSD	600	San Diego, Calif.
0400-0500	KVOE	1500	Santa Ana, Calif.
	WEXL	1310	Royal Oak, Mich.
	KFVD	1000	Los Angeles, Calif.
	KMO	1330	Tacoma, Wash.
	WSUI	880	Iowa City, Iowa
0500-0600	WFBC	1300	Greenville, S. C.

February 21st

0200-0300	WAAW	660	Omaha, Neb.
	WBIG	1440	Greensboro, N. C.
	KDB	1500	Santa Barbara, Cal.
	KDYL	1290	Salt Lake City, Utah
	KFWB	950	Hollywood, Calif.
-KMPC	KFXM	1210	San Bernardino, Cal.
	KGB	1330	San Diego, Calif.
	KUJ	1370	Walla Walla, Calif.
	KXA	760	Seattle, Wash.
	CKNX	1200	Wingham, Ont.
0400-0500	CKOV	630	Kelowna, B. C.
	KIRO	710	Seattle, Wash.
	KWSC	1220	Pullman, Wash.
	WAAF	920	Chicago, Ill.
	WPHR	880	Petersburg, Va.
0500-0600	KJBS	1070	San Francisco, Calif.
	WHA	940	Madison, Wis.
	WTRC	1310	Elkhart, Ind.

February 22nd

0200-0300	WFBR	1270	Baltimore, Md.
	WIBM	1370	Jackson, Mich.
	WMMN	890	Fairmont, W. Va.
0300-0400	WNBX	1360	Springfield, Vt.
	WGI	610	Ames, Iowa
	WSYR	570	Syracuse, N. Y.
0400-0500	CMHJ	1160	Cienfuegos, Cuba
	KFNF	890	Shenandoah, Iowa
	KVI	570	Tacoma, Wash.
	WADC	1320	Akron, Ohio

As that schedule was worked out, it was felt that listeners in all parts of the country would have an equal opportunity at the list of prizes. While it is true that the 0300-0400 EST spot on February 21st found no less than seven Western stations, it is recalled that the winners of last year's contest were able to log an equal number in an hour's time. At any rate, decent weather conditions would have given every contestant a run for his money.

A possible source of confusion was the WAAF program from 0400 to 0500 EST on the 22nd. Originally scheduled as a special program for a large radio club, the station offered to dedicate the 0430 to 0445 spot to the contest. The offer was accepted in the hope that contestants would be able to dial in at the right time, although it is admitted that the quarter-hour dedication was not entirely fair.

As we go to press, we learn that transmitting difficulties prevented WSUI from broadcasting at its as-

signed time. The station planned to go on Sunday morning, but the actual hour has not as yet been learned.

Contest entries are arriving in every mail and it may take some time to check them carefully. The inclusion of the distance factor will complicate the work of the judges, but it is hoped that the final standings will be ready for publication in the May issue of RADEX.

Too late for inclusion among the list of contest prizes last month came the announcement from the Midwest Radio Corporation that they are offering one of their Model K-11 receivers as one of the awards. This is an 11-tube set, housed in a handsome table cabinet. It covers a range of from 23 megacycles to 150 kilocycles (13 to 2000 meters) in five bands.

During the past few weeks we had an opportunity to inspect the bound set of Study and Reference Texts, contributed by the National Radio Institute. These are the identical texts furnished students enrolled in the elementary and advanced radio courses of this school, and one cannot help but be impressed by complete coverage of the subject of radio. Each phase of radio is treated in simple terms and the reader advances from elementary principles to advanced theory in easy, well-defined steps.

In the event that the winner of these texts desires to enroll for the accompanying instruction, the NRI has agreed to make a substantial allowance for the texts against the regular tuition fees.

Listed high among the contest awards is the Hallicrafters' "Sky Buddy" receiver. This is a five-tube job which covers from 18 to 555 meters in three bands. Housed in a beautiful black metal cabinet of pleasing design, this receiver is an important part of the equipment of thousands of critical amateur op-

erators.

A study of the radio service business today would reveal why the winner of the replacement set of 12 National Union tubes is getting a very fine award. The radio serviceman must handle parts of high quality or he will lose out in the repair business from callbacks on unsatisfactory service jobs. That National Union tubes meet these necessarily rigid requirements is evidenced by the fact that they are handled by more radio service specialists than any other make. The list price of all National Union tubes is 10 cents higher than any other tube in the industry, and yet more than 20,000 radio repair men report that set owners have been happy to pay this slight premium for quality value.

DXers have long been aware that a pair of headphones are a vital part of their receiving equipment, but we often wonder how many of them realize how good a fine set of phones can be. The winner of the pair of famous Trimm Featherweight phones will, we believe, be in for a pleasant surprise when he attaches them for the first time. These phones possess a rare combination of extremely high sensitivity, rugged construction and true "featherweight" lightness. They have been used by amateur and commercial operators for years, and DXers are finding that they have the admirable quality of "extracting the last R from a very weak signal."

Of interest to DXers is the Coronet line of tubes developed by the Arcturus Radio Tube Co., Newark, N. J., contributors of a replacement set of six tubes as a contest prize. By the use of an exclusive construction, the Coronet tube has interelement capacities lower than that found in the usual glass tube. This is a decided advantage in long distance reception, for it is a well

known fact that the lower the capacitance the more critical and efficient is the receiver.

The Arcturus Coronet tube utilizes all the advantages of manufacturing technique developed in the industry, and incorporates all of the features of the metal tube. Being perfectly self-shielding, the Coronet results in quiet operation and greater sensitivity.

The Coronet tube was designed as a replacement for the glass type. It is installed by means of a special modernizer, which adapts the socket in the set to an eight-prong or octal socket, which fits the standard metal tube base used on the Coronets. Replacement is very simple, it being necessary to insert both the proper modernizer and Coronet tube in the socket. These tubes are available from Arcturus dealers and distributors throughout the country.

It is probably unnecessary to mention that the grand prize in the contest is the latest Scott Full Range High Fidelity receiver. Contestants have been aiming at this prize as the answer to their DX dreams, and well they might. Since the first of November, one of these receivers has been on test and results have shown that it leaves little to be desired as a DX getter.

However, while RADEXers undoubtedly cherish the Scott for its possibilities in long distance reception, music lovers realize that here is a receiver which offers truly fine reproduction. The perfection which the Scott laboratories have achieved was demonstrated last fall in the National Academy of Science in Washington during the Centennial Celebration of the American Patent System.

More than 1500 of the greatest scientists, engineers and industrialists of the country attended what was called a "Research Parade." For nearly three hours some of the greatest marvels of the scientific

world were demonstrated. Right in the center of that program, the Scott laboratories demonstrated the degree of perfection that had been obtained in sound reproduction.

Some lucky winner is going to be the owner of a Scott receiver and other skilled dialers will receive valuable awards. The final results should be ready for the May issue. *Can you wait that long?*

A new network, known as the California Radio System, covers the metropolitan and valley sections of California. Six stations, owned and operated by the McClatchy Newspapers and the Hearst Organization, make up the group. Stations comprising the system are KEHE, Los Angeles, KERN Bakersfield, KFBK Sacramento, KMJ Fresno, KWG Stockton and KYA San Francisco.

Time Conversion Table

The time given through RADEX, unless otherwise specified, is Eastern Standard by the 24-hour clock. Our chart this month shows Central Standard Time converted to the EST 24-hour clock, and GMT.

CST	EST 24-hr. clock	GMT
11 pm.	0000	0500
Midn't	0100	0600
1 am.	0200	0700
2 am.	0300	0800
3 am.	0400	0900
4 am.	0500	1000
5 am.	0600	1100
6 am.	0700	1200
7 am.	0800	1300
8 am.	0900	1400
9 am.	1000	1500
10 am.	1100	1600
11 am.	1200	1700
Noon	1300	1800
1 pm.	1400	1900
2 pm.	1500	2000
3 pm.	1600	2100
4 pm.	1700	2200
5 pm.	1800	2300
6 pm.	1900	2400
7 pm.	2000	0100
8 pm.	2100	0200
9 pm.	2200	0300
10 pm.	2300	0400

For times throughout the entire world consult the RADEX Time Converter.

Around the SHORTWAVE World

IN LINE with our long established policy of always providing our readers with the best and most authentic information available, RADEX is pleased to announce the appointment of Sr. Manuel Barbera of Buenos Aires as its official representative in South America.

Our new overseas correspondent brings to RADEX many years of experience in tuning the shortwaves and a familiarity with South American stations possible only to one who is situated there. Mr. Barbera is shortwave editor of "Sintonia," English announcer at LSX, and publisher of a literary magazine.

Through our representatives situated in various parts of the world, RADEX readers are now assured of complete coverage of the world's shortwave news.

Argentina

The program known as "The Voice of Argentina" is broadcast by station LSX on Mondays and Fridays from 1700 to 1745, EST, on 10350 kcs. These programs are announced in Spanish, French, English, German and Italian. Manuel Barbera often does the English announcing.

Station LRU, the relay station of LR1, Radio El Mundo, is now temporarily off the air. All the LR1 programs are now carried by LRX on 9660 kcs, the schedule being 0600-2230.

A "Fan" in Dallas, Texas, reports reception of LRX at 0500 EST.

British Guiana

VP3MR, one of the Georgetown stations, announcing as "The Voice of Guiana," gives its frequency as 6010 kcs, according to Arman McBurney of Portneuf Station, Quebec.

Bulgaria

The Sofia s.w. station, LZA, on 14970 kcs, is heard on Sundays from 1300 to 1400 EST.

Canary Islands

War news from Generalissimo Franco is broadcast irregularly in the evenings from EASAB, City of Tenerife in the Canaries, on about 7.01 megas.

China

Several new Chinese 'phones are reported this month. XGW on 10420, XTD on 5740 and XOU on 8040, all in Shanghai, are heard working with California. XOJ on 15800 and XTV on 9490 kcs. are the best heard stations. XTV, reported as Hankow and Canton, works with XTD in the mornings and is heard with excellent volume on the Pacific Coast. The Shanghai stations are under the direction of the Chinese Government Radio Administration, Sassoon House, Jinkee Road, Shanghai, China.

Colombia

HJ4ABH, Armenia, "La Voz de Armenia," is heard on 9520 by Mr. F. Finlay. This station relays HJ4ABN. HKV, Bogota, the Ministry of War station, tests in the evenings on 8790 kcs. HKV has been reported also on 8798, and this is where we show them in our lists.

Cuba

Broadcasting station CMX in Havana is relayed on the shortwaves by COCX on 11435 kcs, according to information received direct from the station. The schedule on shortwaves is Sundays from 0800-1200 and 1800-2200, EST, and on weekdays from 0800 to 0100 EST. The mailing address is Apartado 32.

Denmark

A postal card from C. Hasselriis, 118-18 Metropolitan Ave., Kew Gardens, N. Y., announces that a Danish newspaper, *Nordlyset*, of New York, advises that in April a new 5 kilowatt shortwave station will go on the air at Skamlbaek, Denmark. No frequency was mentioned. It was stated that there had been

criticism of the weakness of present equipment, and it is hoped the new station will provide good reception for Danes in outlying countries.

Dominican Republic

Ollie Landgraf, 97 Park St., Chilton, Wis., reports two Dominican stations. HI3C, "La Voz de la Feria," 6730 kes., at La Romana, is heard irregularly in the evenings. HI2T, 6900 kes, Trujillo City, was heard near 1700 EST.

Ecuador

From Clarence W. Jones, Director of HCJB, we find that this station works on two frequencies, 4107 and 8948 kes. On 4107 the schedule is 0730 to 0830. 1130 to 1430 and 1730 to 1900, EST, daily except Monday. The 8948 kes. frequency is employed from 1900 to 2200 EST. HCJB, known as "La Voz de Los Andes," works also on the broadcast band, on 974 kes., where it is known as "La Voz de Quito." The address is Mr. Clarence W. Jones, Director, Casilla 691, Quito, Ecuador.

France

The French Colonial station works according to the following schedule:

0400-0500: TPA3, 11885 kes.
0600-1100: TPA2, 15243 kes.
1115-1800: TPA3, 11885 kes.
1815-0100: TPA4, 11720 kes.

Germany

The schedule of the German stations for this month is given below.

For North America:

0800-0900: DJL 15110 kes.
0800-0900 (Sunday only): DJB 15200 kes.

1110-1225: DJB 15200
1650-2245: DJB 15200; DJD 11770.

For South Asia:

0005-0515: DJA 9560; DJB 15200
0555-1200: DJB 15200

For East Asia:

0005-0515: DJN 9540; DJE 17760
0555-1200: DJE 17760; DJN 9540

For Africa:

0000-0200: DJL 15110
1135-1630: DJD 11770; DJL 15110;

DJC 6020

0600-0800 (Sunday only): DJL 15110

For South America:

0600-0800: DJQ 15280
1110-1225 (Sunday only): DJQ 15280
1650-2245: DJN 9540; DJQ 15280

For Central America:

0800-0900: DJR 15340
1650-2245: DJA 9560

Great Britain

The month's schedule of the British Broadcasting Corporation Empire transmissions from Daventry follows:

Trans. I. (For reception primarily in the Antipodes and the Far East.)
0200-0400: GSB 9510; GSG 17790; GSO 15180.

Trans. II (Primarily for reception in India, Ceylon, Malaya and the Far East. May also be heard in West Australia, and on GSH, in Africa and the West Indies.)
0600-0845: GSB 9510; GSG 17790; GSH 21470

Trans. III. (Primarily for reception in India, Burma and Ceylon. GSH may also be heard in Africa and the West Indies.)
0900-1200: GSB 9510; GSF 15140; GSH 21470.

Trans. IVa. (Primarily for Africa. May also be heard in the Near East.)
1215-1600: GSB 9510; GSD 11750; GSI 15260.

Trans. IVb. (Primarily for Africa. May also be heard in the West Indies and in South America.)
1600-1745: GSB 9510; GSC 9580; GSF 15140.

Trans. V. (Primarily for Canada and the West Indies. May also be heard in India, Australia, U.S.A. and South America.)
1800-2000: GSB 9510; GSC 9580; GSD 11750.

Trans. VI. (Primarily for reception in Western Canada, but may also be heard in the United States and East Africa.)
2100-2300: GSB 9510; GSC 9580; GSD 11750.

Postage stamps bearing the portraits of King George VI and Queen Elizabeth will soon be issued by the 45 British Colonies, and no doubt the Dominions also will issue new stamps at about the time of the Coronation. Stamp collecting radio fans might take a tip and get some reports out to the British Colonial radio stations, taking a chance on getting the new Georgians on their veries. This might be a good time to mention to the operators of radio stations that commemorative postage stamps cost no more than regular issues, and they are always appreciated on verifications. It is an inexpensive way to create a little goodwill among their listeners.

Italy

Plans for Italy's new Imperial shortwave center, recently approved by the Italian Council of Ministers, include the enlarging of the well-known 2RO, increasing the power of the present two transmitters from 25 to 40 kilowatts, and the building of two new 100 kw. transmitters and a 50 kw. reserve transmitter. Each of the four principal outfits will be able to work on either of two wavelengths, each carrying a separate program, while the fifth (the reserve) transmitter will be able to operate anywhere between 14 and 60 meters, either as a substitute for one of the four main units or as a completely separate experimental station.

The new antenna system, both directional and omni-directional, will include fourteen lattice-work towers some 240 feet high. Particular care will be given to the beam array for Italian East Africa (Somaliland, Eritrea and Ethiopia).

Japan

JVN (10660 kcs.) and JZJ (11800 kcs.), Nazaki, are heard regularly with an R7 signal from 1600 to 1700 EST, according to J. Finlay. At this time they broadcast a program for South America and the East Coast of North America, with news items

in English. The Taiwan (Formosa) station JIB is heard broadcasting music at 0630 EST on 10535 kcs. JVT has not been heard lately and it is supposed that it is off the air.

Mexico

Anthony Tarr of 909 West Lee St., Seattle, Wash., has been making a special effort to keep up-to-date on the Mexican station, which, he says, "jump around like their own native jumping beans." XEPW, Mexico City, announcing as 6110 kcs., is actually heard on 6120 and sometimes drifts to 6130 kcs. It relays XEJW, La Voz de Aguila Azteca desde Mexico. This station usually signs off at midnight but has been heard as late as 0230 EST. "A Fan" of Dallas, Texas also hears XEPW on 6130 kcs.

XEBR, Hermosillo, Sonora, on 11820 kcs., relays XEBH between 1400 and 1600 EST. The address is P. O. Box 68.

XERV, Allente de Bravo on 5920 kcs., operates irregularly. It has been heard near 0100.

XEFT in Veracruz is heard on 9460 and 9500 kcs. at midnight.

XEDQ, Guadalajara, Jal., on 9480 kcs. operates from 2000 to 2400 EST. The address is P. O. Box 197.

Panama

A new Panamanian station in the city of Aguadulce, announcing as HP5I is reported by R. B. Oxrieder. He understands the slogan is "La Voz del Interior." The frequency is announced as 11895 but it varies from 11796 to 11900. HP5B is heard on 6030 kcs. until 2200 EST on the Pacific Coast, and when this station signs off HJ4ABP in Colombia comes through.

Peru

The new Peruvian station OAX4J, "Radio Internacional, La Voz de Lima," has been reported on numerous frequencies but now seems to be settled down on 9795 kcs. The station was heard on 9328, 9340, 9330 and 9520 kcs. The shortwaver relays OAX4I between the hours of

9 and 11 pm., EST.

Another new station is OAX1A, located in Chilcayo, on 6150 kcs. The postal address is Casilla 9. The slogan seems to be "Radio Dekka" or "Radio Delca."

Portugal

Mr. R. B. Oxrieder of State College, Pa., believes that CSW operates on three different frequencies according to a regular schedule. He reports this Lisbon station on 11840 kcs. previous to 1330 EST; at 1330 it moves to 11040 where it remains until 1800, then a shift is made to 9940 kcs. The last frequency is used until about 2000. Gustave Magnuson reports two of these frequencies, and adds that CSW uses 5 kilowatts power.

Spain

A station with the call letters ECE1 in Madrid is reported by Howard M. Phillips, 3907—20th., N. E., Washington, D. C. He says the slogan is "La Voz de Espana" and that government war news is broadcast irregularly from 2000 to 2015 EST, on a frequency of 7230 kcs.

Spanish Morocco

EA9AH at Tetuan, Spanish Morocco, known as "Radio Tetuan" is operating as a Spanish Nationalist station, broadcasting on 6970. News items are given in English and talks are punctuated frequently with the phrase "Viva General Franco!" This information comes from J. F. Finlay, 352 Robie St., Halifax, N. S.

Sweden

A verification has been received from SM5SX, Stockholm, by Gustave Magnuson, 120 Porter St., Providence, R. I. The card gives the frequency as 11705 kcs., 500 watts power at present. The schedule is daily 0120-0205 and 1100-1700. Sundays 0300-1700, EST. This station also works in the 20 meter amateur band, on 14341 kcs., and plans are being made for further broadcasting on 19 and 31 meters with more power and directional

antennae. The address is Royal Technical University, Stockholm. This station is also reported by Mervyn Whalen, 1022—7th St., Saskatoon, Sask., Canada. He hears it at 1500 MST on Saturdays.

U. S. S. R.

RIM in Tashkent, Turkestan, Siberia, is heard about 0800 EST phoning Moscow on 15252 kcs.

United States

A bill has been introduced in Congress asking for an appropriation for \$750,000 for the construction of a high-powered shortwave broadcasting station. The station, to be built by the Navy Department, at a site close to Washington, would be known as the "Pan-American Radio Station," and its programs, educational in nature, would be intended for reception in Pan-American countries.

"I have enjoyed very good reception of station W9XAZ of Milwaukee, Wis., which broadcasts daily from noon to 2300 CST," reports L. O. Howard, 1905 Indiana Ave., Pullman, Wash. "This station, which works on 26400, with 500 watts, uses a half wave vertical antenna suspended at a height of 275 feet above the street. Reception was on a Midwest 11-tube receiver using about 100 feet of inverted-L aerial on one post and a 17-foot leg of a doublet on the other." W9XAZ is owned by the Milwaukee Journal, operators of WTMJ, but the programs of the broadcast band station are not relayed. W9XAZ is the only United States shortwave station, excepting W1XAL, which transmits programs designed primarily for shortwave listeners.

Uruguay

From our Buenos Aires representative comes official information on the new Montevideo station, CXA2. At present it is on 6000 kcs. but it will eventually shift to the assigned frequency of 6035. This will be the first shortwave commercial station in Uruguay, as their programs will

originate in their own studio without any link with a broadcast band station. The present power is 500 watts but it is hoped this will be increased soon. The experimental transmissions are aired between 1000 and 1200, and 1600 to 2200, EST. The studio address is Rio Negro 1631, Montevideo. The transmitter is located in Sayago.

Venezuela

YVIRG, Maracaibo, is now heard on 6225 kcs, but the frequency is



Milton Berle, the CBS "Community Sing" mirth man, is now broadcasting from Hollywood, where he is making a picture. The entire troupe, including his little stooge Jolly Gillette, Wendell Hall, Billy Jones and Ernie Hare, Tommy Mack and Andy Sannella, is heard on the Gillette Community Sing on Sunday nights at 10 pm.

announced as 6230. YV1RH, Maracaibo, is reported on a new frequency of 9520 by H. W. Phillips, regularly from 2000 to 2100 EST, and irregularly at other times. YV1RI, "Radio Coro" at Coro, is now on the air but working spasmodically. The frequency is claimed as 6210 but Mr. Oxrieder hears it on 6205.

Stranger

J. F. Finlay, 352 Robie St., Halifax, N. S., hears a French-speaking station on approximately 9030 kcs. which he cannot identify. Announcements are given every quarter hour and the station signs off at midnight.

Correspondence

Shortwave listeners in Florida are requested to correspond with Ollie A. Landgraf, 97 Park St., Chilton, Wis. As Ollie is a trumpet player (Union) he especially would like to hear from musicians.

"I would like to correspond with other SWL's," requests Charles Baker, 94 N. Grand Ave., Baldwin, N. Y. "I use a two tube regenerative receiver and two aerials. This set works splendidly on 5, 10 and 20 meters. I listen to all bands but like the 10 and 20 meter 'phone bands best."

Joseph Rudolph, 1403 Farmer St., La Crosse, Wis., wishes to write to other shortwave listeners and will exchange stamps and coins as well. Joseph is 17 and uses a Balkeit Globe Trotter Receiver. Among his best catches he lists SUZ, JIB, JVN, 3LR, OLR and ORK.

Tuning the Amateurs

● ● ● By B. L. Ahman, Jr.

How many of our readers have logged Hawaii this month? There are quite a few 20 meter 'phones in Hawaii, and K6's come in well in nearly all the states. The best-heard ones from the land of swaying grass skirts last April were K6FAB, K6FKN, K6GAS, K6GNW, K6JLV and K6KKP. April also is the month for Australians. There are any number of the VK's that can be logged, and the best time to listen in is from midnight to early dawn. As the summer approaches the Aussies can be logged even longer.

However, from the Australians logged last season our records show

only three replies. They were VK2QR, VK3KX and VK7JB. VK7JB is located in Hobart, Tasmania, and from reports of several 20 meter fans, we think he is quite reliable in replying with a QSL card. The QRA is J. C. Batcheler, 21 Quarry St., North Hobart, Tas., Australia. He comes in with a rather nice signal on the low frequency end of the band. VL2QR uses 14050 kcs. and his QRA is J. E. R. Burstall, 7 Wandeen Ave., Bee-croft, NSW.

Recently CE1AH, as yet unlisted in the call book, has been heard on the extreme top part of the band talking to stations in Hong Kong. Your writer has been unable to get a whisper from Asia so far, but our readers are warned to be on the look-out for them. VU2CQ and VU7FY, Indian amateurs, are rather active.

Our mail recently included a card from SU1CH which was out almost twelve months. From the card we learn that this much-talked-about station is operated by ex-W7AUZ-7ADR, so that explains his familiarity with all the American hams. He says he uses a Zepp antenna and 500 watts, and a National FBXA receiver. His address is E. M. Chorlian, 24, Rue Tel El Kebir, Heliopolis, Egypt.

Patience Recommended

Patience is one of the virtues of the 20-meter 'phone listener, so one is advised not to get discouraged. The band plays funny tricks, and quite often will go dead within a few minutes after one has been hearing practically the whole world. That is one of the reasons it is so fascinating; one never knows whether conditions will be good or if he will be fortunate to hear a station more than a few hundred miles away.

We have been listening to the 40-meter band lately and were greatly surprised at the number of Spanish-speaking stations that can be

heard and identified on that band. We would not be surprised to learn that many of our readers are interested in this band. Cuba, Venezuela, Mexico and Colombia outnumber by far all the other stations on this wave band. We have reported to a number of the stations, and right now we would like to nominate XE2CK the Orchids this month for his beautiful QSL card. It's a honey! Large modernistic red call letters on a golden yellow background with black reading matter.

Once again let us request that our readers write and let us know what they are hearing, and old-time 20-meter fans, let us know what you heard last season. Please arrange reports according to this classification: month heard, date, frequency if known, time of day and promptness in replying to reports. We wish to write this column so it will appeal to all our readers, and help from ham addicts will be greatly appreciated.

Special thanks this month go to Irv. Goodeve, Earl Roberts, Carroll Weyrich and Johnny Sanderson, seasoned 20-meter addicts all.

Guy Lombardo is a suave purveyor of sophisticated music, but at heart he is so sentimental that every year for nine successive years he has brought his Royal Canadians back to play a one-night engagement in the small town of Carrollton, Pa., just because the proprietors once helped him to get a start.

Mr. William S. Paley, President of the CBS, believes it will be two years before television receivers will start selling regularly, and that it will be a long time after that before there will be any television audiences outside of large cities. He believes broadcasters will have to foot the bills for a long period of sustaining programs before audiences become large enough to attract advertisers.

QUESTIONS *our* Readers Ask

• • • By B. FRANCIS DASHIELL

I HAVE just purchased a Zenith 5-S-127 radio set. The markings on the dial puzzle me. On Band C, for instance, the markings run from 5.6 up to 19, and under the different numbers, such as 6.0 and 12.0, there are, in red, the numbers 49 M and 25 M, respectively. There are others also. Then, on Band B, are markings such as, MC 6, 5, etc., and under these are the words, Aviation, Police, etc. All of the spaces between these numbers are calibrated into equal divisions. Can you advise me how to read these markings so I can figure out what stations I am hearing? Where can I get a list showing all the stations operating on both bands?

Answer. This is a very efficient new radio that you have purchased, but your misunderstanding about the wave bands is something that a great many people experience with all kinds of sets. However, your radio should come with a booklet of instructions that tell you how to operate it. But, like motor cars, one must learn what the gadgets are for and how they are adjusted. Other readers too, will be interested in your query.

The 5-S-127 Zenith is a five-tube set. There are about six different cabinet models. All have three wave bands, called the "A," "B" and "C" bands. The first, or the "A" band tunes in the broadcast stations. This band is divided into kilocycles, and these usually run from about 550 to 1,800. However, in your set, the A band is at the bottom and is divided into hundreds—with 55 meaning 550, 100 meaning 1,000 and 170 meaning 1,700 kilocycles. Stations should be received throughout the range of this band—all North American broadcasting stations.

The "B" band goes into shorter waves, but is a continuation of the "A" band. You will find the "B" band calibrated from 1.8 to 6 MC. These are in megacycles, which are merely easier ways of indicating the larger numbers of kilocycles. The 1.8 of the "B" band means that the reading is 1,800 kilocycles. It is the start of the "B" band, or where the "A" band with its 180 number left off. The spectrum of the shorter waves on the "B" band is divided into certain portions which have been assigned to different broadcast or radio services. You have found these to be marked, "Amateur," "Aviation," etc. In these groupings you will find most of the broadcasts on this band; elsewhere you will get the code signals of ships and commercial code stations scattered over the world. Remember, the numbers 4, 5, etc., really mean 4,000, 5,000, etc., kilocycles.

Now you come to the "C" band. This is still a shorter wave region of the radio spectrum. Here the numbers still are marked in megacycles, and they begin where the "B" band left off. For instance, the beginning of the "C" band is 5.6 megacycles, or 5,600 kilocycles, and is just about where the "B" band ended. Continuing on, the "C" band runs on up to 19 which really is 19,000 kilocycles or 19.0 megacycles. This is the end of the tuning limits of this set. If it had still another band, such as "D," it would continue still farther into the low waves.

In the "C" band you also find several groups marked, South America, Japan, England, etc. These mean that the shortwave stations in those lands are best found in the area so marked. The tuning of these

stations on the "C" band is very, very sharp and must be accomplished ever so slowly. So slowly, in fact, that the knob can not be seen to move.

So, owners of all-wave sets, with two or three bands, will find that these bands are really just one long band. In your case it runs from 550 to 19,000 kilocycles or 55 to 19 on all dials. The numbers beneath some of the megacycle readings on the "C" dial are references showing what the wave lengths of those points are in meters. The whole dial is divided into frequency and not wave length.

The lists of stations, in frequencies, that you desire are to be found in each issue of this magazine. RADEX makes a point of providing accurate information in this respect. If the table in the index shows that a foreign short-wave station comes in at 15.180, you will find it close to 15.2 on your "C" dial, as it operates on a frequency of 15,180 kilocycles.

Weak on Short Waves

I have a Midwest 1936 18-tube set, but below 4.5 megacycles I can not receive many stations, except some amateurs between 14.0 and 15.0. Reception above this point is very good I have a good antenna; the tubes have been checked and test high; and the set as a whole checks up perfectly at the shop of my service man. I do not get the stations I think I should for an 18-tube set. Also, there is some hiss when the ground wire is connected. In spite of the serviceman's o.k. I think there is still something out of adjustment and hope you can advise what to do.

Answer. This set, of course, should perform much better than you have indicated it now acts. While all of the short-wave bands are not used for foreign broadcasting, there are certain portions where stations ought to be heard. Foreign stations can be picked up around 6.0, 10, 12, and 15 megacycles on the

dial, as well as others. Therefore, a blank space between the 1.8 of the broadcast dial and the 14-15 megacycle space of the short-wave dial is far from what can be done.

We think that this is a job for your service man, perhaps a different one than the first person employed. Definitely, the signals are weak over a certain range of the set, and it may be due to the incorrect trimmer alignment in the mixer or oscillator stages, and even in the r.f. stage. A realignment of the tuning parts just mentioned over the part of the band that seems inoperative should increase the output on those frequencies. Check again and again the oscillator tube. Also, there is possible some defect between the input and output circuits of this tube.

Poor contacts on the wave band change switch controlling this part of the receiver can cause weakness of signals. Then a form of distortion, due to improperly aligned circuits, may become pronounced, even causing noise and hiss you have noticed. Incorrect alignment in the tuning circuits, and sometimes in the i.f. circuits and parts, will cause weakness over a certain portion of the tuning band without preventing the perfect operation of the set over the remainder of the band or bands.

Operating 200 Watt Set

I have a Silver Marshall Master-piece V that draws 200 watts of alternating current. I have been using this with a small a.c. plant where I live, but it causes too much interference. Would it be satisfactory to use a 32-volt battery lighting circuit and a d.c. to a.c. converter?

Answer. We do not understand why your a.c. plant is causing much interference, unless it is driven by a gasoline engine and the sparking of it causes the trouble. A.C. dynamos usually are noiseless for they lack the commutator troubles that exist in d.c. generators. We think that

it is possible to quiet the interference given off by your present outfit if it is fitted with suitable filters. We can advise you in more detail if we know more about the electric plant and your surroundings.

Of course, a 32-volt battery system may be used to run a 32-volt motor which in turn is connected to a 110-volt a.c. generator. This is a rotary converter. The consumption of current is large, being at least 7 amperes for a 200-watt a.c. drain. We doubt whether simple vibrator converters will deliver sufficient amperage for a set as large as this one. Smaller battery operated farm sets, consuming about 50 watts or so, are satisfactorily operated on batteries with vibrator units. Even if the rotary converter should be used, you still have some problem of motor noise, but this can be filtered out. However, the great battery drain on the 32-volt plant is to be considered seriously unless you have generated and charging facilities that will take care of excessive drain.

Large Antenna System

I have purchased a Stromberg-Carlson set, but all my discussions with local people end the same way—one says that a certain aerial is good; another says it is not. My home is in a large open tract with a number of trees. I want to erect a good long antenna, about 80 feet in a single wire. Then, in addition, I should prefer a doublet for short wave reception. What do you suggest using?

Answer. We see no reason why most any type of doublet cannot be used. However, if you are far enough away from interference a doublet may not be necessary. They are, essentially, noise-reducing antennas. But they are also tuned to resonance with certain of the essential short waves used in foreign broadcasting.

Since you are willing to use a

long, straight wire antenna, why not erect one 60 feet long, of 7-strand copper wire, with a 30 foot lead in of the same material, but covered with rubber insulation. Or a long wire, 170 feet long in one piece, if practicable, from the antenna connection on the set to the farthest end of the flat top of the outdoor portion. In this connection we call your attention to the new Philco antennas, for long outside use where isolation is possible, that come all soldered and ready to erect. These are not doublet antennas, but doublets are available now from nearly every set builder, and made to fit to the set being used.

Metal Tube Adapters

I have a Philco model 118, with two wave bands. The set is dead from 10 to 12 megacycles. Can you advise what may be the cause of this? Also, I have noticed that one can get metal tube adapters so as to change to metal tubes. What improvement might this bring? Is there any way by which I can improve the power and distance of my day-time reception?

Answer. When a set becomes inoperative on a certain portion of one of the wave bands it is usually due to a lack of tuned resonance on that band. A realignment of the r.f. or detector-oscillator circuit should remedy the trouble. Or a new tube in the oscillator might be necessary. See the answer given one of the questions above.

It is possible to get adapters for metal tubes, and these can be obtained from most of the larger mail order radio supply houses in the larger cities. The Alden Company specializes in tube adapters, and their products are widely handled. We do not believe, however, that substitution of metal tubes for glass tubes in sets that have not been made for them, such as your Philco, will net you any additional satisfaction. Sets that are made for either

meta-glass or metal tubes having the Octal bases that are interchangeable, can use the metal tubes if glass tubes are now being used. There are certain disadvantages when metal tubes are substituted for older glass tubes in certain sets. Heat is one of these, and space may not be provided around the tube in the older set. Then, too, the metal tube is grounded, and provision must be made for this. A new adjustment and realignment of all circuits will then be necessary. We do not recommend the change, yet there have been cases when substitutions have helped on the shorter waves. It is merely an experiment on your part if you care to take the risk.

About the only way in which you can increase the power of signals received during the day is to add more radio-frequency amplification just ahead of your set. This can be accomplished by using a signal booster. These units can be purchased complete, or if you care to build one, we suggest you write the J. W. Miller Co., 5917 So. Main St., Los Angeles, Calif., for details of their assembled kit of matched parts for a signal booster. There have been cases where old sets have been separated from their works just following the radio-frequency tuning circuits, and the output then fed into the antenna terminal of the set through a small fixed condenser. In fact, the March issue of RADEX reports a letter from one of its readers telling just how he accomplished this little trick.

Rebuilding RCA 49

I have a 1929 model RCA set, No. 49. It is a 5-tube job with three antenna coils. I would like to know if it would be practicable to convert it to what is known as a DX job. What would be required, and what is the cost?

Answer. We do not look with favor on any such extensive problem as you would face if you attempted

to rebuild this old model receiver so that it would pull in distant stations, many of which are on the short waves. Any such attempt would be expensive, difficult and almost entirely within the realm of an expert radio technician. We do, however, recommend that you have this set overhauled if you desire to keep it and use it. Have the tubes tested, or replace them with type 35s instead of the 24s in the first two radio-frequency stages. Do not change the detector. The type 45 power tube may be replaced with a 47 by using a suitable adapter. Clean the set carefully and have it realigned and adjusted. This operation involves all the three trimmer condensers in the r.f. stages. Have all resistors and bypass condensers checked.

Hears Code Signals

I have a 1937 battery operated Philco model 37-338B which tunes from 530 to 7400 kcs. Many of the short wave signals are ruined by code. Also, when code signals are strong they come into the broadcast band and ruin some of those broadcasts. The channels that are bothered most are 1550, 1530, 1490, 1170, etc. Is this a weakness of all battery sets, or is it my model is bad? I use an inverted L type antenna 100 feet long. How many tubes does a radio need to have to get sharp selectivity?

Answer. This is certainly not due to whether the set is battery operated or not. There is often interference on the short wave bands, some of which is found on all sets and some of which may be due to something in the set itself. Any unusual interference of this sort can be corrected by some good service man when the trouble is due to improper alignment of the tuning circuits. We suggest that this set, which should show no signs of in-

(Please turn to page 44)

Among the RADEXERS

• • • By CARLETON LORD

FOR a number of years, Canadian listeners in search of radio entertainment have been working under a definite handicap. They have seen stations to the South, in Mexico as well as in the United States, boosting kilowatts while their own transmitters have retained their relatively low power equipment.

Reception under such conditions could hardly be satisfactory. In the Toronto area, for example, the powerful WLW spread over the local CFRB and caused interference in all but the most selective receivers. Doctor Brinkley's XERA jumbled the signals of CRCT. Listeners in Montreal found that XEPN frequently spoiled CKAC—and so it was throughout the country.

In the February issue, we had occasion to remark that as long as Canadian stations continued to operate with "flea power", so long would they experience interference from modern and more powerful broadcasters to the South. A number of readers have seen fit to add a lusty "Amen!"

After considering the letters which have commented on the subject, the remarks of Martin Hanton, Vernon, B. C., appear to be typical of many Canadian listeners.

"Apparently a number of listeners are annoyed by the Mexican border stations," he writes. "In a way, I cannot blame them. And I agree with you that if the Canadian Government is not prepared to take steps to increase the power of her various stations, we will have to put up with existing conditions. However, as far as I am concerned, I listen to and enjoy American stations and programs 90 per cent of



The famous radio team "Myrt and Marie" and the newest family addition to the cast, George Damerel, Jr. George, his sister Donna Damerel, and his mother, Myrtle Vail, are currently heard on the Columbia Network, Mondays to Fridays inclusive, from 2:45 to 3 pm EST.

the time. So the Canadian-Mexican situation doesn't bother me.

"Even so, when I consider that the most powerful station in Canada is only 15,000 watts, and in Mexico there are six stations of 50,000 watts and more, I sometimes wonder at the so-called efficiency of the Canadian authorities. CRCV recently accomplished an increase in power from one to five kilowatts. Five kilowatts! Why didn't they make it 20 or 25 KW while they were at it?"

Fortunately, it now appears that the government is taking cognizance of the situation. With the organization of a new Canadian Radio Commission come promises of better lis-

tening for Canadians.

"With the new C.B.C. network under the management of Gladstone Murray, new and better times are ahead for Canada," reminds Bill Clarke, Box 13, Quesnel, B. C. "He has promised a short wave station of 50 KW and three or four medium wave stations of the same power. Of the latter, one will be in the East, one on the prairies, and one in British Columbia. CFRB, Toronto, will soon have an increase of from 10 to 25 KW, while CJOR, CKCD and CKWX have asked for an increase to 1000 watts. CKCK, Regina, will soon have a new 5 KW transmitter. So you see that Canada is at last waking up to what its Southern neighbors have seen for a long time—more power for existing stations."

Without intending to be facetious, it is noted that the first step of the new CRC in providing better coverage was the addition of a new 100-watt station in the Toronto area. Operating on the 1420 graveyard channel, CRCY comes on the air at 5:30 p.m. to carry the CRC network programs in conjunction with CRCT.

Contest Enthusiasm

Judging by the letters which have been coming in during the past month, the primary interest of Radexers these days centers on the 1937 edition of the Mystery DX Contest. It is gratifying to note that the reaction of most readers fulfils the hopes of those who planned and carried out the contest details.

Whether or not they win a prize, contestants seem to agree that this DX marathon is well worth their attention. To return for three mornings to the old system of fishing for stations apparently appeals to countless itching fingers.

"I feel sure that I echo the sentiments of every DXer," predicts Kenneth R. Leu, 1447 Charles St., Rockford, Ill., "when I say that last year's Mystery Contest was the finest gesture ever aimed at the ever-

increasing horde of dial twisters. Even though my efforts last year were worth no more than an honorable mention, the genuine pleasure and enjoyment derived from the contest more than compensated for the fact that I ended 'out of the money.' While other listeners may get more stations than I, still I feel certain that I'll have the most fun!"

"Although I was introduced to DXing many years ago," admits Richard H. Cooper, 412 Rayburn St., Kittanning, Pa., "my early associations with this form of dial twisting failed to make the impression with me that the first Mystery DX Contest did. I boasted exactly three verifications before your contest last year. Today my veries total some 200 and include TGW, LR1, KUJ, KXO, KHSL, KWYO, KGIW, KWJJ and many others."

Perhaps the most amazing confession comes from E. E. Mullen, 3711 La Cresta Drive, San Diego, Calif., who blandly admits that he doesn't want the grand prize," which happens to be a 23-tube Scott receiver. The answer to that one lies in the admission that he already has one.

Among the All-Nighters

"I was interested in the item recently concerning 'channel hogs,' " indicates Arthur E. Foerster, 1213 Bosart Ave., Indianapolis, Ind. "Last year a committee from the various clubs was formed for the express purpose of finding some way to eliminate the all-nighter. We contacted affected stations on the blocked frequencies, and our results were the same as yours. Out of 50 letters, we received but three replies. Two were in favor of clearing the channels and the other stated that it made no difference to them.

"It seems that most of these all-night stations have kept their transmitters going so constantly that they are about shot. Practically any station in the East and Middle West can knock WJBK off the dial.

The same is true of WEXL.

"The DXer who crabs about the all-nighters ruining DX should try getting up some morning and landing a few of the new stations going on the air. Out of 61 new ones landed so far this year, 33 were heard on frequencies occupied by 24-hour stations. And my log is now 810 heard with 794 verified."

"Your explanation of the all-night stations gives us an altogether different slant on the problem," comments Mrs. A. C. Johnson, Henry, S. D. "They have never bothered me very much, because there are so many stations which I have yet to hear."

"The article on the all-night situation seems very sensible," remarks Roy Myers, 814 S. Fedora St., Los Angeles, Calif. "There aren't enough DXers to demand the removal of these stations or to change in any way the present BCB set-up. My one big complaint is against the stations which do not sign off for the FCC frequency checks. KFAC and KGFJ rarely leave the air when a station on their frequency has a test. Listeners on the Pacific Coast are hardest hit by this, especially during the first hour of the tests. If we could get these stations off the air during the monitoring checks, I'd gladly put up with their all-night programs the rest of the month."

If Reader Myers would check the monitoring schedules, we believe he would find that stations do leave the air when their programs are likely to interfere with government tests. That question of interference, however, would not necessarily be the same for the FCC as it would for the DXer.

It must be remembered that the FCC has monitoring stations in various parts of the country, and engineers never have to go more than a few hundred miles for the stations which are being checked. Thus, they are not bothered by late programs

from stations across the country and have no reason to demand that these stations sign off.

For example, if the FCC engineer in Baltimore is checking WKBO in Harrisburg, he will see that no station on 1200 kcys in the immediate vicinity is broadcasting. However, he would experience no interference from KGFJ and wouldn't care if that station blasted away all night. Thus, while KGFJ would prevent the California DXer from hearing WKBO, it would have no effect on the monitoring being done in Baltimore.

To a certain extent, the same is true of the more powerful stations on the regional channels. WAAB has been heard standing by when a nearby station on 1410 was being monitored, only to return when the check was completed.

While no definite check-up has been made, we would be glad if readers would occasionally tune to the all-nighters during the week of the frequency checks and see if they do stand by or sign off.

"Sure, I've cussed the all-nighters on various occasions," confesses Warren E. Winkley, Ahwahnee, Calif., "when they prevented me from logging a very distant station. But I know a little of the service they perform to others. And after all there are so many others that the crowd of DX hounds is buried out of sight. I think half the fun of DXing would be eliminated if we could sit down and tune in any station just by knowing it was on the air. It is the surprise element that makes DXing what it is."

Voice of Duluth

"I haven't seen a report from Duluth," observes Bill Parr, 1919 Lake View Dr., Duluth, Minn., "so I may have some news of interest to your readers. Our new KDAL is operating daily from 0800 to 2200 EST and broadcast a frequency check the second Tuesday from 0300 to 0320 EST.

Their antenna is located on Minnesota Point and high fidelity equipment is used. They tell me that they will verify all correct reports, if return postage is enclosed.

"I started DXing a year and a half ago, and my log now stands at 467 stations on the BCB and SW. Some of the better broadcast band catches include CFCH, KFBK, KGNC, KOL, KFIO, WAAT, WABY, WDBJ, WEVD, WEBR, WHDL, JBW, WMCA, NEL, 6XAI, XEAQ and XEFB. LR1 is the only real foreigner I've hear on the medium waves. My receiver is a 1936 Knight superhet. I would like to hear from any other DXers in this vicinity."

"At the present time," announces Leighton Haney, 1633 Williams Way, Norristown, Pa., "my log stands at 601 and my veries at 208. Some of the better catches are HHK, TGW, VE9EK, VOAC, VOGY, CP4, CX26, PRF3, LR1, LR4, LR5, LS2, Poste Parisien, Rennes, Fecamp, Paris, Bordeaux, Toulouse and a few others. DX so far this year has been spoiled by heavy static. I guess the unseasonable weather has done that."

"Recently I added a pair of headphones to my Victor R52," confides Carl E. Sylvester, Box 213, Yale, Mich., "and I now find that WLW can be heard at several points on the dial. The latest case was at 7:29 a.m. on January 14th. WSM had not signed on and I distinctly heard WLW's announcement on 650 keys. I have noticed the same thing on 840 keys a number of times. Can anyone suggest the cause of this?"

Builds Own Receivers

It has been many years since the oatmeal box era, when listeners were obliged to build their own receivers. As methods of production became more efficient, many radio enthusiasts have found the purchase of factory-built models easier on the nerves and the pocketbook. And yet we all remember the days when we built our own. One reader who still

likes to do his own soldering is Jimmie Manners, 523 Brunswick Ave., Trenton, N. J.

"My old Baldwin receiver has now gone to 'Radio Heaven,'" he writes, "and in its place is an all-wave job which I built myself. It was copied after the 3-tube Doerle circuit, with a few ideas of my own. I have wired in three stages of direct coupled T. R. F. ahead of the regenerative detector. The audio end has a resistance coupled 56 and a pair of 45's in push pull. Each stage of T. R. F. has its own sensitivity control. I have noticed that selectivity is extremely good when these controls are fully retarded. Sensitivity is such that it is seldom necessary to open fully all three controls."

"I am using a 5-tube Philco Model 610," greets Nicholas Woytan, 309 S. Wilbur Ave., Syracuse, N. Y., "which was purchased about a year ago. My broadcast band log now stands at 347 stations in the United States, Canada, Cuba, Mexico, Puerto Rico and Argentina. I have logged 42 states so far and hope to add a few more before the end of the season. My best catches are LR1, WNEL, WKAQ, CJRM, CKX, CMBY, CMBX, XEMO, KVOL, KFJZ and KFPL. I would be pleased to hear from other owners of Philco 610's."

"Using a 1936 Victor Model C-13-2," preambles Robert Bjur, 2626 Johnson St., N. E., Minneapolis, Minn., "I have logged a total of 226 stations on the broadcast band. Some of the better stations are TGW, CMB, CMK and CMC. Since I am only 17 years old and am still going to high school, I have been unable to DX to any great extent."

Early Evening Report

As has been mentioned many times in the past, the early evening hours often prove to be a happy hunting ground for DXers. On many occasions it is possible to hear stations on regular schedules which cannot

be logged at any other time. A certain amount of persistence has rewarded William J. Wood, 817½ Lake St., Oak Park, Ill., who writes:

"Recently I have been doing some DXing on the broadcast band, limiting the times to between 10:15 and 11:30 p. m., CST. So far I can report WWNC, WKZO, XENT, WHA, KFYZ, WPG, KWKH, WWAE, WFBM, KTAT, KFBB, WCLS, WBOW, WLBC, WRNJ, and many others. My receiver is still the old GE K85, which was purchased over three years ago."

"Reception has been only fair this year," bemoans David M. Walton, P. O. Box 515, Picton, Ont., "although the Europeans got hot on a few nights. One morning I heard Nice, Paris, Lyons, Bordeaux, Lille, Rennes and Fecamp. PRF3 was heard on January 4th, but QRN made reception difficult. My log is now 821 and still growing slowly. I would be glad to hear from any DXers who would like to correspond."

"Reception of Japanese broadcasts has been most gratifying," submits Isaac T. Davis, Elkhart, Texas. "This morning, January 17th, I heard 30 of them very well, although time permitted me to copy but 19. All but two of the 10 KW transmitters were heard. Even some of the 500-watters, such as JOVK, JOFK, JOKG, JOJG, JOHG, JOIG and JOOG, were logged with fairly good volume. The Aussies and Zedders showed moderate strength last month and continue to be audible."

"I get most of my thrills from DXing by fishing for distant 100 watt stations," offers Ronald Barinbaum, 2312 Colorado St., Houston, Texas. "So far I have heard 52 of them, verifying 27. My best catches are WRDO, WTAX, WHBU, WGPC, WRDW and WCAX. Most of my DXing is done late at night and in the early morning. In this locality, I find the Pacific Coast stations

start coming in around 10 p.m. I would like to correspond with any readers who are interested in long or short wave DXing."

"Although I first started DXing in November of 1932," recalls Manuel A. Cadilla, P.O. Box 691, Rio Piedras, P.R., "I never was able to hear a TA in the early evening until this year. Between 5:30 and 6:15 p.m., AST, I now find that Milan, Marseilles, Toulouse and Rennes are very consistent. Recently I have been hearing a Venezuelan on 1120 which announces as YV1RF in Maracaibo. YV6RV is frequently heard on 1350. There is new station on 1470 keys which announces as HISQ, La Voz de los Muchachos, in Ciudad Trujillo."

New Stations

While RADEX makes every effort to keep its listing of stations up to date, it is frequently very difficult to keep track of broadcasters in the Latin American countries. The short wave stations have a wide range, and consequently are heard and reported by many readers. The broadcast band stations, however, present a different problem. It is seldom that they are heard beyond the boundaries of their own country. Government regulations are lax, with the result that it is virtually impossible to obtain an official list of any accuracy. We are, therefore, anxious to receive reports from readers who are successful in tuning these small stations. A report such as that submitted by Mr. Cadilla is of infinite value to listeners who have heard but failed to identify the stations in question.

A number of readers have reported the new XEBG on 820 keys in Tijuana. According to a verification received by Carl Eder, Willmar, Minn., XEBG operates between 0800 and 0200 EST daily, with English programs from 0100 to 0200. Reports should be addressed to the station at 1065 Second Ave., San Diego, Calif.

Clifford Drain, 617 Camden St., Parkersburg, W. Va., reports the same station, but understood the call letters as XEBD. "I have heard XEBZ, Mexico City, on 820 kcys," he writes, "but lately they have been on 810. Are they straying, or is it a new frequency? The Mexican on 1100 is XEL and they have been airing late sponsored programs, with many announcements in English. There is a station in Santa Marta, Colombia, which you don't list. It is HJ1ABJ and they operate on 1150 kcys, according to the announcement from their short wave station on 6025 kcys."

A recent "official" list from Mexico shows XEL on 780 and XEBZ on 1160, but it appears that the stations have other ideas on where they should broadcast.

Another reader to hear HJ1ABJ is Benigno Contreras, Box 74, Marina Station, Mayaguez, P.R., who writes: "I heard this station on 1150 kcys between 0400 and 0600 EST on the morning of January 17th. They were working simultaneously with their short wave station on 6025 kcys. They announced as 'La Voz de Santa Marta.'"

Other Mexican changes are reported by J. W. Hansen, 3028 Fairmont Blvd., Riverside, Calif., who says that XEC has moved from 1160 to 1150 and apparently increased their power. Clifford Drain comes back to report an XEBI at Aguascalientes, Ags., on 1000 kcys with low power. According to a letter from Alejandro Diaz of the station, the old XFC of that city no longer is in operation.

"There is a new station in St. Johns, Nfld.," advises Eddie Grant, North Sydney, N.S. "It is VOXM and they operate on 1006 kcys with 200 watts power. They opened last November and have a daily schedule from 1700 to 2030 EST. The station is owned by the St. Johns Evening Telegram."

New 2YA Broadcasting

"The 60 KW transmitter for 2YA went on the air for its first test at midnight on December 17th," supplies A. I. Breen of the New Zealand DX Radio Association, Dunedin, N.Z. "It took over all 2YA programs on December 29th and was scheduled for the official opening on January 25th. Its signal in Dunedin is particularly good. 3DB's relay 3LK at Lubeck, Victoria, came on the air the latter part of December and is now on a regular schedule on 1090 kcys. Its signal in Dunedin is good for an Australian of that power, but all new transmitters seem to be like that.

"The North Queensland Regional, 4QN, is now in full time operation, relaying 4QG. Local listeners have already reported the Western Australian Regional 6WA testing on 560 kcys, so it should be in full-time operation by the time you read this."

"A recent Caracas paper gave a list of stations," contributes Rex Davis, c/o Standard Oil Company, Cumarilio, Venezuela, "and it designated separate call letters for the short wave and broadcast band stations. Heretofore stations using different frequencies have used the same call for both, but the system apparently has been altered.

"Broadcast reception has been very good for the last two months. I'm no DX fan, but I like to fish around occasionally. During the summer months, our reception is practically all short wave. I'm using a 23-tube Scott receiver and if I don't find what I want on short waves, I go over to the broadcast band. Almost any night recently I have been getting stations all the way from the East Coast to as far West as Salt Lake City."

"I have been DXing since December 1934," declares Edward Ayvazian, 44 So. Gate Pk., West Newton, Mass., "although it wasn't until a year later that I started verifying.

For the most part, I determine the value of my veries from their scarcity in the logs of other DXers, rather than from a standpoint of distance. Some of the better catches include Falkirk, Cardiff, London, Stuttgart, Leipzig, Cologne, Toulouse, Strasbourg, Rennes, Fe-camp, Paris, Lyons, Bordeaux, LR1, LS2, LR4, LR3 and Belfast. The greatest thrill I ever got was from listening to KFI for the first time; the second greatest thrill was when I received my verie from Radio Normandie. I would like to correspond with DXers in any part of the world except North America."

Future of Clearing House

A recent bulletin from Emily Griswold, operator of the I.C.C.P. Clearing House, advises that she will be unable to continue in that capacity after this year. Fully appreciating the excellent work which she has done during the past two years, it is with a distinct sense of regret that the news is passed on to our readers. Miss Griswold has earned the gratitude and thanks of hundreds of DXers throughout the United States and Canada.

While paying tribute to the retiring operator, it seems that the radio clubs would do well to devote some attention to plans for next year. After two years of operation, it should now be possible to determine whether the I.C.C.P. has fulfilled the hopes of its sponsors. Club officials should be able to decide whether they desire to go ahead with the plan or make some alterations.

If the reduction of clashing special programs can be considered a favorable result, worthy of continuation, then the clubs should make provisions for the years to come. They should decide upon any changes which may seem necessary, agree on a standard policy for the coming season, and attempt to locate some one to carry on the work of the Clearing House.

If, as was suggested by Arthur

R. Willis in the January RADEX, Courtesy Programs Committees should be consolidated into a single organization, the question should be discussed and the necessary arrangements made.

However, regardless of what the ultimate action may be, now is the time to consider the problem, so that the plans may have time to mature before another season opens.

There will be two more issues of RADEX before the annual summer period of "hibernation" and we suggest that readers make a point of sending in their comments and ideas. Officers of radio clubs are invited to submit their views for publication and discussion. In this way, it is hoped that the wishes of all DXers may receive attention and some definite plan of action determined.

Want Transmitter Locations

"For a long time," reminisces Warren R. Davee, West Point, Neb., "I have been wondering why you do not publish the actual locations of the various stations transmitters. KDKA, for example, is not really located in Pittsburgh; it is in Saxonburg, Pa. Such locations may be miles from the city or town designated by the call letters. We would certainly like to see in print the actual sites of the transmitters."

Another reader of the same opinion is Carl L. Horton, 72 Green St., Athol, Mass.

It is quite true that the cities listed for the larger stations are not the true locations of the transmitters. The FCC has a regulation which is very definite on that score. Stations in the higher power classifications must have their transmitters a certain distance from the center of population. The 50-KW transmitters must be at least 15 miles distant.

This is sometimes confusing to the DXer who wants to compute the distance of a station heard. A listener in New Orleans, for example,

might figure the mileage to New York at roughly 1200 miles. Yet he might be hearing WJW near New Brunswick, which would be only 1170 miles; WABC at Wayne, 1185 miles; or WEAJ on Long Island, 1215 miles. Such a discrepancy might be annoying.

And yet we cannot help but feel that it is more logical to list the location of the principal studios as filed with the FCC. This is the location announced by the station itself. It would certainly be rather confusing to hear WTAM announce at Cleveland and find it listed at Brecksville. WLW's transmitter is at Mason, but the world associates "The Nation's Station" with Cincinnati.

Cuban Specials

From Enrique Hidalgo, head of the DX Department of Station CMHJ, Cienfuegos, Cuba, comes word of two special programs for American listeners. On April 1st, CMHJ will broadcast from 0200 to 0300 EST, while on April 15th the time will be 0445 to 0550 EST. All correct reports will be verified, and the most correct and most distant reports will receive a special souvenir at the end of the DX season. CMHJ broadcasts on 1160 kcys with 200 watts power. Letters should be addressed to P. O. Box 112, Cienfuegos, Cuba.

From the Flood Area

"I have been running an emergency relief station and patrol boat in the flood," writes David F. Thomas, Proctorville, Ohio, "and as soon as I have a few hours to myself, I'm going to write a description of this catastrophe. I've seen buildings slide into the river and people drown. I've sent out food and supplies without rest or sleep for days at a time. With the exception of the relief station here, I have not heard a radio for the past 12 days. All power, gas and fuel have been off.

"I'm hoping to win the radio in

the contest, as there was over seven feet of water in my house and we had to live on the second and third floors. I was able to save most of my stuff, although I did lose about \$800 worth of motors, generators and other equipment from my old transmitter, WUMS. At that, I was a light loser. Many people in town lost their homes and all their belongings."

"During the past few months," reports Robert Shellard, R.D.5, Brantford, Ont., "I have been having some interesting reception on the crystal set that was described in the October 1935 issue of RADEX. At first I used an aerial 98 feet long and the stations came in between 20 and 90 turns. This winter I put up a 400-foot aerial and that changed the tuning. Now all stations come in above 60 turns and, since the coil has only 120 turns, I miss a lot of them. The long aerial gives more volume, but no more stations.

"Some of the stations logged include WLW, WOR, WJR, WJZ, WTAM, WHAM, KYW, WCAU, KDKA, WBT, WGY, WEAJ, WABC, WKBW, WBEN, WGR, WWJ, WBBM, WENR, WGN, WLS, WMAQ, CKPC, CHML, CRCT and CFRB. I have also received a few local amateurs on the 160-meter band and two local CW stations on the long waves. I guess that proves that your crystal set is about 100% on receiving stations."

"Using a 12-tube custom-built Rubin all-wave receiver," observes Maurice W. Rupp, R.F.D. 1, Corydon, Ind., "I have been able to log LR5, LR4, LR1, LS2, Radio Normandie, TGW, KHBC, KGMB, KGU, WPRP, WKAQ, WNEL and 44 other stations on the broadcast band in Canada, Cuba and Mexico. I have a new 16-tube Rubin broadcast receiver ordered and hope to have it here in time to use in your contest. After I have given it a work-out,

(Please turn to page 47)

Hams Come Through

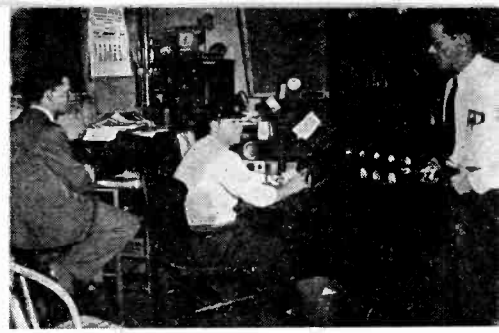
● ● ● By S. R. Lewis

THIS article about an amateur radio station in Toledo presents merely a tiny picture of the work done by amateur operators throughout the country at the time of the Ohio and Mississippi River floods. It is impossible to give credit to everyone who deserves it for marvelous work done during the Great Flood, but this story of the work of a few may be considered as typical of all. It is our small way of saying to everyone connected in any way with radio, "Thanks a million."

When Mayor Neville Miller of Louisville broadcast his request for uniformed policemen to relieve his men, most of whom had been on duty for 96 sleepless hours, the message was heard by Walter Alexander of the Alexander Radio Service of Toledo. City Manager Edy was immediately contacted and arranged to send 16 policemen the next morning, fully equipped for active service.

The City Manager suggested that if communication with Louisville was necessary, the man for the job was Lee Kemberling, one of Toledo's oldest and best known amateur operators. At the time Mr. Kemberling was on duty at No. 17 Engine-house, where he is a City Fireman, but he was detailed to his transmitter, W8ESN. Fireman Kimberling, with the aid of Mr. Alexander and Edward Melville, changed the transmitter from 20 to 75 meters, and a call was put through to Mayor Miller of Louisville that policemen were being sent.

Then W8ESN began the task of setting up an office staff to take incoming messages, file message blanks, to arrange schedules with amateurs in other cities and to have men on the job monitoring the frequencies of contact stations. On the morning of Jan. 27 this station



was appointed the Official Red Cross Emergency station for this territory and a special telephone line was installed to connect his studio with the Red Cross offices. Nearly all the flood traffic for northwestern Ohio was handled by W8ESN after he took the air.

Mr. Kemberling enlisted the aid of Edward Melville and William Golding (W8GJS) as relief operators. J. Fred Satterthwaite, Joseph Solark and the writer, as well as other members of the Toledo Radio Club, served as listening posts. Paul Luckman, W8KPH, did a fine job as typist.

In the illustration Lee Kemberling, the Noisy Fireman of the Air, is shown in the center in front of the receiver. Paul Luckman is at the left at the typewriter. On the right is Edward Melville, experienced transmitter man who was formerly associated with the A. T. & T.

A log of emergency stations heard by Earl Roberts, 2308 Roosevelt Ave., Indianapolis, Ind., may be of interest to some readers. Most of these stations are used only in emergencies and the chances of logging them again are remote. DG9H, Centralia, Ill., a naval reserve station of 3630 kcs. WWKU, the S. S. Hawassie, 3195 kcs. WGBE, a U. S. Army Relief station at Camp Marion, Ill., on 2820. W9EW4, City Hall, Benton, Ill., on 3960. NMP3, Mayfield, Ky., on 3650. W8MGR, aboard the S. S. Kentucky on the Ohio River, 3972 kcs. DJ9C, Ridgeway, Ill., on

3920. LC9I, National Guard station at Mt. Carmel, Ill., on 3500. FY3, Golconda, Ill., on 3925. CX9G, Indiana Naval Militia at Evansville, Ind., on 2650. LC9E, National Guard at Evansville, Ind., 3925. LC9X, National Guard at Indianapolis on 4012. BU4, at Stout Field, Indianapolis, Ind., on 1584 and 1975 kcs.

Listeners Wanted

THE amateur radio stations listed below will be on the air at the times indicated and the operators request all listeners and amateurs overseas to 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, and we will forward them promptly.

The schedules below are effective from May 1 to June 1. Time is given in GMT.

WSBKM, Conneaut, Ohio, 3985 kcs. Every hour on the hour from 2300 Sat. to 1200 Sun.

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

W9PGC, Chicago, Ill., 14 and 28 megacycle 'phone, from 1400 to 1800 daily.

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 fre-

quencies 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.

One of the widest-spread radio networks ever employed regularly is the one which carries the Saturday afternoon broadcasts of the Metropolitan Opera performances. These concerts, commencing at 1400 EST, are heard over 72 stations of the National Blue Network, KGU in Honolulu, Hawaii, 40 stations of the Canadian Network, Radiobras at Rio de Janeiro, Brazil, Radio Splendid at Buenos Aires, Argentina, and Station Expectadore at Montevideo, Uruguay. The network is, roughly, 5060 miles from east to west and 7350 miles from north to south.



The path of success travelled by Dorothy Page has carried her from stenographic duties in an office to the leading feminine role on Irvin S. Cobb's Paducah Plantation. Dorothy has sung with Paul Whiteman, Jan Garber and other orchestras, and has starring roles in two films to her credit. On the Plantation program she is known as Lucy Virginia.



WHEN a juicy rain spoils a round of golf, old Jupiter Pluvius is designated as the guilty culprit. When something happens to a spot of DXing, a lot of guys begin looking for someone to shoulder the blame.

Such was the case over the weekend of February 20-22. Not a few listeners were attempting to log a station or three during the Mystery DX Contest, only to find that many stations apparently had business elsewhere. Reception on those three days was about as spotty as any within memory.

Stations which ordinarily would be duck soup for the most inexperienced night owl, threw a tantalizing carrier just above the general noise level and refused to come a step nearer. Virtually every signal heard was unusually weak and subject to severe periods of fading.

In preparing for the first night of listening, an improvised scale was attached to the dial of the Scott. This was just a narrow strip of paper, pasted on the screen just below the arc of the tuning meter. A mark on the paper was made at the end of the maximum swing for the local KYW. Tuning for the weakest station on the dial—one whose carrier only was audible—the deviation of the tuning meter was noted by another mark on the scale. The space between the two points was marked off into 10 divisions, each of which represented a reading on a rough R scale.

Between 2200 and 2300 EST on February 19th, it was noticed that stations to the West were showing to a decided disadvantage, while those to the South were coming in with unusual strength. CMCW, for example, had succeeded in pushing WCCO completely off the dial, while an unidentified station on 790 turned WGY's usually good signal into a meaningless jumble. WBZ was fighting a losing battle on 990, and WGN simply couldn't be heard at all. KOA, usually a good bet any time after 2300, was lost in a growing fog.

A second check at midnight showed no improvement and by 0200 EST, with the contest actually getting under way, reception could only be classified as "very poor." KNX, with an R5-6 signal, was the only Pacific Coaster to be heard, while WRUF showed an R8 wallop to uphold the honors of the South. Just before 0300, KNX had added another "R" and was a consistent R7, although nothing could be heard from either KFI or KPPO. KSL was a poor R6. Oddly enough, the smaller stations on the higher frequencies were doing much better. KECA, KGB and KFBK were registering an R6, with practically no appreciable fading.

And so, like the rained-out golfer, a DXer might well seek someone to shoulder the blame. We've heard a lot about the much-abused sun spots the past couple of years, but it seems unlikely that their disturb-

ances were the sole cause of the poor reception. The solar magnetic waves might affect the Western stations, but why wouldn't they have the same effect on the Southern broadcasters? And besides, with the powerful KFI and KPO quite inaudible, why should Western stations on the higher frequencies show to better advantage?

While it is improbable that anyone can offer a satisfactory answer, a study of the weather map for that night revealed three salient facts.

First of all, with the exception of a low area centering over the Texas Panhandle, relatively high barometric pressures were prevailing over the entire country. Regions of high pressure—30.3 inches—occurred over the Pacific Northwest and over the Middle Atlantic and the New England states. The unusual part, however, and the point worthy of consideration was the distribution of the pressure areas.

A region of 30.2 inches pressure extended in a line from San Francisco northeast to Bismarck, N.D., where it turned North and West into Canada. At Los Angeles, a line of 30.1 carried Northeast through Winnipeg to a point about 100 miles North of Lake Superior, where it turned East and then South to run through Erie, Pa., to Georgia and then out to sea. Running parallel was a 30.0 line commencing at Phoenix, Ariz., which went Northeast to Duluth and Port Arthur, South through Sault Ste. Marie, Detroit, Louisville, Montgomery, Ala., and into the Gulf of Mexico. Two other lines of 29.9 and 29.8 inches started on the Mexican border—the former at the Arizona-New Mexico state line and the latter at El Paso—and ran North into Minnesota and Wisconsin, where they turned South again and passed on either side of New Orleans into the Gulf of Mexico.

By likening these pressure areas to altitudes, we would find a low val-

ley centering over the Texas Panhandle and extending Northeast to the vicinity of Oklahoma City. Beyond this region and in all directions, the altitudes would increase until they reached the two coasts, where the highest regions would be found.

Bearing this in mind, it is interesting to trace the paths of the radio signals observed during the contest. Signals travelling East and West were crossing constantly changing pressure areas, and in no case would they travel far under any given pressure. For example, the signals of KFI at Los Angeles would start at a pressure of 30.1 inches. Pressure would decrease gradually to about 29.7 at Kansas City, and then rise to 30.3 at Philadelphia. Signals from KPO and KOA would experience much the same pressure change, and as has already been observed, these stations were far below normal in strength. This gives rise to the thought that something impedes a signal which travels through areas of constantly changing pressure.

To support this theory is the already-recorded observation of the behavior of signals from the South. Checking the map, it is noticed that the path from Havana to Philadelphia was one of practically constant pressure. The various Havana stations showed exceptional signal strength. Thus, one might conclude that when travelling parallel to a line of given pressure, a signal progresses better than when crossing lines of varying pressure.

When the subject was first mentioned in the February issue, several instances were noted when pressure areas were accompanied by rather unusual reception. Checking back on those observations, it can be seen that the theory given above explains each of the cases quoted. For instance, when Belfast and Rennes were heard, a low pressure area extended Northeast the St. Lawrence

Valley and out to sea. The signals travelled along a line of more-or-less constant pressure—which in this case was low. Another instance found stations in Texas, Colorado, New Mexico and Southern California riding along a high-pressure path which was fairly constant.

The only discrepancy on the application of the theory to this year's contest observations is in the case of the stations on the higher frequencies. It will be recalled that, while KFI and KPO were inaudible on the first night, KNX showed an R6-7 signal, KSL was R6 and the smaller stations at the upper end of the band—KECA, KGB and KFBK—also registered R6. KNX and KFI are in the same city, yet one was heard and the other was not.

However, instead of weakening the theory, this observation gives rise to yet another thought. Still assuming that a signal crossing lines of varying pressure experiences some impeding force, might not this force be more potent on the lower frequencies than on the high?

The very facts of the case seem to indicate that this is so. KFI and KPO are on the lower frequencies of the broadcast band and were not heard. Using the same power and a higher frequency, KNX was able to push through. With still higher frequencies and less power, KECA, KGB and KFBK were able to deliver the same signal strength as KNX.

Checking back over past DXing, apparent proof of this contention may be found. Perhaps the toughest Pacific Coast station for Eastern listeners to hear is CKOV at Kelowna, B. C. This station uses 100 watts on 630 kcys. From the same province, stations frequently heard are the 100-watt CKWX and CKCD on 1010 and the 75-watt CFCT on 1450. On nights when CKOV was broadcasting on a clear channel and was barely audible,

CFCT has been pushing the tuning meter of the Scott over to a good R6-7.

And so, DXers, there is a thought for you. Perhaps this is an explanation of some of the freaky reception we find from time to time. We are going to delve deeper into the matter and keep a check on these ideas. It is possible that some of our readers would be interested in working with us and making their own observations. If so, we should be pleased to hear from you.

Two additional BBC transmitters are to be built to provide a Regional program to the South Coast and South-West of England. The first of these will work on high power and will be situated in South Devon, replacing the transmitters at Bournemouth and Plymouth. The location of the second new transmitter has not been decided. This will be a medium-power relay station and will serve Bristol and certain areas in North Devon and Somerset not covered by the other new transmitter. The present transmitter at Washford will ultimately become the Welsh Regional transmitter. The separation of the regional services for Wales and the West of England has already been partly effected by the formation of two self-contained organizations, but the new transmitter arrangements will make the separation more complete. Since the first of February North Wales has been served by the new transmitter at Beaumaris, which is called Penmon and uses the same wavelengths and transmits the same programs as the regional station at Washford.

Three stations in the Dominion of Canada have requested power increases to 50 kw. The most powerful station in Canada at the present time is 15 kw. CKY at Winnipeg.

Starlines and Gossip

● ● ● By Betty

REDUCER: Hildegard, the television songstress, spoke words which should be encouraging to many radio stars when she made the statement that television is the best reducing agent in the world. The lights placed over one's head keep the temperature around 90 degrees. She said as a result she lost more than nine pounds after four performances.

A FRIEND INDEED: Ed Wynn deserves the monicker of radio's Santa Claus. Among the microphone headliners whom he has helped to get their starts in show business are Fred Astaire, Phil Baker, Morton Downey, Ruth Etting, Don Voorhees, Walter O'Keefe and Charles Butterworth.

INSPIRATION: According to Guy Lombardo, it is very seldom a beautiful girl or a babbling brook that inspires a popular song. Guy recalls that it was a baseball game that inspired "That's a Dream Come True." Isham Jones, the writer, was at Yankee Stadium when Lou Gehrig came through with a two-bagger to win a game. "Whoops!" yelled Jones, "that's a dream come true!" And there was his inspiration. "Annie Doesn't Live Here Anymore" was sent to Guy as a gag by its writer who never dreamed it would be a best seller.

CHATTERBOX: Arlene Harris, the "Human Chatterbox," who talks faster and says less in her interpretations on WATCH THE FUN GO BY, is actually talking to a real person when she addresses Harry during her monologues. Harry is her husband, a doctor by profession, and enjoys her tirades hugely. There isn't any "Junior," however.

COME-BACK: Gene Austin, who was a singing sensation back in 1925 and introduced one of the greatest hits of all time, "My Blue Heaven,"



Judy Canova, the subject of this hillbilly article, has made a success of that hillbilly jokin' and singin'. Judy, with Annie and Zeke, cuts up on the Woodbury program with Shep Fields and his rippling rhythm orchestra on the Blue Network on Sunday nights.

is making a come-back as the featured vocalist on Joe Penner's program. Gene Austin is the original crooner; he was billed as a crooner eleven years ago during a vaudeville tour, but, disliking the term for himself, somehow passed it on to Rudy Vallee. For his current appearances he has developed a new style. He plays his own accompaniment on the piano and achieves a weird, semi-barbaric effect by playing only the black keys.

* * *

Floyd Gibbons, master fast talker, admits he will have to watch his laurels after hearing Arlene Harris on the Al Pearce show.

* * *

Al Jolson has, during the past ten years, refused fabulous offers to appear in night clubs, BUT his present radio series presents him in the mythical Club Trocadero as a master-of-ceremonies.

Lanny Ross is pilot of radio's Showboat, BUT he quit his first job after college on a tramp steamer because he had to do too many tricks at the wheel.

Radio, like the movies, has its extras. They are called "mob" players and usually get \$5 a performance . . . Harry Savoy, double talking stooge, has been signed by Eddie Cantor as chief heckler for 13 weeks . . . Ed Wynn estimates he has put on comedy make-up more than 12,000 times since he first became an entertainer . . . A new dramatic series known as "Pretty Kitty Kelly" has been chosen to replace Renfrew of the Mounted over the Columbia Network . . . Burns and Allen switch sponsors this month . . . Ken Murray will be heard on the tomato juice program . . . The sponsors of "We, The People," want to shift the program to a week-day evening spot.

Somebody's just discovered how very appropriate are the initials on Gracie Allen's luggage . . . they read G. A. B.

"The Lone Ranger," one of the major productions of the Mutual Network, is now on a coast-to-coast basis. This extension necessitates three productions each day the show is on the air. It is produced at 7:30 pm EST for the Michigan Radio Network and WOR, on Monday, Wednesday and Friday. WGN listeners hear it at 7:30 pm CST on Mondays and Fridays, and at 7, CST, on Wednesdays. Western listeners hear the drama through the Don Lee branch of Mutual at 7:30 pm PST on the same days.

"Circumstantial Evidence," a new series of drama sketches, are highlights of the new Phillip Morris program. This series produced by Charles Martin, is something entirely new in radio dramatization. Actual cases in which the threads of circumstantial evidence have bound individuals to sentences of imprison-

ment and death and where last-minute findings have intervened, are staged.

CHATTER: KEN MURRAY, and his stooge, Tony "OSWALD" Labriola, will succeed George Burns and Gracie Allen on April 7 . . . Helen Hayes has been awarded the Diction Award for 1936 . . . she always broadcasts with her back to her supporting cast so she can hear them better . . . Jack Benny and Mary Livingstone generally use the same color scheme in their clothes. When Mary wears black, brown, gray or blue—so does Jack. But when she gets gay with yellow or pink, Jack contents himself with a tie of that color . . . Master of pretended awkwardness, Charley Butterworth, is actually a capable dancer, plays a good piano and can sing much better than his occasional groanings lead one to believe . . . Parkyarkus, now in his own radio show, is working in a movie with Joe Penner and Milton Berle.



Edwin C. Hill, journalist and master of description, is heard over the Blue Network every Sunday at 9:45 pm EST.

Setting the Record Straight

. . . By S. RAYMOND LEWIS

DURING six years of DX activity, I have made a point of establishing certain goals to serve as stimulants to whet my DX appetite. I found that there was added interest when I was aiming at a mark, no matter how remote, and the reaching of any goal was indeed a happy occasion.

When I first started after those distant stations, I tried to hear and verify at least one station in every state and province. Each year I would try to add a definite number of verifications and push the total towards a certain figure. Later, I started out to verify every station on a crowded channel, to complete whole states, and finally to have verifications from every station in the United States.

The nearest I ever came to reaching the latter goal was in June of 1934, when I had verified all but two active stations in this country. I mentioned this point in an article, "Five Years of DXing," which was published in RADEX last May. While I felt that this was a pretty fair record, I didn't believe that it was at all unusual.

Apparently some listeners don't hold to this view. A few have written in to RADEX and protested that such a record was not possible. Others have sent me letters which certainly were not complimentary to my veracity, and probably weren't intended to be. I have been on the receiving end of epithets new to my dictionary.

For those who were inclined to doubt my claim, I am not going to offer a defense. Nor will I admit the need of one. I have the verifications in my files, where they can be inspected at any time. A check with the Midsummer 1934 issue of RADEX will establish the stations

which were active in the spring of that year. The postmarks on the cards and envelopes in my files will show that verifications from all but two of these stations had been received by me prior to June of 1934.

However, for those who say that such a feat is impossible, might I suggest a slight amendment? Instead of saying that it can't be done, Let's say that the doubter hasn't been able to do it himself! That would be more accurate.

One reader suggested that I must have done a lot of travelling in the years during which I was hearing all these stations. As I have never been inclined towards nomadic ventures, he may set his mind at rest. All of my DXing has been done in Toledo. In fact, until I moved to my present location last October, my listening had been confined to the same room of the same house.

Of course, there are tricks in all trades—and DXing is no exception. A fellow learns a lot during the years and usually develops what might be termed "DX technique." That might be defined as the knowledge of how and when and where to tune, plus the time, patience and ability to put that knowledge into practice.

For domestic DXing, you can divide the stations into three general classes. The first class includes the hundred or so stations which may be heard at some time during the course of the day. The second class includes those which are back of the dominant local and semi-distant stations and which require maximum fishing before they are heard. The third class covers the daytime stations which aren't audible in your locality as well as the limited and full time 100-watters at a considerable distance. There might be a

sub-division of this last class—the stations which are now on a regular monthly frequency check schedule, and those which are not.

Naturally, reception of the stations in the first class is relatively easy. Between the hours of 6:00 A. M., when many Eastern and Central stations sign on for the day, and 3:00 or 4:00 A. M. the next day, when the last of the Western stations are heard, it is a simple matter to build up a log of at least 100 stations. If you are fortunately situated, you might even double that number without much exertion.

The stations in the second class are really the toughest to hear. They are the medium-power broadcasters on the regional channels, and they seldom go in for special programs. They can't be heard during the day and they are lost in a jumble at night.

The only way to hear them is to "park" on selected frequencies night after night until you are able to log them all. Of course, this process may result in mild insanity among the other members of the family, but that is the usual lot of radio widows and orphans. You'll usually find a night when conditions are just right for a certain station, and then you'll realize that all the trouble and grief was very much worth while.

On these early-evening "parking sessions," I have found that my booster loop system has been invaluable. When the ordinary outside aerial shows nothing but a jumble of stations, a swing of the loop will often smooth out the interference and bring in just the catch you want. I have even found that the signal from a dominant nearby station can be reduced to a point where a most distant station is easily logged.

When all others means of logging a desired station have failed, it automatically drops into the third classification—and then you have to

wait for a special test or DX program. In the early days of my DX activities, these special broadcasts were too infrequent for the ease of my mind.

For a period of two and a half years, I seldom missed a chance to spend a few hours at the dial every morning. Naturally, I was able to hear practically every test program which came on the air. When a new station was built, I usually heard at least one of its first tests. When equipment tests were made, I was generally on hand for the customary three or more selections. When stations broadcast courtesy programs for the radio clubs, I could be counted on for a report in most cases.

Obviously, when a person spends so much time DXing, he is bound to build up a goodly log of stations. The chap who composed the number "Morning, Noon and Night" must have been thinking of the way I listened to my radio.

One morning in 1932, I stumbled on a group of Eastern stations which were broadcasting frequency checks for the old FRC. I landed a bunch of needed catches that winter.

In 1933, the present system of regularly-scheduled monitoring tests was started, and you could count on nearly 300 stations once a month. As these stations fell in the third classification, they were welcomed with open arms. During that 1933-34 season, I was able to log and verify virtually all of the stations which I still needed.

In June of 1934, as I have said before, all but two of the active stations in this country were specifically verified. It was a nice record and one of which I have been proud. But it wasn't outstanding, for it could have been duplicated by anyone else who had the time and patience to spend all those hours at the dials. In fact, the chances are that other DXers have equalled if not actually excelled my record.

Some listeners may be of the opinion that I used elaborate and expensive receiving equipment, but such was not the case. I did fuss around a bit with aerials and grounds, and my booster loop system was a big help, but there was very little expense there. As for the receiver itself, it was an old Crosley eight-tube neutrodyne which brought most of my catches. It wasn't until November 1933 that I "graduated" to a second-hand Silver-Marshall job of 1931 vintage. Of course I now have the new Scott which I was fortunate enough to win in last year's Mystery DX Contest, but this fine receiver played no part in the earlier record.

Conditions have changed during the past two and a half years, and it might be difficult to duplicate the record today. The FCC is creating new stations so fast that I often wonder how they can keep track of them. Test programs, with the exception of the frequency checks, are not as numerous as they once were. And yet, had I the time to spend at the dials, I could still come pretty close to verifying them all. For that matter so could most DXers!

Questions Answered

(Continued from page 26)

efficiency, be checked by a service man.

The number of tubes is only a measure indirectly of the selectivity of a set. The number of tuned circuits in the intermediate frequency of a superheterodyne determines its selectivity. Due to the similarity of the intermediate frequency circuits in such a set the number of tubes in it often will give a rough idea of its selectivity. It is quite possible to obtain 10 kilocycle selectivity with a 6-tube set. But we have seen three-tube sets of the regenerative type that are just as selective. It may be that your antenna is a bit

too long. We think that perhaps a change to 60 feet, including lead-in, might tend to make this receiver more selective.

Adding A. V. C.

I have a 7-tube General Electric l.r.f. set, model T41, and as you know, it has no automatic volume control. I would like to know if it is possible to install this a.v.c. circuit in the set. Not being able to purchase a new set I will have to be content with what I have, but would like to improve it.

Answer. While it would be possible to add this a.v.c. circuit it would not be very practical. We do not know whether you have the technical knowledge necessary as the addition would involve either an extra tube or the replacement of your detector tube by a double-purpose tube, also socket, wiring, etc., and the calculating of resistances for the correct control. Much of this might also require some experimentation. Also, the type of tubes used in this set are not any too well suited to the work. In the end we would say that the expense involved, especially if you have to get someone to do the work, would be greater than the purchase of a set of modest ability with automatic volume of control.

A donation of \$115 to the Red Cross relief fund was received by the General Electric shortwave stations W2XAD and W2XAF, from Venezuela, as a result of an appeal broadcast over the stations. The money came from 14 employees of an oil company in Bolivar.

Benny Goodman, known from coast to coast as the foremost apostle of "swing" music, is rehearsing the clarinet score for Mozart's "Quintet for Strings and Clairnet," which is he going to record with the Pro-Arte Quartette for Victor Red Seal records.

The Frequency Checks

THE engineers of the Federal Communications Commission have arranged a schedule of programs for the purpose of checking the frequency of a great number of low-powered stations. Interfering stations are silenced for these tests which continue for twenty minutes with frequent announcements of call and location.

These special programs take place during the second week of each month. The March tests will commence on Monday the 8th and continue through Saturday the 13th. April tests will commence on Thursday the 8th and continue through Wednesday the 14th, exclusive of Sunday; and the May tests will start on Saturday the 8th and carry through Friday the 14th, exclusive of Sunday.

The following schedule has just been received from the FCC and readers should preserve it for future reference.

The Second Monday		
2:00-2:20	WLNH 1310	Laconia, N. H.
	WJBO 1420	Baton Rouge, La.
2:10-2:30	WBRB 1210	Red Bank, N. J.
	WHBB 1500	Selma, Ala.
2:20-2:40	WMAS 1420	Springfield, Mass.
	WIOD 1300	Miami, Fla.
2:30-2:50	WWRL 1500	Woodside, N. Y.
	WJBW 1200	New Orleans, La.
2:40-3:00	WOKO 1430	Albany, N. Y.
	WMBR 1370	Jacksonville, Fla.
2:50-3:10	WCAX 1200	Burlington, Vt.
	WOPI 1500	Bristol, Tenn.
3:00-3:20	KTRH 1290	Houston, Tex.
	WMBO 1310	Auburn, N. Y.
	WMSO 1420	Sheffield, Ala.
3:10-3:30	WOC 1370	Davenport, Ia.
	WCAD 1220	Canton, N. Y.
	WMFN 1210	Clarksdale, Miss.
3:20-3:40	KWLC 1270	Decorah, Ia.
	WMBQ 1500	Brooklyn, N. Y.
	WNBR 1430	Memphis, Tenn.
3:30-3:50	KFPW 1210	Fort Smith, Ark.
	WMFF 1310	Plattsburg, N. Y.
	WDBO 580	Orlando, Fla.
3:40-4:00	KABC 1420	San Antonio, Tex.
	WQDM 1390	St. Albans, Vt.
	WSMB 1320	New Orleans, La.
3:50-4:10	KADA 1200	Aida, Okla.
	WFAS 1210	White Plains, N. Y.
	WHIEF 1500	Kosciusko, Miss.
4:00-4:20	KFDM 560	Beaumont, Texas.
	WCAP 1280	Asbury Park, N. J.
	KLS 1280	Oakland, Calif.
	WAGF 1370	Dothan, Ala.
4:10-4:30	KCRJ 1310	Jerome, Ariz.
	KNLB 1200	Monroe, La.
4:20-4:40	KLUF 1370	Galveston, Texas
	WDEV 550	Waterbury, Vt.
	KGDM 1100	Stockton, Calif.
	WDNC 1500	Durham, N. C.
4:30-4:50	KROC 1310	Rochester, Minn.
	KGAR 1370	Tucson, Ariz.
	KALB 1420	Alexandria, La.
4:40-5:00	KOVC 1500	Valley City, N. D.
	WBNO 1200	New Orleans, La.
4:50-5:10	KRE 1370	Berkeley, Calif.
	WLAK 1310	Lakeland, Fla.
5:00-5:20	KIEM 1450	Eureka, Calif.
	WGCM 1210	Gulfport, Miss.
5:10-5:30	KDON 1210	Del Monte, Calif.
	WMIN 1370	St. Paul, Minn.
	WTAL 1310	Tallahassee, Fla.
5:20-5:40	KUMA 1420	Yuma, Ariz.
5:30-5:50	KWG 1200	Stockton, Calif.
5:40-6:00	KGMB 1320	Honolulu, T. H.
The Second Tuesday		
2:00-2:20	WBAX 1210	Wilkes Barre, Pa.
2:10-2:30	WDAS 1370	Philadelphia, Pa.
2:20-2:40	WBBL 1210	Richmond, Va.
2:30-2:50	WFBG 1310	Altونا, Pa.
2:40-3:00	WMBG 1210	Richmond, Va.
2:50-3:10	WEBR 1310	Buffalo, N. Y.
3:00-3:20	KDAL 1500	Duluth, Minn.
	KFIZ 1420	Fond du Lac, Wisc.
	WLVA 1200	Lynchburg, Va.
3:10-3:30	KPAC 1260	Port Arthur, Texas
	WOMT 1210	Manitowoc, Wis.
	WBTM 1370	Danville, Va.
3:20-3:40	KCKN 1310	Kansas City, Kans.
	WKRC 550	Cincinnati, Ohio
	WHEC 1430	Rochester, N. Y.
3:30-3:50	WNAD 1010	Norman, Okla.
	WMBC 1420	Detroit, Mich.
	WRAC 1370	Williamsport, Pa.
3:40-4:00	KFV's 1210	Cape Girardeau, Mo.
	WTAD 900	Quincy, Ill.
	WJAC 1310	Johnstown, Pa.
3:50-4:10	WTAW 1120	College Station, Tex.
	WBNS 1430	Columbus, Ohio
	WBNY 1370	Buffalo, N. Y.
4:00-4:20	WCOL 1210	Columbus, Ohio
	KOOS 1200	Marshfield, Ore.
4:10-4:30	WBRE 1310	Wilkes Barre, Pa.
	KLPM 1240	Minot, N. Dak.
	WPAY 1370	Portsmouth, Ohio
	KPQ 1500	Wenatchee, Wash.
	WPAR 1420	Parkersburg, W. Va.
4:20-4:40	KRMD 1310	Shreveport, La.
	KFIO 1120	Spokane, Wash.
	WLO 1200	Janesville, Wisc.
4:30-4:50	WSYR 570	Syracuse, N. Y.
	KGCA 1270	Decorah, Iowa
	KORE 1420	Eugene, Ore.
	WJAY 610	Cleveland, Ohio
4:40-5:00	WNBf 1500	Binghamton, N. Y.
	KTEM 1370	Tempe, Texas
	KGBU 900	Ketchikan, Alaska
	WGH 1310	Newport News, Va.
4:50-5:10	WHBC 1200	Canton, Ohio
	KGVO 1260	Missoula, Mont.
	KRLH 1420	Midland, Texas
	WHK 1390	Cleveland, Ohio
	WWSW 1500	Pittsburgh, Pa.
5:00-5:20	KGCX 1450	Wolf Point, Mont.
	WSAY 1210	Pocheater, N. Y.
	WSPD 1340	Toledo, Ohio
5:10-5:30	KAST 1370	Astoria, Ore.
	KNET 1420	Palestine, Texas
	WAVE 940	Louisville, Ky.
5:20-5:40	KCMO 1370	Kansas City, Mo.
	KFJI 1210	Klamath Falls, Ore.
	WXYZ 1240	Detroit, Mich.

5:30-5:50 KIDW 1420 Lamar, Colo.
 WGAR 1450 Cleveland, Ohio
 KVQ 1380 Pittsburgh, Pa.
 WCAT 1200 Rapid City, S. Dak.

The Second Wednesday

2:00-2:20 WMFJ 1420 Daytona Beach, Fla.
 2:10-2:30 WAIM 1200 Anderson, S. C.
 2:20-2:40 KVOL 1310 Lafayette, La.
 2:30-2:50 WHBQ 1370 Memphis, Tenn.
 2:40-3:00 WKAQ 1240 San Juan, P. R.
 2:50-3:10 WSJS 1310 Winston-Salem N. C.
 3:00-3:20 KABR 1420 Aberdeen, S. Dak.
 WFAM 1200 South Bend, Ind.
 WMFD 1370 Wilmington, N. C.
 3:10-3:30 KLCN 1290 Blytheville, Ark.
 WPAX 1210 Thomasville, Ga.
 3:20-3:40 KFPL 1310 Dublin, Texas
 WKBN 570 Youngstown, Ohio
 WRDW 1500 Augusta, Ga.
 3:30-3:50 KGBX 1230 Springfield, Mo.
 WELL 1420 Battle Creek, Mich.
 WQBC 1360 Vicksburg, Miss.
 3:40-4:00 KFXJ 1200 Grand Junction, Colo.
 KPLC 1500 Lake Charles, La.
 WADC 1320 Akron, Ohio
 3:50-4:10 KARK 890 Little Rock, Ark.
 WGFC 1420 Albany, Ga.
 WOSU 570 Columbus, Ohio
 4:00-4:20 KFJZ 1370 Fort Worth, Texas
 WHBU 1210 Anderson, Ind.
 WJNO 1200 West Palm Beach, Fla.
 4:10-4:30 WBEO 1310 Marquette, Mich.
 WCOC 880 Meridian, Miss.
 WLB 1250 Minneapolis, Minn.
 4:20-4:40 KSO 1430 Des Moines, Iowa
 WKEU 1500 Griffin, Ga.
 WMPC 1200 Lapeer, Mich.
 4:30-4:50 WEXL 1310 Royal Oak, Mich.
 WHLB 1370 Virginia, Minn.
 4:40-5:00 WJMS 1420 Ironwood, Mich.
 WJRD 1200 Tuscaloosa, Ala.
 4:50-5:10 KFXR 1310 Oklahoma City, Okla.
 WTAX 1210 Springfield, Ill.
 WBIG 1440 Greensboro, N. C.
 5:00-5:20 KFJB 1200 Marshalltown, Ind.
 WEOA 1370 Evansville, Ind.
 5:10-5:30 KPDN 1310 Pampa, Texas
 WDW 1020 Tuscola, Ill.
 5:10-5:40 KELD 1370 Eldorado, Ark.
 WAYX 1200 Waycross, Ga.
 5:30-5:50 KDLR 1210 Devils Lake, N. Dak.
 5:40-6:00 KRBC 1420 Abilene, Texas.

The Second Thursday

2:00-2:20 WSVS 1370 Buffalo, N. Y.
 2:10-2:30 WKOK 1210 Sunbury, Pa.
 2:20-2:40 WRAW 1310 Reading, Pa.
 2:30-2:50 WJTN 1210 Jamestown, N. Y.
 2:40-3:00 WTEL 1310 Philadelphia, Pa.
 2:50-3:10 WHIS 1410 Bluefield, W. Va.
 3:00-3:20 KGKO 570 Wichita Falls, Tex.
 WCPO 1200 Cincinnati, Ohio
 WQAN 880 Scranton, Pa.
 3:10-3:30 KFYO 1310 Lubbock, Texas
 WGL 1370 Ft. Wayne, Ind.
 WLEU 1420 Erie, Pa.
 3:20-3:40 KGFI 1500 Corpus Christi, Tex.
 WIBU 1210 Poynette, Wisc.
 3:30-3:50 KGFL 1370 Roswell, N. Mex.
 WBCM 1410 Bay City, Mich.
 WSAJ 1310 Grove City, Pa.
 3:40-4:00 KGGM 1230 Albuquerque, N. Mex.
 WJBC 1290 Bloomington, Ill.
 3:50-4:10 KGHF 1320 Pueblo, Colo.
 WHAT 1310 Philadelphia, Pa.
 WLAP 1420 Lexington, Ky.
 4:00-4:20 KGHI 1200 Little Rock, Ark.
 KXO 1500 El Centro, Calif.
 WHDL 1400 Olean, N. Y.

4:10-4:30 WSMK 1380 Dayton, Ohio
 KGIV 1420 Alamosa, Colo.
 KJBS 1070 San Francisco, Calif.
 WJIM 1210 Lansing, Mich.
 4:20-4:40 KGKB 1500 Tyler, Texas
 KGU 750 Honolulu, T. H.
 WBOW 1310 Terre Haute, Ind.
 4:30-4:50 KGKL 1370 San Angelo, Tex.
 KSUN 1200 Lowell, Ariz.
 WCBS 1420 Springfield, Ill.
 4:40-5:00 KHSL 950 Chico, Calif.
 KRRV 1310 Sherman, Texas
 WTMV 1500 East St. Louis, Ill.
 4:50-5:10 KERN 1370 Bakersfield, Calif.
 WHBF 1210 Rock Island, Ill.
 5:00-5:20 KHBC 1400 Hilo, T. H.
 WTRC 1310 Elkhart, Ind.
 5:10-5:30 KTRB 740 Modesto, Calif.
 WWAE 1200 Hammond, Ind.
 5:20-5:40 WIBM 1370 Jackson, Mich.
 5:30-5:50 WALR 1210 Zanesville, Ohio

The Second Friday

2:00-2:20 WGNV 1210 Newburgh, N. Y.
 2:10-2:30 WCNW 1500 Brooklyn, N. Y.
 2:20-2:40 WGBB 1210 Freeport, N. Y.
 2:30-2:50 KABY 1370 Albany, N. Y.
 2:40-3:00 WNRI 1200 Newport, R. I.
 2:50-3:10 WSYB 1500 Rutland, Vt.
 3:00-3:20 KICA 1370 Clovis, N. Mex.
 WEBQ 1210 Harrisburg, Ill.
 WABI 1200 Bangor, Me.
 3:10-3:30 WACO 1420 Waco, Texas
 WLBC 1310 Muncie, Ind.
 3:20-3:40 WEW 700 St. Louis, Mo.
 WIBX 1200 Utica, N. Y.
 WKBB 1500 E. Dubuque, Ill.
 3:30-3:50 KUOA 1260 Fayetteville, Ark.
 WAGM 1420 Presque Isle, Me.
 WHDF 1370 Calumet, Mich.
 3:40-4:00 KIJJ 1310 Santa Fe, N. Mex.
 WJW 1210 Akron, Ohio
 WNBZ 1290 Saranac Lake, N. Y.
 3:50-4:10 WJBK 1500 Detroit, Mich.
 WMBH 1420 Joplin, Mo.
 WRDO 1370 Augusta, Me.
 4:00-4:20 KIUL 1210 Garden City, Kans.
 WCMI 1310 Ashland, Ky.
 WTHI 1200 Hartford, Conn.
 4:10-4:30 WCAZ 1070 Carthage, Ill.
 WNLC 1500 New London, Conn.
 4:20-4:40 WMFG 1210 Hibbing, Minn.
 WTAQ 1330 Green Bay, Wisc.
 4:30-4:50 KIUP 1370 Durango, Colo.
 WPAD 1420 Paducah, Ky.
 4:40-5:00 KNOW 1500 Austin, Texas
 WEMP 1310 Milwaukee, Wisc.
 4:50-5:10 KGDE 1200 Fergus Falls, Minn.
 WGRG 1370 New Albany, Ind.
 5:00-5:20 KIUN 1420 Pecos, Texas
 5:10-5:30 KGEK 1200 Sterling, Colo.
 5:20-5:40 KNAC 1370 San Antonio, Tex.
 5:30-5:50 WIL 1200 St. Louis, Mo.
 5:40-6:00 KGFQ 1370 Oklahoma City, Okla.
 5:50-6:10 KANS 1210 Wichita, Kans.

The Second Saturday

2:00-2:20 WMFR 1200 High Point, N. C.
 2:10-2:30 WMFO 1370 Decatur, Ala.
 2:20-2:40 WSOC 1210 Charlotte, N. C.
 2:30-2:50 WTJS 1310 Jackson, Tenn.
 2:40-3:00 WSIX 1210 Nashville, Tenn.
 2:50-3:10 WROL 1310 Knoxville, Tenn.
 3:00-3:20 KOTN 1500 Pine Bluff, Ark.
 WQAM 560 Miami, Fla.
 3:10-3:30 KWYO 1370 Sheridan, Wyo.
 WCLS 1310 Joliet, Ill.
 WPRP 1420 Ponce, P. R.
 3:20-3:40 KGCU 1240 Mandan, N. Dak.
 WHBY 1200 Green Bay, Wisc.
 WNEL 1200 San Juan, P. R.

3:30-3:50	KXYZ 1440	Houston, Texas
	WAML 1310	Laurel, Miss.
	WKBV 1500	Richmond, Ind.
3:40-4:00	KRGV 1260	Weslaco, Texas
	WFOR 1370	Hattiesburg, Miss.
	WJBL 1200	Decatur, Ill.
3:50-4:10	KNEL 1500	Brady, Texas
	WEED 1420	Rocky Mount, N. C.
	WGBF 630	Evansville, Ind.
4:00-4:20	KFQD 780	Anchorage, Alaska
	KVSO 1210	Ardmore, Okla.
	WFDF 1310	Flint, Mich.
4:10-4:30	KONO 1370	San Antonio, Texas
	KVOS 1200	Bellingham, Wash.
	WKBZ 1500	Muskegon, Mich.
4:20-4:40	KRLC 1420	Lewiston, Idaho
	KTSM 1310	El Paso, Texas
4:30-4:50	KUJ 1370	Walla Walla, Wash.
4:40-5:00	KCMC 1420	Texarkana, Ark.
	KRNR 1500	Roseburg, Ore.
4:50-5:10	KEEN 1370	Seattle, Wash.
	KWTN 1210	Watertown, S. Dak.
5:00-5:20	KGFF 1420	Shawnee, Okla.
	KIT 1310	Yakima, Wash.
5:10-5:30	KBTM 1200	Paragould, Ark.
	KRKO 1370	Eretert, Wash.
5:20-5:40	KFRO 1370	Longview, Tex.
	KGEZ 1310	Kalispel, Mont.
5:30-5:50	KBIX 1500	Muskogee, Okla.
	KFXD 1200	Nampa, Idaho
5:40-6:00	KFJM 1410	Grand Forks, N. D.
	KXRO 1310	Aberdeen, Wash.
5:50-6:10	KGY 1210	Olympia, Wash.
6:00-6:20	KINY 1310	Juneau, Alaska
6:10-6:30	KMED 1410	Medford, Ore.

A revised Frequency Check schedule will appear in this magazine next month.

With the Radexers

(Continued from page 34)

I'll send along some details about the set."

When sending in reports, readers are encouraged to mention the type of receiving equipment which they are using. Whether they have a small crystal set or a large custom-built model, reception reports are of more interest when the receiver is identified. Other listeners are thus able to compare results and, perhaps, determine a set which will meet their own requirements.

"Real DX is hard to get here this season," complains Charles Hesterman, 2014 Lorne Ave., Saskatoon, Sask., "as the local QRM has improved out of bounds. It is much better than last year, and that is saying something! Apparently half the people in Saskatoon have sore backs and they all start their D-fernal machines going around 0230, when DX is beginning to perk up.

Frankly, I believe that all the violet ray machines in the world are now in convention in my back yard. Time after time, just when I am about to get something on a foreigner, the racket commences and then it's all up.

Argentine Phones

● ● ● By A. M. Stevens*

The Union Telephone Company (Union Telefonica) operates the largest telephone system in the Argentine and as such also serves the Argentine with an international service by an exclusive connection with the many radio telephone circuits of the Cia. Internacional de Radio.

All of the international radio telephone circuits of the Union Telefonica are owned and operated by the Companie Internacional de Radio, S. A., Defensa 143, Buenos Aires. The exact data on these stations is given in the list which follows.

Three stations work with New York. LSN6, 21020 kcs, is used in the daytime. LSN1, 14530 is used in the morning and evening. The nighttime station is LSN2 on 9890 kcs. This is the most frequently used transmitter.

Serving London and Rio de Janeiro are LSL4, 21160 kcs in the daytime; LSL3 on 15810 in the morning and evening, and LSL2, 10300 kcs at night. LSL2 is the most frequently used of these stations.

Station LSL1 on 7901 kcs works irregularly with Rio de Janeiro at night.

Another group of frequencies is used for contacts with Madrid, Berlin and Paris. These are LSM3 on 19140, daytime. LSM2, 14500 kcs, morning and evening, and LSK3, 10250 kcs, nights.

*Mr. A. M. Stevens is an official of the Cia. Internacional de Radio so this information is accepted as positively authentic.

Off the Cuff

THE British Post Office, which controls the British Broadcasting Corporation and its operations, will make a fight for a wider shortwave broadcasting international band at the Telegraphic Communications Union Conference to be held in Cairo this year. The BBC has reported that reception conditions on the 6 and 9.5 megacycle bands are in a chaotic condition due to the operation of allegedly unauthorized stations in those bands.

The British will make an effort to have formed an international organization which can control the allocation of frequencies on the shortwaves. It is understood France, Italy and Germany will co-operate in such a move. RADEX sincerely hopes the United States also will ally itself with such a movement. Congestion on the shortwave bands has reached a point where it is necessary to have some international regulatory power, because regulation of this nature is beyond the scope of any local authorities.

* * *

In President Roosevelt's recommendations to Congress he supported the report of his Committee on Administrative Management, appointed almost a year ago, which urged a reorganization of about 100 of the independent governmental bureaus. Under this plan, which observers expect will meet with the approval of Congress, the FCC would be abolished and its work and personnel would be transferred to some executive department.

* * *

The new station at College Park, Md., W3XJ on 1060 kcs., is an experimental booster station, licensed to test between the hours of midnight and 6 am, EST. It is owned by McNary and Chambers.

The solution of the cross-call puzzle printed on the puzzle page last month is given below:

K
WOL
WJDX
WBRE
WMBD
WIBA
WOR
JD

* * *

A few network changes are scheduled for the near future. WOWO in Fort Wayne, Indiana, now affiliated with the CBS, will switch to the NBC-Blue on May 1. WSPD in Toledo, Ohio, on 1340 kcs, will change from the CBS to the NBC on May 1. On June 29 station WRVA in Richmond, Va., will become a CBS outlet.

* * *

From Mr. Joseph M. Todd, Traffic Manager of KFRU, Columbia, Mo., we learn that this station broadcasts news flashes at 12:30 pm. each week day. KFRU works on 630 kcs with 1000 watts daytime power.

* * *

Mr. Alfred Gus Karger, popular commentator, broadcasts his talks on National Defense, American Ideals, Political and Social Economics, over the Mutual Network every Saturday at 7:00 pm, EST, according to a letter from Mr. Karger. The broadcasts originate at WLW, Cincinnati.

* * *

How many of our readers remember the call letters of the station which was located in Ashtabula, Ohio, many years ago?

* * *

What is believed to be the first two-way contact between Great Britain and Hawaii on ten meters was intercepted by Charles Shaffer, 411 Irving St., Olean, N. Y. Stations were G5ML and K6MVV.

WHAT'S ON THE AIR TONIGHT

Fill in the calls and frequencies of the stations through which you best receive the network programs. You can then turn quickly to the one that has the feature you want.

Network	Stations
Canadian (CBC)	
Columbia (C)	
Mutual (M)	
National Red (R)	
National Blue (B)	

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 WLWZ WNAS WOKO
WORC WPRD WWVA

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

C—Pretty Kitty Kelly
KFAB KFH KLRA KMBC KMOX
KOMA KRLD KRNT KSCJ KSL
KTUL KWKH WABC WADC
WBBM WBNS WCCO WDRC
WEEI WFBM WGR WHEC
WHIO WHK WIBX WISN WJW
WJSV WKBN WNAS WMBG
WOC WREC 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—"Ma and Pa;" Sketch
WABC WADC WBIG WBNS
WBT WCAO WCAU WDBJ
WDRC WEEI WFBL WGR
WHEC WHK WHP WIBX WJAS
WNAS WMBG WNBW WOKO
WORC WPRO WSJS WWVA

B—Uncle Ezra's Radio Station
KPRC KTBS KTHS KVOO
KYW WBAP WBEN WCAE
WCKY WCSH WDAF WFAF
WEEI WFBR WGY WIRE
WJAR WKY WMAQ WOI
WOOD WOW WRC WTAG
WTAM WTIC

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

B—Lum and Abner
WBZ WBZA WENR WJZ WLW
WNC 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 WCAU
WCCO WDRC WEAN WFBL
WGR WHAS WHK WJAS WJR
WJSV WKRC WNAE

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 KIJ 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 WNAE WNAW
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

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 WIC

WJAS WJR WJSV WKRC
WLWZ WNAS WNAE WOKO
WORC WSPD

R—Voice of Firestone
CFCF CRCT KFYP KPRC KSD
KSTP KTBS KVOO KYW
WAVE WBEN WCAE WCSH
WCSH WDAF WDAY WFAF
WERC WEEI WFAA WFBC
WFBR WFLA WGY WHO
WIBA WIOD WIRE WIS WJAR
WJAX WJDN WKY WMAQ
WNC WOI WOW WPTF WRC
WRVA WSB WSM WSMB
WSOC WTAG WTAM WTAR
WTIC WTMJ WWJ WWNC

B—Frank Munn; Abe Lyman
KDKA KOIL KSO KWK WBAL
WBZ WBZA WCKY WCAU
WEBR WFH WGAR WHAM
WICC 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 WIEC
WHK WICO WISN WJAS WJR
WJSV WKBW WKRC WLAC
WNAE WNAW 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 WIRE
WJAR WMAQ WNAE WOW
WRC WTAM WTIC WWJ

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

B—Jack Pearl; Morton Bowe
KDKA KECA KFSD KGA KGO

MONDAY (Continued)

KJR KLO KOIL KSO KWK
 WABA WAVE WBAL WBZ
 WBZA WCY 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 WFAF WEEI WFBR
 WFLA WGY WHO WIOD WIS
 WJAR WJAX WKY WMAQ
 WMC WOA WOW WPTF WRC
 WRVA WSB WSM WTAG
 WTAM WTAR WTIC WWJ
 WWNC

B—Richard Himber; Stuart Allen
 KDKA KECA KEX KFSD KGA
 KGO KJR KLO KOIL KSO
 KVOD KWK WBAL WBZ WBZA
 WKY WEAN WEBR WENR
 WFIL WGAR WHAM WICC WJZ
 WMAL WMT WREN WSYR
 WTCN WXYZ

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

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

C—Poetic Melodies; Jack Fulton
 KERN KFAB KFBK KFYP
 KFRC KGB KHJ KLRA KLZ
 KMBC KMOX KOIN KOL KOMA
 KRLD KRNT KSL KTRH KTSA
 KVI WBBM WBRB 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
 WOA WOW WSB WSM WSMB
 WTAM WWJ

TUESDAY

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

B—Lowell Thomas, See Monday
C—Kitty Kelly, See Mon.

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
 WKY 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

C—"Ma and Pa," see Mon.
B—Tastyest Jesters
 KDKA KOIL KSO KWK WABY
 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

B—Lum and Abner, See Monday
C—Alexander Woolcott
 KFAB KFH KLRA KMOX
 KRLD KTRH KTSA KWKH
 WABC WADC WALA WBBM
 WBNS WBRB WBT WCAO
 WCAU WCCO WDAE WDBO
 WDRC WEEI WFBL WFBM
 WGR WGST WHAS WHFC
 WHIO WHK WIBM WISN WJAS
 WJR WJWV WKRC WLAC
 WLBY 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 WJWV WKRC
 WMAS WNAC WOKO WSPD

R—Johnny with Russ Morgan
 KFYP KPRC KSD KSTP KTBS
 KTHS KVOO KYW WABE
 WBAP WBEN WCAE WCSH
 WDAF WDAY WEAF WECB
 WFBR WFLA WGY WHO WIBA
 WIOD WIS WJAR WJAX WJDX
 WKY WLW WMAQ WMC WNAC
 WOW WPTF WRC WRVA WSB
 WSM WSMB WSOC WSUN
 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; Parkyakarkas
 CFRB KFAB KFH KLRA
 KMBC KMOX KOMA KRLD
 KRNT KTRH KTSA KTUL
 WABC WADC WBBM WBNS
 WBRB WBT WCAO WCAU
 WCCO WDAE WDBJ WDRC
 WEEI WFBL WFBM WGR
 WGST WHAS WHFC WHIO
 WHK WIBX WJAS WJR WJWV
 WKRC WLAC WMAS WMBD
 WMBG WNAX WOKO WORC
 WPRO WQAM WREC WWL

R—Wayne King and Orchestra
 KFYP KPRC KSD KSTP KTBS
 KVOO KYW WAVE WBAP
 WBEN WCAE WCKY WCSH
 WDAF WDAY WEAF WECB

WEEI WFBR WGY WHO WHIO
 WIBA WIRE WJAR WJDX
 WKY WMAQ WMC WOA 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 WBRB
 WBT WCAO WCAU WCCO
 WDAE WDBJ WDBO WDNB
 WDOD WDRC WEAN WFBL
 WFBM WFEA WGST WHAS
 WHFC WHK WHP WIBW WIBX
 WICW WISN WJAS WJR WJWV
 WKBH WKBN WKBW WKRC
 WLAC WLBY WMSB WMBD
 WMBG WMBR WMMN WNAC
 WNAX WNFN WNOX WOC
 WOKO WORC WOWO WPG
 WQAM WREC WSBT WSFA
 WSJS WSPD WTOC WWL

R—Vox Pop; Sidewalk Inter-views
 KSD KYW WBEN WCAE
 WKY WCSH WDAF WEAF
 WEEI WFBR WGY WHO WIRE
 WJAR WMAQ WOW WRC
 WTAG WTAM WTIC WWJ

B—Ben Bernie and Orchestra
 KDKA KDYL KFI KFSD KFYP
 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
 WOA 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 KFYP KGKO KLRA
 KLZ KMBC KMOX KNX KOIN
 KOL KOMA KRLD KRNT
 KSCJ KSKO KSL KTRH KTSA
 KTUL KVI KVOR KWKH
 WABC WACO WADC WALA
 WBBM WBIG WBNS WBRB
 WBT WCAO WCAU WCCO
 WDAE WDBJ WDBO WDNB
 WDOD WDRC WEEI WFBL
 WFBM WGST WHAS WHFC
 WHIO WHK WHP WIBW WIBX
 WISN WJAS WJR WJWV WKBH
 WKBW WKRC WLAC WLBY
 WMAS WMBD WMBG WMBR
 WNAX WNFN WNOX WOC
 WOKO WORC WOWO WPG
 WPRO WQAM WREC WSBT
 WSFA WSJS WTOC WWL

R—Fred Astaire; Johnny Green
 CRCT KDYL KFI KFYP KGW
 KHQ KOA KOMO KPO KPRC

TUESDAY (Continued)

KSD KSTP KTBS KTHS KVOO
 KYW WAVE WBAP WBEN
 WCAE WKCY WCSH WDAF
 WDAY WEAF WEBC WEEI
 WFBF WFLA WGY WHO WIBA
 WJOD WIRE WIS WJAR WJAX
 WJDY WKY WMAQ 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-10:30 p.m., C-9:30, M-8:30,
 P-7:30

R—Jimmy Fidler Hollywood Gossip
 KDYL KFI KGW KHQ KOA
 KOMO KPO KSD KTAR KYW
 WBEN WCAE WCSH WDAF
 WEAF WFBF 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-11:30 p.m., C-10:30, M-9:30,
 P-8:30

C—Al Jolson; Sid Silvers
 KFPY KGMB KLZ KNX KOIN
 KOL KSF0 KSL KVI

WEDNESDAY

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

C—News of Youth, See Monday

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

C—Kitty Kelly, 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—"Ma and Pa," See Mon.
R—Uncle Ezra, See Monday
B—Tastyeast, See Tuesday

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

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 KRLL
 KRNT KSL KVI KWG WABC
 WBBM WBNS WCAU WCCO
 WDRC WEAN WFBL WFBM
 WGR WHAS WHEC WHK WJAS
 WJR WJSV WKRC WLAC
 WMBG WNAC WOKO WTOC
 WWL

R—One Man's Family
 KDYL KFI KFYP 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 WFBF WFLA
 WGY WHO WIBA WIOD WIS
 WJAR WJAX WJDX WKY
 WLW WMAQ WMC WOAI
 WOW WPTF WRC WRVA WSB
 WSM WSMB WSOC WSWN
 WTAG WTAM WTAR WTIC
 WTMJ WWJ WWNC

B—Broadway Merry-go-Round
 KDKA KOIL KSO KWK WBAL
 WBZ WBZA WKCY WEAN
 WEBR WFIL WGAR WHAM
 WICC WJZ WLS WMAL WMT
 WREN WSYR WXYZ

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

C—Ken Murray; Tony Martin
 CFRB CKAC KFAB KFH KLRA
 KMBC KMOX KOMA KRLL
 KRNT KSCJ KTRH K TSA
 KTUL KWKH WABC WADC
 WBBM WBNS WBRB WBT
 WCAO WCAU WCCO WDAE
 WDBJ WDBO WDRC WEEI
 WFBL WFBM WGR WGST
 WHAS WHEC WHIO WHK
 WHP WIBW WIBX WJAS WJR
 WJSV WKRC WLAC WLZ
 WMAS WMBD WMBG WMBR
 WNAX WNOX WOKO WORC
 WOWO WPG WPRO 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 KRLL KRNT KSCJ KSL
 KTRH K TSA KTUL KVI KVOR
 KWG KWKH WABC WACO
 WADC WALA WBBM WBIG
 WBNS WBRB WBT WCAO
 WCAU WCCO WCOA WDAE
 WDBG WDBO WDNC WDOB
 WDRC WEAN WFBL WFBM
 WFEA WGST WHAS WHEC
 WHK WHP WIBW WIBX WICC
 WISN WJAS WJR WJSV
 WKBH WKBW WKRC WLAC
 WLZB WMAS WMBD WMBG
 WMBR WNAC WNAX WNB
 WNOX WOC WOKO WORC
 WOWO WPG WQAM WREC

WSFA WSJS WSPD WTOC
 WWL

R—Town Hall Tonight
 KFYP KPRC KSD KSTP KTBS
 KTHS KVOO KYW WAVE
 WBEN WCAE WCSH WDAF
 WDAY WEAF WEBC WEEI
 WFAA WFBF 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 KRLL
 KRNT KSL KTRH K TSA KTUL
 KVI KWG KWKH WABC WBBM
 WBNS WBRB WBT WCAO
 WCAU WCCO WDAE WDBJ
 WDBO WDRC WEAN WFBL
 WFBM WGST WHAS WHEC
 WHK WICC WISN WJAS WJR
 WJSA WKBW WKRC WLAC
 WLZB WMBG WMBR WNAC
 WOKO WORC WOWO WQAM
 WREC WTOC WWL

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

C—Crime Crusade; Phil Lord
 KDB KERN KFAB KFBK KFH
 KFPY KFRC KGB KHJ KLRA
 KLZ KMBC KMJ KMOX KOIN
 KOL KOMA KRLL KRNT KSL
 KTRH K TSA KTUL KVI KWG
 KWKH WABC WACO WBBM
 WBNS WBRB WBT WCAO
 WCAU WCCO WDAE WDBJ
 WDBO WDRC WEAN WFBL
 WFBM WGST WHAS WHEC
 WHK WICC WISN WJAS WJR
 WJSV WKBW WKRC WLAC
 WLZB WMBG WMBR WNAC
 WOKO WORC WOWO WQAM
 WREC WTOC WWL

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

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

R—Gladys Swarthout
 KDYL KFI KGW KHQ KOA
 KOMO KPO KPRC KSD KSTP
 KTAR KTBS KVOO KYW WAPI
 WAVE WBEN WCAE WCSH
 WDAF WEAF WFAA WFBF
 WFLA WGY WHO WIBA WIOD
 WIRE WIS WJAR WJAX WJDX
 WKY WMAQ WMC WNAC
 WOAI WOW WPTF WRC WRVA

WEDNESDAY (Cont.)

WSB WSM WSMB WSOC WTAG
WTAM WTPR WTIC WTMJ
WWJ WUNC

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

THURSDAY

E-6:45 p.m., C-5:45, M-4:15,
P-3:45

C—Kitty Kelly, See Monday
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—“Ma and Pa,” See Monday
B—Tastyeast, See Tuesday

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

C—Alexander Woolcott, See
Tuesday

B—Lum and Abner, See Monday

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

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

C—A & P Bandwagon
KFAB KMBC KMOX KRLL
KRNT KTRH WABC WADC
WBEM WBIG WBNS WBRC
WBT WCAO WCAU WCCO
WDAE WDBJ WDRC WEEI
WFBL WFBM WGR WGST
WHAS WHEC WHK WHP
WIBX WJAS WJR WJSV WKBN
WKRC WLBZ WMAS WMBG
WMBR WOC WOKO WORC
WPRO WQAM WTOC WWL
WWVA

R—Rudy Vallee's Variety Hour
CFBC CRCT KDYL KFI KFYP
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 KRLL
KRNT KSCJ KSL KTRH KTS
KTUL KVI KVOR KWG KWKH
WABC WACO WADC WALA
WBEM WBIG WBNS WBRC
WBT WCAO WCAU WCCO
WCOA WDAE WDBJ WDBO
WDNC WDDO WDRC WEAN
WFBL WFBM WFEA WGST
WHAS WHEC WHK WHP

WIBW WIBX WICC WISN
WJAS WJR WJSV WKBN
WKWB WKRC WLAC WLBZ
WMAS WMBD WMBG WMBR
WMMN WNAC WNAX WOC
WOKO WORC WOWO WPG
WQAM WREC WWSA WSJS
WSPD WTOC WWL

R—Maxwell House Show Boat
KDYL KFI KFSD KFYP KGH
EGFR KWK KHQ KOA KOMO
KPO KPRC KSD KSTP KTAR
KTBS KYW WAPI WAVE
WBAF WBEN WCAE WCSH
WDAF WDAY WEAF WEBC
WEEI WFBR WFLA WGY WHO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WKY WMAQ
WMC WOA I WOW WPTF WRC
WRVA WSAI WSB WSM WSMB
WSOC WTAG WTAM WTPR
WTIC WTMJ WWJ WUNC

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

C—Your True Adventures
KFAB KFH KFPY KLRA KLZ
KMBC KMOX KNN KOIN KOL
KOMA KRLL KRNT KRSO
KSL KTRH KTSa KTUL KVI
KWKH WABC WBBM WBNS
WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO
WDRC WEEI WFBL WFBM
WGST WHAS WHEC WHK
WHK WISN WJAS WJR WJSV
WKBW WKRC WLAC WLBZ
WMBG WMBR WOKO WORC
WPRO WQAM WREC WTOC
WWL

R—Bing Crosby; Bob Burns
CFBC CRCT KDYL KFI KFYP
KGW KHQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KTHS KVOO KYW WAVE
WBAF WBEN WCAE WCSH
WDAF WDAY WEAF WEBC
WEEI WFBR WFLA WGY WHO
WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW
WMAQ WMC WOA I WOW
WPTF WRC WRVA WSB WSM
WSMB WSOC WTAG WTAM
WTPR 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 WHEA
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

FRIDAY

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

C—News of Youth, See Monday

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

C—Kitty Kelly, See Monday
B—Lowell Thomas, See Monday

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

C—Martiner 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—“Ma and Pa,” See Monday
R—Uncle Ezra, See Monday

B—Stainless Show; Mario Cozzi
KDKA KPCA 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

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 KFYP KOA KPRC KSD
KSTP KTHS KTHS KVOO KYW
WBAF WBEN WCAE WCSH
WDAF WDAY WEAF WEBC
WEEI WFAA WFBR WGY WHO
WIBA WIOD WJAR WKY
WMAQ WOA I 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 WFBL 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

FRIDAY (Cont.)

KMBC KMOX KOMA KRLL
 KRNT KSCJ KTRH KTSa
 KTHL KWKH WABC WACO
 WADC WALA WBBM WBG
 WBNS WBRW WBT WCAO
 WCAU WCCO WCOA WDAE
 WDBJ WDBO WDNW WDO
 WDRC WEI WFBL WFBM
 WFEA WGR WGST WHAS
 WHC WHO WHK WHP
 WIBX WISN WJAS WJR WJSV
 WFBN WKRC WLAC WLZ
 WMAS WMBD WMBG WMBR
 WMMN WNAX WNBW WNOX
 WOC WOKO WORC WWO
 WPG WPRO WQAM WREC
 WSPA WSJS WSPD WTO

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
 KFBB KFH KFPY KFRC KGB
 KHJ KLRA KLZ KMBC KMJ
 KMOX KOIN KOL KOMA
 KRLL KRNT KSCJ KSL KTRH
 KTSa KTUL KVI KVOR KWG
 KWKH WABC WADC WBBM
 WBNS WBRW WBT WCAO
 WCAU WCCO WDAE WDBL
 WDBO WDRC WEAN WFBL
 WFBM WFEA WGST WHAS
 WHC WHK WHP WIBW
 WIBX WIC WJAS WJR WJSV
 WKBW WKRC WLAC WLZ
 WMAS WMBD WMBG WMBR
 WNAC WNAX WNOX WOKO
 WORC WPG WQAM WREC
 WSPD WWL

R—Frank Munn; Bernice Claire

KSD KYW WBN WCAE
 WCSH WDAF WFAF WEI
 WFBR WGY WJAR WLW
 WMAQ WOV WRC WTAG
 WTAM WWJ

B—Universal Rhythm; Rex Chandler

KARK KDKA KFYR KGBX
 KGNC KOIL KPRC KSO KSTP
 KTBS KTHS KWK WABY
 WAPI WAVE WBAL WCS
 WDAY WEAN WECB WEBR
 WFAA WFBC WFIL WFLA
 WGAR WGL WHAM WIBA
 WICC WIOD WIS WJAX WJDX
 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 WBN WCAE WCSH
 WFAF WEI WFBR WGY
 WHO WHO WJAR WMAQ
 WOW WRC WTAG WTAM
 WTIC WWJ

B—Victor Moore; 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 WCS
 WDAY WECB 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

E—First Nighter; Drama

KDYL KFI KFYR KGW KHQ
 KOA KOMO KPO KPRC KSD
 KSTP KTBS KTHS KYW WAVE
 WBN WCAE WCSH WDAF
 WDAY WFAF WECB WEI
 WFAA WFBR WFLA WGY
 WHO WIBA WIOD WIS WJAR
 WJAX WJDX WKY WLW
 WMAL WMC WNT 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

R—Pontiac Varsity Show

KARK KDYL KFBB KFI KFYR
 KGBX KGHL KGIR KGNC
 KGW KHQ KMJ KOA KOMO
 KPC KPRC KSD KSTP KTAR
 KTBS KTHS KVOO KWG KYW
 WAPI WAVE WBN WCAE
 WCOL WCS WCSH WDAF
 WFAF WECB WFAA WFBC
 WFBR WFLA WGL WGY WHO
 WIBA WIOD WIRE WIS WJAR
 WJAX WJDX WKY WLW
 WMAQ WMC WNC WOAI
 WOOD WOW WPTF WRVA
 WSB WSM 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—Mortimer Gooch, Sketch

KERN KFAB KFBB KFPY
 KFRC KGB KHJ KLRA KLZ
 KMBC KMOX KOIN KOL
 KOMA KRLL KRNT KSL
 KTRH KTSa KVI WBBM
 WBRW WCCO WFBM WGST
 WLAC WREC WWL

R—Amos 'n' Andy. See Monday

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-2:00 p.m., C-1:00, M-Noon; P-11:00 a.m.

B—Metropolitan Opera Co. CFCF CRCT ODKA KDYL

KECA KEX KFSD KFYR KGA
 KGBX KGHL KGIR KGO KGU
 KJR KLO KOA KOIL KPRC
 KSO KSTP KTAR KTBS KTHS
 KVOO KWK WABY WAPI
 WAVE WBAL WBAW WBZ
 WBZA WCKY WCOL WCS
 WDAY WECB WEBR WFAA
 WFBC WFIL WFLA WGAR
 WHAM WIBA WIOD WIS
 WJAX WJDX WJZ WKY WLW
 WMAL WMAQ WMC WMT
 WOAI WOOD WPTF WREN
 WRVA WSB WSM WSMB WSOC
 WSUN WSYR WTAR WTMJ
 WWNC WXYZ

To Canadian Network Also

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

C—Saturday Swing Club

KFBB KFH KFPY KGKO KGVO
 KLZ KNOW KOH KOL KOMA
 KRLL KSCJ KSFO KSL KTRH
 KTSa KVI KVOR KWKH
 WABC WACO WADC WBG
 WBNS WBT WCAO WCAU
 WCCO WDAE WDBO WDR
 WEI WFBL WGR WHC WHK
 WHP WIBW WIBX WISN
 WJAS WLZ WMAS WMBD
 WMBG WNBW WOC WOKO
 WORC WPRO WSJS WWVA

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

C—Carbondum Band

KFAB KMBC KNOX WABC
 WBBM WBT WCAU WCCO
 WEAN WEI WFBL WGR
 WHAS WHK WJAS WJR WKRC

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

C—Professor Quiz

KFAB KFBB KFH KFPY KLRA
 KLZ KMBC KMOX KNX KOIN
 KOL KOMA KRLL KRNT
 KSFO KSL KTRH KTSa KVI
 KWKH WABC WBBM WBNS
 WBRW WBT WCAO WCAU
 WCCO WDAE WDBO WDR
 WEI WFBL WFBM WGST
 WHAS WHC WHK WISN
 WJAS WJR WJSV WKRC
 WLAC WLZ WMBG WMBR
 WNOX WOKO WORC WPRO
 WQAM WREC WWL WWVA

R—Saturday Night Party

KSD KYW WAPI WAVE WBN
 WCAE WCS WCSH WDAF
 WFAF WFBR WFLA WGY
 WHO WIOD WIS WJAR WJAX
 WJDX WMAQ WMC WNC
 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 WBAW WBZ WBZA
 WCKY WDAY WECB WEBR
 WFIL WGAR WHAM WIBA
 WIRE WJZ WKY WLS WMAL
 WMT WOAI WREN WSYR
 WTMJ WXYZ

SATURDAY (Cont.)

E-8:30 p.m., C-7:30, M-8:30, P-5:30
C—Phil Duey; Russ Morgan
 KFAB KFH KMBC KMOX
 KRNT WABC WADC WBBM
 WBIG WBNS WBT WCAO
 WCAU WCCO WCOA WDRS
 WEEI WFBL WFBM WGR
 WGST WHAS WHEC WHIO
 WHK WHP WISN WIAS WJR
 WJSV WKRC WMBD WMBG
 WNEB WOC WOKO WPRO
 WSBT WWVA

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 KRLL KRNT KSL
 KTRH KTSa KVI KWG WABC
 WBBM WBNS WBT WCAO
 WCAU WCCO WDAE WDBO
 WDRS WEAN WFBL WFBM
 WJAS WJR WJSV WKBW
 WKRC WMBR WOKO WQAM
 WREC WSPD WWL

R—Snow Village Sketches
 KSD KQY WBEW WCAE WCSH
 WDAF WFAF WFBR WGY
 WJAR WMAQ WNAC WOW
 WRC WTAG WTAM WVIC WWJ

B—National Barn Dance
 KDKA KOIL KPRC KSO KTBS
 KTHS KWK WABY WAPI
 WAVE WBAL WBAW WBZ
 WBZA WFIL WFLA WGAR
 WHAM WIOD WIRE WIS WJAX
 WJDX WJZ WKY WLW 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 KRLL KTRH
 KTSa KTRH KVI KWG KWKH
 WALA WBBM WBIG WBNS
 WBRW WBT WCAO WCOA
 WDAE WDBO WDOD WEAN
 WFBL WFBM WGST WHAS
 WHEC WKH 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
 WBEW WCAE WCSH WDAF
 WDAY WFAF WNBC WEEI
 WFBR WGY WIBA WJAR WLW
 WMAQ WOW WRC WTAG
 WTAM WVIC 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 KRLL
 KRNT KSCJ KSL KTRH KTSa
 KTRH KVI KWOR KWG KWKH
 WABC WACO WADC WALA
 WBBM WBIG WBNS WBRW
 WBT WCAO WCAU WCCO
 WCOA WDAE WDBJ WDBO
 WDNC WDOD WDRS WEAN
 WFBL WFBM WFEA WGST
 WHAS WHEC WHK WHP WJAS
 WJAX WJZ WKY WLW WMAL
 WMC WMT WOAI WOOD WPTF
 WREN WRVA WSB WSMB
 WSOC WSUN WSYR WTAR
 WWNC WXYZ

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

R—Irvin S. Cobb
 KDYL KFI KFYR KGHL KGIR
 KGW KHQ KOA KOMO KPO
 KPRC KSD KSTP KTAR KTBS
 KTHS KVOO KYW WAVE
 WBAW WBEW WCAE WCSH
 WDAF WDAY WFAF WNBC
 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 WVIC
 WTMJ WWJ WWNC

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

CBC—The Northern Messenger
 CFAC CFCH CFCC CFJC CFPL
 CFQC CHWK CJAT CJCA CJGX
 CJKL CJOC CJRN CJRO CJRX
 CKBI CKCK CKGB CKOC CKOV
 CKRC CKCO CKTB CKX CKY
 CRCK CHCM CRDO CRCS CRCT
 CRCV CRCW CRXC

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

SUNDAY

E-11:30 a.m., C-10:30, M-9:30, P-8:30

C—Major Bowes' "Fandly"
 CFRB KERN KFAB KFBK
 KFBK KFH KFPY KFRC KGB
 KGVO KMBC KOH KOL KRLL
 KSL KTRH KTSa KVI KWOR
 KWG KWKH WABC WACO
 WADC WALA WBNS WBRW
 WCAO WCCO WDAE WDBJ
 WDBO WDNC WESG WFBL
 WFEA WHAS WHK WIBX
 WJAS WJR WKRC WLBS
 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

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

C—Salt Lake Tabernacle Choir
 CFRB KFAB KFBK KFBK KFH
 KFPY KFRC KGB KLZ KOH
 KOL KRLL KSL KTRH KTSa
 KVI KWOR KWG WABC WACO
 WADC WALA WBIG WBNS
 WBRW WCAO WCCO WDAE
 WDBJ WDBO WESG WFBL
 WFEA WGR WHAS WICC WJAS
 WJR WKRC WLBC WMBR
 WMMN WOC WOKO WORC
 WQAM WSBT WSJS WSPD
 WTOC

B—Radio City Music Hall
 CFCC CRCT KDKA KDYL KFI
 KFYR KGO KGW KHQ KOIL
 KOMO KPRC KSO KVOO WAPI
 WBAL WBZ WBZA WCKY
 WDAY WNBC WGAR WHAM
 WIS WJDX WJZ WKY WMAL
 WOAI WREN WSMB WSYR
 WWNC

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
 KRLL KRNT KSCJ KSL KTRH
 KTSa KVI KWOR KWG WABC
 WALA WBNS WBT WCAO
 WCCO WDAE WDBJ WDBO
 WDRS WESG WFBL WFBM
 WGR WHAS WHP WIBX WJAS
 WJSV WKBW WKRC WLAC
 WLBZ WMBR WNEB WOC
 WOKO WORC WPG WQAM
 WREC WSBT WSJS WSPD
 WTOC WWVA

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

R—Married Dickson; Morton Bowe
 KDYL KFI KFYR KGW KHQ
 KOA KOMO KPO KSD KSTP
 KYW WBEW WCAE WCKY
 WCSH WDAF WDAY WFAF
 WNBC WFBR WGY WIBA
 WIRE WJAR WMAQ WNAC
 WOW WRC WTAG WTAM WVIC
 WTMJ WWJ

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

B—Magic Key of RCA
 CFCC CRCT KDKA KDYL KFI
 KFYR KGU KWG KHQ KOA
 KOIL KOMO KPO KPRC KSO
 KSTP KTBS KTHS KVOO KWK
 WAPI WAVE WBAL WBZ
 WBZA WCKY WDAY WNBC
 WENR WFAA WFIL WFLA
 WIOD WIRE WIS WJAX WJDX
 WJZ WKY WMAL WMC WMT
 WOAI WPTF WREN WRVA
 WSB WSM WSMB WSOC WSYR
 WTAR WTMJ WWNC WXYZ

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

C—Cook's Travelogue
 CKAC WABC WBBM WBRW
 WBT WCAO WCAU WEEI
 WGST WJAS WJSV WLAC
 WREC WWL

SUNDAY (Continued)

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

C—New York Philharmonic
CFRB CKAC KERN KFAB
KFBB KFBQ KFH KFPY KFRK
KGB KGOV KLRA KLZ KMBC
KNOW KOH KOL KRLLD KSL
KTRH K TSA KVI KVOR KWKH
WABC WACO WADC WALA
WBIG WBNS WBRC WCAO
WCCO WDAE WDBJ WDBO
WDNC WDOD WDRG WEAN
WEEI WESG WFBL WFBM
WFEA WHAS WHEC WHO
WHK WHX WICC WJAS WJR
WKBW WKRC WLZB WMBD
WMBG WMBR WMMN WOC
WOKO WORC WQAM WSBT
WSJS WSPD WTOC

Also on Canadian Network
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 WECB
WFBR WGY WHO WIBA WIRE
WJAR WJDX WMAQ WMC
WNAC WOW WRC WSB WSM
WSMB WTAG WTAM W TIC
WTMJ WJJ

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 WECB
WFBR WGY WHO WIBA WJAR
WMAQ WNAC WOW WRC WSAI
WTAG WTAM W TIC WJJ

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

R—Musical Camera; Willie Morris
DYL KFI KGW KHQ KOA
KOMO KPO KYW WBEN WCAE
WCSH WEAF WGY WJAR WLW
WMAQ WOC WRC WSB WSMB
WTAM W TIC WJJ

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

C—Your Unseen Friend; Drama
KFAB KLZ KMEX KSL KWKH
WABC WADC WBBM WBNS
WCAO WCAU WCOA WDAE
WDBJ WDOD WDRG WEAN
WEEI WESG WFBL WHAS
WHEC WHK WHP WIBX WJAS
WJR WKBW WKRC WLAC
WLZB WMAS WMBG WMMN
WNOX WOKO WORC WOWO
WQAM WREC WSMK WSPD
WWL WVVVA

R—Marion Talley, Soprano
KDYL KFI KFYR KGW KHQ
KOA KOMO KPO KSTP KYW
WBEN WCAE WCKY WCSH
WDAF WDAY WEAF WECB
WFBA WGY WIBA WIRE WJAR
WMAQ WNAC WOW WRC
WTAG WTAM W TIC WTMJ
WJJ

R—We, The People; Phil Lord
KDKA KECA KEX KFSD KGA
KGHL KGIR KGO GJR 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 WDRG WEAN
WFBL WFBM WGR WHAS
WHEC WHK WIBX WICC WJR
WJSV WMAS WOKO WORC
WSPD WVVVA

R—Smiling Ed McConnell
KDYL KFI KFYR KGIR KGW
KHQ KOMO KPO KSTP KYW
WBEN WCAE WCSH WDAF
WDAY WEAF WECB WFBR
WGY WHO WIBA WJAR WLW
WMAK WNAC WOW WRC
WTAG WTAM W TIC WTMJ
WJJ

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
KFAB KFPY KLZ KMBC
KMOX KNX KOIN KOL KOMA
KRLLD KRNT KSFO KSL KTRH
K TSA KVI WABC WBBM
WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDRG
WEEI WFBL WFBM WGST
WHAS WHEC WHK WJAS WJR
WJSV WKBW WKRC WMBG
WMBR WOKO WORC WPRO
WQAM WREC WWL

M—Ray Knight; Arnold Johnson
CKLW KHJ KWK WAAB WBAL
WFIL WGAR WGN WLW WOR

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

C—Rubinoff and His Violin
KDB KERN KFAB KFBZ KFBK
KFH KFPY KFRK KGB KOGO
KHJ KLRA KLZ KMJ KMOX
KOH KOIN KOL KOMA KRLLD
KRNT KSCJ KSL KTRH K TSA
KTUL KVI KVOR KWG KWKH
WABC WACO WADC WALA
WBBM WBIG WBNS WBRC
WBT WCAO WCAU WCCO
WCOA WDAE WDBJ WDBO
WDNC WDOD WDRG WEEI
WFBL WFBM WFEA WGST
WHAS WHEC WHK WHP WIBW
WIBX WISN WJAS WJR WJSV
WKBN WKBW WKRC WLAC
WLZB WMAS WMBD WMBG
WMBR WNAX WNOX WOC
WOKO WORC WPG WQAM
WREC WSBT WSFA WSJS
WSMK WSPD WTOC WWL
WVVVA

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—Columbia Workshop
KFAB KFBZ KFH KFPY
KGKO KGOV KNOW KOH
KOIN KOL KOMA KRLLD KRNT
KSCJ KSFO KTRH K TSA
KTUL KVI KVOR KWKH
WABC WACO WADC WALA
WBBM WBNS WBRC WBT
WCAO WCCO WCOA WDAE
WDBO WDNC WFBL WFBM
WGR WGST WHEC WHIO WHK
WHP WIBX WISN WJAS
WJNO WKRC WLZB WMAS
WMBG WMMN WNOX WOKO
WORC WPG WREC WSBT
WSJS WSPD WTOC

R—Jack Benny; Mary Livingstone
KSD KYA KYW WBEN WCAE
WCSH WDAF WFBF WFBR
WGY WHO WJAR WLW WMAQ
WNAC WOW WRC WTAG
WTAM W TIC WJJ

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

C—Phil Baker; Oscar Bradley
KLA KLZ KRLLD KTRH K TSA
KTUL KWKH WABC WACO
WADC WALA WBIG WBNS
WBRC WBT WCAO WCAU
WCOA WDAE WDBJ WDBO
WDNC WDOD WDRG WEAN
WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBX WICC WJAS WJR WJSV
WKBN WRC WLAC WLZB
WMAS WMBR WNAC WNOX
WOKO WORC WQAM WREC
WSBT WSFA WSJS WSMK
WSPD WTOC WWL WVVVA

R—Fire-side Recitals
KSD KYW WBEN WCAE WCSH
WDAF WEAF WFBF WFBR
WGY WIRE WJAR WMAQ WOW WRC
WSAI WTAG WTAM W TIC WJJ

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
WFBF WGY WHO WIRE WJAR
WLW WMAQ WOAI WOOD
WOW WRC WTAG WTAM
W TIC WJJ

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

C—Nelson Eddy; Nadine Conner
KDB KERN KFAB KFBK KFH
KFPY KFRK KGB KHJ KLRA
KLZ KMBC KMJ KMOX KOIN
KOL KOMA KRLLD KRNT KSCJ
KSL KTRH K TSA KTUL KWKH

SUNDAY (Continued)

WABC WADC WALA WBBM
 WBIG WBNS WBRC WBT
 WCAO WCAU WCCO WDAE
 WDBJ WDBO WDOD WDRC
 WEAN WFBL WFBM WFEA
 WGR WGST WHAS WHFC WHK
 WHP WIBW WIBX WICC WISN
 WJAS WJR WJSV WKBN
 WKRC WLAC WLBC WMAS
 WMBD WMBR WNAX WNOX
 WOC WOKO WORC WKAM
 WREC WSFA WWSJ WSMK WTOC
 WWL WWVA

R—Want to be an Actor?

CFCE CRCT KDYL KFI KFYP
 KGW KHQ KOA KOMO KPO
 KPRC KSD KSTP KTAR KTBS
 KVOD KYW WAVE WBEN
 WCAE WCSH WDAF WDAY
 WFAE WBBE WFAA WFBP
 WFLA WGY WHO WIBA
 WIOD WIS WJAR WJAX
 WJDX WKY WLW WMAQ WMC
 WNAO WOI WPTF WRC
 WRVA WSB WSM WSMB WSOC
 WSUN WTAG WTAM WTAR
 WTHC WTMJ WWJ WWNC

M—Fr. Charles E. Conghlin
 CKLW KDB KDON KFEL
 KPRC KFXM KGB KGDN KHJ
 KPMC KSO KVOE KWK KXO
 WABY WBAL WFIL WGAR
 WKBW WMT WOL WOR
 WSAI WSYR WWSW

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

C—Eddie Cantor; Bobby Breen
 KFAB KFH KGKO KLRA
 KMBC KMXX KOMA KRLD
 KRNT KSCJ KTRH KTSU
 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
 WHFC WHK WHP WIBW
 WIBX WICC WISN WJAS WJR
 WJSV WKBN WKRC WLAC
 WLBB WMAS WMBD WMBR
 WJAMN WNAX WNOX WOC
 WOKO WORC WQAM WREC
 WSBT WSFA WWSJ WSMK
 WSPD WTOC WWL WWVA

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

R—Manhattan Merry-Go-Round
 CFCE CRCT KDYL KFI KFYP
 KGW KHQ KOA KOMO KPO
 KPRC KSD KSTP KTBS KTHS KYW
 WAVE WBEN WCAE WCKY
 WCSH WDAF WDAY WFAE
 WBBE WEEI WFAA WFBP
 WFLA WGY WHO WIBA
 WIOD WIS WJAR WJAX WJDX
 WKY WMAQ WMC WOI
 WOV WPTF WRC WRVA WSB
 WSM WSMB WSOC WTAG
 WTAM WTAR WTHC WTMJ
 WWJ WWNC

C—Ford Sunday Evening Hour
 CFRB CKAC KDB KERN KFAB
 KFBB KFH KFPY KPRC KGB
 KGKO KHJ KLRA KLZ KMBC
 KMJ KMXX 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
 WHFC WHK WHP WIBW
 WIBX WICC WISN WJAS WJR
 WJSV WKBN WKRC WLAC
 WLBB WMAS WMBD WMBR
 WNAC WNAX WOC WOKO
 WORC WQAM WREC WSBT
 WSFA WWSJ WSPD WTOC
 WWL WWVA

B—Walter Winchell
 KDKA KECA KEX KFSD KGA
 KGHL KGIR KGO KJR KLO
 KOIL KSO KTAR KWK WBAL
 WBZ WBEA WBBE WBRP
 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

R—Frank Parker; Shep Fields
 KDKA KECA KFSD KGA
 KGHL KGIR KGO KJR KLO
 KOIL KSO KTAR KWK WBAL
 WBZ WBEA WBBE WBRP
 WENR WFIL WGAR WHAM
 WJZ WLW WMAL WMT
 WREN WSYR WXYZ

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

R—Album of Familiar Music
 CFCE CRCT KDYL KFI KFYP
 KGW KHQ KOA KOMO KPO
 KPRC KSD KSTP KTBS KYW
 WAVE WBEN WCAE WCKY
 WCSH WDAF WDAY WFAE
 WBBE WEEI WFAA WFBP
 WFLA WGY WHO WIBA
 WIOD WIS WJAR WJAX WJDX
 WKY WMAQ WMC WOI
 WOV WPTF WRC WRVA WSB
 WSM WSMB WSOC WTAG
 WTAM WTAR WTHC 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
 WBEA 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 KFH KFPY KPRC
 KGB KGKO KGMB KGVO KHJ
 KLRA KLZ KMBC KMJ KMXX
 KOH KOIN KOL KOMA KRLD
 KRNT KSCJ KTRH KTSU
 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 WHFC WHK WHP
 WIBW WIBX WICC WISN

WJAS WJR WJSV WKBN
 WKBW WKRC WLAC WLBB
 WMAS WMBD WMBG WMBR
 WMAN WNAC WNAX WNOX
 WOC WOKO WORC WQAM
 WREC WSBT WSFA WWSJ
 WSMK WSPD WTOC WWL

R—General Motors Concert
 CFCE CRCT KDYL KFI KFYP
 KGHL KGIR KGW KHQ KOA
 KOMO KPO KPRC KSTP KTAR
 KTBS KTHS KYW WAVE
 WBEN WCAE WCKY WCSH
 WDAF WDAY WFAE WBBE
 WFAA WFBP WFLA WGY
 WHO WIBA WIOD WIRE
 WIS WJAR WJAX WJDX WKY
 WMAQ WMC WNAC WOI
 WOOD WOW WPTF WRC
 WRVA WSB WSM WSMB WSOC
 WSUN WTAG WTAM WTAR
 WTHC WTMJ WWJ WWNC

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

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

C—Kaltenborn Edits the News
 KFH KGKO KNOW KOH KOIN
 KOL KOMA KRLD KRNT KSCJ
 SF50 KTRH KTSA KTUL KVI
 KWKH WABC WACO WADC
 WALA WBIG WBNS WDAE
 WDBJ WDBO WDNC WDRC
 WEEI WFBL WHAS WHFC
 WHO WHK WIBX WJAS
 WJNO WJSV WKBW WLBB
 WMAS WMBR WMAN WNAX
 WNBX WNOX WOC WOKO
 WORC WOWO WPRO WQAM
 WREC WSBT WSFA WWSJ
 WSPD WTOC

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

C—Eddie Cantor; Bobby Breen
 KERN KFBB KFBK KFPY
 KPRC KGB KGVO KHJ KLZ
 KMJ KOH KOIN KOL KSL
 KVI KVOR

R—Sunset Dreams; Morin Sisters
 EDYL 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
 DYLL KFI KFSD KGIL KGIR
 KGW KHQ KOA KOMO KPO
 KPRC KTAR KTBS KTHS
 WAPI WAVE WBAP WJDX
 WKY WMC WOI 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 WOI WSB WSM
 WSMB

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Standard

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

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
 Metropolitan Opera, 2 p.m. Sat., B
 General Motors Concert, 10 p.m. Sun., R
 New York Philharmonic, 3 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. Fri., C; 1:30 p.m. Sun., R
 Ben Bernie, 9 p.m. Tues., B
 Bunny Berigan, 7 p.m. Sat., C
 Oscar Bradley, 7:30 p.m. Sun., C
 Rex Chandler, 9 p.m. Fri., B
 Jimmie Dorsey, 10 p.m. Thurs., R
 Tommy Dorsey, 9:30 Mon., B
 Shep Fields, 9:15 and 11:30 p.m. Sun., B
 Al Goodman, 9 and 11:15 p.m. Thurs., R
 Benny Goodman, 9:30 p.m. Tues., C
 Johnny Green, 9:30 p.m. Tues., R
 Jimmy Grier, 6 p.m. Sun., C
 Gus Haenschen, 9:30 p.m. Sat., C
 Phil Harris, 7 and 11:30 p.m. Sun., R
 Horace Heidt, 8 p.m. Mon., C
 Richard Himber, 10 p.m. Mon., B
 Arnold Johnson, 6 p.m. Sun., M
 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
 Guy Lombardo, 5:30 p.m. Sun., C
 Vincent Lopez, 9 p.m. Sat., C
 Abe Lyman, 8:30 p.m. Mon., B; 9 p.m. Fri., R;
 10 p.m. Wed., R
 Russ Morgan, 8:30 and 11:30 Sat., C; 8 p.m.
 Tues., R
 Ozzie Nelson, 7:30 p.m. Sun., B
 Raymond Paige, 9 p.m. Fri., C
 Jacques Renard, 8:30 and 11 p.m. Sun., C
 Joe Rines, 11:30 a.m. Sun., B
 Andy Sanella, 9 p.m. Sun., R
 Harry Sosnik, 10 p.m. Wed., R; 10 p.m. Sun., B
 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
 Victor Young, 8:30 and 11:30 p.m. Tues., C

DIALOG

Fred Allen, 9 p.m. 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 p.m. Sun., R
 Milton Berle, 10 p.m. Sun., C
 Bob Burns, 10 p.m. Thurs., R
 Charles Butterworth, 9:30 Tues., R
 Judy Canova, 9:15 p.m. Sun., B
 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, 6 p.m. Sun., M
 Beatrice Lillie, 8 p.m. Wed., B
 Fibber McGee and Molly, 8 p.m. Mon., R
 Lum and Abner, 7:30 p.m. daily except Sat.
 and Sun., B
 Victor Moore, Helen Broderick, 9:30 p.m. Fri., B
 Ken Murray, 8:30 Wed., C
 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 p.m. Mon., C
 Popeye the Sailor, 7:15 Mon., Wed., Fri., 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
 Columbia Workshop, 7 p.m. Sun., C
 Death Valley Days, 8:30 p.m. Fri., B
 First Nighter, 10 p.m. Fri., R
 Gang Busters, 10 p.m. Wed., C
 Grand Hotel, 3:30 p.m. Sun., R
 Hollywood Hotel, 9 p.m. Fri., C
 Warden Laves, 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
 Ma and Pa, 7:15 p.m. Mon. through Fri., C
 News of Youth, 6:15 p.m. Mon., Wed., Fri., C
 One Man's Family, 8 p.m. Wed., R
 Pretty Kitty Kelly, 6:45 Mon. through 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

A & P Bandwagon, 8 p.m. Thurs., C
 Album of Familiar Music, 9:30 p.m. Sun., R
 Armo Band, 10 p.m. Tues., B
 Major Bowes, 11:30 a. m. Sun. and 9 p.m.
 Thurs., C
 Broadway Merry-Go-Round, 8 p.m. Wed., B
 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., C
 Cood'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
 Hammerstein's Music Hall, 8 p.m. Tues., C
 Hit Parade, 10 p.m. Wed., R; 10 p.m. Sat., C
 Hollywood Hotel, 9 p.m. Fri., C
 Husbands and Wives, 9:30 p.m. Tues., B
 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
 Melody Matinee, 1:30 p.m. Sun., R
 National Barn Dance, 9 and 11:30 p.m. Sat., B
 Packard Hour, 9:30 p.m. Tues., R
 Palmolive Hour, 9:30 Wed., C
 Al Pearce and His Gang, 9 p.m. Tues., C
 Pontiac Variety Show, 10:30 p.m. Fri., R
 Professor Quiz, 8 p.m. Sat., C
 Rubinoff, 6:30 p.m. Sun., C
 Shell Chateau, 9:30 p.m. Sat., R
 Studebaker Champions, 10 p.m. Mon., B
 True Adventures, 10 p.m. Thurs., C
 Vick's Open House, 8 p.m. Sun., C
 Voice of Firestone, 8:30 p.m. Mon., R
 Vox Pop, 9 p.m. Tues., R
 Waltz Time, 9 p.m. Fri., R

Watch The Fun Go By, 9 p.m. Tues., C
 We, The People, 5 p.m. Sun., B

SINGERS

Stuart Allen, 10 p.m. Mon., B
 Fred Astaire, 9:30 p.m. Tues., R
 Gene Austin, 6 p.m. Sun., C
 Kenny Baker, 7 and 11:30 p.m. Sun., R
 Natalie Bodanya, 8:30 p.m. Mon., B
 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
 Nadine Conner, 8 p.m. Sun., C
 Mario Cozzi, 7:15 p.m. Fri., B
 Vivian Della Chiesa, 10 p.m. Mon., R
 Bing Crosby, 10 p.m. Thurs., R
 Edith Dick, 10 p.m. Sat., C
 Muriel Dickson, 1:30 p.m. Sun., R
 Jessica Dragonette, 8 p.m. Fri., R; 9:30 p.m.
 Wed., C
 Phil Ducey, 8 and 11:30 p.m. Tues., R; 8:30
 Sat., C
 Deanna Durbin, 8:30 and 11 p.m. Sun., C
 Mary Eastman, 9:30 p.m. Sat., 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
 Jones and Hare, 10 p.m. Sun., C
 Frances Langford, 9 p.m. Fri., C
 Shirley Lloyd, 7:30 Sun., B
 Lullaby Lady, 10 p.m. Mon., R
 Elizabeth Lennox, 8 p.m. Fri., C
 Fred MacMurray, 9 p.m. Fri., C
 Lucille Manners, 8 p.m. Fri., R

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; 8:30 Mon., B
 Dorothy Page, 10:30 Sat., R
 Frank Parker, 9:15 and 11:30 p.m. Sun., B
 Jan Pearce, 6:30 p.m. Sun., C
 Carmella Ponselle, 8 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
 Kate Smith, 8 p.m. Thurs., C
 Margaret Speaks, 8:30 and 11:30 p.m. Mon., R
 Gladys Swarthout, 10:30 Wed., R
 Marion Talley, 10 p.m. Fri., R
 Tastyest Jesters, 7:15 Tues., Wed., Thurs., B
 Conrad Thibault, 9:30 p.m. Tues., R
 Kay Thompson, 8:30 and 11:30 Fri., C
 Trudy Woods, 9:30 p.m. Tues., R

TALKS

Boake Carter, 7:45 p.m. Mon. thru Fri., C
 Father Coughlin, 8 p.m. Sun., M
 Jimmy Fidler, 10:30 p.m. Tues., R
 Floyd Gibbons, 9 p.m. Sat., C; 10 p.m. Thurs., C
 Eddie Guest, 8:30 p.m. Tues., B
 Edwin C. Hill, 10 p.m. Sun., B
 H. V. Kaltenborn, 10:45 p.m. Sun., C
 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
 Walter Winchell, 9 and 11:15 p.m. Sun., B
 Alexander Woolcott, 7:30 p.m. Tues. and
 Thurs., C

The MONTH'S CHANGES in STATION DATA

This information is compiled just before we go to press, after the forms for most of the other pages are closed. Some very recent changes, received too late to index in this issue, are here included, and will be incorporated next month in our main indices.

Shortwaves

New
 6.164 OAX1B, Chiclayo, Peru
 6.210 YVIRI, Coro, Venezuela
 7.004 EA9AH, Tetuan, Spanish Morocco
 10.430 TYE3, Pontoise, France
 11.780 OER2, Vienna, Austria
 11.796 OAX5B, Ica, Peru
 11.820 XEBR, Hermosillo, Son.
 13.760 TYE2, Pontoise, France
 18.100 TYE, Pontoise, France

Add

2.366 CZ50, Ottawa, Ont.
 2.450 KADK, Hilo, Hawaii
 2.490 WAMI, Bluffton, Ind.
 2.500 XEXP, Monterrey, N. L.
 4.107 HCJB, Quito, Ecuador
 4.500 CZ5K, Saboygama, Canada

4.800 CZ5L, Mud Lake, Sask.,
 CZ9U, St. Felicia, Can.
 7.901 LSL1, Buenos Aires, Arg.
 8.075 IRF, Rome, Italy
 10.300 LSL2, Buenos Aires, Arg.
 14.500 LSM2, Buenos Aires, Arg.
 14.530 LSN1, Buenos Aires, Arg.
 15.800 XOJ, Shanghai, China
 15.810 LSL3, Buenos Aires, Arg.
 19.140 LSM3, Buenos Aires, Arg.
 21.020 LSN6, Buenos Aires, Arg.
 21.160 LSL4, Buenos Aires, Arg.
 26.400 W9XAZ, Milwaukee, Wis.

Delete

9.895 LSN, Buenos Aires, Arg.
 14.480 LSN, Buenos Aires, Arg.

Broadcast Band

New

640 XEBX, Sabinas, Coah

940 Ashtabula, Ohio
 950 Saginaw, Mich.
 1000 VOCM, St. John's, Nfld.
 1060 W3XJ, College Park, Md.
 1160 CMKK, Santiago, Cuba
 1190 CMKK, Santiago, Cuba
 KTKC, Visalia, Calif.
 1200 WDSM, Superior, Wis.
 Albert Lea, Minn.
 Winona, Minn.
 1210 WSNJ, Bridgeton, N. J.
 KPFA, Helena, Mont.
 1220 Santa Barbara, Calif.
 1280 CMKO, Holguin, Cuba
 1330 KRIS, Corpus Christi, Texas
 1370 KOKO, La Junta, Colo.
 1500 WRTD, Richmond, Va.

Reinstated

1200 Florence, S. C.

Frequency

1350 CMKW, Santiago, Cuba, from 1330
 1470 CMOK, Havana, Cuba, from 1460

Power

580 WTAG, Worcester, Mass., 1000 from 500
 1100 CRCV, Vancouver, B. C., 5000 from 1000
 1120 KRSC, Seattle, Wash., 250 from 100
 1310 KRRV, Sherman, Texas, 250 from 100
 1440 WBIG, Greensboro, N. C., 1000 from 500
 1450 CFCT, Victoria, B. C., 50 from 75

Location

1210 KDON, Monterrey Calif., from Del Monte
 WMFN, Grenada, Miss., from Clarksdale

Network

560 KSFO, San Francisco, Calif., new CBS
 580 KMJ, Fresno, Calif., NBC from CBS
 WCHS, Charleston, W. Va., new CBS
 620 WLBZ, Bangor, Me., new MBS
 630 WGBF, Evansville, Ind., new NBC
 1060 WBAL, Baltimore, Md., new MBS
 1180 KOB, Albuquerque, N. Mex., new NBC
 1310 WBOW, Terre Haute, Ind., new NBC
 WLNH, Laconia, N. H., new MBS
 1370 KERN, Bakersfield, Calif., to NBC-Blue
 WRDO, Augusta, Me., new MBS
 1390 KOY, Phoenix, Ariz., new CBS
 1490 KFBK, Sacramento, Calif., new NBC
 from CBS
 1500 KVOE, Santa Ana, Calif., new MBS
 1550 KPMC, Bakersfield, Calif., new MBS

Owner

600 WICC, Bridgeport, Conn., Yankee Net-
 work, Inc.
 780 WEAN, Providence, R. I., Yankee Net-
 work, Inc.
 1090 XEAQ, Rosarito, B. Cfa., Radio Mexsa
 1230 WNAC, Boston, Mass., Yankee Network,
 Inc.
 1260 WHIO, Dayton, Ohio, Dayton Daily News
 1340 WSPD, Toledo, Ohio, Fort Industry Co.
 1410 WAAB, Boston, Mass., Yankee Network,
 Inc.

Delete

640 XEBX, Saltillo, Coah.
 850 CMBN, Havana, Cuba
 1330 CMKW, Santiago, Cuba
 1380 CMCR, Havana, Cuba

Permit to Change Frequency

950 KHSL, Chico, Calif., to 1260
 1210 WMBG, Richmond, Va., to 1350
 1310 WOL, Washington, D. C., to 1230
 1420 KRLC, Lewiston, Idaho, to 1390
 WJBO, Baton Rouge, La., to 1120

Permit to Change Power

630 WGBF, Evansville, Ind., to 1000 w.
 1210 WJTN, Jamestown, N. Y., 100 from 50
 WMBG, Richmond, Va., 500 from 100
 1310 WOL, Washington, D. C., 1000 from 100
 1420 KRLC, Lewiston, Idaho, 250 from 100
 WJBO, Baton Rouge, La., 500 from 100

Permit to Change Location

880 WPHR, Petersburg, Va., to Richmond
 (will be WRNL).
 1420 KCMC, Texarkana, Ark., to Texarkana,
 Tex.
 1450 WTFI, Athens, Ga., to Atlanta

The USSR is encouraging amateur radio by offering medals to amateurs for outstanding work in their hobby. There are already over 500 "hams" in the Union and the number increases rapidly. To encourage the further growth of enthusiasts the Central Committee of the Society for Aerial and Chemical Defense has decided to confer the titles "Sniper of the Ether" and "Master of Shortwave Connections." Snipers of the Ether will be those amateurs who have established telephone and code contacts with all the regions of the USSR and all the continents. The Master of Shortwave Connections, in addition to the requirements for the Sniper title, must have worked in his hobby for at least five years and must carry on active experimental work.

Parkyakarkus, Eddie Cantors former stooge, has signed on the Al Jolson show, replacing Sid Silvers. His present contract will run for 13 weeks.

THE BROADCASTING STATIONS OF AUSTRALASIA

This completely revised list of Australasian stations is compiled from official information supplied by A. I. Breen of Dunedin, New Zealand, and the Postmaster-General's Department of Melbourne, Australia.

AUSTRALIA			Grafton			2KO 1410 500			NEW CALEDONIA		
Adelaide			2GF 1210	100		2NC 1230	2000		Noumea		
5AD 1310	300		2NR 700	7000		Norham			FJP 600	503	
5CL 730	7500		Griffith			6AM 980	2000		NEW ZEALAND		
5DN 960	300		2RG 1470	50		Oakley			Auckland		
5KA 1200	300		Gunnedah			4AK 1220	2000		IVA 650	10000	
Albury			2MO 1370	50		Orange			1YN 880	150	
2AY 1480	100		Hamilton			2GZ 990	2000		1ZB 1090	150	
Applecross			3HA 1010	300		Perth			1ZJ 1310	65	
6PR 880	500		Hobart			6IX 1240	500		Balclutha		
Armidale			7HO 860	120		6ML 1130	500		4ZR 1340	10	
2AD 1080	100		7ZL 620	1000		6VVF 690	3500		Christchurch		
Ayr			Inverell			Port Moresby			3YA 720	10000	
4AY 860	300		2LV 820	100		4PM 1350	190		3YL 1200	500	
Ballarat			4IP 1140	50		Renmark			3ZM 1470	60	
3BA 1320	500		6GF 720	2000		5RM 850	1000		Cromwell		
Bathurst			6KG 1210	500		Richampton			4ZC 1280	20	
2BS 1500	100		Katanning			4RK 910	5000		Dunedin		
Bendigo			6WB 1070	2000		4RO 1330	50		4YA 790	10000	
3BO 970	200		Katoomba			Sale			4YO 1140	150	
Birchip			2KA 1160	100		3TR 1240	500		4ZB 1010	35	
3UB 1190	100		Kelso			Shepparton			4ZL 1220	100	
Brisbane			7NT 710	7000		3WR 1280	500		4ZM 1010	60	
4BC 1120	1000		Launceston			Swan Hill			4ZO 1010	25	
4BH 1580	1000		7LA 1100	300		8SH 1130	100		Gisborne		
4BK 1290	500		Lismore			2BL 740	4000		2ZJ 980	200	
4QQ 800	5900		2LM 900	500		2CH 1190	1000		2ZM 1150	15	
Broken Hill			3CI 830	7000		2FC 610	3500		Greymouth		
2BH 1060	100		Longford			2GB 870	1000		3ZR 949	400	
Bundaberg			Longreach			2KY 1020	1000		Hastings		
4BU 1480	100		4LG 1100	300		2SM 1270	1000		2ZL 1240	20	
Burnie			Lubeck			2TE 950	1000		Invercargill		
7BU 660	50		3LK 1090	2000		2UW 1110	750		4ZP 620	500	
Cairns			Mackay			Tamworth			Manurewa		
4CA 1390	100		4MK 1080	100		2TM 1300	50		1ZM 1260	175	
Canberra			Maryborough			4GR 1000	500		Masterton		
2CA 1050	500		4MB 1060	100		Townsville			2ZD 1170	5	
Charleville			Melbourne			4TO 1170	200		Napier		
4VL 1430	50		3AK 1500	200		Ulverstone			2ZH 820	65	
Clevedon			3AR 589	4500		7UV 1460	300		Nelson		
4QN 600	7000		3AW 1280	600		Wagga			2ZR 920	50	
Corowa			3DR 1030	600		Warranbool			New Plymouth		
2CO 670	7500		3KZ 1180	600		3YB 1210	100		2YB 760	100	
Crystal Brook			3LO 770	3500		Warwick			Palmerston N.		
5CK 640	7500		3UZ 930	600		Wollongong			2ZF 960	250	
5PI 1040	2000		3XY 1420	600		2WL 1430	300		2ZO 1400	200	
Denitquin			Mildura			FIJI			Wairoa		
2QN 1440	50		3MA 1360	100		Suva			2ZP 900	250	
Dubbo			Minding			ZJV 920 400			Wellington		
2DU 660	100		6WA 560	10000		2YA 570 60000			2YC 840 250		
Geelong			Murray Bridge			2YV 840 250					
3GL 1350	100		5MU 1340	200							
Gouburn			Newcastle								
2GN 1390	200		2HD 1140	500							

The Mexican Ministry of Communications intends to strengthen radio regulations in that country. It has been indicated that the Mexican government will co-operate with the United States in the matter of the border stations. Now word comes through that the Ministry will grant concessions for a period of 20 years to Mexican citizens and organiza-

tions. Morton Downey has just finished a series of transcriptions to be used for broadcasts in the Duchy of Luxembourg and has received a renewal for a second series. These recordings, aired by the powerful Radio Luxembourg, will easily be heard in England, where commercially sponsored broadcasts are not permitted.

SHORTWAVE STATIONS BY LOCATIONS

For shortwave stations arranged by frequencies, see
 February RADEX—1600 kcs to 6000 kcs.
 March RADEX—6000 kcs to 400,000 kcs.

AFGHAN-ISTAN

Kabul
YAH 5.200

ARGENTINA

Buenos Aires
LRU 15.280
LRX 9.660
LSK3 10.250
JSN 14.480
LSN2 9.890
LSX 10.350

AUSTRALIA

Melbourne
VK3LR 9.580
VK3ME 9.500
 Perth
VK6ME 9.500
 Sydney
VK2ME 9.585
VLK 8.095

AUSTRIA

Vienna
OER2 11.780

AZORES

Ponta Delgada
CT2AJ 4.092

BAHAMAS

Nassau
ZFS 4.512

BECHUANALAND

Mafeking
ZMB 5.900

BELGIAN CONGO

Leopoldville
OPM 10.135

BELGIUM

Brussels
ORK 10.330

BERMUDA

Hamilton
ZFA 5.025
ZFB 10.955
 St. George
ZFD 10.335

BRAZIL

Pernambuco
PR48 6.040
 Rio de Janeiro
PPQ 11.670
PRF5 9.500
PSH 10.220

BRITISH GUIANA

Georgetown
VP3GB 6.130
VP3MR 6.010

BULGARIA

Sofia
LZA 14.915
LZA 14.970

CANADA

St. Felicia
CZ9U 4.800
 Shaboyama
CZ5K 4.500

BRITISH COLUMBIA

Rossland
CFU 4.755
CFU 6.720
 Vancouver
CGZ 2.342
VDO 4.436
VDO 4.865
VE9BK 4.795
VE9CS 6.070

MANITOBA

Winnipeg
CJRO 6.150
CJRX 11.720
YYW 2.396

NEW BRUNSWICK

St. John
CJW 2.390
VE9BJ 6.090

NOVA SCOTIA

Halifax
VE9HX 6.130
 Sydney
CJCN 6.010

ONTARIO

Hamilton
CZ6F 1.710
 Ottawa
CZ50 2.366

Toronto

CFRX 6.070
CRXC 6.090
CYQ 2.318

QUEBEC

Drummondville
CPA2 4.465
CGA2 13.745
 Montreal
CFCX 6.005
VE9DN 6.005
VYR 1.712
 Verdun
CJZ 2.390

SASK.

Mud Lake
CZ5L 4.800

CEYLON

Colombo
VPR 6.160

CHILE

Antofagasta
CED 10.230
 Santiago
CB615 6.150
CB615 12.295
CB960 9.600
CEC 5.820
CEC 10.670

CHINA

Canton
XTV 9.490
 Nanking
XGOX 6.820
XGOX 9.460
 Shanghai
XGL 7.970
XGR 11.540
XGW 10.420

COLOMBIA

Armenia
HJ4AB 9.250
 Barranquilla
HJA3 14.940
HJ1AB 6.115
HJ1AB 9.560
HJ1AB 6.042
 Bogota
HJB 14.930
HJN 5.950
HJ3AB 6.055
HJ3AB 6.070
HJ3AB 6.012
HJ3AB 6.122
HRV 8.798

Bucaramanga
HJ2AB 5.980
 Buenaventura
HJU 9.510

Call

HJ5AB 6.085
 Cartagena
HJ1AB 9.500
HJ1AB 9.618
 Cucuta
HJ2AB 9.575
 Ibague
HJ4AB 6.090
 Manizales
HJ4AB 6.108
 Medellin
HJ4AB 5.760
HJ4AB 5.930
HJ4AB 6.138
HJ4AB 6.097
HJ4AB 6.037
 Pereira
HJ4AB 6.145
 Santa Maria
HJ1AB 6.025

San Francisco de Macoris
HJ4V 6.477
 San Pedro de Macoris
HHH 6.775
HHJ 5.855

Santiago de Los Caballeros
HI-1-A 6.190
HIIS 6.420
HI3U 6.015
HI5N 6.150
HI9B 5.885
 Trujillo
HI6 6.280
HIJL 6.500
HI1N 6.243
HI1N 11.280
HIR 14.940
HIT 6.630
HI1X 6.440
HI1Z 6.315
HI1D 6.555
HI1P 6.800
HI8A 6.479

TPA3 11.880
TPA4 11.715
TYA2 9.040
TYE 18.100
TYE3 10.420

GERMANY

Zeesen
DJA 9.560
DJB 15.200
DJC 6.020
DJD 11.770
DJE 17.760
DJL 15.110
DJM 6.080
DJN 9.540
DJO 11.795
DJP 11.855
DJQ 15.280
DJR 15.340
DZB 9.475
DZB 10.042
DZC 10.290
DZG 15.360
DZH 14.460

COSTA RICA

Cartago
TIU 14.545
 Heredia
TI4NR 9.070
 Puntarenas
TI5S 5.905
 San Jose
TI1P 6.690
TI6PH 5.820
TI6P 6.410
 San Ramon
TI5HH 5.500

CUBA

Camaguey
CO9JQ 8.665
 Havana
COCD 6.130
COCH 9.428
COCO 6.010
COCQ 9.750
COCC 11.435
COL2 1.712
 Sasci Spiritus
COHB 6.280
 Santiago
COKG 6.200

CZECHOSLOVAKIA

Prague
CO9JQ 6.115
CO9JQ 11.840
CO9JQ 15.230

DENMARK

Copenhagen
ONY 9.490

DOMINICAN REPUBLIC

La Ramana
HI3C 6.730

ECUADOR

Guayaquil
HC2ET 4.690
HC2J8B 7.850
HC2RL 6.635
 Quito
HCJB 9.978
HCK 7.520
HCLPM 5.725
 Riobamba
PRADO 6.620

EGYPT

Cairo
SUV 10.955
SUZ 13.820

EL SALVADOR

San Salvador
YSJ 14.485
YSL 14.960

ERITREA

Massawa
IDU 13.380
 Addis Ababa
IUA 5.880
IUB 7.620
IUC 11.955
IUD 18.270

FJI

Suva
VPD 13.075
VPD2 9.540
VPD3 8.720

FRANCE

Pontoise
TYB 10.578
TPA2 15.245

GREAT BRITAIN

Daventry
GSA 6.050
G8B 9.510
G8C 9.580
G8D 11.750
G8E 11.860
G8F 15.140
G8G 17.290
G8H 21.470
G8I 15.260
G8J 21.530
G8K 26.100
G8L 6.110
G8N 11.820
G8O 15.180
G8P 15.310

Rugby

GAA 20.380
GAD 19.480
GAS 18.310
GAU 18.620
GBA2 13.990
GBB 13.585
GBC 4.975
GBC 8.680
GBC 17.080
GBL 14.635
GBS 12.150
GBU 12.290
GBW 14.440
GBX 16.140
GBY 6.950
GCB 9.280
GCP 10.770
GCS 9.020
GCU 9.950
GDP 7.920
GDS 6.905
GDW 4.820

GUATEMALA

Guatemala City
TGF 14.545
TGS 5.710
TGWA 9.450
TG2X 5.940

SHORTWAVE STATIONS BY LOCATIONS

HAITI		KENYA		PORTUGAL		RKI 15.080		Wrangell	
Port au Prince		Nairobi		Lisbon		RNE 12.000		KDK 2.538	
HH2S 5.910		VQG 19.430		CSW 9.940		RV59 5.996		ARIZONA	
HH3W 9.845		VQ7LQ 6.060		CTIAA 9.865		RV96 15.080			
HONDURAS		LABRADOR		PORTUGUESE CHINA		TIBET			
La Ceiba		VOWQ 8.830		Macau		RIR 10.080		Phoenix	
HERD 6.235		MANCHUKUO		CQN 9.640		UNITED STATES		KNGG 1.698	
La Lima		Shinklo		SIAM		ALABAMA		KGZJ 2.430	
HRL5 14.485		TDA 6.762		Bangkok		Birmingham		Prescott	
San Pedro Sula		TDB 10.105		HSJ 7.968		WPFM 2.382		KNGH 2.430	
HRF1 6.358		TDC 13.980		HS8PJ 9.350		Mobile		ARKANSAS	
Tegucigalpa		TDD 5.830		HSSPJ 10.955		WPGW 2.382		Port Smith	
HRM 14.485		TDE 10.065		NEW GUINEA		ALASKA		KNHE 2.406	
HRN 5.875		TDF 5.970		Raboul		Akutan		Little Rock	
HONKONG		TDG 7.570		VJZ 13.880		WPGW 2.382		KGHZ 2.406	
Honkong		TDH 13.530		NEW ZEALAND		ALASKA		CALIFORNIA	
ZBW2 6.090		TDI 15.905		Wellington		KHW 2.912		Bakersfield	
ZBW3 9.525		MEXICO		ZIT 10.990		KIOI 2.632		KACS 2.414	
ZBW4 15.190		Guadalajara		ZLT1 11.000		WXE 2.998		KGPS 2.414	
ZBW5 17.755		XEBW 6.075		NICARAGUA		Angoon		Berkeley	
HUNGARY		XECU 6.115		Managua		KAED 2.616		Bolinas	
Budapest		XEDQ 9.480		YNA 14.480		Cordova		KEE 7.715	
HAS3 15.370		Hermosillo		YNAM 7.180		KILD 2.538		KEJ 9.010	
HAT4 9.125		XEBR 11.829		YNIG 8.500		Excursion		KEL 6.860	
ICELAND		Mazatlan		YNOP 5.758		Inlet		KES 9.480	
Reykjavik		XEBM 15.300		NIGG 6.540		KILY 2.994		KEZ 10.400	
TFJ 12.235		Merida		NORWAY		Fairbanks		KKQ 11.950	
INDIA		XEME 9.520		Jeloy		WXV 8.740		KKW 13.780	
Bombay		Mexleo City		LKJ1 9.540		Hidden		KKZ 13.690	
VUB 9.565		XEBT 6.000		PANAMA		Inlet		KLD 2.568	
Kirkce		XECR 7.386		Colon		KLD Hydaburg		KID 2.568	
VWY 9.045		XEPW 6.120		HP5F 6.080		KAEB 2.616		Iron Creek	
VWY2 17.480		XETW 6.045		HP5K 6.005		KIOH 2.632		KIAW 10.840	
VWZ 8.690		XEWI 11.900		David		Jack Wade		KIXW 7.610	
ITALY		XEXA 6.182		HP5 11.740		KAEP 2.616		KJW 7.565	
Rome		XEXA 11.880		Panama City		Juneau		El Centro	
IAG 30.604		XEXF 6.050		HPF 14.545		WXA 8.050		KNGJ 2.490	
I2RO 9.635		Monterrey		HPF4 8.609		Kadiak Island		Kureta	
I2RO 11.810		XEXP 2.500		HP5B 6.030		KIJX 2.632		KACI 2.422	
JAMAICA		Veracruz		HP5J 9.605		Ketchikan		Fresno	
Stoney Hill		XEFT 9.120		PERU		KGM 2.512		KGZA 2.414	
VRR4 11.595		XEFT 9.460		Chiclayo		KIAY 3.093		Lodi	
JAPAN		XEUW 6.020		OAX1B 6.164		KWX 2.604		KNGY 2.414	
Nasaki		MOROCCO		Ica		WXH 6.662		Los Angeles	
JVJ 14.910		Rabat		OAX5B 11.796		Nakteen		KGPL 1.712	
JVH 11.640		CNR 12.830		Lima		KHV 2.568		KIJY 2.726	
JVL 11.666		NETHERLANDS		OAX4D 5.780		Nellie Juan		W6XRG 31.600	
JVM 10.740		Hilversum		OAX4G 6.260		KIOD 2.632		Palo Alto	
JVN 10.660		PCJ 15.220		OCJ2 14.845		Port Hobron		KFS 8.370	
JVT 6.750		PHI 11.730		PHILIPPINE ISLANDS		KHZ 2.912		KSHA 1.674	
JVU 5.790		PHI 17.775		Manila		KIMA 2.632		Pasadena	
JVY 6.730		NETHERLAND EAST INDIES		RAY 14.980		P. Wakefield		KGJX 1.712	
JZH 6.095		Bandoeng		KAZ 9.990		KIOC 2.632		Pomona	
JZI 9.535		PLE 18.830		RBB 8.710		Rose Inlet		KNFJ 1.712	
JZJ 11.800		PLP 11.000		NPO 9.050		KLE 2.512		Sacramento	
JZK 15.160		PLV 9.415		POLAND		KIKP 1.606		KNGE 2.422	
JZL 17.785		PMH 6.720		Babice		KIPW 2.986		San Bernardino	
JZM 21.520		PMK 11.500		SPW 13.635		KIJW 2.986		KGZY 1.712	
		PMN 10.260				KIAJ 2.986		San Buenaventura	
						KFF 2.566		KACN 2.414	
						Waterfall		San Diego	
						KLA 2.566		KGGZ 2.490	
								San Francisco	
								KGPL 2.466	
								KUP 6.440	
								NPG 12.885	
								W6XAS 31.600	

SHORTWAVE STATIONS BY LOCATIONS

San Jose KGPM 2.466	W4XB 6.040 2.442	Sterling WQPG 1.610	Eldorado KAPD 2.450	Marshfield WOU 2.506	NEBRASKA
San Rafael KLH 2.506	Orlando WPHM 2.442	Urbana 2.458	Garden City KNFH 2.474	Medford WPHG 1.712	Lincoln KGZU 2.490
Santa Ana KGHX 2.490	Palm Beach WPFX 2.442	Waukegan WQFX 1.712	Hutchinson KGNH 2.450	Newton WPFA 1.712	Norfolk KNGN 2.490
Santa Barbara KGZO 2.414	Tampa WPHN 2.466	INDIANA	Iola 2.450	Northampton WPEW 1.666	Omaha KGPI 2.466
Santa Cruz KGZT 1.674	W. Palm Beach 1.698	Bluffton WAMI 2.490	Salina KNGV 2.422	Somerville WPEH 1.712	NEVADA
Stockton 2.414	GEORGIA	Columbia City WQFW 1.634	Topeka KGZC 2.422	W. Bridge- water WPEL 1.666	Las Vegas KGHG 2.474
Tracy KACO 2.414	Atlanta WPDY 2.414	Connersville WAMB 2.442	Wichita KGPZ 2.450	Worcester WPGX 2.466	Reno KGHM 2.474
Tulare WPDA 2.414	Augusta WQFV 2.414	Culver WPHS 1.634	KENTUCKY	MICHIGAN	NEW HAMPSHIRE
Vallejo KGGP 2.422	Columbus WPTI 2.414	Fort Wayne WPDZ 2.490	Lexington WPET 1.706	Bay City WPGA 2.466	Nashua WPHB 2.422
Whittier KGGY 1.712	La Grange WPGM 2.414	Frankfort WAKK 2.490	Louisville WPDE 2.442	Detroit WCK 2.414	NEW JERSEY
Wilmington KOU 2.760	Macon WQFB 2.414	Huntington WAKA 2.490	LOUISIANA	WCKD 1.630	Bloomfield WAKH 2.430
COLORADO	HAWAII	Indianapolis WMDZ 2.442	Baton Rouge WAME 2.430	WPDX 2.414	Bound Brook W3XAL 6.100
Denver KGPX 2.442	Hilo KADK 2.450	Jasper WPHU 1.634	New Orleans WFD 6.785	WSXWJ 31.600	W3XL 17.780
CONNECTI- CUT	Honolulu KGGP 1.712	Kokomo WPKO 2.490	WFD 10.460	E. Lansing WRDS 1.642	W3XL 6.425
Bridgeport WPFV 2.466	Kaluku KIO 11.680	Lafayette WQFQ 2.442	WPEK 2.430	Flint WPDF 2.442	W3XL 17.310
New Haven WQFA 2.466	KKH 7.520	Marion 2.490	Shreveport KGZI 1.712	Grand Rapids WPEB 2.442	Freehold WAKC 2.366
New London WAKB 2.466	IDAHO	Marion County WPHE 1.634	KNGP 2.430	Grosse Pointe WRDR 2.414	Hackensack WPFK 2.430
Storrs WIXEG 401.000	Idaho Falls KNFB 2.458	Muncie WPGP 2.442	MAINE	Highland Park WMO 2.414	Lawrenceville WKN 5.077
DISTRICT OF COLUMBIA	ILLINOIS	Richmond WPDH 2.442	Portland WPFU 2.422	Jackson WPHJ 2.466	WKF 4.253
Washington WPDW 2.422	Chicago WDBB 1.712	Seymour WQFE 1.634	MARYLAND	Lansing WPDL 2.442	WLA 18.350
FLORIDA	WFPD 1.712	South Bend WPGN 2.490	Baltimore WPFH 2.414	Muskegon WFFC 2.442	WMF 14.470
Clearwater WAKG 2.466	WFPDD 1.712	IOWA	Beltsville W3XEY 31.600	Paw Paw WRDP 1.642	WMN 14.590
Dinsmore WQFK 2.466	WQPC 1.610	Atlantic KACD 1.682	WWV 5.000	Port Huron WFGB 2.466	WOA 6.755
WANB 2.726	W9XAA 6.080	Cedar Rapids KGOZ 2.466	WWV 10.000	Saginaw WPFES 2.442	WOB 5.850
Duval County WAKJ 1.698	W9XBS 6.425	Davenport KGNP 2.466	WWV 15.000	MINNESOTA	WOF 9.750
Ft. Lauderdale WAKO 2.442	W9XF 6.106	Des Moines KGHO 1.682	MASSA- CHUSETTS	Duluth W9XHW 401.000	WON 9.870
Gainesville WQFC 2.466	W9XF 6.425	KGZG 2.466	Arlington WPEP 1.712	Redwood Falls KNHD 1.658	..... 7.555
Hialeah WNC 15.055	DeQuolin WQPD 1.610	Fairfield KACC 1.682	Boston WEY 1.630	St. Paul WPDS 2.430	7.565
WND 4.098	Efingham WQFE 1.610	Sloux City KGGK 2.466	WPGV 1.712	Newark W2XJI 31.600	New
WNC 15.055	Elgin W9XAM 4.797	Storm Lake KNFO 1.682	WIXAL 6.040	Brunswick WKJ 9.460	Brunswick
..... 2.514	Highland Park WPPD 2.430	Waterloo KNFN 1.682	WIXAL 11.790	Ocean Gate WOO 4.178	Ocean Gate
..... 4.288	Macomb WQPM 1.610	KANSAS	WIXAL 15.250	WOO 4.753	WOO 8.560
Jacksonville WPFJ 2.442	Oak Park WQFL 1.712	Atchison KACA 2.422	WIXR 31.600	WOO 12.840	WOO 17.120
Lakeland WPFT 2.442	Ottawa WQFZ 2.458	Chanute KCGZ 2.450	WIXK 9.570	..... 401.000	..... 7.555
Miami WPFZ 2.442	Pontiac WQPP 1.610	Coffeyville KCGZ 2.450	Cohasset WFGU 1.712	Redwood Falls KNHD 1.658	7.565
Springfield WQPS 1.610	Rockford WQPD 2.458	Dodge City KNGH 2.474	Everett WFK 1.712	St. Paul WPDS 2.430	7.565
			Fairhaven WPFN 1.712	MISSOURI	Newark
			Fall River WAKV 1.712	Jefferson KIUK 1.674	Newark
			Fitchburg WPA 2.466	Kansas City KGPE 2.422	Newark
			Framingham WMP 1.666	W9XER 31.600	Newark
				St. Louis KGPC 1.706	Newark
				W9XPD 31.600	Newark

SHORTWAVE STATIONS BY LOCATIONS

Auburn WPDN 2.382	OHIO	Salem KGZR 2.442	Rapid City KNGM 2.450	Petersburg WQFI 2.450	Kenosha WPEP 2.450
Binghamton WPGI 2.442	Akron WPDO 2.458	PENN- SYLVANIA	TENNESSEE	Richmond WPHE 2.450	Milwaukee WPDK 2.450
Bronx WPEF 2.450	Cincinnati WKDU 1.706	Harrisburg WPSF 1.674	Elizabethton WPHY 2.474	Roanoke WQFG 2.450	W9KAZ 26.400 W9KAZ 31.600
Brooklyn WPEE 2.450	Cleveland WRBH 2.458	Monessen WQFT 2.482	Johnson City WPGZ 2.474	WASH- INGTON	Oshkosh WAKE 2.382
Buffalo WMIJ 2.422	Columbus WPDI 2.430	New Castle WPCT 2.482	Knoxville WPFO 2.474	Aberdeen KGZV 2.414	CRUGUAY
Herkimer WAKN 2.414	Dayton WPDM 2.430	Oil City WPHZ 2.482	Memphis WPEC 2.466	Bellingham KACK 2.414	Montevideo CXA4 6.125
Hicksville W2XGB 6.425	Lancaster WQFO 2.430	Philadelphia WPDP 2.474	Nashville 1.666	KACK 2.414 KNFK 2.490	VATICAN STATE
Huntington WPGO 2.490	Lorain WMI 2.550	W3NAU 6.060 W3XAU 9.590	TEXAS	Centralia KGHW 2.414	Vatican City HVJ 15.120
Mineola WPGS 2.490	Mansfield WQFY 2.474	Pittsburgh WPDU 1.712	Austin KGHU 2.442	Edmonds KOV 2.522	VENEZUELA
Mitchell Field	Portsmouth WPGI 2.430	W8XK 6.140 W8XK 11.870 W8XK 15.210 W8XK 21.540 W8XA 31.600 W8XA 55.500 W8XA 60.500	Beaumont KGJ 1.712	Ellenburg KNFX 2.490	Barquisimeto YV3RB 5.880
W09 6.385	Sandusky WAKI 2.474	Reading WPEE 2.442	Big Spring KACM 2.458	Ephrata KNGZ 2.490	Bolivar YV6RB 6.545
WHD 8.760 WPEG 2.450 W2XE 6.120 W2XE 11.830 W2XE 15.270 W2XE 17.760 W2XE 21.620	Steubenville WPHD 2.458	Sharon WQFC 2.482	Brownsville KGHT 2.382	Everett KNFP 2.414	Caracas YV5RC 5.800
Niagara Falls WNFP 2.422	Toledo WRDQ 2.474	Spartanburg WPTQ 2.474	Claburne KNGE 1.712	Kalaloch KACQ 2.490	YV5RD 6.156 YV5RF 6.380 YV5RH 6.400 YV5RJ 6.250 YV5RP 6.270
Ononota WQFJ 2.414	Youngstown WPDG 2.458	Wilkes-Barre WQFM 2.442	Corpus Christi KGHV 2.382	Mt. Vernon KNFI 2.414	Coro YV1RI 6.210
Rochester WPDR 2.422	Zanesville WPHO 2.430	York 2.442	Dallas KVP 1.712	Olympia KACE 2.414	Maraicao YV1RB 5.850
W3XAI 31.600	OKLAHOMA	Puerto Rico	Denton KNHF 1.712	Pl. Angeles KNFC 2.490	Bolivar YV6RB 6.545
Rocky Point WDN 4.550	Ada KNHC 2.450	RHODE ISLAND	El Paso KGZM 2.414	Seattle KGHD 2.490	Maracaibo YV1RH 6.070
WEA 10.610 WES 9.448 WET 9.470 WEZ 8.075 WQP 13.900 WQV 14.800	Altus KACL 2.450	San Juan 9.940	Fort Worth KGPR 1.712	Spokane KGHS 2.414	YV1RM 6.500
Schenectady W2XAD 15.330	Chickasha KACF 2.450	WCT 13.410	Galveston KNGI 1.712	Tacoma KGZN 2.414	Maracaibo YVQ 6.672
W2XAF 9.530	Cushing KAPB 2.450	RHODE ISLAND	Gladewater KACU 1.712	Vancouver KNGC 2.490	YVQ 13.337 YVR 9.168 YV4RD 6.300
S. Schenectady WPGC 1.658	Drumright KAPC 2.450	Cranston WPGK 2.466	Houston KGZB 1.712	Walla Walla KACV 2.414	San Cristobal YV2RA 5.710
Syracuse WPEA 2.382	Duncan KNGK 2.450	E. Providence WPEI 1.712	Lubbock KGZW 2.458	Wenatchee KNGD 2.490	Valencia YV4RB 6.520
Utica WPGJ 2.414	Lawton RGHP 2.450	Pawtucket WPFV 2.466	San Antonio KGZE 2.482	Wenatchee KACJ 2.414	YV4RH 5.910
Yonkers WPFY 2.442	Muskogee KNGT 2.450	Providence WPGF 1.712	Waco KGZQ 1.712	Yakima KNGB 2.490	Valera YV1RG 6.345
NORTH CAROLINA	Norman KAPF 2.450	Woonsocket WPEM 2.466	Wichita Falls KGZI 2.458	KNGU 2.414	VIRGIN ISLANDS
Asheville WPF5 2.458	Oklahoma City KGPH 2.450	SOUTH CAROLINA	UTAH	WEST VIRGINIA	St. Croix WTDW 4.295
WPFS 2.474	Olmulgee KAPF 2.450	Charleston WCPD 2.430	Salt Lake City KGPW 2.406	Charleston WPHI 2.490	St. John WTDX 4.295
Charlotte WPDV 2.458	Poncea City KACP 2.450	SOUTH CAROLINA	VIRGINIA	Fairmont WPHJ 2.490	St. Thomas WTDV 4.295
NORTH DAKOTA	Seminole KACR 2.450	Charleston WCPD 2.430	Arlington NAA 4.390	Parkersburg WPHQ 2.490	YUGO SLAVIA
Fargo KNHM 2.442	Tulsa KGFO 2.450	SOUTH DAKOTA	NAA 9.250 NAA 9.425 NAA 12.630 NAA 16.820	Green Bay KNHB 2.382	Belgrade 6.100
	OREGON	Huron KVPB 2.450	Lynchburg WQFH 2.450		
	Klamath Falls KGZH 2.442				
	Portland KGPP 2.442				

SHORTWAVE STATIONS BY CALL LETTERS

CB615	6.150	GBB	13.585	HJ1ABB		IUB	7.620	KGHY	1.712	KLA	2.566	NAA	12.630
CB615	12.295	GBC	4.975		6.115	IUC	11.955	KGHZ	2.406	KLD	2.566	NAA	16.820
CB960	9.600	GBC	8.690	HJ1ABB		IUD	18.270	KGXG	1.712	KLE	2.512	NPQ	12.885
CEC	5.820	GBC	17.080		9.560	I2RO	9.635	KGM	2.512	KLH	2.506	NPO	9.050
CEC	10.670	GBL	14.635	HJ1ABC		I2RO	11.810	KGOZ	2.466	KNBE	5.165	OAX1B	6.164
CED	10.230	GBS	12.150		6.010	JIB	10.535	KGPA	2.414	KNFA	2.414	OAX4G	5.780
CFA2	4.465	GBU	12.290	HJ1ABD		JVG	14.910	KGPB	2.430	KNFB	2.458	OAX4G	6.260
CFCX	6.005	GBW	14.440		7.280	JVH	14.640	KGPC	1.706	KNFE	2.282	OAX5B	
CFRX	6.070	GBX	16.140	HJ1ABE		JVL	11.660	KGPD	2.466	KNFG	2.490		11.796
CFU	4.755	GBY	6.950		9.500	JVM	10.740	KGPE	2.422	KNFH	2.474	OCJ2	14.845
CFU	6.720	GCB	9.280	HJ1ABG		JVN	10.660	KGPF	2.414	KNFI	2.414	OER2	11.780
CGA2	13.745	GCP	10.770		6.042	JVT	6.750	KGPG	2.422	KNFJ	1.712	OLR	11.840
CGZ	2.342	GCS	9.020	HJ1ABJ		JVU	5.790	KGPH	2.460	KNFK	2.490	OPM	10.135
CJCX	6.016	GCU	9.950		6.025	JVW	5.730	KGPI	2.466	KNFM	2.490	ORK	10.330
CJRO	6.150	GDP	7.920	HJ1ABP		JZH	6.095	KGPJ	1.712	KNFN	1.682	OXY	9.490
CJRX	11.720	GDS	6.905		9.618	JZI	9.535	KGPK	2.466	KNFO	1.682	PCJ	9.590
CJW	2.390	GDW	4.820	HJ2ABA		JZJ	11.800	KGPL	1.712	KNFP	2.414	PCJ	15.220
CJZ	2.390	GSA	6.050		6.170	JZK	15.160	KGPM	2.466	KNFX	2.490	PHI	11.730
CNR	12.830	GSB	9.510	HJ2ABC		JZL	17.785	KGPN	2.466	KNGB	2.490	PHI	17.775
COCB	6.130	GSC	9.580		9.575	JZM	21.520	KGPO	2.480	KNGC	2.490	PLE	18.830
COCH	9.428	GSD	11.750	HJ2ABD		KACA	2.422	KGPP	2.442	KNGD	2.490	PLP	11.410
COCO	6.010	GSE	11.860		5.980	KACC	1.682	KGPP	1.712	KNGE	1.712	PLV	9.415
COCQ	9.750	GSF	15.140	HJ3ABD		KACD	1.682	KGPR	1.712	KNGF	2.422	PMH	6.720
COCX	11.435	GSF	17.790		6.055	KACE	2.414	KGPS	2.414	KNGG	1.698	PMK	11.500
COHB	6.280	GSH	21.470	HJ3ABF		KACF	2.450	KGPW	2.406	KNGH	2.474	PMN	10.260
COKG	6.200	GSI	15.260		6.070	KACI	2.422	KGPX	2.442	KNGJ	2.490	PMY	5.415
COL2	1.712	GSJ	21.530	HJ3ABH		KACJ	2.414	KGPZ	2.450	KNGK	2.450	PPQ	11.670
CO9J	8.665	GSK	26.100		6.012	KACK	2.414	KGQ	2.988	KNGL	1.712	Prado	6.620
CO9WR		GSL	6.110	HJ3ABX		KACL	2.450	KGZA	2.414	KNGM	2.450	PR8	6.040
	6.280	GSN	11.820		6.122	KACM	2.458	KGZB	1.712	KNGN	2.490	PRF5	9.500
CQN	9.640	GSO	15.180	HJ4ABB		KACN	2.414	KGZC	2.422	KNGO	2.450	PSH	10.220
CRXC	6.090	GSP	15.310		6.108	KACO	2.414	KGZD	2.490	KNGP	2.430	PZH	7.000
CSW	9.940	HAS3	15.370	HJ4ABC		KACP	2.450	KGZE	2.482	KNGQ	2.490	RAN	9.595
CT1AA	9.665	HAT4	9.125		6.090	KACQ	2.490	KGZF	2.450	KNGR	2.490	RKI	10.480
CT2AJ	4.002	HBI	9.655	HJ4ABD		KACR	2.450	KGZG	2.466	KNGT	2.450	RKI	15.040
CXA4	6.125	HBP	7.797		5.760	KACS	2.414	KGZH	2.442	KNGU	2.414	RKI	15.080
CYQ	2.318	HCJB	8.948	HJ4ABD		KACU	1.712	KGZI	2.458	KNGV	2.422	RNE	12.000
CZ5K	4.500	HCK	7.520		5.930	KACV	2.414	KGZJ	2.430	KNGW	2.458	ROU	14.960
CZ5L	4.800	HC1PM			6.138	KADD	2.450	KGZK	1.712	KNGY	2.414	RV15	4.273
CZ5O	2.366		5.725	HJ4ABE		KAEB	2.616	KGZM	2.414	KNGZ	2.490	RV15	5.720
CZ6F	1.710	HC2ET			6.097	KAED	2.616	KGZN	2.414	KNH8	2.382	RV59	5.996
CZ9U	4.800	HC2J5B	4.600		6.097	KAEF	2.616	KGZO	2.414	KNH8	2.458	RV96	15.175
DJA	9.560			HJ4ABH		KAEP	2.016	KGZP	2.450	KNH9	1.658	RV96	15.080
DJB	15.200		7.850		9.520	KAEP	2.016	KGZQ	1.712	KNH8	2.406	SPW	13.635
DJC	6.020	HC2RL		HJ4ABP		KAPB	2.450	KGZR	2.442	KNHF	1.712	SUV	10.055
DJD	11.770		6.635		6.030	KAPC	2.450	KGZS	1.674	KNHG	2.430	SUZ	13.820
DJE	17.760	HH2S	5.910	HJ4ABU		KAPD	2.450	KGZU	2.490	KNHM	4.442	TDA	6.762
DJL	15.110	HH3W	9.645		6.145	KAPE	2.450	KGZV	2.414	KOU	2.760	TDB	10.105
DJM	6.080	HIG	6.280	HJ5ABD		KAPF	2.450	KGZW	2.458	KOW	2.522	TDD	3.980
DJN	9.540	HIH	6.775		6.085	KAY	14.980	KGZV	2.458	RSW	1.658	TDD	5.830
DJO	11.795	HIL	6.500		8.798	KBB	8.710	KGZY	1.712	KUP	6.440	TDE	10.065
DJP	11.855	HIN	6.243	HPF	14.545	KDB	2.538	KHV	2.566	KVP	1.712	TDF	5.970
DJQ	15.280	HIN	11.280	HPF4	8.600	KEE	7.715	KHW	2.912	KWP	2.450	TDF	7.570
DJR	15.340	HIR	14.940	HP5B	6.030	KEJ	9.010	KHZ	2.912	KWO	15.415	TDH	13.530
DZA	9.675	HIT	6.630	HP5F	6.080	KEL	6.860	KIAY	3.093	KWU	15.355	TDH	15.905
DZB	10.042	HIX	6.340	HP5J	9.605	KES	9.480	KIHY	2.726	KWV	10.840	TFJ	12.235
DZC	10.290	HIZ	6.315	HP5K	6.005	KEZ	10.400	KIJW	2.632	KWX	7.610	TGF	14.545
DZG	15.360	HILA	6.190	HP5L	11.740	KFF	2.566	KLJX	2.632	KWY	7.565	TGS	5.710
DZH	14.460	HIJ	5.855	HRD	6.235	KFS	8.370	KIKP	1.606	LKJ1	9.540	TGWA	9.450
EAH	9.475	HIIS	6.420	HRL5	14.485	KGHD	2.490	KILD	2.538	LRU	15.280	TGX2	5.940
EAQ	9.860	HI3C	6.730	HRM	14.485	KGHH	2.474	KILY	2.994	LRX	9.660	TIFP	6.690
EA9AH		HI3U	6.015	HRN	5.875	KGHK	1.674	KIMA	2.632	LSK3	10.250	TIGPH	5.820
	7.044	HI4D	6.555	HRP1	6.358	KGHM	2.474	KIO	11.680	LSL	10.250	TIMS	5.905
EDR4	6.534	HI4V	6.477	HSJ	7.968	KGHN	2.450	KIOC	2.632	LSN	14.480	TIN	14.545
EHZ	10.370	HI6N	6.153	HS8P	9.350	KGHO	1.682	KIOD	2.632	LSN2	9.890	TIPG	6.410
FOBA4	7.100	HI7P	6.800	HS8PJ		KGHP	2.450	KIOH	2.632	LSN5	19.650	TIU	14.545
FYB	10.578	HIA8	6.479		10.955	KGHS	2.414	KIOI	2.632	LSX	10.350	TI4NRH	
GAA	20.380	HI9B	5.885	HVJ	15.120	KGHT	2.382	KIUK	1.674	LZA	14.915		9.670
GAD	19.480	HJA3	14.940	IAG	30.604	KGHU	2.442	KKH	7.520	LZA	14.970	TI5HH	5.500
GAS	18.310	HJB	14.930	ICK	9.460	KGHV	2.382	KKQ	11.950	NAA	4.390	TPA2	15.245
GAU	18.620	HJN	5.950	IDU	13.380	KGHW	2.414	KKW	13.780	NAA	9.250	TPA3	11.880
GBA2	13.990	HJU	9.510	IUA	5.880	KGHX	2.490	KKZ	13.690	NAA	9.425	TPA4	11.715

SHORTWAVE STATIONS BY CALL LETTERS

TYA2 9.040	WHH 8.360	WFFD 2.430	WQFO 2.430	31.600	XGOX 6.820
TYE 18.100	WKDT 1.630	WFFE 2.442	WQFQ 2.442	W3XL 6.425	XGOX 9.460
TYE3 10.420	WKDU 1.706	WFFG 2.442	WQFT 1.692	W3XL 17.310	XGR 11.540
VDO 4.436	WKF 4.253	WFFH 2.414	WQFU 2.482	W4XB 6.040	XGW 10.420
VDO 4.865	WKJ 9.460	WFFI 2.414	WQFV 2.414	W8XAS	XTV 9.400
VE9BJ 6.090	WLA 18.350	WFFK 2.430	WQFW 1.634	31.600	YAH 5.200
VE9BK	WMDZ 2.442	WFFM 2.382	WQFX 1.712	W8XKG	YDA 3.040
4.795	WME 14.470	WFFN 1.712	WQFY 2.474	31.600	YDA 6.040
VE9CS 6.070	WMI 2.550	WFFO 2.474	WQFZ 2.458	W8XAI	YDA5 6.120
VE9DN	WML 2.422	WFFP 2.490	WQF 13.900	31.600	YDB 9.610
6.005	WMN 14.590	WFFQ 2.474	WQFC 1.610	W8XAL	YDB 11.860
VE9HX	WMO 2.414	WFFS 2.458	WQFD 1.610	6.060	YDC 15.150
6.130	WMP 1.666	WFFS 2.474	WQFF 1.610	W8XK 6.140	YDG5 4.805
VJZ 13.880	WNC 15.055	WFFT 2.442	WQFG 1.610	W8XK	YDL2 4.810
VK2ME	WND 4.098	WFFU 2.422	WQPM 1.610	11.870	YNA 14.480
9.585	WNFP 2.422	WFFV 2.466	WQPP 1.610	W8XK	YNAM 7.180
VK3LR	WOA 6.755	WFFW 2.466	WQPS 1.610	15.210	YNLG 8.500
9.580	WOB 5.850	WFFX 2.442	WQV 14.800	W8XK	YNOP 5.758
VK3ME	WOF 9.750	WFFY 2.442	WRBH 2.458	21.540	YNIGG
9.500	WON 9.870	WFFZ 2.442	WRDP 1.642	W8XKA	6.540
VK6ME	WOO 4.178	WPGA 2.466	WRDQ 2.474	31.600	YSJ 14.485
9.590	WOO 4.753	WPGB 2.466	WRDR 2.414	W8XKA	YSL 14.960
VLK 8.095	WOO 8.560	WPGC 1.658	WRDS 1.642	55.500	YVQ 6.672
VOWQ 8.630	WOO 12.840	WPGD 2.458	WSC 8.430	W8XKA	YVQ 13.337
VPB 6.160	WOO 17.120	WPGF 1.712	WTDV 4.295	60.500	YVR 9.168
VPD 13.075	WOU 2.596	WPGH 2.414	WTDW 4.295	W8XWJ	YVIRB 5.850
VPD2 9.540	WO9 6.385	WPGI 2.430	WTDX 4.295	31.600	YVIRD
VPD3 8.720	WPDA 2.414	WPGJ 2.414	WVD 2.604	W9XAA	6.070
VP3BG	WPDB 1.712	WPGK 2.466	WVD 8.620	6.080	YVIRG
6.130	WPDC 1.712	WPLG 2.442	WVV 5.000	W9XAA	6.345
VP3MR	WPDD 1.712	WPGM 2.414	WVV 10.000	11.830	YVIRH
6.010	WPDE 2.442	WPGN 2.490	WVV 15.000	W9XAM	6.360
VQG 19.630	WPDF 2.442	WPGO 2.490	WXA 8.050	4.797	YVIRI
VQ7LO 6.060	WPDG 2.458	WPGP 2.442	WXE 2.998	W9XAZ	6.210
VRR4 11.595	WPDH 2.442	WPGS 2.490	WXH 2.604	26.400	YVIRK
VUB 9.565	WPGI 2.430	WPGT 2.482	WXH 6.662	W9XAZ	5.930
VWY 9.045	WPDJ 2.414	WPGU 1.712	WXH 8.050	31.600	YVIRM
VWY2 17.480	WPKD 2.450	WPGV 1.712	WXV 8.740	W9XBS	6.500
VWZ 8.690	WPDL 2.442	WPGW 2.382	W1XAL	6.425	YV2RA
VYR 1.712	WPDN 2.430	WPGX 2.466	6.040	W9XER	5.710
YVW 2.396	WPDN 2.382	WPGZ 2.474	W1XAL	31.600	YV3RB 5.880
YWAJN 2.726	WPDO 2.458	WPH 2.466	11.790	W9XF 6.100	YV3RB 9.565
WAKA 2.400	WPDP 2.474	WPHB 2.422	W1XAL	6.425	YV4RB 6.520
WAKB 2.466	WPDR 2.422	WPHD 2.458	15.250	W9XHW	YV4RD
WAKC 2.366	WPDS 2.430	WPHF 1.634	W1XEG	401.600	6.300
WAKE 2.382	WPDT 2.490	WPHG 2.450	401.000	W9XPW	YV4RH
WAKF 1.712	WPDU 1.712	WPHI 1.712	31.600	31.600	5.910
WAKG 2.466	WPDV 2.458	WPHJ 2.490	W1XER	XEBM	YV5RC
WAKH 2.430	WPDW 2.422	WPHK 2.490	31.600	15.300	5.800
WAKI 2.474	WPDX 2.414	WPHL 2.442	W2XAD	XEBR 11.820	YV5RD
WAKJ 1.698	WPDY 2.414	WPHN 2.466	15.330	6.000	6.156
WAKK 2.490	WPDE 2.490	WPHO 2.430	W2XAF	XEBW 6.075	YV5RF 6.380
WAKN 2.414	WPE 2.382	WPHP 2.466	9.530	XECR 7.380	YV5RH
WAKO 2.442	WPEB 2.442	WPHQ 2.490	W2XE 6.120	XECU 6.115	6.400
WAKV 1.712	WPEC 2.466	WPHS 1.634	W2XE 11.830	XEDQ 9.480	YV5RJ 6.259
WAMB 2.442	WPEE 1.712	WPHU 1.634	W2XE 15.270	XEFT 6.120	YV5RP
WAME 2.430	WPEE 2.450	WPHY 2.474	W2XE 17.760	XEFT 9.460	6.270
WAMI 2.490	WPEF 2.450	WPHZ 2.482	W2XE 21.520	XEME 9.520	YV6RB 6.545
WANB 2.726	WPEG 2.450	WPSF 1.674	W2XGB	XEPW 6.120	ZBW2 6.090
WCK 2.414	WPEH 1.712	WQFA 2.466	6.425	XERY 5.920	ZBW3 9.525
WCN 5.077	WPEI 1.712	WQFB 2.414	W2XJI	NETW 6.045	ZBW4 15.190
WCND 2.430	WPEK 2.430	WQFC 2.466	31.600	XEUW 6.020	ZBW5 17.755
WCT 13.410	WPEL 1.666	WQFE 1.634	W3XAL	XEWI 6.015	ZFA 5.025
WDN 4.550	WPEM 2.466	WQFF 2.482	6.100	XEWI 11.900	ZFB 10.055
WEA 10.610	WPEP 2.450	WQFG 2.450	W3XAL	XEXA 6.182	ZFD 10.335
WES 9.448	WPEP 2.442	WQFH 2.450	17.780	XEXA	ZFS 4.512
WET 9.470	WPET 1.706	WQFI 2.450	W3XAU	11.880	ZHI 6.018
WEY 1.630	WPEV 1.666	WQFJ 2.414	6.060	XEXF 6.050	ZIJ 6.080
WEZ 8.075	WPEW 1.666	WQFK 2.466	W3XAU	XEXP 2.500	ZIT 11.900
WFD 6.785	WPEX 1.712	WQFL 1.712	9.590	XEXS 6.200	ZIT4 10.990
WFD 10.460	WPFC 2.442	WQFM 2.442	W3XEY	XGL 7.970	ZMB 5.900

All the shortwave stations will be listed by frequencies in the May RADEX

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

540 kecs. (555.2)

CJRM ak 1000 F Moose Jaw, Sask.

KFSD ae 1000 B San Diego, Calif.
 WCAO ae 500 C (1) Baltimore, Md.
 WCCG ak 500 M (1) Bridgeport, Conn.
 WMT ak 1000 BM(5) Cedar Rapids, Ia.
 WREC c 1000 C (5) Memphis, Tenn.

550 kecs. (545.1)

CFNB mk 500 F (1) Frederickton, N. B.
 KFUD ae 500 2 (1) St. Louis, Mo.
 KFYR ae 1000 N (5) Bismarek, 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 1000 D Waterbury, Vt.
 WGR ae 1000 C Buffalo, N. Y.
 WKRC ak 1000 CX Cincinnati, Ohio
 WCR ak 500 D Harrisonburg, Va.
 XFEA ak 100 Merida, Yuc.

610 kecs. (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 ak 500 Mexico City, D. F.

560 kecs. (535.4)

KFDM ak 500 (1) Beaumont, Tex.
 KLZ ae 1000 C (5) Denver, Colo.
 KSFO ak 1000 C 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.
 WOAM ak 1000 C Miami, Fla.
 XEAO ak 250 Mexicali, L. C.

620 kecs. (483.6)

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

570 kecs. (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 1000 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.
 WYNC ak 1000 N Asheville, N. C.

630 kecs. (475.9)

CFCO ak 100 F Chatham, Ont.
 CFYV 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 NX Evansville, Ind.
 WMAL ak 250 B (5) Washington, D. C.
 WPRO ak 500 C(1) Providence, R. I.
 XEZ z 500 Merida, Yuc.
 WGAN ck 500 P Portland, Me.

580 kecs. (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 N (1) Fresno, Calif.
 KSAC ak 500 2 (1) Manhattan, Kans.
 WCHS ak 500 C (1) Charleston, W. Va.
 WDBO ak 1000 C Orlando, Fla.
 WIBW ak 1000 C2 (5) Topeka, Kans.
 WILL ak 1000 D Urbana, Ill.
 WTAG ak 1000 R Worcester, Mass.
 XELO ak 50000 Piedras Negras, Coah.

640 kecs. (468.5)

CMOB ak 150 Havana, Cuba
 KFI ak 50000 R Los Angeles, Calif.
 WHKC ak 500 Columbus, Ohio
 WOI ae 5000 D Ames, Iowa
 XEBX z 250 Sabinas, Coah.

590 kecs. (508.2)

KHQ ak 1000 R (2.5) Spokane, Wash.
 WEEJ ak 1000 CX Boston, Mass.
 WKZO ak 1000 D Kalamazoo, Mich.
 WOW ae 5000 R Omaha, Nebr.

650 kecs. (461.3)

WSM ak 50000 NM Nashville, Tenn.

600 kecs. (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.

660 kecs. (454.3)

WAAW ae 500 D Omaha, Neb.
 WFAF ak 50000 R New York, N. Y.
 XEAL z 1000 Mexico City, D. F.

670 kecs. (447.5)

WMAQ ak 50000 N Chicago, Ill.

680 kecs. (440.9)

CMCG ak 1000 Havana, Cuba
 KFEQ ak 2500 D St. Joseph, Mo.
 KPO ak 5000 R San Francisco, Cal.
 VAS akn 2000 685 Glace Bay, N. S.
 VOWR ck 500 681 St. John's, Nfld.
 WPTF ak 1000 N (5) Raleigh, N. C.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

690 kcs. (434.5)

CFRB ae 10000 C Toronto, Ont.
 CJCJ ak 100 F Calgary, Alta.
 XET ak 500 Monterrey, N. L.

WMC ak 1000 N (5.) Memphis, Tenn.
 WTAR ae 500 NX (1) Norfolk, Va.
 XEL z 1000 Mexico City, D. F.

700 kcs. (428.3)

WLW ak 500000 NM Cincinnati, Ohio

790 kcs. (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.

710 kcs. (422.3)

KIRO ak 1000 Seattle, Wash.
 KMPK ak 500 Beverly Hills, Cal.
 WOR ak 50000 M Newark, N. J.

800 kcs. (374.8)

HIX ak 800 Trujillo, D. R.
 WBAP ak 50000 Na Fort Worth, Tex.
 WFAB ak 50000 Na Dallas, Tex.
 WTBO ak 250 D Cumberland, Md.

720 kcs. (416.4)

WGN ak 50000 M Chicago, Ill.
 XEH ak 250 Monterrey, N. L.

810 kcs. (370.2)

CMCF ak 600 Havana, Cuba
 WCCO ak 50000 G Minneapolis, Minn.
 WNYC ak 1000 D New York, N. Y.
 XEXC z 350 Aguascalientes, Ags.

730 kcs. (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 ak 5000 Agua Caliente, L. C.
 XEPN ak 100000 Piedras Negras, Ch.

820 kcs. (365.6)

CMHW ak 100 Cienfuegos, Cuba
 WHAS aj 50000 C Louisville, Ky.
 XEBG z 1000 Tijuana, B. Cfa.

740 kcs. (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.

830 kcs. (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.

750 kcs. (399.8)

CMGW dk 150 Havana, Cuba
 KGU aj 2500 N Honolulu, T. H.
 WJR ak 50000 C Detroit, Mich.
 XEAM ak 25 Matamoros, Tams.

840 kcs. (356.9)

CFOG ak 1000 F Saskatoon, Sask.
 CRGT ak 5000 FN Toronto, Ont.
 VOGY ak 400 St. John's, Nfld.
 XERA ck 350000 Villa Acuna, Coah.

760 kcs. (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 2500 Tijuana, B. Cfa.

850 kcs. (352.7)

KIEV ak 250 D Glendale, Calif.
 TIEP z 500 San Jose, C. R.
 WESG ak 1000 CD Elmira, N. Y.
 WKAR ae 1000 D East Lansing, Mich.
 WWL ae 10000 C New Orleans, La.

860 kcs. (348.6)

WABC ae 50000 C New York, N. Y.
 WHB ak 1000 DM Kansas City, Mo.
 XEMO ak 5000 Tijuana, L. C.
 XENC z 50 Mexico City

770 kcs. (389.4)

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

870 kcs. (344.6)

WENR ak 50000 Na Chicago, Ill.
 WLS ae 50000 Na Chicago, Ill.
 XEFB ak 200 Monterrey, N. L.

780 kcs. (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.
 KFDD ae 1000 D Brookings, S. D.
 KFOD ck 250 Anchorage, Alaska
 KGHL ak 1000 N (5) Billings, Mont.
 WEAN ak 1000 M Providence, R. I.

880 kcs. (340.7)

CFJC ak 100 F Kamloops, B. C.
 CMO ak 500 Havana, Cuba
 CRCO ak 1000 F Ottawa, Ont.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KFFA 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 Y Petersburg, Va.
WQAN ae 250 1 Scranton, Pa.
WSUI ae 500 (1) Iowa City, Iowa

890 keys. (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.
KEW ak 50000 Mexico City, D. F.

900 keys. (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 keys. (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, Tama.

920 keys. (325.9)

CMX ae 1000 Havana, Cuba
HHK ak 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.
WORLD 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 keys. (322.4)

CFAC ak 100 F Calgary, Alta.
CFCH ak 100 F North Bay, Ont.
CFLC ae 100 F 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.
WBRC ak 1000 C Birmingham, Ala.
WDBJ ae 1000 C (5) Roanoke, Va.
XEBH ak 500 Hermosillo, Sonora

940 keys. (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.
XEYO z 500 Mexico City, D. F.
 z 250 DP Ashtabula, Ohio

950 keys. (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 Dz Chico, Calif.
KMBC ae 1000 C (5) Kansas City, Mo.
WRC ak 500 R (1) Washington, D. C.
 z 500 DP Saginaw, Mich.

960 keys. (312.3)

CFRN ak 100 F Edmonton, Alta.
CHNC ak 1000 F New Carlisle, Que.
XEAW ck 50000 Reynosa, Tams.

970 keys. (309.1)

CMBY z 150 Havana, Cuba
KJR ae 5000 B Seattle, Wash.
WCFL ae 5000 B Chicago, Ill.
WIBG ak 100 D Glenside, Pa.

980 keys. (306.0)

KDKA c 50000 B Pittsburgh, Pa.
XEAC ak 250 Tijuana, B. Cfa.

990 keys. (302.8)

WBZ c 50000 B S y Boston, Mass.
WBZA c 1000 B S y Springfield, Mass.
XEAF ak 750 Nogales, Sonora
XEK ak 100 Mexico City, D. F.
XES dk 250 Tampico, Tams.

1000 keys. (299.8)

CMBZ ak 500 (1) Havana, Cuba
KFVD ae 250 DnX Los Angeles, Calif.
VOCM z 200 (100%) St. John's, Nfld.
WHO ak 50000 R Des Moines, Iowa
XEBI ak 25 Aguascalientes, Ags.
XEBK ak 100 Nuevo Laredo, Tams.
XEXS z 100 Portable in Mexico

1010 keys. (296.9)

CHML ak 100 F Hamilton, Ont.
CKGD 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.
KOW ae 1000 San Jose, Calif.
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.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1020 keys. (293.9)

KYW ak 10000 R Philadelphia, Pa.
 WDW ak 250 D Tuscola, Ill.
 XEJ ak 1000 Juarez, Chih.

1030 keys. (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 keys. (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 keys. (285.5)

CMKD ak 250 Santiago, Cuba
 CRCK ak 1000 F Quebec, Que.
 KFB ak 5000 Dn Abilene, Kans.
 KNX ak 50000 C Hollywood, Calif.
 WEAU z 1000 DP Eau Claire, Wis.

1060 keys. (282.8)

KTHS ak 10000 N Hot Springs, Ark.
 VOAC z 40 1065 St. John's, Nfld.
 WBAL ak 10000 BM Baltimore, Md.
 WJAG ak 1000 D Norfolk, Neb.
 W3XJ z 100 P College Park, Md.
 XEAD ak 125 Guadalajara, Jal.
 XEMG z 100 Atzapotzalco, D.F.
 z 100 P College Park, Md.

1070 keys. (280.2)

~~CMBX~~ ak 500 Havana, Cuba
 CMHA z 50 Sagua la Grande, C.
 KJBS ak 500 Dn San Francisco, Cal.
 WCAZ ak 100 D Carthage, Ill.
 WTAM ak 50000 R Cleveland, Ohio

1080 keys. (277.6)

WBT ak 50000 C Charlotte, N. C.
 WCBD ak 5000 1Dn Chicago, Ill.
 WMBI ak 5000 1Dn Chicago, Ill.
 XEBI z 20 Guzman, Jal.

1090 keys. (275.1)

KMOX ak 50000 C St. Louis, Mo.
 XEAQ ak 1000 Rosarito, L. C.

1100 keys. (272.6)

~~CMGJ~~ ak 500 Havana, Cuba
 CRGV ak 5000 F Vancouver, B. C.
 KGDm ak 1000 DM Stockton, Calif.
 KWKH ae 10000 C Shreveport, La.
 WLWL ae 5000 I New York, N. Y.
 WPG ak 5000 1C Atlantic City, N. J.

1110 keys. (270.1)

KSOO ak 2500 Dn Sioux Falls, S. D.
 WRVA ak 5000 CM Richmond, Va.

1120 keys. (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.
 KRCS ak 250 Seattle, Wash.
 WCOP ak 250 D Boston, Mass.
 WDEL ak 250 (5) Wilmington, Del.
 WISN ak 250 (1) C Milwaukee, Wis.
 WTAW ae 500 College Station, Tex.

CMCJ

1130 keys. (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.
 XEJP z 100 Mexico City, D. F.

1140 keys. (263.0)

z 200 Havana, Cuba
 -KVVO ak 25000 1N Tulsa, Okla.
 WAPI ak 5000 1N Birmingham, Ala.
 WSPR ak 500 DM Springfield, Mass.

1150 keys. (260.7)

CMJF z 200 Camaguey, Cuba
 WHAM ae 50000 B Rochester, N. Y.
 XEC ak 100 Tijuana, B. Cfa.
 XEDW z 20 Minatitlan, Ver.

1160 keys. (258.5)

CMHJ ak 175 Cienfuegos, Cuba
 CMKG z Santiago, Cuba
 WOWO c 10000 1C Fort Wayne, Ind.
 WVVA ak 5000 1C Wheeling, W. Va.
 XEAS ak 50 Saltillo, Coah.
 XEBJ z 20 Merida, Yuc.
 XEBZ ad 100 Mexico City, D. F.
 XED ak 2500 Guadalajara, Jal.
 XEP ak 500 Juarez, Chih.

1170 keys. (256.3)

CMBD ae 500 Havana, Cuba
 WCAU ak 50000 C Philadelphia, Pa.

1180 keys. (254.1)

CMJO ak 50 Ciego de Avila, Cuba
 KEX ak 5000 2B Portland, Ore.
 KOB ak 10000 2N 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 Tacuba, D. F.

1190 keys. (252.0)

CMKX z Santiago, Cuba
 KTKC z 250 DP Visalia, Calif.
 VONF ak 500 1195 St. John's, Nfld.
 WATR ak 100 D Waterbury, Conn.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

WOAI ak 5000 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. Catharines, Ont.
CMCO ak 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 ak 100 (25) Nampa, Idaho
KFXX ak 100 (25) Grand Junc., Colo.
KGDE ak 100 (25) Fergus Falls, Minn.
KGEK ak 100 Sterling, Colo.
KGFJ ak 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 100 106 Redding, Calif.
KVEC z 250 DP San Luis Obispo, Cal.
KVOS dk 100 106 Bellingham, Wash.
KWG ak 100 N Stockton, Calif.
WABI ak 100 (25) 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 I 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
WDSM z 100 P Superior, Wis.
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.
WBX 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 I 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.
..... z 100 DP Albert Lea, Minn.
..... z 100 DP Florence, S. C.
..... z 100 DP Winona, Minn.

1210 kcys. (247.8)

CJCS ak z 50 Stratford, Ont.
CJCU z 50 Aklavik, N. W. T.
CKBI ak 100 F Prince Albert, Sask.
CKCH ak 100 F Hull, Que.
CKMC ak 50 Cobalt, Ont.
CMHI ak 150 Santa Clara, Cuba
KANS ak 100 Wichita, Kans.
KASA ck 100 Elk City, Okla.
KDLR z 100 Devils Lake, N. D.
KDON z 100 M Monterrey, 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.
KFAM ak 100 M9 San Bernardino, Calif.
KGLO z 100 Mason City, Iowa

OLYMPIA, WASH.
GARDEN CITY, KANS.
CARLSBAD, N. MEX.
KILGORE, TEXAS
HELENA, MONT.
PASADENA, CALIF.
ARMORE, OKLA.
WATERTOWN, S. D.
GUATEMALA CITY
ZANESVILLE, OHIO
WILKES BARRE, PA.
RICHMOND, VA.
LIMA, OHIO
RED BANK, N. J.
COLUMBUS, OHIO
CHICAGO, ILL.
HARRISBURG, ILL.
CHICAGO, ILL.
WHITE PLAINS, N. Y.
ST. AUGUSTINE, FLA.
FREEPORT, N. Y.
GULFPORT, MISS.
NEWBURGH, N. Y.
ROCK ISLAND, ILL.
ANDERSON, IND.
POYNETTE, WIS.
GADSDEN, ALA.
HAGERSTOWN, MD.
LANSING, MICH.
JAMESTOWN, N. Y.
AKRON, OHIO
SUNBURY, PA.
MIDDLESBORO, KY.
RICHMOND, VA.
HIBBING, MINN.
GRENADE, MISS.
MANITOWOC, WIS.
THOMASVILLE, GA.
ROCHESTER, N. Y.
CHICAGO, ILL.
Y SPRINGFIELD, TENN.
BRIDGETON, N. J.
N(25) CHARLOTTE, N. C.
SPRINGFIELD, ILL.
PARRAL, CHIH.
DURANGO, DGO.
JUAREZ, CHIH.
PUEBLA, PUE.
HELENA, MONT.

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.
WCAD ak 500 D Canton, N. Y.
WCAE ak 1000 MR(5) Pittsburgh, Pa.
WDAE ae 1000 C(5) Tampa, Fla.
WREN ak 1000 B(5) Lawrence, Kas.
XEBL z 50 Mazatlan, Sin.
XEDA z 200 Gra. Anaya, D. F.
XETF ak 30 Veracruz, Ver.
..... z 500 P Santa Barbara, Cal.

1230 kcys. (243.8)

KGBX ak 500 Springfield, Mo.
KGGM ak 250 (5)X Albuquerque, N. M.
KYA ak 1000 San Francisco, Calif.
WFBM ae 1000 C(5) Indianapolis, Ind.
WNAC ak 1000 R(5) Boston, Mass.
XEFJ ak 100 Monterrey, N. L.

1240 kcys. (241.8)

CJCB ak 1000 F Sydney, N. S.
CMHB z 50 Sancti Spiritus, Cuba
KGCU ak 250 I Mandan, N. D.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KLPM	ak	250	1	Minot, N. D.
KTAT	ak	1000	.....	Fort Worth, Texas
KTFI	ak	1000	.....	Twin Falls, Idaho
WKQAQ	ae	1000	.....	San Juan, P. R.
WXYZ	ak	1000	B	Detroit, Mich.
XEKL	z	500	.....	Leon, Guan.
XELA	z	50	.....	Saltillo, Coah.

1250 keys. (239.9)

CMKC	ak	150	.....	Santiago, Cuba
KFOK	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	2B(5)	Minneapolis, Minn.
XEXH	z	250	.....	San Luis Potosi, S.L.P.

1260 keys. (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	2500	D	Siloam Spgs., Ark.
KVOA	ak	1000	.....	Tucson, Ariz.
WHIO	ak	1000	C(5)	Dayton, Ohio
WNBX	ak	1000	.....	Springfield, Vt.
WTOC	ae	1000	C	Savannah, Ga.

3-18-37 - 6:40 pm

1270 keys. (236.1)

CMHD	dk	250	.....	Calbarian, 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.
XEXB	ak	50	.....	Jalapa, Ver.

1280 keys. (234.2)

CMCU	aed	500	.....	Havana, Cuba
CMKO	z	.....	.....	Holguin, 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.
WDDO	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	100	.....	Mexico City, D. F.

1290 keys. (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 keys. (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.
WBRR	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 keys. (228.9)

CHCK	ak	50	.....	Charlottetown, P.E.I.
CJKL	ak	100	F	Kirkland Lake, Ont.
CJLS	ak	100	.....	Yarmouth, N. S.
KCKV	ak	100	F	Quebec, Que.
KAND	z	100	DP	Corsicana, Texas
KCKN	ak	100	.....	Kansas City, Kans.
KCRJ	ak	100	D	Jerome, Mont.
KFPL	dk	100	(25)	Dublin, Texas
KFXR	ak	100	(25)	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(25)	Jamestown, N. D.
KRMD	ak	100	.....	Shreveport, La.
KROC	ak	100	.....	Rochester, Minn.
KROY	z	100	DP	Sacramento, Calif.
KROA	ak	100	.....	Santa Fe, N. Mex.
KRRV	z	250	D	Sherman, Texas
KSRQ	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	IP	Moorhead, Minn.
KWOS	z	100	D	Jefferson City, Mo.
KXRO	ak	100	.....	Aberdeen, Wash.
WAML	ak	100	.....	Laurel, Miss.
WBEO	ak	100	D	Marquette, Mich.
WBOW	ak	100	(25)N	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.
WDFD	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	M	Laconia, N. H.
WMBO	ak	100	.....	Auburn, N. Y.
WMFF	ak	100	(25)	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	ak	10	.....	Mexico City, D. F.
XEFW	ak	250	.....	Tampico, Tams.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

XETB ak 125 Torreon, Coah.
 XEX ak 125 Monterrey, N. L.

1320 keys. (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 keys. (225.4)

CMHK z 250 Cruces, Cuba
 KGB ak 1000 M San Diego, Calif.
 KMO ak 250 X Tacoma, Wash.
 KRIS z 250 (5)P Corpus Christi, Tx.
 KSCJ ak 1000 C(5) Sioux City, Iowa
 WDRG ae 1000 C(5) Hartford, Conn.
 WSAI ak 1000 MR(2.5) Cincinnati, Ohio
 WTAQ ae 1000 Green Bay, Wis.

1340 keys. (223.7)

CMAB z Pinar del Rio, Cuba
 CMJL z 75 Camaguey, Cuba
 CGDY ak 250 D Huron, S. D.
 KGIR ak 1000 N(2.5) Butte, Mont.
 KGNO ak 250 C 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.
 XEXD z 350 Jalapa, Ver.

1350 keys. (222.1)

CMCA ak 450 Havana, Cuba
 CMKW z Santiago, Cuba
 KIDO ak 1000 (2.5) Boise, Idaho
 KWK ak 1000 M(5) St. Louis, Mo.
 WAWZ ae 500 I(1) Zarephath, N. J.
 WBNX ae 1000 I New York, N. Y.

1360 keys. (220.4)

CMJH dk 50 Ciego de Avila, Cuba
 KCRC ak 250 Enid, Okla.
 KGER ak 1000 Long Beach, Calif.
 WCSG ak 500 (1)N Charleston, S. C.
 WFBL ak 1000 C(5) Syracuse, N. Y.
 WGES ak 500 I(1) Chicago, Ill.
 WQBC ak 1000 D Vicksburg, Miss.
 WSBT ak 500 I South Bend, Ind.

1370 keys. (218.8)

CKCW ak 100 F Moncton, N. B.
 CMGE ak 150 Cardenas, Cuba
 KAST ak 100 D Astoria, Ore.
 KCMO ak 100 Kansas City, Mo.
 KEEN ak 100 I Seattle, Wash.
 KELD z 100 El Dorado, Ark.
 KERN ak 100 B Bakersfield, Calif.
 KFGQ ak 100 D Boone, Iowa
 KFJZ ae 100 (2.5) Fort Worth, Texas
 KFRO ak 100 D Longview, Texas
 KGAR ae 100 (2.5) Tucson, Ariz.

KGFG bk 100 Oklahoma City, Okla
 KGFL ak 100 4 Roswell, N. M.
 KGKL ak 100 (2.5) San Angelo, Texas
 KICA ak 100 4 Clovis, N. M.
 KIUP ak 100 Durango, Colo.
 KLUF ak 100 Galveston, Texas
 KMAC ak 100 5 San Antonio, Tex.
 KOBH ak 100 Rapid City, S. Dak.
 KONO ak 100 5 San Antonio, Tex.
 KRE ak 100 (2.5) Berkeley, Calif.
 KRKO ak 50 1 Everett, Wash.
 KSLM ak 100 Salem, Ore.
 KTEM z 100 D Temple, Texas
 KUJ ak 100 Walla Walla, Wash.
 KUYB z 100 P Great Bend, Kans.
 KWYO ak 100 (2.5) Sheridan, Wyo.
 WABY ak 100 B Albany, N. Y.
 WAGF ak 250 D Dothan, Ala.
 WATL ak 100 (2.5) Atlanta, Ga.
 WBLK z 100 DP Clarksburg, W. Va.
 WBNY ak 100 2(2.5) Buffalo, N. Y.
 WBTM ak 100 (2.5) Danville, Va.
 WCBM ae 100 Baltimore, Md.
 WDS ag 100 (2.5) Philadelphia, Pa.
 WDWS ak 100 DP Champaign, Ill.
 WEOA z 100 (2.5) Evansville, Ind.
 WFOR ak 100 Hattiesburg, Miss.
 WGI ck 100 C Fort Wayne, Ind.
 WGRC ak 250 D New Albany, Ind.
 WHBO ak 100 Memphis, Tenn.
 WHDF ak 100 (2.5) Calumet, Mich.
 WHLE ak 100 Virginia, Minn.
 WIBM ak 100 (2.5) Jackson, Mich.
 WILH ak 100 M(2.5) Lowell, Mass.
 WMBR ak 100 C(2.5) Jacksonville, Fla.
 WMFD ak 100 D Wilmington, N. C.
 WMFO ak 100 D Decatur, Ala.
 WMIN ak 100 (2.5) St. Paul, Minn.
 WOC ak 100 C(2.5) Davenport, Iowa
 WPA Y ak 100 Portsmouth, Ohio
 WPRA z 100 (2.5)P Mayaguez, P. R.
 WRAK ak 100 (2.5) Williamsport, Pa.
 WRDO ak 100 M Augusta, Maine
 WRJN ak 100 (2.5) Racine, Wis.
 WSAU z 100 DP Wausau, Wis.
 WSVS ak 50 D2 Buffalo, N. Y.
 XECZ z 100 San Luis Potosi, S.L.P.
 XEI ak 125 Morelia, Mich.
 XELZ z 100 Mexico City, D. F.
 z 100 P La Junta, Colo.

1380 keys. (217.3)

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

CJGX ak 100 Yorkton, Sask.
 CMJC z 150 Camaguey, Cuba
 KLRA ae 1000 C(2.5) Little Rock, Ark.
 KOY ak 500 C(1) Phoenix, Ariz.
 WHK ae 1000 C(2.5) Cleveland, Ohio
 WQDM d 1000 D St. Albans, Vt.

1400 keys. (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.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

WARD	ak	500	2	Brooklyn, N. Y.
WBBC	ae	500	2(1)	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 keys. (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.
WBGM	ae	500	.....	Bay City, Mich.
WHHS	ak	500	(1)	Bluefield, W. Va.
WROK	ak	500	.....	Rockford, Ill.
WSFA	ak	500	C(1)	Montgomery, Ala.

1420 keys. (211.1)

CKGB	ak	100	F	Timmins, Ont.
CRGY	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.
KBMC	ak	100	Y	Texarkana, Ark.
KBUB	z	100	.....	Price, Utah
KFIZ	ak	100	.....	Fond du Lac, Wis.
KGFF	ak	100	(.25)	Shawnee, Okla.
KGGG	ak	100	.....	San Francisco, Cal.
KGIW	ak	100	1	Alamosa, Colo.
KIDW	ak	100	1	Lamar, Colo.
KJUN	ak	100	.....	Pecos, Texas
KNET	z	100	D	Palestine, Texas
KORE	ae	100	.....	Eugene, Ore.
KRBC	ak	100	(.25)	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	D	Bresque Isle, Maine
WAFO	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	(.25)	Cicero, Ill.
WILM	aj	100	2	Wilmington, Del.
WJBO	ak	100	XZ	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	G(.25)	Springfield, Mass.
WMBC	ae	100	(.25)	Detroit, Mich.
WMBH	ak	100	(.25)	Joplin, Mo.
WMEJ	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.

1430 keys. (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 keys. (208.2)

CMOA	z	150	.....	Havana, Cuba
KDFN	ak	500	.....	Casper, Wyo.
KXYZ	ak	1000	.....	Houston, Texas
WBIG	ak	1000	C	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 keys. (206.8)

CFGT	ak	50	.....	Victoria, B. C.
CHGS	ae	50	F	Summerside, P.E.I.
CMHM	z	.....	.....	Cienfuegos, Cuba
KGCK	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 keys. (205.4)

CMKF	z	50	.....	Holguin, Cuba
KSTP	ak	10000	R(25)	St. Paul, Minn.
WJSV	ak	10000	C	Washington, D. C.

1470 keys. (204.0)

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

1480 keys. (202.6)

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

1490 keys. (201.2)

KFBK	ak	5000	N	Sacramento, Calif.
WCKY	ae	5000	N	Covington, Ky.

1500 keys. (199.9)

CJIC	ak	100	.....	Sault Ste. Marie, Ont.
CMCN	z	.....	.....	Havana, Cuba
KAWM	z	100	P	Gallup, N. Mex.
KBIX	z	100	.....	Muskogee, Okla.
KBST	z	100	.....	Big Spring, Tex.
KDAL	ak	100	.....	Duluth, Minn.
KDB	ak	100	M(.25)	Santa Barbara, Cal.
KGFI	ak	100	(.25)	Corpus Christi, Tex.
KCKB	ak	100	(.25)	Tyler, Texas
KGKY	ak	100	(.25)	Scottsbluff, Neb.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KNEL	ak	100	D	Brady, Texas	WOPI	ae	100	.....	Bristol, Tenn.
KNOW	ak	100	C	Austin, Texas	WRDW	ak	100		Augusta, Ga.
KOTN	ak	100	D	Pine Bluff, Ark.	WRGA	ak	100	(.25)	Rome, Ga.
KOVC	ak	100		Valley City, N. Dak.	WRTD	z	100	P	Richmond, Va.
KPLC	ak	100		Lake Charles, La.	WSYB	ak	100		Rutland, Vt.
KPLT	z	100	D	Paris, Texas	WTMV	ak	100	(.25)	East St. Louis, Ill.
KPO	ak	100	(.25)	Wenatchee, Wash.	WWRL	ak	100	1 (.25)	Woodside, N. Y.
KRRR	ak	100	(.25)	Roseburg, Ore.	WWSW	ae	100	(.25)	Pittsburgh, Pa.
KROD	z	100	P	El Paso, Texas					
KSJS	z	100	P	Salina, Kans.					
KTEP	z	100	P	El Paso, Texas					
KUTA	z	100	P	Salt Lake City, Utah					
KVOE	ak	100	M	Santa Ana, Calif.					
KXO	ak	100		El Centro, Calif.					
KYCA	z	100	(.25)P	Prescott, Ariz.					
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.					

1510 keys. (198.6)

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

1530 keys. (196.0)

KXBY ak 1000 Kansas City, Mo.
WBRV ak 1000 M Waterbury, Conn.

1550 keys. (193.4)

KPMC ak 1000 M 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	n Weather or time only.		
a Verifies reception for return postage.	s No information available.		networks.
b Verifies only occasionally.		Fourth Column Symbols	P Has construction permit only.
c Does not verify.		B National "Blue" network.	R National "Red" network.
d Verification 10c: letter 25c.		C Columbia network.	S Sunday only.
h Sends own station stamp for 10c.		D Day time only.	Sy Synchronized.
l Sends own station stamp for 5c.		Dn Day time with occasional evening hours.	X Has permit to increase power.
j Sends own station stamp for postage.		F Canadian Brdestg. Corp.	Y Has permit to change location.
k Has no stamps.		M Mutual Brdestg. Sys.	Z Has permit to change frequency.
m Verifies for 5c.		N National "Red" and "Blue"	a-b-c. Small letters show stations using same transmitter.
			1-2-3. Figures denote stations sharing time.
			..... No information.

Unsolved Problems

(Continued from page 13)

unsatisfactory or utterly impossible.

A number of such areas have been located definitely and an interesting theory can be based upon their location. These are as follows: an indefinite region in Greenland, reported by a German expedition; the neighborhood of Cape Finisterre; the neighborhood of Toulon; the region between Odessa, Crimea and Batum; an indefinite region in Guatemala; one in Sahara; the region close to Aden; a small portion of the sea be-

tween Malta and Port Said; the Valley of Kings in Egypt; sections of South India and Ceylon, as well as small regions in Samoa, Fiji and Tonga.

It has been found, through many observations, that the zones of silence seem to parallel the magnetic equator. Assuming this data is correct, there should be other zones near Los Angeles, Yuma, Tucson, El Paso, Dallas, Vicksburg and New Orleans. Any information listeners can furnish to headquarters on reception in these localities will be most valuable.

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.

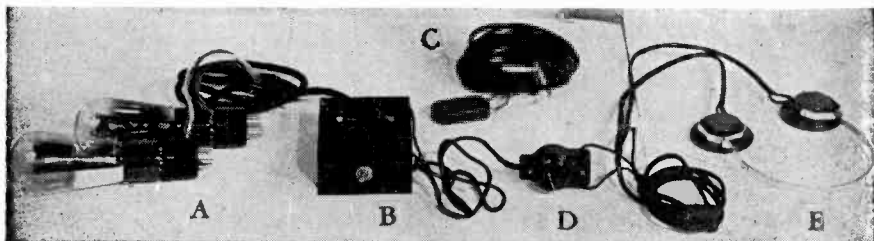
ALABAMA			CALIFORNIA			Santa Rosa			Gainesville		
Birmingham			Bakersfield			KSRO 1310	250		WRUF 830	5000	
WAPI 1140	5000 N		KERN 1370	100 B		Stockton			Jacksonville		
WBRG 930	1000 C		KPMC 1550	1000M		KGDM 1100	1000 M		WJAX 900	1000 N	
WSGN 1310	100		Berkeley			KWG 1200	100 N		WMBR 1370	100 C	
Decatur			KRE 1370	100		Visalia			Lakeland		
WMFO 1370	100		Beverly Hills			KTKC 1190	250		WLAK 1310	100	
WAGF 1370	250		KMPC 710	500		Watsonville			WIOD 1300	1000 N	
Gadsden			Chico			KHUB 1310	250		WQAM 560	1000 C	
WJBY 1210	100		KHSL 950	250	COLORADO						
Huntsville			El Centro		Alamosa				WDBO 580	1000 C	
WBHP 1200	100		KXO 1500	100 M	KGIV 1420	100			Pensacola		
Mobile			Eureka		Colorado Springs				WCOA 1340	500 C	
WALA 1380	500 C		KIEM 1450	500	KVOR 1270	1000 C			St. Augustine		
Montgomery			Fresno		Denver				WFOY 1210	100	
WSFA 1410	500 C		KMJ 580	500 N	KFEL 920	500 M			St. Petersburg		
Selma			Glendale		KLZ 560	1000 C			WSUN 620	1000 N	
WHBB 1500	100		KIYV 850	250	KOA 830	50000 N			Tallahassee		
Sheffield			KFWB 950	1000	KPOF 880	500			WTAL 1310	100	
WMSD 1420	100		KMTR 570	1000	KVOD 920	500 B			WDAE 1220	1000 C	
Tuscaloosa			KNX 1050	50000 C	Durango				West Palm Beach		
WJRD 1200	100		Long Beach		KIUP 1370	100			WJNO 1200	100 C	
ALASKA			KFOX 1250	1000	Grand Junction			GEORGIA			
Anchorage			KGEV 1560	1000	KFKJ 1290	100		Alhany			
KFQD 780	250		Los Angeles		Greeley			WGPC 1420	100		
Juneau			KECA 1430	1000 B	KFKA 880	500		Athens			
KINY 1310	100		KEHE 780	1000	La Junta			WTFI 1450	500		
Ketchikan			KFAC 1300	1000	Lamar			Atlanta			
KGBU 900	500		KFL 640	50000 R	KIDW 1420	100		WATL 1370	100		
ARIZONA			KFSG 1120	500	Pueblo			WGST 890	1000 C		
Jerome			KFVD 1000	250	KGHF 1320	500 B		WSB 740	50000 N		
KCRJ 1310	100		KGFI 1200	100	Sterling			Augusta			
Lowell			KHJ 900	1000M	KGEK 1200	100		WRDW 1500	100		
ESUN 1200	100		KRDK 1120	500	CONNECTICUT						
Phoenix			Merced		Bridgeport			Columbus			
KOY 1390	500 C		KYOS 1040	250	WICC 600	500 M		WRBL 1200	100		
KTAR 820	1000 N		Modesto		Hartford			Griffin			
Prescott			KTRB 740	250	WDRG 1330	1000 C		WKEU 1500	100		
KYCA 1500	100		Monterrey		WTIC 1040	50000 R		Macon			
Tucson			KDON 1210	100 M	WTHT 1200	100 M		WMAZ 1180	1000		
KGAR 1370	100		Oakland		New Britain			Rome			
KVOA 1260	1000		KLS 1280	250	WNBC 1380	250		WRGA 1500	100		
Yuma			KLX 880	1000	New Haven			Savannah			
KUMA 1420	100		KROW 930	1000	WELI 900	500		WTOC 1260	1000 C		
ARKANSAS			Pasadena		New London			Thomasville			
Blytheville			KPPC 1210	100	WNLC 1500	100		WPAX 1210	100		
WILCN 1290	100		Redding		Waterbury			Waycross			
El Dorado			KVCV 1200	100	WATR 1190	100		WAYX 1200	100		
KELD 1370	100		Sacramento		WBRY 1530	1000 M		HAWAII			
Fort Smith			KFBK 1490	5000 N	DELAWARE						
KFPW 1210	100		KROY 1310	100	Wilmington			Hilo			
Hot Springs			San Bernardino		WDEL 1120	250		KHBC 1400	250		
KTHS 1660	10000 N		KFXM 1210	100 M	WILM 1420	100		Honolulu			
Jonesboro			San Diego		DISTRICT OF COLUMBIA						
KBTM 1200	100		KFSD 600	1000 R	Washington			Boise			
Little Rock			RGB 1330	1000 M	WJSV 1460	10000 C		KIDO 1350	1000		
KARK 890	500 N		San Francisco		WMAL 630	250 B		Idaho Falls			
KGHI 1200	100		KFRG 610	1000M	WOL 1310	100		KID 1320	500		
KLRA 1390	1000 C		KGCC 1420	100	WRC 950	500 R		Lewiston			
Pine Bluff			KGO 790	7500 B	FLORIDA						
KOTN 1500	100		KJBS 1070	500	Clearwater			KRLC 1420	100		
Siloam Springs			KPO 680	50000 R	WFLA 620	1000 N		Nampa			
KUOA 1260	2500		KSFO 560	1000 C	Daytona Beach			KFXD 1200	100		
Texarkana			KVA 1230	1000	WMPJ 1420	100		Pocatello			
KCMC 1420	100		San Jose		IDAHO						
			KQW 1010	1000	WFLA 620	1000 N		KSEI 900	250		
			San Luis Obispo		Daytona Beach			Twain Falls			
			KVEE 1200	250				KTFI 1240	1000		
			Santa Ana								
			KVOE 1500	100 M							
			Santa Barbara								
			KDB 1500	100 M							
			1220	500							

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

ILLINOIS	New Albany	Covington	New Bedford
Bloomington	WGRC 1370 250	WCXY 1490 5000 N	WNBH 1310 100 M
WJBC 1200 100	Richmond	Lexington	Springfield
Carthage	WKBY 1500 100	WLAP 1420 100	WBZA 990 1000 B
WCAZ 1070 100	South Bend	Louisville	WMAS 1420 100 C
Champaign	WFAM 1200 100	WAVE 940 1000 N	WSPR 1140 500 M
WDWS 1370 100	WSBT 1360 500 C	WHAS 820 50000 C	Worcester
Chicago	Terre Haute	Middlesboro	WROC 1280 500 C
WAAF 920 1000	WBOW 1310 100 N	WLWU 1210 100	WTAG 580 1000 B
WBBM 770 50000 C	West Lafayette	Paducah	
WCBH 1080 5000	WBAA 890 500	WPAD 1420 100	MICHIGAN
WCFL 970 5000 B			Battle Creek
WCRW 1210 100	IOWA	LOUISIANA	WELL 1420 100
WEDC 1210 100	Ames	Alexandria	Bay City
WENR 870 50000 N	WOI 640 5000	KALB 1420 100	WBCM 1410 500
WGES 1360 500	Boone	Baton Rouge	Calumet
WGN 720 50000 M	KFGQ 1370 100	WJRO 1420 100	WDFD 1370 100
WJJD 1130 20000	Cedar Rapids	Lafayette	Detroit
WLS 870 50000 N	WMT 600 1000 B	KVOL 1310 100	WJBK 1500 100
WMAQ 670 50000 N	Davenport	Lake Charles	WJR 750 50000 C
WMBI 1080 5000	WOC 1370 100 C	KPLC 1500 100	WMBG 1420 100
WSBC 1210 100	Decorah	Monroe	WWJ 820 1000 R
Cicero	KGCA 1270 100	KMLB 1200 100	WXYZ 1240 1000 B
WHFC 1420 100	KWLC 1270 100	New Orleans	East Lansing
Decatur	Des Moines	WBNO 1200 100	WJAR 850 1000
WJBL 1200 100	KRNT 1320 500 C	WDSU 1250 1000	Flint
East Dubuque	KSO 1430 500 B	WJBW 1200 100	WDFD 1310 100
WKBB 1500 100	WHO 1000 50000 R	WSMB 1320 1000 N	Grand Rapids
East St. Louis	Iowa City	WWL 850 10000 C	WASH 1270 500 N
WTMV 1500 100	WSUI 880 500	Shreveport	WOOD 1270 500 N
Harrisburg	Marshalltown	KRMD 1310 100	Ironwood
WEBQ 1210 100	KFJB 1200 100	KTRS 1450 1000 N	WJMS 1420 100
Joliet	Mason City	KWKH 1100 1000 C	Jackson
WCLS 1310 100	KGLD 1210 100		WIBM 1370 100
Peoria	Shenandoah	MAINE	Kalamazoo
WMBD 1440 500 C	KFNF 890 500	Augusta	WZZO 590 1000 B
Quincy	KMA 930 1000	WRDO 1370 100 M	Lansing
WTAD 900 1000	Sloux City	Bangor	WJIM 1210 100
Rockford	KSCJ 1330 1000 C	WABI 1200 100	Lapeer
WROK 1410 500	KANSAS	WLBZ 620 500 C	WMFC 1200 100
Rock Island	Abilene	Portland	Marquette
WBBF 1210 100	KFBI 1050 5000	WCSH 940 1000 R	WBEQ 1310 100
Springfield	Coffeyville	WGAN 640 500	Muskegon
WCBS 1420 100	KGGF 1010 1000	Presque Isle	WKBZ 1500 100
WTAX 1210 100	Dodge City	WAGM 1420 100	Royal Oak
Tuscola	KGNO 1340 250		WEXL 1310 50
WDZ 1020 250	Garden City	MARYLAND	Saginaw
Urbana	KIUL 1210 100	Baltimore	950 500
WILL 580 250	Great Bend	WBAL 760 2500 B	MINNESOTA
	KVGB 1370 100	WBAL 1060 10000 B	Albert Lea
	Hutchinson	WCAO 600 500 C	Duluth
	KWBG 1420 100	WCBM 1370 100	1200 100
	KCRN 1310 100	WFBR 1270 500 R	KDAL 1500 100
	Lawrence	College Park	WERC 1290 1000 N
	KPKU 1220 1000	W3XJ 1060 100	Fergus Falls
	WREN 1220 1000 B	Cumberland	KGDE 1200 100
	Manhattan	WTBO 800 250	Hibbing
	KSAC 580 500	Frederick	WMFG 1210 100
	Pittsburg	WFMD 900 500	Minneapolis
	ROAM 790 1000	Hagerstown	WCCO 810 50000 C
	Salina	WJEF 1210 100	WDGY 1180 1000
	KSJS 1500 100	MASSACHUSETTS	WLB 1250 1000
	Topeka	Boston	WTCN 1250 1000 B
	WIBW 580 1000 C	WAAB 1410 500 M	Moorhead
	Wichita	WAB 990 50000 B	KVOX 1310 100
	KANS 1210 100	WCOF 1120 500	Northfield
	KPH 1360 1000 C	WEEI 590 1000 C	WCAL 1250 1000
		WDEH 830 1000 C	Rochester
		WMEX 1500 100	KROC 1310 100
		WNAC 1230 1000 R	St. Paul
		WORI 920 500	KSTP 1460 10000 R
		Fall River	WHIN 1370 100
		WSAR 1450 1000 M	Virginia
		Lowell	WHIR 1370 100
		WLLH 1370 100 M	Winona
			1200 100
	KENTUCKY		
	Ashland		
	WCMI 1310 100		

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p style="text-align: center;">MISSISSIPPI</p> <p>Grenada</p> <p>WMFN 1210 100</p> <p>Gulfport</p> <p>WGCM 1210 100</p> <p>Hattiesburg</p> <p>WFOR 1370 100</p> <p>Jackson</p> <p>WJDX 1270 1000 N</p> <p>Kosciusko</p> <p>WHEF 1500 100</p> <p>Laurel</p> <p>WAML 1310 100</p> <p>Meridian</p> <p>WCOC 880 500</p> <p>Vicksburg</p> <p>WQBC 1360 1000</p>	<p style="text-align: center;">North Platte</p> <p>KGNF 1430 1000</p> <p>Omaha</p> <p>KOIL 1260 1000 B</p> <p>WAAW 660 500</p> <p>WOW 590 5000 R</p> <p>Scottsbluff</p> <p>KGKY 1500 100</p>	<p style="text-align: center;">NEVADA</p> <p>Reno</p> <p>KOH 1380 500 C</p>	<p style="text-align: center;">WLTN 1400 500</p> <p style="text-align: center;">WMBQ 1500 100</p> <p style="text-align: center;">WVFW 1400 500</p> <p style="text-align: center;">Buffalo</p> <p>WBN 900 1000 R</p> <p>WBNI 1370 100</p> <p>WBR 1310 100 B</p> <p>WGR 550 1000 C</p> <p>WKBW 1480 5000 C</p> <p>WVSV 1370 50</p> <p style="text-align: center;">Canton</p> <p>WCAD 1220 500</p> <p style="text-align: center;">Elmira</p> <p>WESG 850 1000 C</p> <p style="text-align: center;">Freeport</p> <p>WGBB 1210 100</p> <p style="text-align: center;">Jamestown</p> <p>WJTN 1210 50</p> <p style="text-align: center;">Newburgh</p> <p>WGNV 1210 100</p> <p style="text-align: center;">New York</p> <p>WABC 860 50000 C</p> <p>WBNX 1350 10000</p> <p>WBOQ 860 50000</p> <p>WEAF 680 50000 R</p> <p>WEVD 1300 1000</p> <p>WFAB 1300 1000</p> <p>WHN 1010 1000</p> <p>WINS 1180 1000</p> <p>WJZ 760 50000 B</p> <p>WLWL 1100 5000</p> <p>WMLA 570 1000</p> <p>WNEW 1250 1000</p> <p>WNYC 810 1000</p> <p>WOV 1130 1000</p> <p>WQXR 1550 1000</p> <p style="text-align: center;">Olean</p> <p>WHDL 1400 250</p> <p style="text-align: center;">Plattsburg</p> <p>WMFF 1310 250</p> <p style="text-align: center;">Rochester</p> <p>WHAM 1150 50000 B</p> <p>WHEC 1430 500 C</p> <p>WSAY 1210 100</p> <p style="text-align: center;">Saranac Lake</p> <p>WNBZ 1290 100</p> <p style="text-align: center;">Schenectady</p> <p>WGY 790 50000 R</p> <p style="text-align: center;">Syracuse</p> <p>WFBL 1360 1000 C</p> <p>WSYR 570 1000 B</p> <p style="text-align: center;">Troy</p> <p>WHAZ 1300 500</p> <p style="text-align: center;">Utica</p> <p>WIBX 1200 100 C</p> <p style="text-align: center;">Watertown</p> <p>WNNY 1420 100</p> <p style="text-align: center;">White Plains</p> <p>WFAS 1210 100</p> <p style="text-align: center;">Woodside</p> <p>WWRL 1500 100</p>	<p style="text-align: center;">High Point</p> <p>WMFR 1200 100</p> <p style="text-align: center;">Kinston</p> <p>WFTC 1200 100</p> <p style="text-align: center;">Raleigh</p> <p>WPTF 680 1000 N</p> <p style="text-align: center;">Rocky Mount</p> <p>WEED 1420 100</p> <p style="text-align: center;">Wilmington</p> <p>WMFD 1370 100</p> <p style="text-align: center;">Winston-Salem</p> <p>WAIR 1250 250</p> <p>WSJS 1310 100 C</p>
<p style="text-align: center;">MISSOURI</p> <p>Cape Girardeau</p> <p>KFVS 1210 100</p> <p style="text-align: center;">Columbia</p> <p>KFRU 630 500</p> <p style="text-align: center;">Jefferson City</p> <p>KWOS 1310 100</p> <p style="text-align: center;">Joplin</p> <p>WMBH 1420 100</p> <p style="text-align: center;">Kansas City</p> <p>KCMO 1370 100</p> <p>KMBC 950 1000 C</p> <p>KXBY 1530 1000</p> <p>WDAF 610 1000 R</p> <p>WHB 860 1000 M</p> <p style="text-align: center;">St. Joseph</p> <p>KFEQ 680 2500</p> <p style="text-align: center;">St. Louis</p> <p>KFTO 550 500</p> <p>KMOX 1090 50000 C</p> <p>KSD 550 1000 R</p> <p>KWK 1350 1000 B</p> <p>WEW 760 1000</p> <p>WL 1200 100</p> <p style="text-align: center;">Springfield</p> <p>KG BX 1230 500</p> <p>KWTO 560 5000</p>	<p style="text-align: center;">NEW HAMPSHIRE</p> <p style="text-align: center;">Laconia</p> <p>WLNH 1310 100 M</p> <p style="text-align: center;">Manchester</p> <p>WFEA 1340 500 N</p> <p style="text-align: center;">Portsmouth</p> <p>WHEB 740 250</p>	<p style="text-align: center;">NEW JERSEY</p> <p style="text-align: center;">Asbury Park</p> <p>WCAP 1280 500</p> <p style="text-align: center;">Atlantic City</p> <p>WPG 1100 5000 C</p> <p style="text-align: center;">Bridgeton</p> <p>WSNJ 1210 100</p> <p style="text-align: center;">Camden</p> <p>WCAM 1280 500</p> <p style="text-align: center;">Jersey City</p> <p>WAAT 940 500</p> <p>WHOM 1450 250</p> <p style="text-align: center;">Newark</p> <p>WHBI 1250 1000</p> <p>WNEW 1250 1000</p> <p>WOR 710 50000 M</p> <p style="text-align: center;">Red Bank</p> <p>WBRB 1210 100</p> <p style="text-align: center;">Trenton</p> <p>WTNJ 1280 500</p> <p style="text-align: center;">Zarepath</p> <p>WAWZ 1350 500</p>	<p style="text-align: center;">NORTH DAKOTA</p> <p style="text-align: center;">Bismarck</p> <p>KFVR 550 1000 N</p> <p style="text-align: center;">Devils Lake</p> <p>KDLR 1210 100</p> <p style="text-align: center;">Fargo</p> <p>WDAY 940 1000 N</p> <p style="text-align: center;">Grand Forks</p> <p>KFJM 1410 500</p> <p style="text-align: center;">Jamestown</p> <p>KRMC 1310 100</p> <p style="text-align: center;">Mandan</p> <p>KGCV 1240 250</p> <p style="text-align: center;">Minot</p> <p>KLPM 1240 250</p> <p style="text-align: center;">Valley City</p> <p>KOVC 1500 100</p>	
<p style="text-align: center;">MONTANA</p> <p style="text-align: center;">Billings</p> <p>KGHL 780 1000 N</p> <p style="text-align: center;">Butte</p> <p>KGIR 1340 1000 N</p> <p style="text-align: center;">Great Falls</p> <p>KFBB 1280 1000 C</p> <p style="text-align: center;">Helena</p> <p>KPFA 1210 100</p> <p style="text-align: center;">Kalspell</p> <p>KGEZ 1310 100</p> <p style="text-align: center;">Lewistown</p> <p>KDNC 1200 100</p> <p style="text-align: center;">Missoula</p> <p>KGVO 1260 1000 C</p> <p style="text-align: center;">Wolf Point</p> <p>KGCX 1450 1000</p>	<p style="text-align: center;">NEW MEXICO</p> <p style="text-align: center;">Albuquerque</p> <p>KGGM 1230 250</p> <p>KOB 1180 10000 N</p> <p style="text-align: center;">Carlsbad</p> <p>KLAH 1210 100</p> <p style="text-align: center;">Chavis</p> <p>KICA 1370 100</p> <p style="text-align: center;">Gallup</p> <p>KAWM 1500 100</p> <p style="text-align: center;">Roswell</p> <p>KGFL 1370 100</p> <p style="text-align: center;">Santa Fe</p> <p>KRQA 1310 100</p>	<p style="text-align: center;">NEW YORK</p> <p style="text-align: center;">Albany</p> <p>WABY 1370 100</p> <p>WOKO 1430 500 C</p> <p style="text-align: center;">Amherst</p> <p>WMBJ 1310 100</p> <p style="text-align: center;">Binghamton</p> <p>WNBF 1500 100 C</p> <p style="text-align: center;">Brooklyn</p> <p>WARD 1400 500</p> <p>WBBC 1400 500</p> <p>WBBR 1300 1000</p> <p>WCNW 1500 100</p>	<p style="text-align: center;">NORTH CAROLINA</p> <p style="text-align: center;">Asheville</p> <p>WVNC 370 1000 N</p> <p style="text-align: center;">Charlotte</p> <p>WBT 1080 5000 C</p> <p>WSOC 1210 100 N</p> <p style="text-align: center;">Durham</p> <p>WDNC 1500 100 C</p> <p style="text-align: center;">Gastonia</p> <p>WJBR 1420 100</p> <p style="text-align: center;">Greensboro</p> <p>WBIG 1440 1000 C</p>	<p style="text-align: center;">OHIO</p> <p style="text-align: center;">Akron</p> <p>WADC 1320 1000 C</p> <p>WJW 1210 100</p> <p style="text-align: center;">Ashtabula</p> <p>940 250</p> <p style="text-align: center;">Canton</p> <p>WHBC 1200 100</p> <p style="text-align: center;">Cincinnati</p> <p>WCPO 1200 100</p> <p>WKRC 550 1000 C</p> <p>WLW 700 50000 N</p> <p>WSAI 1330 1000 R</p> <p style="text-align: center;">Cleveland</p> <p>WGAR 1450 500 B</p> <p>WHK 1390 1000 C</p> <p>WJAY 610 500</p> <p>WTAM 1070 50000 R</p> <p style="text-align: center;">Columbus</p> <p>WBNS 1430 500 C</p> <p>WCOL 1210 100 N</p> <p>WHKC 640 500</p> <p>WOSU 570 750</p> <p style="text-align: center;">Dayton</p> <p>WHIO 1260 1000 C</p> <p>WSMK 1380 200 C</p> <p style="text-align: center;">Lima</p> <p>WBLY 1210 100</p> <p style="text-align: center;">Portsmouth</p> <p>WPAY 1370 100</p> <p style="text-align: center;">Toledo</p> <p>WSPD 1340 1000 C</p> <p style="text-align: center;">Youngstown</p> <p>WBKN 570 500 C</p> <p style="text-align: center;">Zanesville</p> <p>WALR 1210 100</p>
<p style="text-align: center;">NEBRASKA</p> <p style="text-align: center;">Clay Center</p> <p>KMMJ 740 1000</p> <p style="text-align: center;">Kearney</p> <p>KGFW 1310 100</p> <p style="text-align: center;">Lincoln</p> <p>KFAB 770 10000 C</p> <p>KFOR 1210 100 C</p> <p style="text-align: center;">Norfolk</p> <p>WJAG 1060 1000</p>	<p style="text-align: center;">OKLAHOMA</p> <p style="text-align: center;">Ada</p> <p>KADA 1200 100</p> <p style="text-align: center;">Ardmore</p> <p>KVSO 1200 100</p> <p style="text-align: center;">Elk City</p> <p>KASA 1210 100</p>			



The "Perfect" Phone Adapter

The device which makes it easy to attach headphones to any radio set. Anyone can install it, without tools, in no time at all. It cannot harm the receiver and the operation of the set is not affected in any way.

IDEAL FOR THE HARD-OF-HEARING

Those who are very hard of hearing can enjoy radio reception by using our new HOH Model Phone Adapter. It gives sufficient volume on the headphones without it being necessary to increase the volume of the receiver above normal.

THE VERY BEST HEADPHONES

For use with the Perfect Phone Adapter, we recommend the Trimm Featherweight Headphones. They weigh only 4 ounces and can be worn for hours, without fatigue. Very sensitive, designed for use by commercial operators, they get the weak signals which other, less sensitive 'phones fail to register.

We pay the postage on all orders.

If you live in Ohio add 3% for Sales Tax

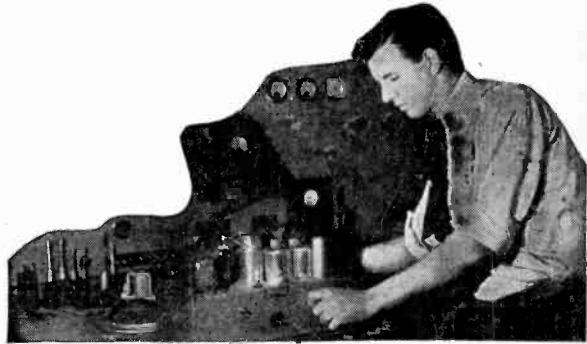
The HOH Model Perfect Phone Adapter
with Trimm Featherweight Headphones... **\$12.00**

The HOH Model Perfect Phone Adapter
with a good pair of Trimm Headphones... **\$6.70**

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

The Radex Press
Conneaut, Ohio

I sometimes think there should be a law requiring everyone to spend some of his spare time training for the future. I once thought all the cards were stacked against me. Now I'm making good money. Maybe my experience will show you the way to better pay too.



I THOUGHT RADIO WAS A PLAYTHING But Now My Eyes Are Opened--I'm Making Over \$30 a Week!

\$30 a week. Man alive, I used to think anyone making that much was just plain lucky.

A short time ago I was just barely getting by. It was the same old story—a little job; a salary as small as the job.

If you had told me that I would soon be making \$30 and more a week in my own Radio business—I'd thought you were crazy. To me, Radio was a plaything. Now I know it's a big business where specialized training pays rich rewards.

But I am getting ahead of my story—let me tell you how it all started. I was hard up because I had been kidding myself—that's all—not because I had to be. I thought a fellow either had to be lucky or have a string of college degrees to make good money.

One day I picked up a magazine and an ad attracted me because it seemed to fit my case. It said, "I will train you to start a spare time or full time Radio service business of your own WITHOUT CAPITAL."

"They're trying to kid somebody," I thought, "but I'll find out what it's all about."

I wrote in, and within a few days received a 64-page book, telling about the opportunities in Radio; how I could prepare right at home in my spare time, and how they would show me how to start making money in my neighborhood selling and repairing Radio sets. It would have sounded too good to be true if it had not been backed up by nearly 100 letters from fellows who had taken their course and were very enthusiastic about it.

What has happened since seems almost like a dream. I started to take their course, and soon I was ready to start making money in my neighborhood—as much as \$5 and \$15 a week. It wasn't long until I had saved enough money to start a full time business of my own.

That business in a surprisingly short time grew to the point where I am clearing over \$30 a week. All this took place under the watchful guidance of my friends at the National Radio Institute. They also offered to train me for jobs in Broadcasting Stations, Radio Factories, Radio Jobbers and Dealers, Aviation Radio, Television, Short Wave Stations, Automobile, Police Radio, Loud Speaker Systems, and other branches of Radio.

THINK IT OVER

Friend—you may not be as bad off as I was—but think it over—are you satisfied? Are you making as much money as you need? Would you sign a contract to stay where you are for the next

ten years at the same salary? Those are the things you have to think about—because no one is going to make it his business to push you ahead—you must make it your own business.

TAKE MY TIP

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

You are not placing yourself under any obligation by writing for this material as they will gladly send it to anyone who is ambitious and wants to get ahead. Mail the coupon in an envelope or paste it on a 1c postcard. Just address Mr. J. E. Smith, President, National Radio Institute, Dept. 7DO, Washington, D. C.

J. E. Smith, President,
National Radio Institute
Dept. 7DO, Washington, D. C.

MAIL THIS
COUPON

Dear Mr. Smith:

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

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

Address.....

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

14X1

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Enid		
KCRC	1360	250
Muskogee		
KBIX	1500	100
Norman		
WNAD	1010	1000
Oklahoma City		
KFXR	1310	100
KGFG	1370	100
KOMA	1480	5000 C
WKY	900	1000 N
Ponca City		
WBBZ	1200	100
Shawnee		
KGFF	1420	100
Tulsa		
KTUL	1400	500 C
KVOO	1140	25000 N

OREGON

Astoria		
KAST	1370	100
Corvallis		
KOAC	550	1000
Eugene		
KORE	1420	100
Klamath Falls		
KFJI	1210	100
Marshfield		
KOOS	1200	250
Medford		
KMED	1310	100
Portland		
KALE	1300	500 C
KBFS	1420	100
KEK	1180	5000 N
KFJR	1300	500
KGW	620	1000 R
KOIN	940	1000 C
KWJJ	1040	500
KXL	1420	100
Roseburg		
KRRR	1500	100
Salem		
KSLM	1370	100

PENNSYLVANIA

Allentown		
WCBA	1440	500
WSAN	1440	500
Allentown		
WFBG	1310	100
Easton		
WEST	1200	100
Erle		
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
WPER	920	250
WRAX	920	250
WTLF	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		
WPR4	1370	100
Ponce		
WPRP	1420	100
San Juan		
WKAQ	1240	1000
WNEL	1290	1000

RHODE ISLAND

Newport		
WNRI	1200	100
Providence		
WEAN	780	1000 M
WJAR	890	1000 R
WPRO	630	500 C

SOUTH CAROLINA

Anderson		
WAIM	1200	100
Charleston		
WCNC	1360	500 N
Columbia		
WIS	560	1000 N
Florence		
WFFL	1200	100
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	1290	100
KS00	1110	2500
Vermillion		
KUSD	890	500
Watertown		
KWTN	1210	100
Yankton		
WNAX	570	1000 C

TENNESSEE

Bristol		
WOPF	1500	100
Chattanooga		
WAP0	1420	100
WDOD	1280	1000 C
Jackson		
WTSJ	1310	100
Knoxville		
WNOX	1010	1000 C
WROL	1310	100
Memphis		
WHBQ	1370	100
WRC	780	1000 N
WNSR	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		
KFBM	560	500
Big Spring		
KBST	1590	100
Brady		
KNFT	1500	100
College Station		
WTAX	1120	500
Corpus Christi		
KCFE	1500	100
KELP	1330	250
Corsicana		
KANS	1310	100
Dallas		
KPLD	1040	10000 C
WFAA	800	50000 N
WRR	1280	500
Dublin		
KPLI	1310	100
El Paso		
KROD	1500	100
KTSM	1310	100
WDAH	1310	100
El Paso		
WEP	1500	100
Fort Worth		
KFYZ	1370	100
KTAT	1240	1000
WRAP	800	50000 N
Galveston		
KLUF	1370	100

Houston		
KPRC	920	1000 N
KTRH	1290	1000 C
KXYZ	1440	1000
Kilgore		
KOCA	1210	100
Longview		
KPRO	1370	100
Lubbock		
KPYO	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
KOAI	1190	50000 C
Sherman		
KRRV	1310	250
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		
KSRV	1310	100
Ogden		
KLO	1400	500 B
Price		
KEFB	1420	100
Salt Lake City		
KBYL	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

Charlottesville		
WCHV	1420	100

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p>Danville WBTM 1370 100 Harrisonburg WSVA 550 500 Lynchburg WLVA 1200 100 Newport News WGHP 1310 100 Norfolk WTAR 780 50 N Petersburg WPHR 880 500 Richmond WBBL 1210 100 WMBG 1210 100 C WRDZ 1500 100 WRVA 1110 5000 C Roanoke WDBJ 930 1000 C</p> <hr/> <p style="text-align: center;">WASHINGTON</p> <hr/> <p>Aberdeen KXRO 1310 100 Bellingham KVOS 1200 100 Everett KRKO 1370 50 Olympia KGY 1210 100 Pullman KWSC 1220 1000 Seattle KEEN 1370 100 KIRO 710 1000 KJR 970 5000 B KOL 1270 1000 C KOMO 920 1000 R KRSC 1120 250 KTW 1220 1000 KXA 760 250 Spokane KFIO 1120 100 KFPY 890 1000 C KGA 1470 5000 B KRIQ 590 1000 R Tacoma KMO 1330 250 KVI 570 1000 C Walla Walla KUJ 1370 100 Wenatchee KPQ 1500 100 Yakima KIT 1310 100</p> <hr/> <p style="text-align: center;">WEST VIRGINIA</p> <hr/> <p>Bluefield WHIS 1410 500 Charleston WCHS 580 500 C Clarksburg WBLK 1370 100 Fairmont WMMN 890 500 C Huntington WSAZ 1190 1000 Parkersburg WPAR 1420 100 Wheeling WWVA 1160 5000 C</p>	<p style="text-align: center;">WISCONSIN</p> <hr/> <p>Eau Claire WEAU 1050 1000 Fond du Lac KFJZ 1420 100 Green Bay WBHY 1200 100 WTAQ 1330 1000 Janeville 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 WBUR 1210 100 Racine WRJN 1370 100 Sheboygan WHBL 1300 250 Stevens Point WLBL 900 2500 Superior WDSM 1200 100 Wausau WSAU 1370 100</p> <hr/> <p style="text-align: center;">WYOMING</p> <hr/> <p>Casper KDFN 1440 500 Sheridan KWYO 1370 100</p> <hr/> <p style="text-align: center;">CANADA</p> <hr/> <p style="text-align: center;">ALBERTA</p> <hr/> <p>Calgary CFAC 930 100 F CFCN 1030 10000 CJGJ 690 100 F Edmonton CFRN 960 100 F CJCA 730 1000 F CKUA 580 500 Lethbridge CJOC 950 100 F</p> <hr/> <p style="text-align: center;">BRITISH COLUMBIA</p> <hr/> <p>Chilliwack CHWK 780 100 F Kamloops CFJC 880 100 F Kelowna CKOV 630 100 F Prince Rupert CFPR 580 50 Trill CJAT 910 1000 F Vancouver CJOR 600 500 CKCD 1010 100 CKFC 1410 50 CKMO 1410 100 F CKWX 1010 100 F CRCV 1100 5000 F Victoria CFCT 1450 50</p>	<p style="text-align: center;">MANITOBA</p> <hr/> <p>Brandon CKX 1120 100 F Winnipeg CJRC 630 1000 F CKY 910 15000 F</p> <hr/> <p style="text-align: center;">NEW BRUNSWICK</p> <hr/> <p>Fredericton CFNB 550 500 F Moncton CKCW 1370 100 F St. John CHSJ 1120 500 F</p> <hr/> <p style="text-align: center;">N. W. TERRITORY</p> <hr/> <p>Aklavik CJCU 1210 50</p> <hr/> <p style="text-align: center;">NOVA SCOTIA</p> <hr/> <p>Glace Bay VAS 685 2000 Halifax CHNS 930 1000 F Sydney CJCB 1240 1000 F Wolfville CKIK 1010 50 Yarmouth CJLS 1310 100</p> <hr/> <p style="text-align: center;">ONTARIO</p> <hr/> <p>Brantford CKPK 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 CFIC 930 100 St. Catharines CKTB 1200 100 F Sault Ste. Marie CJIC 1500 100 Stratford CJCS 1210 50 Sudbury CKSO 780 1000 F Timmins CKGB 1420 100 F</p>	<p style="text-align: center;">Toronto</p> <hr/> <p>CFRB 690 10000 C CKCL 580 100 F CRCT 840 5000 N CRCY 1420 100 Waterloo CKCR 1510 100 Windsor CKLW 1030 5000 M CRCW 600 500 F Wingham CKNX 1200 50</p> <hr/> <p style="text-align: center;">PRINCE EDWARD ISLAND</p> <hr/> <p>Charlottetown CFCY 630 1000 F CHCK 1310 50 Summerside CHGS 1450 50 F</p> <hr/> <p style="text-align: center;">QUEBEC</p> <hr/> <p>Chicoutimi CRCS 950 100 F Hull CKKH 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 CKGV 1310 100 F CRCK 1050 100 F</p> <hr/> <p style="text-align: center;">SASKATCHEWAN</p> <hr/> <p>Moose Jaw CHAB 1200 100 F CJRM 540 1000 F Prince Albert CKBI 1210 100 F Regina CRCK 1010 500 F Saskatoon CFQC 840 1000 F Yorkton CJGJ 1390 100</p> <hr/> <p style="text-align: center;">NEWFOUNDLAND</p> <hr/> <p>St. John's VOAC 1065 40 VOAS 940 100 VOCM 1008 200 VOGY 840 400 VONF 1195 500 VOWR 681 500</p>
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

<p>COSTA RICA</p> <p>San Jose TLEP 850 500</p>	<p>XEL 780 1000 XELZ 1370 100 XEMX 1280 100 XENO 860 50 XEW 890 50000 XEXM 610 500 XEYO 940 500</p> <p>Tacuba XEFA 1180 500</p>	<p>SAN LUIS POTOSI</p> <p>San Luis Potosi XECZ 1370 100 XEXH 1250 250</p>	<p>Ciego de Avila CMJH 1360 100 CMJI 1130 150 CMJO 1180 50</p> <p>Cienfuegos CMHJ 1160 175 CMHM 1450 CMHW 820 100 CMHX 760 200</p>
<p>GUATEMALA</p> <p>Guatemala City TGW 1210 10000</p>	<p>DURANGO</p> <p>Durango XEE 1210 50</p>	<p>SINALOA</p> <p>Mazatlan XEBL 1220 50</p>	<p>Cruces CMHK 1330 250</p> <p>Havana CMBD 1170 500 CMBG 1146 200 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 CMCU 1280 500 CMCW 750 150 CMCX 570 150 CMCY 1030 5000 CMK 730 3000 CMOA 1440 150 CMOK 1470 150 CMOX 1320 200 CMQ 880 500 CMW 600 1400 CMX 920 1000</p>
<p>MEXICO</p>	<p>GUANAJUATO</p> <p>Leon XEKL 1240 500</p>	<p>SONORA</p> <p>Hermasillo XEBH 930 500</p> <p>Nogales XEAF 990 750</p>	<p>TAMAULIPAS</p> <p>Matamoros XEAM 750 25</p> <p>Neuva Laredo XEBK 1000 100 XEFE 1340 250 XENT 910 150000</p> <p>Reynosa XEAW 960 50000</p> <p>Tampico XEFW 1310 250 XES 990 250</p>
<p>AGUASCALIENTES</p> <p>Aguascalientes XEBI 1000 25 XEXC 810 350</p>	<p>JALISCO</p> <p>Guadalajara XEAD 1080 125 XED 1160 2500</p> <p>Guzman XEBA 1080 20</p>	<p>TAMAULIPAS</p>	<p>VERACRUZ</p> <p>Cordoba XEAG 1310 10</p> <p>Jalapa XEXB 1270 250 XEXD 1340 350</p> <p>Minatitlan XEDW 1150 20</p> <p>Veracruz XETF 1220 30 XEU 1010 250</p>
<p>CHIHUAHUA</p> <p>Chihuahua XEFI 1440 250</p> <p>Juarez XEFV 1210 100 XEF 1450 100 XEJ 1020 1000 XEP 1160 500</p> <p>Parral XEAT 1210 250</p>	<p>BAJA CALIFORNIA</p> <p>Agua Caliente XEBC 730 5000</p> <p>Mexicali XEAA 920 200 XEAO 560 250</p> <p>Rosarito XEAQ 1090 1000</p> <p>Tijuana XEAC 980 250 XEBG 820 1000 XEC 1150 100 XEMO 860 5000 XEOK 760 2500</p>	<p>TAMAULIPAS</p>	<p>Holguin CMFK 1460 250 CMKO 1230</p> <p>Manzanillo CMKM 1120 200</p> <p>Matanzas CMGC 1400 150 CMGF 1130 150 CMGH 790 500</p> <p>Moron CMJP 1430 75</p> <p>Pinar del Rio CMAB 1340</p> <p>Sagua la Grande CMHA 1070 50</p> <p>Sancti Spiritus CMHB 1240 50</p> <p>Santa Clara CMHI 1210 150</p> <p>Santiago CMKC 1250 150 CMKD 1050 250 CMKG 1160 CMKR 1400 100 CMKW 1356 CMKX 1190</p>
<p>COAHUILA</p> <p>Piedras Negras XELO 580 50000 XEPN 730 100000</p> <p>Sabinas XEBX 640 250</p> <p>Saltillo XEAS 1160 50 XELA 1240 50</p> <p>Torreon XETB 1310 125</p> <p>Villa Acuna XERA 840 350000</p>	<p>MICHOACAN</p> <p>Morelia XEI 1370 125</p>	<p>YUCATAN</p> <p>Merida XEBJ 1160 20 XEF 550 100 XEZ 630 500</p>	<p>DOMINICAN REPUBLIC</p> <p>Trujillo HIX 890 800</p>
<p>D. F.</p> <p>Azcapotzalco XEMG 1060 100</p> <p>Gra. Anaya XEDA 1220 200</p> <p>Mexico City XEAL 660 1000 XEB 1030 10000 XEBZ 1160 100 XECW 1310 10 XEFO 940 5000 XEJP 1130 100 XEK 990 100</p>	<p>NUEVO LEON</p> <p>Monterrey XEFB 870 200 XEFJ 1230 100 XEH 720 250 XET 690 580 XEX 1310 125</p>	<p>CUBA</p> <p>Calbarien CMHD 1270 250</p> <p>Camaguey CMJA 1010 300 CMJC 1390 150 CMJE 1220 50 CMJF 1150 200 CMJK 780 250 CMJL 1340 100 CMJX 830 500</p> <p>Cardenas CMGE 1370 150</p>	<p>HAITI</p> <p>Port-au-Prince HHK 920 1000</p>

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930 100	CKKL 1310 100	CMBD 1170 500
Calgary, Alta.	Kirkland Lake, Ont.	Havana, Cuba
CFCF 600 400	CJLS 1310 100	CMBG 1140 200
Montreal, Que.	Yarmouth, N. S.	Havana, Cuba
CFCH 930 100	CJOC 950 100	CMBS 770 150
North Bay, Ont.	Lethbridge, Alta.	Havana, Cuba
CFCN 1030 10000	CJOR 600 500	CMBX 1070 500
Calgary, Alta.	Vancouver, B. C.	Havana, Cuba
CFCO 630 100	CJRC 630 1000	CMBY 970 150
Chatham, Ont.	Winnipeg, Man.	Havana, Cuba
CFCT 1450 50	CJRM 540 1000	CMBZ 1000 500
Victoria, B. C.	Moose Jaw, Sask.	Havana, Cuba
CFCY 630 1000	CKAC 730 5000	CMCA 1350 450
Charlottetown, P.E.I.	Montreal, Que.	Havana, Cuba
CFJC 880 100	CKBI 1210 100	CMCB 640 150
Kamloops, B. C.	Prince Albert, Sask.	Havana, Cuba
CFJC 930 100	CKCD 1010 100	CMCD 950 250
Prescott, Ont.	Vancouver, B. C.	Havana, Cuba
CFNB 650 500	CKCH 1210 100	CMCF 810 600
Fredericton, N. B.	Hull, Que.	Havana, Cuba
CFPL 730 100	CKCK 1010 500	CMCG 680 1000
London, Ont.	Regina, Sask.	Havana, Cuba
CFPR 580 50	CKCL 580 100	CMGJ 1100 500
Prince Rupert, B. C.	Toronto, Ont.	Havana, Cuba
CFQC 840 1000	CKCO 1010 100	CMGN 1500
Saskatoon, Sask.	Ottawa, Ont.	Havana, Cuba
CFRB 690 10000	CKCR 1510 100	CMGO 1200 250
Toronto, Ont.	Waterloo, Ont.	Havana, Cuba
CFRC 1510 100	CKCV 1310 100	CMGQ 1410 250
Kingston, Ont.	Quebec, Que.	Havana, Cuba
CFRN 960 100	CKCW 1370 100	CMCU 1280 500
Edmonton, Alta.	Moncton, N. B.	Havana, Cuba
CHAB 1200 100	CKFC 1410 50	CMCW 750 150
Moose Jaw, Sask.	Vancouver, B. C.	Havana, Cuba
CHCK 1310 50	CKGB 1420 100	CMCX 570 150
Charlottetown, P.E.I.	Timmins, Ont.	Havana, Cuba
CHGS 1450 50	CKIC 1010 50	CMCY 1930 5000
Summerside, P.E.I.	Wolfville, N. S.	Havana, Cuba
CHLP 1120 100	CKLW 1030 5000	CMGC 1400 150
Montreal, Que.	Windsor, Ont.	Matanzas, Cuba
CHML 1010 100	CKMC 1210 50	CMGE 1370 150
Hamilton, Ont.	Cobalt, Ont.	Cardenas, Cuba
CHNC 960 1000	CKNO 1410 100	CMGF 1120 150
New Carlisle, Que.	Vancouver, B. C.	Matanzas, Cuba
CHNS 930 1000	CKNX 1200 50	CMGH 790 500
Halifax, N. S.	Wingham, Ont.	Matanzas, Cuba
CHRC 580 100	CKOC 1120 500	CMHA 1070 50
Quebec, Que.	Hamilton, Ont.	Sagua la Grande, Cu.
CHSJ 1120 500	CKOV 630 100	CMHB 1240 50
St. John, N. B.	Kelowna, B. C.	Sancti Spiritus, Cuba
CHWK 780 100	CKPC 930 100	CMHD 1270 250
Chilliwack, B. C.	Brantford, Ont.	Caibarien, Cuba
CJAT 910 1000	CKPR 730 100	CMHI 1210 150
Trail, B. C.	Fort William, Ont.	Santa Clara, Cuba
CJCA 730 1000	CKSO 780 1000	CMIL 1160 175
Edmonton, Alta.	Sudbury, Ont.	Cienfuegos, Cuba
CJCB 1240 1000	CKTB 1200 100	CMHK 1330 250
Sydney, N. S.	St. Catherines, Ont.	Cruces, Cuba
CJCJ 690 100	CKUA 580 500	CMHM 1450
Calgary, Alta.	Edmonton, Alta.	Cienfuegos, Cuba
CJCS 1210 50	CKWX 1010 100	CMHW 820 100
Stratford, Ont.	Vancouver, B. C.	Cienfuegos, Cuba
CJCU 1210 50	CKX 1120 100	CMHX 760 200
Aklavik, N. W. T.	Brandon, Man.	Cienfuegos, Cuba
CJGX 1390 100	CKY 910 15000	CMJA 1010 300
Yorkton, Sask.	Winnipeg, Man.	Camaguey, Cuba
CJHC 1500 100	CMAB 1340	CMJC 1390 150
S. Ste. Marie, Ont.	Pinar del Rio, Cuba	Camaguey, Cuba

NORTH AMERICAN B. C. STATIONS BY CALLS

CMJE 1220 50 Camaguey, Cuba	HIX 800 800 Trujillo, D. R.	KERN 1370 100 Bakersfield, Calif.
CMJF 1150 200 Camaguey, Cuba	KABC 1420 100 San Antonio, Texas	KEUB 1420 100 Price, Utah
CMJH 1360 100 Ciego de Avila, Cuba	KABR 1420 100 Aberdeen, S. Dak.	KEX 1180 5000 Portland, Ore.
CMJI 1130 150 Ciego de Avila, Cuba	KADA 1200 100 Ada, Okla.	KFAB 770 10000 Lincoln, Neb.
CMJK 780 250 Camaguey, Cuba	KALB 1420 100 Alexandria, La.	KFAC 1300 1000 Los Angeles, Calif.
CMJL 1340 100 Camaguey, Cuba	KALE 1300 500 Portland, Ore.	KFBB 1280 1000 Great Falls, Mont.
CMJO 1180 50 Ciego de Avila, Cuba	KAND 1310 100 Corsicana, Texas	KFBK 1050 5000 Abilene, Kans.
CMJP 1430 75 Camaguey, Cuba	KANS 1210 100 Wichita, Kans.	KFBK 1490 5000 Sacramento, Calif.
CMJX 830 500 Camaguey, Cuba	KARK 890 500 Little Rock, Ark.	KFDM 560 500 Beaumont, Texas
CMK 730 3000 Havana, Cuba	KASA 1210 100 Elk City, Okla.	KFDY 780 1000 Brookings, S. D.
CMKC 1250 150 Santiago, Cuba	KAST 1370 100 Astoria, Ore.	KFEL 920 500 Denver, Colo.
CMKD 1050 250 Santiago, Cuba	KAWM 1500 100 Gallup, N. Mex.	KFEQ 680 2500 St. Joseph, Mo.
CMKF 1460 250 Holguin, Cuba	KBIX 1500 100 Muskogee, Okla.	KFGQ 1370 100 Boone, Iowa
CMKG 1160 Santiago, Cuba	KBPS 1420 100 Portland, Ore.	KFH 1300 1000 Wichita, Kans.
CMKM 1120 200 Manzanillo, Cuba	KBST 1500 100 Big Spring, Texas	KFI 640 50000 Los Angeles, Calif.
CMKO 1280 Holguin, Cuba	KBTM 1200 100 Jonesboro, Ark.	KFIO 1120 100 Spokane, Wash.
CMKR 1400 100 Santiago, Cuba	KCKN 1310 100 Kansas City, Kans.	KFIZ 1420 100 Fond du Lac, Wis.
CMKW 1350 Santiago, Cuba	KCMC 1420 100 Texarkana, Ark.	KFJB 1200 100 Marshalltown, Iowa
CMKX 1190 Santiago, Cuba	KCMO 1370 100 Kansas City, Mo.	KFJI 1210 100 Klamath Falls, Ore.
CMOA 1440 150 Havana, Cuba	KCRC 1360 250 Enid, Okla.	KFJM 1410 500 Grand Forks, N. D.
CMOK 1470 150 Havana, Cuba	KCRJ 1310 100 Jerome, Ariz.	KFJR 1300 500 Portland, Ore.
CMOX 1320 200 Havana, Cuba	KDAL 1500 100 Duluth, Minn.	KFJZ 1370 100 Fort Worth, Texas
CMQ 880 500 Havana, Cuba	KDB 1500 100 Santa Barbara, Calif.	KFKA 880 500 Greeley, Colo.
CMW 600 1400 Havana, Cuba	KDFN 1440 500 Casper, Wyo.	KFKU 1220 1000 Lawrence, Kans.
CMX 920 1000 Havana, Cuba	KDKA 980 50000 Pittsburgh, Pa.	KFNF 890 500 Shenandoah, Iowa
CRCK 1050 1000 Quebec, Que.	KDLR 1210 100 Devils Lake, N. D.	KFOR 1210 100 Lincoln, Neb.
CRCM 910 5000 Montreal, Que.	KDNC 1200 250 Lewistown, Mont.	KFOX 1250 1000 Long Beach, Calif.
CRCO 880 1000 Ottawa, Ont.	KDON 1210 100 Monterrey, Calif.	KFPL 1310 100 Dublin, Texas
CRCS 950 190 Chicoutimi, Que.	KDYL 1290 1000 Salt Lake City, Utah	KFTW 1210 100 Fort Smith, Ark.
CRCT 840 5000 Toronto, Ont.	KECA 1430 1000 Los Angeles, Calif.	KFPY 890 1000 Spokane, Wash.
CRCV 1100 5000 Vancouver, B. C.	KEEN 1370 100 Seattle, Wash.	KFQD 780 250 Anchorage, Alaska
CRCW 600 500 Windsor, Ont.	KEHE 780 1000 Los Angeles, Calif.	KFRG 610 1000 San Francisco, Calif.
CRCY 1420 100 Toronto, Ont.	KELD 1370 100 El Dorado, Ark.	KFRO 1370 100 Longview, Texas
HHK 920 1000 Port-au-Prince, Haiti	KELO 1200 100 Sioux Falls, S. Dak.	KFRU 630 500 Columbia, Mo.

NORTH AMERICAN B. C. STATIONS BY CALLS

KFSD 600 1000 San Diego, Calif.	KGGM 1230 250 Albuquerque, N. M.	KIUL 1210 100 Garden City, Kans.
KFSG 1120 500 Los Angeles, Calif.	KGHF 1320 500 Pueblo, Colo.	KIUN 1420 100 Pecos, Texas
KFUO 550 500 St. Louis, Mo.	KGHI 1200 100 Little Rock, Ark.	KIUP 1370 100 Durango, Colo.
KFVD 1000 250 Los Angeles, Calif.	KGHL 780 1000 Billings, Mont.	KJBS 1070 500 San Francisco, Calif.
KFVS 1210 100 Cape Girardeau, Mo.	KGIR 1340 1000 Butte, Mont.	KJR 970 5000 Seattle, Wash.
KFWB 950 1000 Hollywood, Calif.	KGIW 1420 100 Alamosa, Colo.	KLAH 1210 100 Carlsbad, N. Mex.
KFXD 1200 100 Nampa, Idaho	KGKB 1500 100 Tyler, Texas	KLCN 1280 100 Blytheville, Ark.
KFXJ 1200 100 Grand Junction, Colo.	KGKL 1370 100 San Angelo, Texas	KLO 1400 500 Ogden, Utah
KFXM 1210 100 San Bernardino, Calif.	KGKO 570 250 Wichita Falls, Texas	KLPM 1240 250 Minot, N. D.
KFXR 1310 100 Oklahoma City, Okla.	KGKY 1500 100 Scottsbluff, Neb.	KLRA 1390 1000 Little Rock, Ark.
KFYO 1310 100 Lubbock, Texas	KGLO 1210 100 Mason City, Iowa	KLS 1280 250 Oakland, Calif.
KFYR 550 1000 Bismarck, N. D.	KGMB 1320 1000 Honolulu, T. H.	KLUF 1370 100 Galveston, Texas
KGA 1470 5000 Spokane, Wash.	KGNC 1410 1000 Amarillo, Texas	KLX 880 1000 Oakland, Calif.
KGAR 1370 100 Tucson, Ariz.	KGNF 1430 1000 North Platte, Neb.	KLZ 560 1000 Denver, Colo.
KGB 1330 1000 San Diego, Calif.	KGNO 1340 250 Dodge City, Kans.	KMA 930 1000 Shenandoah, Iowa
KGBU 900 500 Ketchikan, Alaska	KGO 790 7500 San Francisco, Calif.	KMAC 1370 100 San Antonio, Texas
KG BX 1230 500 Springfield, Mo.	KGU 750 2500 Honolulu, T. H.	KMBC 950 1000 Kansas City, Mo.
KGCA 1270 100 Decorah, Iowa	KGVO 1260 1000 Missoula, Mont.	KMED 1310 100 Medford, Ore.
KGCU 1240 250 Mandan, N. D.	KGW 620 1000 Portland, Ore.	KMJ 580 500 Fresno, Calif.
KGCK 1450 1000 Wolf Point, Mont.	KG Y 1210 100 Olympia, Wash.	KMLB 1200 100 Monroe, La.
KGDE 1200 100 Fergus Falls, Minn.	KHBC 1400 250 Hilo, T. H.	KMMJ 740 1000 Clay Center, Neb.
KGDM 1100 1000 Stockton, Calif.	KHJ 900 1000 Los Angeles, Calif.	KMO 1330 250 Tacoma, Wash.
KG DY 1340 250 Huron, S. D.	KHK 590 1000 Spokane, Wash.	KMOX 1090 50000 St. Louis, Mo.
KGER 1360 1000 Long Beach, Calif.	KHSL 950 250 Chico, Calif.	KMPC 710 500 Beverly Hills, Calif.
KG EZ 1310 100 Kallispell, Mont.	KHUB 1310 250 Watsonville, Calif.	KMTR 570 1000 Hollywood, Calif.
KGFF 1420 100 Shawnee, Okla.	KICA 1370 100 Clovis, N. M.	KNEL 1500 100 Brady, Texas
KGFG 1370 100 Oklahoma City, Okla.	KID 1320 500 Idaho Falls, Idaho	KNET 1420 100 Palestine, Texas
KGFI 1500 100 Corpus Christi, Tex.	KIDO 1350 1000 Boise, Idaho	KNOW 1500 100 Austin, Texas
KG FJ 1200 100 Los Angeles, Calif.	KIDW 1420 100 Lamar, Colo.	KNX 1050 50000 Hollywood, Calif.
KGFL 1370 100 Roswell, N. M.	KIEM 1450 500 Eureka, Calif.	KOA 830 50000 Denver, Colo.
KGFW 1310 100 Kearney, Neb.	KIEV 850 250 Glendale, Calif.	KOAC 550 1000 Corvallis, Ore.
KGFX 630 200 Pierre, S. D.	KINY 1310 100 Juneau, Alaska	KOAM 790 1000 Pittsburg, Kans.
KG GC 1420 100 San Francisco, Calif.	KIRO 710 1000 Seattle, Wash.	KOB 1180 10000 Albuquerque, N. M.
KG GF 1010 1000 Coffeyville, Kans.	KIT 1310 100 Yakima, Wash.	KOBH 1370 100 Rapid City, S. Dak.

NORTH AMERICAN B. C. STATIONS BY CALLS

KOCA 1210 Kilgore, Texas	100	KRLH 1420 Midland, Texas	100	KTRH 1290 Houston, Texas	1000
KOH 1380 Reno, Nev.	500	KRMC 1310 Jamestown, N. Dak.	100	KTSA 550 San Antonio, Texas	1000
KOIL 1260 Omaha, Nebr.	1000	KRMD 1310 Shreveport, La.	100	KTSM 1310 El Paso, Texas	100
KOIN 940 Portland, Ore.	1000	KRNR 1500 Roseburg, Ore.	100	KTUL 1400 Tulsa, Okla.	500
KOL 1270 Seattle, Wash.	1000	KRNT 1320 Des Moines, Iowa	500	KTW 1220 Seattle, Wash.	1000
KOMA 1480 Oklahoma City, Okla.	5000	KROC 1310 Rochester, Minn.	100	KUJ 1370 Walla Walla, Wash.	100
KOMO 920 Seattle, Wash.	1000	KROD 1500 El Paso, Texas	100	KUMA 1420 Yuma, Ariz.	100
KONO 1370 San Antonio, Texas	100	KROW 930 Oakland, Calif.	1000	KUOA 1260 Siloam Springs, Ark.	2500
KOOS 1200 Marshfield, Ore.	250	KROY 1310 Sacramento, Calif.	100	KUSD 890 Vermillion, S. D.	500
KORE 1420 Eugene, Ore.	100	KRQA 1310 Santa Fe, N. Mex.	100	KUTA 1500 Salt Lake City, Utah	100
KOTN 1500 Pine Bluffs, Ark.	100	KRRV 1310 Sherman, Texas	250	KVCV 1200 Redding, Calif.	100
KOVC 1500 Valley City, N. Dak.	100	KRSC 1120 Seattle, Wash.	250	KVEC 1200 San Luis Obispo, Cal.	250
KOY 1390 Phoenix, Ariz.	500	KSAC 580 Manhattan, Kans.	500	KVGB 1370 Great Bend, Kans.	100
KPAO 1280 Port Arthur, Texas	500	KSCJ 1330 Sioux City, Iowa	1000	KVI 570 Tacoma, Wash.	1000
KPDN 1310 Pampa, Texas	100	KSD 550 St. Louis, Mo.	1000	KVOA 1280 Tucson, Ariz.	1000
KPFA 1210 Helena, Mont.	100	KSEI 900 Pocatello, Idaho	250	KVOD 920 Denver, Colo.	500
KPLC 1500 Lake Charles, La.	100	KSFO 560 San Francisco, Calif.	1000	KVOE 1500 Santa Ana, Calif.	100
KPLT 1500 Paris, Texas	100	KSJS 1500 Salina, Kans.	100	KVOL 1310 Lafayette, La.	100
KPMC 1550 Bakersfield, Calif.	1000	KSL 1130 Salt Lake City, Utah	50000	KVOO 1140 Tulsa, Okla.	25000
KPO 680 San Francisco, Calif.	50000	KSLM 1370 Salem, Ore.	100	KVOR 1270 Colorado Spgs., Colo.	1000
KPOF 880 Denver, Colo.	500	KSO 1430 Des Moines, Iowa	500	KVOS 1200 Bellingham, Wash.	100
KPPC 1210 Pasadena, Calif.	100	KSOO 1110 Sioux Falls, S. D.	2500	KVOX 1310 Moorhead, Minn.	100
KPQ 1500 Wenatchee, Wash.	100	KSRO 1310 Santa Rosa, Calif.	250	KVSO 1210 Ardmore, Okla.	100
KPRC 920 Houston, Texas	1000	KSTP 1460 St. Paul, Minn.	10000	KWBG 1420 Hutchinson, Kans.	100
KQV 1380 Pittsburgh, Pa.	500	KSUB 1310 Cedar City, Utah	100	KWG 1200 Stockton, Calif.	100
KQW 1010 San Jose, Calif.	1000	KSUN 1200 Lowell, Ariz.	100	KWJ 1040 Portland, Ore.	500
KRBC 1420 Ablene, Texas	100	KTAR 620 Phoenix, Ariz.	1900	KWK 1350 St. Louis, Mo.	1000
KRE 1370 Berkeley, Calif.	100	KTAT 1240 Fort Worth, Texas	1000	KWKH 1100 Shreveport, La.	10000
KRGV 1260 Weslaco, Texas	500	KTBS 1450 Shreveport, La.	1000	KWLC 1270 Decorah, Iowa	100
KRIS 1330 Corpus Christi, Tex.	250	KTEM 1370 Temple, Texas	100	KWVS 1310 Jefferson City, Mo.	100
KRKD 1120 Los Angeles, Calif.	500	KTFI 1240 Twin Falls, Idaho	1000	KWSC 1220 Pullman, Wash.	1000
KRKO 1370 Everett, Wash.	50	KTHS 1060 Hot Springs, Ark.	10000	KWTN 1210 Watertown, S. D.	100
KRLC 1420 Lewiston, Idaho	100	KTKC 1190 Visalia, Calif.	250	KWTO 560 Springfield, Mo.	5000
KRLD 1040 Dallas, Texas	10000	KTRB 740 Modesto, Calif.	250	KWYO 1370 Sheridan, Wyo.	100

NORTH AMERICAN B. C. STATIONS BY CALLS

KNA 760 250	WALR 1210 100	WBOW 1310 180
Seattle, Wash.	Zanesville, Ohio	Terre Haute, Ind.
KXBY 1530 1000	WAML 1310 100	WBRB 1210 100
Kansas City, Mo.	Laurel, Miss.	Red Bank, N. J.
KXL 1420 100	WAPI 1140 5000	WBRC 930 1000
Portland, Ore.	Birmingham, Ala.	Birmingham, Ala.
KXO 1500 100	WAPQ 1420 100	WBRE 1310 100
El Centro, Calif.	Chattanooga, Tenn.	Wilkes-Barre, Pa.
KNRO 1310 100	WARD 1400 500	WBRY 1530 1000
Aberdeen, Wash.	Brooklyn, N. Y.	Waterbury, Conn.
KXYZ 1440 1000	WASH 1270 500	WBT 1080 50000
Houston, Texas	Grand Rapids, Mich.	Charlotte, N. C.
KYA 1230 1000	WATL 1370 100	WBTM 1370 100
San Francisco, Calif.	Atlanta, Ga.	Danville, Va.
KYCA 1500 100	WATR 1190 100	WBZ 990 50000
Prescott, Ariz.	Waterbury, Conn.	Boston, Mass.
KYOS 1040 250	WAVE 940 1000	WBZA 990 1000
Merced, Calif.	Louisville, Ky.	Springfield, Mass.
KYW 1020 10000	WAWZ 1350 500	WCAD 1220 500
Philadelphia, Pa.	Zarephath, N. J.	Canton, N. Y.
TGW 1210 10000	WAYX 1200 100	WCAE 1220 1000
Guatemala, Gua.	Waycross, Ga.	Pittsburgh, Pa.
TIEP 850 500	WAZL 1420 100	WCAL 1250 100
San Jose, C. R.	Hazleton, Pa.	Northfield, Minn.
VAS 685 2000	WBBA 890 500	WCAM 1280 500
Glace Bay, N. S.	West Lafayette, Ind.	Camden, N. J.
VE9EK 1185 10	WBAL 760 2500	WCOA 600 500
Montmagny, Que.	Baltimore, Md.	Baltimore, Md.
VOAC 1065 40	WBAL 1060 10000	WCAP 1280 500
St. John's, Nfld.	Baltimore, Md.	Asbury Park, N. J.
VOAS 940 100	WBAP 800 50000	WCAT 1200 100
St. John's, Nfld.	Fort Worth, Texas	Rapid City, S. D.
VOCM 1006 200	WBAX 1210 100	WCAU 1170 50000
St. John's, Nfld.	Wilkes-Barre, Pa.	Philadelphia, Pa.
VOGY 840 400	WBBC 1400 500	WCAX 1200 100
St. John's, Nfld.	Brooklyn, N. Y.	Burlington, Vt.
VONF 1195 500	WBBL 1210 100	WCAZ 1070 100
St. John's, Nfld.	Richmond, Va.	Carthage, Ill.
VOWR 681 500	WBBM 770 30000	WCBA 1440 500
St. John's, Nfld.	Chicago, Ill.	Allentown, Pa.
WAAB 1410 500	WBBR 1300 1000	WCBD 1080 5000
Boston, Mass.	Brooklyn, N. Y.	Chicago, Ill.
WAAF 920 1000	WBBZ 1200 100	WCBM 1370 100
Chicago, Ill.	Ponca City, Okla.	Baltimore, Md.
WAAT 940 500	WBCM 1410 500	WCBS 1420 100
Jersey City, N. J.	Bay City, Mich.	Springfield, Ill.
WAAW 660 500	WBEN 900 1000	WCCO 810 50000
Omaha, Neb.	Buffalo, N. Y.	Minneapolis, Minn.
WABC 860 50000	WBEO 1310 100	WCFL 970 5000
New York, N. Y.	Narquette, Mich.	Chicago, Ill.
WABI 1200 100	WBHP 1200 100	WCHS 580 500
Bangor, Maine	Huntsville, Ala.	Charleston, W. Va.
WABY 1370 100	WBIG 1440 1000	WCHV 1420 100
Albany, N. Y.	Greensboro, N. C.	Charlottesville, Va.
WACO 1420 100	WBLK 1370 100	WCKY 1490 5000
Waco, Texas	Clarksburg, W. Va.	Covington, Ky.
WADC 1320 1000	WBLY 1210 100	WCLO 1200 100
Akron, Ohio	Lima, Ohio	Janesville, Wis.
WAGF 1370 250	WBNO 1200 100	WCLS 1310 100
Dothan, Ala.	New Orleans, La.	Joliet, Ill.
WAGM 1420 100	WBNS 1430 500	WCMI 1310 100
Presque Isle, Me.	Columbus, Ohio	Ashland, Ky.
WAIM 1200 100	WBNX 1350 1000	WCNW 1500 100
Anderson, S. C.	New York, N. Y.	Brooklyn, N. Y.
WAIR 1250 250	WBNY 1370 100	WCOA 1340 500
Winston-Salem, N. C.	Buffalo, N. Y.	Pensacola, Fla.
WALA 1380 500	WBOQ 860 50000	WCOC 880 500
Mobile, Ala.	New York, N. Y.	Meridian, Miss.

NORTH AMERICAN B. C. STATIONS BY CALLS

WCOL 1210 Columbus, Ohio	100	WELL 1420 Battle Creek, Mich.	100	WGH 1310 Newport News, Va.	100
WCOP 1120 Boston, Mass.	500	WEMP 1310 Milwaukee, Wis.	100	WGL 1370 Fort Wayne, Ind.	100
WCPO 1200 Cincinnati, Ohio	100	WENR 870 Chicago, Ill.	50000	WGN 720 Chicago, Ill.	50000
WCRW 1210 Chicago, Ill.	100	WEOA 1370 Evansville, Ind.	100	WGNV 1210 Newburgh, N. Y.	100
WCSC 1360 Charleston, S. C.	500	WESG 850 Elmira, N. Y.	1000	WGPC 1420 Albany, Ga.	100
WCSH 940 Portland, Me.	1000	WEST 1200 Easton, Pa.	100	WGR 550 Buffalo, N. Y.	1000
WDAE 1220 Tampa, Fla.	1000	WEVD 1300 New York, N. Y.	1000	WGRC 1370 New Albany, Ind.	250
WDAF 610 Kansas City, Mo.	1000	WEW 760 St. Louis, Mo.	1000	WGST 890 Atlanta, Ga.	1000
WDAH 1310 El Paso, Texas	100	WEXL 1310 Royal Oak, Mich.	50	WGY 790 Schenectady, N. Y.	50000
WDAS 1370 Philadelphia, Pa.	100	WFAA 800 Dallas, Texas	50000	WHA 940 Madison, Wis.	5000
WDAY 940 Fargo, N. D.	1000	WFAB 1300 New York, N. Y.	1000	WHAM 1150 Rochester, N. Y.	50000
WDBJ 930 Roanoke, Va.	1000	WFAM 1200 South Bend, Ind.	100	WHAS 820 Louisville, Ky.	50000
WDBO 580 Orlando, Fla.	1000	WFAS 1210 White Plains, N. Y.	100	WHAT 1310 Philadelphia, Pa.	100
WDEL 1120 Wilmington, Del.	250	WFBC 1300 Greenville, S. C.	1000	WHAZ 1300 Troy, N. Y.	500
WDEV 550 Waterbury, Vt.	500	WFBG 1310 Altoona, Pa.	100	WHB 860 Kansas City, Mo.	1000
WDGY 1180 Minneapolis, Minn.	1000	WFBL 1360 Syracuse, N. Y.	1000	WHBB 1500 Selma, Alabama	100
WDNC 1500 Durham, N. C.	100	WFBM 1230 Indianapolis, Ind.	1000	WHBC 1200 Canton, Ohio	100
WDDO 1280 Chattanooga, Tenn.	1000	WFBF 1270 Baltimore, Md.	500	WHBF 1210 Rock Island, Ill.	100
WDRC 1330 Hartford, Conn.	1000	WFDF 1310 Flint, Mich.	100	WHBI 1250 Newark, N. J.	1000
WDSM 1200 Superior, Wis.	100	WFEA 1340 Manchester, N. H.	500	WHBL 1300 Sheboygan, Wis.	250
WDSU 1250 New Orleans, La.	1000	WFIL 560 Philadelphia, Pa.	1000	WHBQ 1370 Memphis, Tenn.	100
WDWS 1370 Champaign, Ill.	100	WFLA 620 Clearwater, Fla.	1000	WHBU 1210 Anderson, Ind.	100
WDZ 1020 Tuscola, Ill.	250	WFMD 900 Frederick, Md.	500	WHBY 1200 Green Bay, Wis.	100
WEAF 660 New York, N. Y.	50000	WFOR 1370 Hattiesburg, Miss.	100	WHDF 1370 Calumet, Mich.	100
WEAN 780 Providence, R. I.	1000	WFOY 1210 St. Augustine, Fla.	100	WHDH 830 Boston, Mass.	1000
WEAU 1050 Eau Claire, Wis.	1000	WFTC 1200 Kinston, N. C.	100	WHDL 1400 Olean, N. Y.	250
WEBC 1290 Duluth, Minn.	1000	WGL 1500 Lancaster, Pa.	100	WHEB 740 Portsmouth, N. H.	250
WERQ 1210 Harrisburg, Ill.	100	WGAN 640 Portland, Me.	500	WHEC 1430 Rochester, N. Y.	500
WEBR 1310 Buffalo, N. Y.	100	WGAR 1450 Cleveland, Ohio	500	WHEF 1500 Kosciusko, Miss.	100
WEDC 1210 Chicago, Ill.	100	WGBB 1210 Freeport, N. Y.	100	WHFC 1420 Cicero, Ill.	100
WEED 1420 Rocky Mound, N. C.	100	WGBF 630 Evansville, Ind.	500	WHIO 1260 Dayton, Ohio	1000
WEEL 590 Boston, Mass.	1000	WGBI 880 Scranton, Pa.	500	WHIS 1410 Bluefield, W. Va.	500
WEEU 830 Reading, Pa.	1000	WGCM 1210 Gulfport, Miss.	100	WHJB 620 Greensburg, Pa.	250
WELI 900 New Haven, Conn.	500	WGES 1360 Chicago, Ill.	500	WHK 1390 Cleveland, Ohio	1000

NORTH AMERICAN B. C. STATIONS BY CALLS

WHKC 640 500 Columbus, Ohio	WJBW 1200 100 New Orleans, La.	WLBZ 620 500 Bangor, Me.
WHLB 1370 100 Virginia, Minn.	WJBY 1210 100 Gadsden, Ala.	WLEU 1420 100 Erie, Pa.
WHN 1010 1000 New York, N. Y.	WJDX 1270 1000 Jackson, Miss.	WLLH 1370 100 Lowell, Mass.
WHO 1000 50000 Des Moines, Iowa	WJEJ 1210 100 Hagerstown, Md.	WLMO 1210 100 Middlesboro, Ky.
WHOM 1450 250 Jersey City, N. J.	WJIM 1210 100 Lansing, Mich.	WLNH 1310 100 Laconia, N. H.
WHP 1430 500 Harrisburg, Pa.	WJJD 1130 20000 Chicago, Ill.	WLS 870 50000 Chicago, Ill.
WIBA 1280 1000 Madison, Wis.	WJMS 1420 100 Ironwood, Mich.	WLTH 1400 500 Brooklyn, N. Y.
WIBG 970 100 Glenside, Pa.	WJNO 1200 100 W. Palm Beach, Fla.	WLVA 1200 100 Lynchburg, Va.
WIBM 1370 100 Jackson, Mich.	WJR 750 50000 Detroit, Mich.	WLW 700 50000 Cincinnati, Ohio
WIBU 1210 100 Poynette, Wis.	WJRD 1200 100 Tuscaloosa, Ala.	WLWL 1100 5000 New York, N. Y.
WIBW 580 1000 Topeka, Kans.	WJSV 1460 10000 Washington, D. C.	WMAL 630 250 Washington, D. C.
WIBX 1200 100 Utica, N. Y.	WJTN 1210 50 Jamestown, N. Y.	WMAQ 670 50000 Chicago, Ill.
WICC 600 500 Bridgeport, Conn.	WJW 1210 100 Akron, Ohio	WMAS 1420 100 Springfield, Mass.
WIL 1200 100 St. Louis, Mo.	WJZ 760 50000 New York, N. Y.	WMAZ 1180 1000 Macon, Ga.
WILL 580 250 Urbana, Ill.	WKAQ 1240 1000 San Juan, P. R.	WMBC 1420 100 Detroit, Mich.
WILM 1420 100 Wilmington, Del.	WKAR 850 1000 East Lansing, Mich.	WMBD 1440 500 Peoria, Ill.
WIND 560 1000 Gary, Ind.	WKBB 1500 100 East Dubuque, Ill.	WMEG 1210 100 Richmond, Va.
WINS 1180 1000 New York, N. Y.	WKBH 1380 1000 LaCrosse, Wis.	WMBH 1420 100 Joplin, Mo.
WIOD 1300 1000 Miami, Fla.	WBBN 570 500 Youngstown, Ohio	WMBI 1080 5000 Chicago, Ill.
WIP 610 1000 Philadelphia, Pa.	WKBO 1200 100 Harrisburg, Pa.	WMO 1310 100 Auburn, N. Y.
WIRE 1400 1000 Indianapolis, Ind.	WKBV 1500 100 Richmond, Ind.	WMOB 1500 100 Brooklyn, N. Y.
WIS 560 1000 Columbia, S. C.	WKBW 1480 5000 Buffalo, N. Y.	WMBR 1370 100 Jacksonville, Fla.
WISN 1120 250 Milwaukee, Wis.	WKBZ 1500 100 Muskegon, Mich.	WMC 780 1000 Memphis, Tenn.
WJAC 1310 100 Johnstown, Pa.	WKBU 1500 100 Griffin, Ga.	WMCA 570 1010 New York, N. Y.
WJAG 1060 1000 Norfolk, Neb.	WKOK 1210 100 Sunbury, Pa.	WMEX 1500 100 Boston, Mass.
WJAR 890 1000 Providence, R. I.	WKRC 550 1000 Cincinnati, Ohio	WMFD 1370 100 Wilmington, N. C.
WJAS 1290 1000 Pittsburgh, Pa.	WKY 900 1000 Oklahoma City, Okla.	WMFF 1310 250 Plattsburg, N. Y.
WJAX 900 1000 Jacksonville, Fla.	WKZO 590 1000 Kalamazoo, Mich.	WMFG 1210 100 Hibbing, Minn.
WJAY 610 500 Cleveland, Ohio	WLAC 1470 5000 Nashville, Tenn.	WMFJ 1420 100 Daytona Beach, Fla.
WJBC 1200 100 Bloomington, Ill.	WLAK 1310 100 Lakeland, Fla.	WMFN 1210 100 Grenada, Miss.
WJBK 1500 100 Detroit, Mich.	WLAP 1420 100 Lexington, Ky.	WMFO 1370 100 Decatur, Ala.
WJBL 1200 100 Decatur, Ill.	WLB 1250 1000 Minneapolis, Minn.	WMFR 1200 100 High Point, N. C.
WJBO 1420 100 Baton Rouge, La.	WLBC 1310 100 Muncie, Ind.	WMIN 1370 100 St. Paul, Minn.
WJBR 1420 100 Gastonia, N. C.	WLBL 900 2500 Stevens Point, Wis.	WMMN 890 500 Fairmont, W. Va.

NORTH AMERICAN B. C. STATIONS BY CALLS

WMFC 1200	100	WOWO 1160	10000	WSAI 1330	1000
Lapeer, Mich.		Fort Wayne, Ind.		Cincinnati, Ohio	
WMSD 1420	100	WPAJ 1420	100	WSAJ 1310	100
Sheffield, Ala.		Paducah, Ky.		Grove City, Pa.	
WMT 600	1000	WPAR 1420	100	WSAN 1440	500
Cedar Rapids, Iowa		Parkersburg, W. Va.		Allentown, Pa.	
WNAC 1230	1000	WPAX 1210	100	WSAR 1450	1000
Boston, Mass.		Thomasville, Ga.		Fall River, Mass.	
WNAD 1010	1000	WPAY 1370	100	WSAU 1370	100
Norman, Okla.		Portsmouth, Ohio		Wausau, Wis.	
WNAX 570	1000	WPEN 920	250	WSAY 1210	100
Yankton, S. D.		Philadelphia, Pa.		Rochester, N. Y.	
WNBC 1380	250	WPG 1100	5000	WSAZ 1190	1000
New Britain, Conn.		Atlantic City, N. J.		Huntington, W. Va.	
WNBF 1500	100	WPHR 880	500	WSB 740	50000
Binghamton, N. Y.		Petersburg, Va.		Atlanta, Ga.	
WNBH 1310	100	WPRH 1370	100	WSBC 1210	100
New Bedford, Mass.		Mayaguez, P. R.		Chicago, Ill.	
WNBR 1430	500	WPRO 630	500	WSBT 1360	500
Memphis, Tenn.		Providence, R. I.		South Bend, Ind.	
WNBX 1260	1000	WPRP 1420	100	WSFA 1410	500
Springfield, Vt.		Ponce, P. R.		Montgomery, Ala.	
WNBZ 1290	100	WPTF 680	1000	WSGN 1310	100
Saranac Lake, N. Y.		Raleigh, N. C.		Birmingham, Ala.	
WNEL 1290	1000	WQAM 560	1000	WSIX 1210	100
San Juan, P. R.		Miami, Fla.		Springfield, Tenn.	
WNEW 1250	1000	WQAN 880	250	WSJS 1310	100
New York, N. Y.		Scranton, Pa.		Winston-Salem, N. C.	
WNLC 1500	100	WQBC 1360	1000	WSM 650	50000
New London, Conn.		Vicksburg, Miss.		Nashville, Tenn.	
WNNY 1420	100	WQDM 1390	1000	WSMB 1320	1000
Watertown, N. Y.		St. Albans, Vt.		New Orleans, La.	
WNOX 1010	1000	WQXR 1550	1090	WSMK 1380	200
Knoxville, Tenn.		New York, N. Y.		Dayton, Ohio	
WNRI 1200	100	WRAC 1370	100	WSNJ 1210	100
Newport, R. I.		Williamsport, Pa.		Bridgeton, N. J.	
WNYC 810	1000	WRAW 1310	100	WSOC 1210	100
New York, N. Y.		Reading, Pa.		Charlotte, N. C.	
WOAI 1190	50000	WRAX 920	250	WSPA 920	1000
San Antonio, Texas		Philadelphia, Pa.		Spartanburg, S. C.	
WOC 1370	100	WRBL 1200	100	WSPD 1340	1000
Davenport, Iowa		Columbus, Ga.		Toledo, Ohio	
WOI 640	5000	WRC 550	500	WSFR 1140	500
Ames, Iowa		Washington, D. C.		Springfield, Mass.	
WOKO 1430	500	WRDO 1370	100	WSUT 880	500
Albany, N. Y.		Augusta, Me.		Iowa City, Iowa	
WOL 1310	100	WRDW 1500	100	WSUN 620	1000
Washington, D. C.		Augusta, Ga.		St. Petersburg, Fla.	
WOMT 1210	100	WREC 600	1000	WSVA 550	500
Manitowoc, Wis.		Memphis, Tenn.		Harrisonburg, Va.	
WOOD 1270	500	WREN 1220	1000	WSVS 1370	50
Grand Rapids, Mich.		Lawrence, Kans.		Buffalo, N. Y.	
WOPI 1500	100	WRGA 1500	100	WSYB 1500	100
Bristol, Tenn.		Rome, Ga.		Rutland, Vt.	
WOR 710	50000	WRIN 1370	100	WSYR 570	1000
Newark, N. J.		Racine, Wis.		Syracuse, N. Y.	
WORC 1280	500	WROK 1410	500	WTAD 900	1000
Worcester, Mass.		Rockford, Ill.		Quincy, Ill.	
WORK 1320	1000	WROL 1310	100	WTAG 580	1000
York, Pa.		Knoxville, Tenn.		Worcester, Mass.	
WORL 920	500	WRR 1280	500	WTAL 1310	100
Boston, Mass.		Dallas, Texas		Tallahassee, Fla.	
WOSU 570	750	WRTD 1500	100	WTAM 1070	50000
Columbus, Ohio		Richmond, Va.		Cleveland, Ohio	
WOV 1130	1000	WRUF 830	5000	WTAQ 1330	1000
New York, N. Y.		Gainesville, Fla.		Green Bay, Wis.	
WOW 590	5000	WRVA 1110	5000	WTAR 780	500
Omaha, Neb.		Richmond, Va.		Norfolk, Va.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WTAW 1120	500	XEAT 1210	250	XEL 780	1000
College Station, Tex.		Paral, Chih.		Mexico City, D. F.	
WTAX 1210	100	XEAW 960	50000	XELA 1240	50
Springfield, Ill.		Reynosa, Tams.		Saltillo, Coah.	
WTBO 800	250	XEB 1030	10000	XELO 580	50000
Cumberland, Md.		Mexico City, D. F.		Piedras Negras, Coah.	
WFCN 1250	1000	XEBA 1080	20	XELZ 1370	100
Minneapolis, Minn.		Guzman, Jal.		Mexico City, D. F.	
WTEL 1310	100	XEBC 730	5000	XEMG 1060	100
Philadelphia, Pa.		Agua Caliente, L. C.		Atzacapotzalco, D. F.	
WTFI 1450	500	XEBG 820	1000	XEMO 860	5000
Athens, Ga.		Tijuana, B. Cfa.		Tijuana, L. C.	
WTHT 1200	100	XEBH 930	500	XEMX 1280	100
Hartford, Conn.		Hermosillo, Sonora		Mexico City, D. F.	
WTIC 1040	50000	XEBJ 1160	20	XENC 860	50
Hartford, Conn.		Merida, Yuc.		Mexico City, D. F.	
WTJS 1310	100	XEBK 1000	100	XENT 910	150000
Jackson, Tenn.		Nuevo Laredo, Tams.		Nuevo Laredo, Tams.	
WTMJ 620	1000	XEBX 640	250	XEOK 760	2500
Milwaukee, Wis.		Sabinas, Coah.		Tijuana, L. C.	
WTMV 1500	100	XEBZ 1160	100	XEOX 640	500
East St. Louis, Ill.		Mexico City, D. F.		Saltillo, Coah.	
WTNJ 1290	500	XEC 1150	100	XEP 1160	500
Trenton, N. J.		Tijuana, L. C.		Juarez, Chih.	
WTOC 1260	1000	XECW 1310	10	XEPN 730	100000
Savannah, Ga.		Mexico City, D. F.		Piedras Negras, Coah.	
WTRC 1310	100	NECZ 1370	100	XERA 840	350000
Elkhart, Ind.		San Luis Potosi, S.L.P.		Villa Acuna, Coah.	
WVFW 1400	500	XED 1160	2500	XES 990	250
Brooklyn, N. Y.		Guadalajara, Jal.		Tampico, Tams.	
WWAE 1200	100	XEDA 1220	300	XET 690	500
Hammond, Ind.		Gra. Anaya, D. F.		Monterrey, N. L.	
WWJ 920	1000	XEDW 1150	20	XETB 1310	125
Detroit, Mich.		Minatitlan, Ver.		Torreón, Coah.	
WWL 850	10000	XEE 1210	50	XETF 1220	30
New Orleans, La.		Durango, Dgo.		Veracruz, Ver.	
WWNC 570	1000	XEF 1450	100	XETH 1210	100
Asheville, N. C.		Juarez, Chih.		Puebla, Pue.	
WWRL 1500	100	XEFA 1180	500	XEU 1010	250
Woodside, N. Y.		Tacuba, D. F.		Veracruz, Ver.	
WWSW 1500	100	XEFB 870	200	XEW 890	50000
Pittsburgh, Pa.		Monterrey, N. L.		Mexico City, D. F.	
WWVA 1160	5000	XEFC 550	250	XEX 1310	125
Wheeling, W. Va.		Merida, Yuc.		Monterrey, N. L.	
WXYZ 1240	1000	XEFE 1340	250	XENB 1270	50
Detroit, Mich.		Laredo, Tams.		Jalapa, Ver.	
W3XJ 1060	100	XEFI 1440	250	XEXC 810	350
College Park, Md.		Chihuahua, Chih.		Aguascalientes, Ags.	
XEAA 920	200	XEFJ 1230	100	XEND 1340	350
Mexicali, B. C.		Monterrey, N. L.		Jalapa, Ver.	
XEAC 980	250	XEFO 940	5000	XEXH 1250	250
Tijuana, L. C.		Mexico City, D. F.		San Luis Potosi, S.L.P.	
XEAD 1060	125	XEFV 1210	100	XEXM 610	500
Guadalajara, Jal.		Juarez, Chih.		Mexico City, D. F.	
XEAF 990	250	XEFW 1310	250	XEXS 1000	100
Nogales, Son.		Tampico, Tams.		Portable in Mexico	
XEAG 1310	10	XEH 720	250	XEYO 940	500
Cordoba, Ver.		Monterrey, N. L.		Mexico City, D. F.	
XEAL 660	1000	XEI 1370	125	XEZ 630	500
Mexico City, D. F.		Morelia, Mich.		Merida, Yuc.	
XEAM 750	25	XEJ 1020	1000		
Matamoros, Tams.		Juarez, Chih.			
XEAQ 560	250	XEJP 1130	100		
Mexicali, B. C.		Mexico City, D. F.			
XEAQ 1090	1000	XEK 990	100		
Rosarito, L. C.		Mexico City, D. F.			
XEAS 1100	50	XEKL 1240	500		
Saltillo, Coah.		Leon, Guan.			

At DEADLINE . . .

The Log Cabin Dude Ranch (Tues. at 8:30) and the Tastyest Jesters (Tues., Wed., and Thurs. at 7:15) are scheduled to leave the air about April 1. The Jack Pearl Show moved to a Friday spot after our Daily Programs were prepared. The same stations, at 10 pm Fridays.

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Experimental station PCJ has been transferred from Eindhoven to Huizen, Netherlands, and reports regarding reception are to be addressed to PCJ Studio, Hilversum. The revised broadcasting schedule for this station is now: Tues. 0430-0600 and Wed. 0800-1100 EST on 15220 kcs. On 9590 kcs. the programs are radiated on Tues. from 1330 to 1500 and on Wed. from 1900 to 2200 EST.

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Carroll Weyrich will monitor the Sat. and Sun. broadcasts from Daventry on April 3 and 4. Trans. 5 on Sat., 1800-1900. Trans. 6, Sat., 2100-2200. Trans. 1, Sun., 0300-0400. Trans. 4, Sun., 1445-1545. Trans. 4a, Sun., 1600-1700. Times are EST. For further details of this plan see March RADEX, page 35.

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A new Peruvian station, OAX4Z, is on 6092 kcs., relaying OAX4A. This broadcaster, located in Lima, is known as "Radiodifusora Oficial, Radio Nacional." They sign off at 2330 EST daily, according to Anthony Tarr.

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Geo. Glass of Detroit reports EAJ43, Tenerife, Canaries, around 1900-2000 EST. The address of this station is Box 225.

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A novel catch on the s.w. is J2AA, reported by Anthony Tarr. It is situated at the Haneda Airdrome, Tokyo, Japan, and is heard every morning 0200-0600 EST, giving weather reports on 6500 and 9840 kcs.

DON'T Miss THIS . . .

DAILY

1321 EST, News, 2RO, 9635 kcs.
1630, News, W1XAL, 11790 (except Sunday)
1800, News, W1XAL, 11790 (except Sunday)
1800, News, YV5RC, 5300
1940, News, GSB, 9510; GCS, 9580; GSD, 11750
2230, News, DJB, 15200; DJD, 11770
2240, News, GSB, 9510; GSC, 9580; GSD, 11750
2330, News, TPA4, 11715

EVERY SATURDAY

0000, KDKA Dn Club, KDKA, 980; W8XK, 6140
1400, Metropolitan Opera, W2XAD, 15330;
W2XAF, 9530; W3NAL, 17780
2200, American DXers' Program, HJ1ABP, 9600
2300, Northern Mesenger, CJRO, 6150; CJRN, 11720

EVERY SUNDAY

0000, Far North Broadcasts, KDKA, 980;
W8XK, 6140

EVERY MONDAY

1930, Modern Radio Course, W1XAL, 6040
2045, Code Practice lessons, W1XAL, 6040
2045, Amateur Hour, YV5RC, 5800

EVERY MONDAY, WEDNESDAY, FRIDAY

1800, American Hour, 2RO, 9635
March 20
0800, 10th Anniversary of SW, PHI, 17.775
March 22
1930, "The Autodyne Receiver," W1XAL, 6040
March 24
1800, Royal Military Police Band, 2RO, 9635
March 29
1800, Ladies' Night, 2RO, 9635
1930, "Tuned Radio Frequency Receivers,"
W1XAL, 6040

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