

THE SEPTEMBER 1936

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RADIO IN INDEX

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The Short Wave Stations
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No. 101

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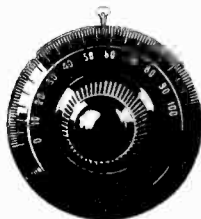
RADIO INDEX

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THIRTEENTH YEAR

NUMBER 101

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Concerning Aerials

● ● ● By CARLETON LORD

THE aerial of today is unquestionably the most neglected piece of apparatus in the radio receiving system. Listeners, who shoot the works in buying the most expensive receiver within their means, expect to obtain maximum results from a dollar's worth of wire running to the nearest tree or telephone pole.

In the early days of broadcasting, the limited range of crystal sets forced the erection of an efficient aerial. It was by no means rare to see a forty or fifty foot mast in a backyard, with a four-wire flat-top strung to another pole on top of a house.

Today, the high sensitivity of modern receivers has made it possible to obtain adequate signal strength from a great many stations even with a poor aerial. As a result, many lis-

teners are content to put up with such an installation, regardless of or oblivious to the many advantages which they are sacrificing.

While it is impossible to analyze the many different receiving locations throughout the country, consideration of basic theories will bring forth recommendations on aerial design which will have an important bearing, not only on signal strength, but on selectivity and extraneous noise.

Speaking Technically

Signals from a broadcasting station are radiated in the form of an electromagnetic wave. When intercepted by a wire perpendicular to its field, this wave induces a difference of potential in that wire. In this way, an aerial collects the radio waves and conveys them to the receiver.

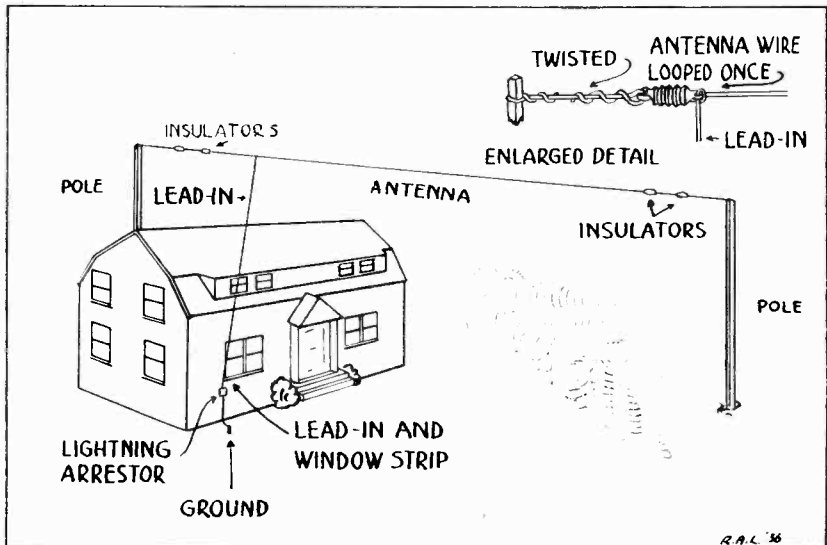


Figure 1. The ever-popular Marconi inverted-L aerial.

However, since the magnetic field of the wave is horizontal, the vertical portion of the aerial—the lead-in—serves as the principal collector.

The field strength of a transmitter at a given point is measured as so many millivolts per meter of height. This figure, when multiplied by the maximum height of the aerial, gives the induced voltage distributed along the entire aerial. Thus, a field of 2 millivolts per meter will induce a distributed voltage of 30 millivolts in an aerial 15 meters high, while but 10 millivolts will be available at the base if the height is only 5 meters.

As a measure of efficiency of an installation, the "effective height" of the aerial is used. This quantity measures the number of millivolts available at the base of the aerial for a signal with a field strength of one millivolt per meter. Thus, for a given signal, the best aerial in any location will deliver the greatest number of millivolts at its base.

Probably the most popular type of aerial is the familiar Marconi inverted-L, and for general broadcast reception it has no superior. The formula for the effective height of the average aerial of this design is expressed as:

$$H = \frac{h(2L - h)}{2L}$$

where H is the effective height;

h is the length of the vertical lead, and

L is the total length of wire.

For example, the use of this formula shows that a vertical aerial 50 feet high will have an effective height of 25 feet. By adding a 100-foot flat-top, the effective height is increased to 41.7 feet; while a value of 75 feet of effective height would be obtained if the 150 feet of wire had been erected vertically.

From this, it will be seen that the length of the flat-top plays a part entirely secondary to the height of the vertical download. Thus, the primary rule of aerial design is to se-

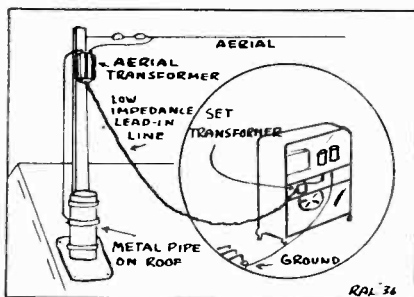


Figure 2. Showing how to convert the inverted-L into a noise-reducing aerial through the use of a low-impedance transmission line.

cure the greatest possible altitude—and then use the remainder of the wire for the flat-top.

Fit Your Location

A survey of his own location should enable every listener to decide on an installation which will give maximum results under existing conditions. Since height is an all-important factor, the erection of rigid masts or poles (preferably of wood) should be considered; one on top of the house and the other at the back of the yard is an ideal arrangement. Trees are not recommended for aerial supports, as they will absorb radio energy and their swaying will cause fading.

In a crowded location, such as an apartment house district, where one finds no obvious support for the contemplated aerial and where other installations provide difficulties of erection, the listener must use his own ingenuity for design. As always, it is important to go as high above obstructions as possible and then string the flat-top as far as desired.

An excellent method of planning an aerial is to make a scale drawing of the proposed installation, showing the possible height which may be obtained at various points, and then decide on the layout which offers the most advantages. The horizontal span of an inverted-L aerial may be in the form of a single wire, a mul-

ti-wire flat-spread, or a cage. While the use of more than one wire on the span theoretically should increase the pickup of the aerial, experience has shown that the gain in efficiency is negligible.

The aerial should be made of No. 12 or 14 solid or stranded copper wire, as it has good conductivity, can be soldered, and is mechanically strong. If a flat spread or a cage is to be used, care should be taken that all joints are well soldered and then taped. A single wire span should be continuous from the far insulator, across the flat-top, through the near insulator and down to the point of entrance into the house.

Beware Interference

Because of noises radiated from the electrical wiring, it is well to have the lead-in approach the house at an angle, so that only at the point of entrance will it be closer than a foot to the wall. At this point, the wire may be looped around one terminal of a lightning arrester, and then continued into the house through a porcelain tube insulator or attached to a lead-in strip. The receiver should be located as close as possible to the point at which the lead-in enters the house.

During recent years, the importance of lightning arresters seems to have been overlooked by many listeners. However, they are an essential part of any radio installation and should be not disregarded. Besides affording definite protection to the receiver as well as to the house, they are always specified by insurance underwriters. Should a house be struck by lightning, the owner would be unable to recover for damages if the inspectors of the insurance company found the aerial unprotected by an approved arrester.

At all points of an aerial installation, good insulation is vital. At both ends of the flat-top, it is well to include two insulators. For connection between the end insulators

and the supports, heavy sash cord is to be preferred over wire. If it is impossible for the lead-in to approach the point of entrance at an angle, stand-off insulators should be used to keep it clear of rain spouts, telephone or power wires, or any other such objects.

Amount of Wire

As yet, no mention has been made of the amount of wire to be used in the construction of an inverted-L aerial. For broadcast band reception with a modern receiver, the possible height of the supports and the room available for the flat-top are the only determining factors.

For general all-wave reception, a flat-top of exactly 78 feet in length is suggested. Such an antenna resonates at 50 meters and has harmonic peaks on 25 and 16.3 meters. Where space is limited, a flat-top of 41 feet is recommended, as this will resonate to 11.5 megacycles, an important short wave band. As many all-wave receivers are least sensitive on the shorter wave-bands, the compensating action of such an antenna tends to improve reception on the higher frequencies. Where space is available, a 114-foot flat-top provides a very fine over-all response on a great number of short wave bands.

An inverted-L aerial installed with these points in mind will give excellent reception in a section reasonably free of man-made interference.

Unfortunately for urban listeners, the noise level is usually quite high. For local and semi-distant reception, the noise may not be bothersome; but as soon as the sensitivity of the receiver has been increased sufficiently to bring in real DX, the noise is found to have increased proportionately.

As long as manufacturers continue to produce electrical devices which radiate interference, the listener must attempt the suppression of the noise with his aerial installation.

It has been established that most

of these noise radiations are to be found close to the ground and do not travel very far. Thus, if the flat-top of the aerial is raised to a point where it is above the noise and if the lead-in can be made immune to the field of noise through which it must pass, the pick-up of interference by the antenna system would be reduced considerably.

The only other way for the noise to reach the receiver is through the power line itself and a suitable line filter, placed between the set plug and the power outlet, will correct this condition.

Minimizing Noise

For general broadcast reception in a noisy section, a modification of the inverted-L aerial is suggested. It is an established fact that a high-impedance line, such as the lead-in, is very sensitive to noise radiations; conversely, a low-impedance line is little affected by these waves of interference. Thus, if the aerial has been placed above the general noise level and a low-impedance line is used for the lead-in, a minimum of interference will reach the set.

To realize such a condition, the flat-top wire is terminated at the top of the mast and connected to the primary of a step-down transformer, the windings of which match the impedance of the aerial. The secondary of the transformer is connected to the twisted leads of the low-impedance transmission line. At the receiver, another transformer is used to restore the high impedance of the aerial. And that is one way to reduce noise.

It will be noticed, however, that the low-impedance transmission line is insensitive to noise. It follows that it will not pick up very much signal; and what signal and noise it does pick up will be cancelled out at the transposed junctions of the twisted lead. Therefore, remembering the early remarks about the effective height of the aerial and the import-

ance of a high, vertical lead-in, it must be realized that an installation of this type, depending as it must upon the flat-top for signal pick-up, cannot be as efficient as the ordinary inverted-L aerial.

Consequently, the listener is obliged to determine, possibly by actual experiment, which type is best suited for his location. The presence of a certain degree of noise on a very weak signal may be very annoying, but what advantage is to be had if the low-impedance line removes the signal as well as the noise?

For All-Wave Sets

For all-wave reception, possibly the best antenna is the type known as the "double-doublet." This development was intended to overcome the limitations of the ordinary doublet and to approach an ideal system for short waves as well as the broadcast band.

As the name implies, this system actually includes two doublets, one of which tends to match the antenna towards the lower-frequency end of the short-wave band (49 meters) and the other tends to tune the system towards the high-frequency end of the band (16 meters). This antenna comes ready to erect, with all wires cut to exact lengths for maximum efficiency. A special transmission cable is provided in 110-foot lengths and one or more of these must always be used. A receiver coupling unit serves

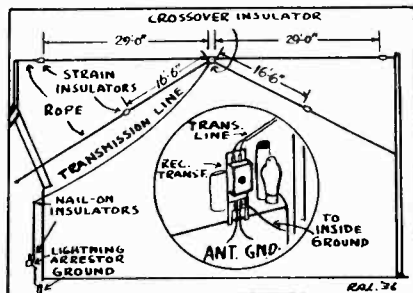


Figure 3. The "Double-Doublet" is recommended for all-wave reception.

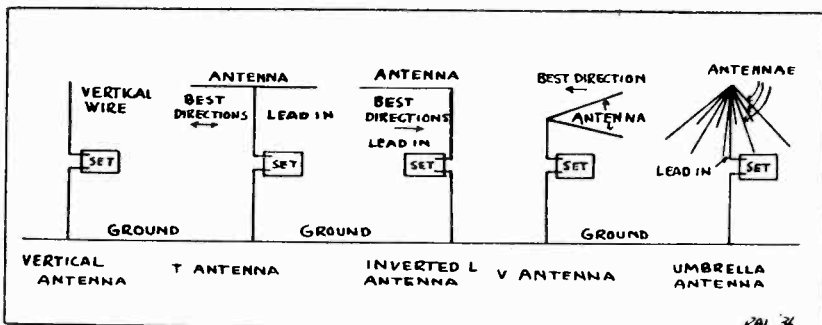


Figure 4. Basic types of antenna design.

five purposes: (1) couples the low-impedance transmission line to the receiver; (2) balances out the capacity of the transmission line to the ground; (3) cancels local interference picked up by the transmission line; (4) permits a ground connection to reduce receiver hum and instability; and (5) provides a switch for choosing between maximum efficiency on short waves or broadcast band.

As in the case of all other type of noise-reducing equipment, the double-doublet is effective only when it has been erected as high as possible.

Here again, however, the inability of the downlead to pick up signals should impair pick-up on the broadcast band. And once more a listener may be obliged to try out a number of installations before arriving at one which is most efficient at his location. It may even be necessary to have two or more antenna installations to meet all of his requirements.

Other Forms

There are many other types of aerials which offer real and imagined advantages. While the inverted-L receives signals approaching on a line from the direction of the lead-in, the vertical and umbrella types receive equally well from all directions. The V antenna is essentially direc-

tional as is the T type. In the erection of all of these styles, the basic theories set forth earlier in this article must be heeded for best results.

One type which cannot be recommended under any circumstances is the indoor aerial, whether it be in the form of a wire running around a picture molding, a tape under a rug or so-called "aerial eliminator." While the losses of an efficient outdoor aerial may be in the order of 20 or 30 ohms, those of the indoor type may be as high as several hundred. At best, indoor aerials are merely good noise collectors and, regardless of the claims of manufacturers or even listeners, a good outdoor antenna is essential to the proper operation of a radio set. Of almost equal importance with the aerial in a radio receiving installation is the ground. The ground lead from the receiver completes the fundamental radio circuit and a good connection is an absolute essential to efficient operation.

The Ground

Much has been written about "trick" home-made grounds which are supposed to improve reception, but most authorities agree that the old-fashioned water pipe is the best of them all. Metal rods, old boilers, radiators and other favorite devices can only give a relatively few feet of ac-

tual ground contact. Water pipes, like Fuller Brush men, cover the entire city or town. Water-pipe grounds are recommended by fire underwriters, hydro-electric technicians and radio experts.

Under no circumstances should a gas pipe be used.

One possible improvement to a water pipe ground may be effected by running a wire around the water meter. In some cases, the washers in the joints between the pipe and the meter may affect the connection and the wire assures a good connection. Ordinary ground clamps may be attached to the pipe on each side of the meter and the wire then connected to the clamps.

In rural sections where water pipes are not available, ground may be obtained by a driven rod or pipe, some metal object immersed in a well or stream, or a counterpoise ground. The latter system is particularly effective where it is difficult to obtain a ground of good conductivity (as where the soil is dry and rocky and the ground water is at a considerable depth). This consists of another wire or system of wires supported a foot or two above the ground and insulated from it. The counterpoise should run parallel to the aerial and preferably under it. It merely acts as one plate of a condenser, with the aerial as the other plate. As it has good conductivity, it works better than a high-resistance ground, even though its surface area is much smaller.

As a final word, it must be remembered that no receiver is better than the antenna it uses. No matter how much a listener pays for his receiver, whether it be \$25 or \$250, the results with the receiver will be no better than its antenna will permit. A good antenna is equivalent in performance to an additional stage of tuned radio frequency amplification.

MISCELLANY

The Universal DX Club announces a contest, open only to members of the club. Briefly, the rules of the contest are: (1) The contest opens Sept. 1, 1936, and closes June 15, 1937. (2) A total of 50 stations will be assigned to be verified; five stations will be listed in the first bulletin and five additional stations in each subsequent bulletin. (3) The stations may be verified at any time during the contest. (4) Credit will be awarded at the rate of one point per mile between the DXer and the station. The member having the greatest number of points at the close of the contest will be awarded a Silver Trophy, fittingly inscribed, for permanent possession.

* * *

Roy Wildermuth, Jr., 223 Woodland Ave., Columbus, Ohio, announces a new Cuban station. The name of the broadcaster is "COCQ, de la RCA-Victor," and it is situated in Havana. "It comes in on about 9755 kcs.," he says. "The station announcement is preceded by two gongs, the first higher than the second. After the announcement a fire siren is sounded. It is heard in the evenings between 7:30 and 8 pm, EST, and is very loud and clear."

* * *

Among the 600 odd stations in the United States, more than a dozen are managed by ladies. Many stations have women as sales executives and program directors. Some of the better-known stations owned or managed by women are WJAY at Cleveland; WNEW, Newark; KOH, Reno; KGBU, Ketchikan; and KMO, Tacoma.

* * *

Major Bowes and his Amateurs are scheduled to leave the NBC on Sept. 13, and four days later, on the 17th, this program will be heard over a nationwide CBS Network under the sponsorship of the Chrysler Corporation of Detroit.

WHAT ABOUT My SPEAKER?

• • • By B. FRANCIS DASHIELL

WHILE several types of loud speakers are in general use in radio receivers, the one that concerns most set owners is the standard dynamic assembly. It is found in practically all sets that are operated by alternating current. Trouble does not occur in loud speakers as commonly as the disorders that arise in other parts of the receiver; but speakers do require certain adjustments, replacement of parts, and at least an annual examination as to their fitness.

So, if your receiver has been exhibiting symptoms of speaker trouble, and even if it seems perfect, there is no time like this summer season to overhaul and readjust its parts. Perhaps a little study of the speaker and how its parts function will enable most of us to understand the importance of this sound reproducing unit. Certainly, we can not devote too much care and attention to this almost human part so it will continue to give true fidelity of tone.

Field-Coil Hum

The dynamic speaker has two coil windings. One coil is rather large because it must furnish the electromagnetic field which creates the powerful speaker magnet. This field coil carries the strong direct current that is provided by the filter and powerpack system of the receiver. The direct current is first carefully filtered to remove all traces of hum, as otherwise this electrical hum would be transferred to the iron core of the speaker as a magnetic hum.

If a poor quality of rectification is provided in the power or eliminator section by defective filter condensers or too small choke coils, speaker hum

will persist. Then, too, hum may be caused by induction between the speaker cords and an adjacent a-c power line. Sometimes a slight increase in the capacity of the filter condensers, or an addition to the filter chokes, will stop such hum. The field coil and iron core of the speaker must, of course, be carefully secured and made very rigid, or a vibrational hum might result.

Field-Coil Choke

Now when this properly filtered and silent direct current passes through the field coil, it sets up a steady but silent magnetic field in the iron mass of the speaker magnet. This is necessary so that the speaker can work. Smaller speakers, using permanent steel magnets, and called magnetic speakers, are suitable for battery sets; but a very powerful magnet, such as can be produced only by a strong current of electricity, is required for all large a-c receivers.

Very frequently this field coil is arranged in the circuit so that it acts as a choke coil or part of the filter system. If a speaker of this type is removed from the circuit, its field coil must be replaced with a choke coil of the same size and inductance, or otherwise the filter and rectifier system will fail to function. In any case, however, the field coil of a speaker must not be removed from the circuit when the set is operating, for its resistance provides a definite portion of the entire load on the powerpack system and its elimination causes the current to become dangerously excessive in the rest of the circuit. This is why set-owners are cautioned by the manufacturers never to remove a speaker plug when a set is turned on.

The Speaker "Pot"

The speaker magnet is shaped like a small-mouthed iron pot. It also has an inner pole that projects upward in the center which is surrounded with the field coil winding. This inner pole forms one magnetic pole of the magnet, while the outer, or surrounding, rim of the "pot" becomes the opposite pole. Between the central pole piece and its surrounding or encircling pole, there is a space called the air gap. This air gap varies in distance across, but in the most efficient speakers the distance is exceedingly small. Of course, not all speakers are designed in this exact manner, for there are many variations from the standard practice of assembly. The principal remains the same in nearly every speaker.

The field coil, which energizes the speaker magnet so it will exert a powerful pull across the air gap, is not the only coil in the speaker. There is another and smaller winding, called the voice coil. This coil is attached to the speaker cone, and is suspended so that it centers exactly within the air gap. However, the clearance between the central magnetic pole and the inner surface of the voice coil must be the same as the clearance between the outer surface of the voice coil and the inner rim of the surrounding pole of the magnet. This matter of perfect balance is highly important.

The Voice Coil

The dynamic speaker, therefore, utilizes two different coils which are not connected electrically. Each coil must be a continuous electrical circuit, for the tiniest break in the many turns of fine wire renders the speaker silent. Testing either coil with a small battery and sensitive meter or head telephone will quickly indicate which coil may be at fault. Replacement with a new coil of similar dimensions and resistance is the

only remedy, and any attempt at rewinding the wire usually meets with failure.

The voice coil will not operate when the field coil is dead, and the speaker will not reproduce sound if the voice coil is broken. But the field coil will work even if the voice coil is defective. The voice coil may be disconnected from the output transformer circuit without affecting the set or disturbing the field coil. The latter coil is more apt to burn out and become dead than the voice coil, but it is not impossible for the latter also to become inoperative.

How It Works

The voice coil receives its current from the secondary winding on the output transformer. The primary winding of this transformer is operated by the current from the plates of one or two power tubes, singly or in push-pull. It is well known that the induced current in the secondary of the transformer is an alternating current which varies constantly in frequency and intensity. So, this output, which is fed into the voice coil, keeps a continuously changing magnetic field surrounding the windings of the voice coil.

Now, this pulsating magnetic field, placed as it is within the influence of the steady pull or field between the two poles of the magnet, causes the voice coil to be subject to tiny variations of position, as it is attracted or repelled by the field magnet. The voice coil, which is not rigidly supported, vibrates at all speeds or audio frequencies within the range of the human ear. And these vibrations are identical with the vibrations imparted to the diaphragm of the microphone located in the broadcasting studio.

The Cone

Also, within the speaker, is a part which is usually called the cone. It really is a diaphragm — like the



*Two pieces of iron pipe and a whiskey jug-
nel may not mean much to many persons, but
Bob Burns, leading citizen of Van Buren,
Ark., put them together to make his famous
bazooka. He is now recognized as a virtuoso
on this instrument, as well as being one of
the most popular comedians of the day. Listen
to him on the Kraft Music Hall on Thursdays
at 9 p.m., EST, on the Red Net.*

one in a telephone receiver. The flat cone is constructed of stiff, moisture-proof material, such as parchment. And the voice coil is attached to the apex or center of the cone. The motion of the voice coil is imparted to the cone as a vibration, and in turn is communicated to the air as a sound wave.

The cone vibrates at different speeds at various points on its surface; the highest frequencies occur at its center, and the lowest or the deep bass notes being reproduced near or at the edge. If for any reason the cone should become warped, pressed upon at some spot, or torn or displaced, the tone immediately will be affected. When a cone is found to be distorted or marred in any way the best thing to do is to replace it with a new one.

Defective Cones

Sometimes a layer of dust on the cone will cause a deadening effect, or a change in tone; dust must be carefully brushed off at intervals. Then, too, the rim of the cone fits loosely against a soft, felt lining on the baffle board, and this arrangement should be looked over as the felt should prevent the flow of projected

air back around the edge of the cone so as to make better low-note reproduction possible.

Chattering or metallic sounds are observed on loud and high notes, and it will be well to examine the centering of the voice coil or armature within the field magnet. It may be necessary to loosen the set screws and carefully re-center the voice coil. A strip of thin paper wrapped tightly around the voice coil so it can be firmly placed within the "pot" opening of the field coil, will permit of its easy centering. The paper then is pulled out after the screws have been tightened.

Speaker Distortion

Distortion, of course, is not always the fault of a speaker. Frequently there is trouble in the audio system, such as unequal plate current in the two half-sections of the primary of the push-pull transformer and associated tubes. Or there may be tube and biasing resistor and condenser defects. A misshapened cone causes distortion, and any tear should be repaired. Better still, however, the cone should be replaced — the cost is slight. Check carefully to see that the voice coil is properly centered in the field "pot" opening; look over the negative biasing of the secondary coil feeding directly into the voice coil.

A weak speaker usually means that either of its two coils are not receiving a proper supply of energy. Check the field coil for conductivity or a short circuit as well as the voltage being supplied it from the power unit. Check the output transformer, primary and secondary, for conductivity, and see whether it is being supplied with the proper "B" voltage. The cone and its voice coil should be free to move and not "frozen" in any way.

Deep and booming tones in a speaker may be due to resonance

(Continued on page 56)

The CREAM of the SHORT WAVES

• • • By PAGE TAYLOR

MOST of our readers know that the Federal Communications Commission conducted an informal hearing last June to discuss changes to be made on the short and ultra-short wavelengths. A resume of the most important changes in these services made since June will be of interest.

Stations formerly known as broadcast pickup stations are to be known as "relay broadcast stations." The "apex" stations will be known as "high-frequency broadcasting stations."

Experimental relay stations (short-wave broadcasters) are now "international broadcast stations." These senders are required to provide direct international broadcasting services instead of merely a relay as formerly. Regular programs can be re-broadcast on the shortwaves but no remuneration can be received for the s.w. broadcasts and a premium above regular advertising rates cannot be charged if a sponsored program is radiated over a s.w. auxiliary. Separate call letters and licenses will be issued for each frequency; the minimum power for these stations will be 5 kw., and call letters must be announced separately over each station.

In compliance with the new regulation requiring high power, the WCAU Broadcasting Co., 1622 Chestnut St., Philadelphia, Pa., advises us that their shortwave station **W3XAU** on 6060 and 9590 kcs. has been temporarily closed down so the power can be raised from 750 watts to 10 kilowatts.

The experimental broadcast stations on 1530, 1550 and 1570 kcs. are now known as special broadcast stations. The entire band from 1500 to 1600 kcs. has been opened up for

broadcasting but it is not contemplated at present that any further licenses in this band will be issued.

The frequency bands from 2000-2100 and 2750 to 2850 kcs. have been dropped from the television service. Experience has shown that satisfactory pictures cannot be transmitted successfully within these narrow bands. Television stations will all be on the ultra high-frequencies, between 42000 and 110,000 kcs.

The 24-Hour Clock

An explanation of our method of indicating time is here included for the information of new readers. We show time by the 24-hour clock, and unless otherwise stated, time is Eastern Standard. Midnight is indicated by 0000 or 2400, and the morning hours are written as usual, except the colon is omitted, 0940 and 1130 being 9:40 and 11:30 a.m. respectively. Noon is 1200. Afternoon hours do not commence to count again at 1 p.m., but continue up to 2400 for midnight. Thus 1 p.m. is 1300, 2 p.m. is 1400, etc. Any number greater than 1200 is p.m. and any number less than 1200 is a.m.

There are a few standard radio abbreviations that should be familiar to all readers. Perhaps the most common is "meg." which stands for megacycles. A megacycle is 1000 kilocycles. The abbreviation for kilocycles is **kcs.** A kilowatt, 1000 watts, is shown by **kw.**

When writing to radio stations for verifications, listeners are always requested to send **International Reply Coupons** (with very few exceptions). IRC can be purchased at any Post Office for 9c each, and can be exchanged in any country which is a member of the Universal Postal Union for Postage Stamps equal to the first-class letter rate to this country.

For some unknown reason Reply Coupons are not acceptable in Managua, Nicaragua, as the operators of stations **YN10P**, **YNLF** and perhaps other stations there will not verify reception unless reporters send three cents in unused United States stamps.

Try for CFCX

A special program will be broadcast on September 20 from 0200-0300 EST from **CFCX**, 6005 kcs., Montreal, P. Q. This station was formerly called **VE9DR**. The special broadcast will be dedicated to the Newark News Radio Club, according to information from Morton Meehan, Elizabeth, N. J., but all shortwave tuners are requested to listen in and report.

Shortwave broadcasts from the Soviet Union are now radiated on three frequencies, according to a new schedule received from Radio Center, Moscow. On 19.89 meters or 15.090 megs. is **RKI**, 20 kilowatts. **RNE** is used on 25 meters or 12 megs. and a new, powerful station, **RAS**, works on 9510 kcs.

English broadcasts are heard on the following schedule: Daily, 1900 EST, **RAS**; Monday, Wednesday, Friday and Sunday, 1800 EST, **RNE**. Wednesday and Sunday at 0800, EST on **RNE**. Sundays only at 1200 and 1530, EST, over **RKI**.

The Daventry Schedules

The schedule of the British stations at Daventry in effect at press-time follows:

Trans. I. From 0015 to 0215, EST, on **GSB**, 9510 kcs. and **GSD**, 11750 kcs.

Trans. II. From 0700 to 0845, **GSG**, 17790 and **GSH**, 21470.

Trans. III. 0900 to 1200 on **GSF**, 15140, **GSG** and **GSH**.

Trans. IV. From 1215 to 1745 over three of the following stations: **GSB**, 9510, **GSD**, 11750, **GSF**, **GSH** or **GSO**, 15180 kcs.

Trans. V. From 1800 to 2000 on **GSC**, 9580, **GSF**, 15140 and **GSP**, 15310.



The radio ears of the world were in tune with the German Broadcasting Company during the Olympic Games. Here is the Broadcasting House in Berlin, center of the German Broadcasting activity. The little building to the extreme right, indicated by the arrow, houses the German shortwave center.

Trans. VI. From 2100 to 2300 over **GSC** and **GSP**.

Slight changes sometimes occur in the times or frequencies used and interested listeners should always listen for the program announcements on Saturday nights for the following week.

In order that listeners throughout the whole world may be assured good reception of the broadcasts from the Olympic Games at Berlin, the German shortwave station considerably increased its power. Reception of the German stations has always been most remarkable, especially in view of the fact the comparatively low power of 7 or 8 kilowatts was used. Beginning the first of August, however, the transmissions from Zeesen were made with a power of 40 kilowatts.

The Zeesen Schedules

The German schedule in effect at the present time is given here:

DJA, 9560 kcs., 0005-0515; 1650-2245, EST.

DJB, 15200 kcs., 0005-0515; 0555-1100; 1650-2245.

DJD, 11770 kcs., 1135-1630; 1650-2245.

DJE, 17760 kcs., 0005-0515 daily; 0555-1100, irregularly during the Olympic Games.

DJL, 15110 kcs., 1135-1630.

DJN, 9540 kcs., 0005-0515; 1650-2245.

DJQ, 15280 kcs., 0555-1100; 1650-2245.

DJR, 15340 kcs., 0555-1100.

The **Norwegian** shortwave station at **Jeloy** was built originally merely to extend the broadcasting facilities within the country, but it has been decided to broadcast experimental programs in an attempt to reach countries outside of Europe. Regular broadcasts started this month, September, according to information from the U. S. Consul General at Oslo, programs being radiated from 1800 to 2300, EST, on 9530 meg. Announcements are made in Norwegian and English. This station was formerly known as **LKJ1** but we are not sure if these call letters are used now. The address is Director General, Administration des Telegraphes du Royoume de Novege, Oslo. This is one of the few shortwave stations in the world which permits paid advertising, income from which is used to finance the broadcasts.

10-meter Reception

Reception of the ultra high frequency stations is becoming more common. Beverly Wilder, Jr., Instructor in Geology at Antioch College, Yellow Springs, Ohio, has heard and verified a station **Q8C7** at San Pedro, Calif. on 31 meg. His verification is most interesting, reading, "Since temporary installation of this equipment we have been conducting extensive tests. The purpose of this station is to work two-way communication with our Los Angeles office, but we have been of the opinion that our signals were coming down east of the river (Mississippi) and your letter confirms this opinion. The equipment is manufactured by the General Electric Co. for the United States Coast Guard. The maximum power output is 15 watts. We are working on exactly 31 megacycles. The antenna consists of a copper wire ¾ inch thick and fifteen feet one and

a half inches long. This station is located on the waterfront at San Pedro, Calif."

J. Herbert Hyde, Box 82, Elmwood, Conn., has a number of recent verifications with information which may be useful to other listeners. **HC2JSB**, "Ecuador Radio," works, according to their card, on 1070 kcs. and 7854 kcs, with 500 watts power on the s.w. This station, operated by **Juan S. Behr**, claims to be the oldest station in Ecuador. **HCK**, "Radiodifusora del Estado," Quito, Ecuador, transmits on 5885 kcs. with 250 watts, according to the card.

Anthony C. Tarr, 909 W. Lee St., Seattle, Wash., has been corresponding with the operator of station **KAED** at Angoon, Alaska, and from him obtained an up-to-date list of the Alaskan telephone stations. "You might be interested in the fact that Angoon has a population of 23 people, 11 whites and 12 Indians," informs Mr. Tarr. "I learned from the radio operator that the town has three churches. Methodist, Catholic and Greek Orthodox, and the entire town goes to all three. The town band, he says, plays on the slightest provocation, and inasmuch as each instrument is slightly off key, the results are most amusing." We wish **KAED** could broadcast a concert by this band sometime.

South American Data

"**H1BU**. La Voz del Comercio, Santiago de los Caballeros, D. R., is now working on 6014 kcs," according to **R. B. Oxrieder**, 122 E. Hamilton Ave., State College, Pa. "**H1BU** was on 6380. and I believe it has a power output of 25 watts. The Dominicans certainly shift around a lot; **H13C** at La Romana, formerly on 6900, is now working on 6098 kcs. This station, La Voz de la Marina, also uses 25 watts, and because it is now so close to **W9XF-W3XAL** it is heard only very poorly."

"The Voz de Barranquilla," **HJ1ABB**, is reported testing on the

new frequency of about 9560 kcs. in the evenings and mornings.

A letter from the Sres. Nebot y Castro, Maracaibo, Venezuela, informs us that they have bought radio station **YV5RMO** from Sr. Vegas, and changed the name from "Ecos del Caribe" to "Ecos del Zulia." The frequency remains the same, 5.850 megs.

Asiatic News

KZRM, the largest of the Philippine broadcasting stations, is being relayed on shortwaves quite regularly over point-to-point station **KAZ**, 9.99 megs., Manila, according to some reports, while others mention **KTR** on 10910 kcs. as the station which has the rebroadcast. As the purpose of these tests is to determine a good frequency for regular short-wave broadcasting from the Philippines, it is likely that both of these stations are used. These s.w. stations are operated by the Radio Corp. of the Philippines, Plaza Moraga, Manila.

Mr. A. I. Breen, Secretary of the N. Z. DX Association, sends lots of information on stations in his part of the world.

The Radio Club Oceanien, Papeete, Tahiti, in a letter to the N. Z. DX Radio Assn., states that they are the operators of shortwave station **FO8AA**, "Radio Oceanie." This station transmits on 7.1 megs. with a power of 25 watts, but this will be increased very soon. The schedule is Tuesdays and Fridays from 11 p. m. until midnight, EST. They will verify.

The new Western Australia station **VK6ME** will work on 9590 kcs. with 300-400 watts in the aerial. The transmitter is well under construction and should be working this winter.

The Chinese station which was heard a few times in the 31-meter band is officially operating on 9460 kcs., according to information re-

ceived by Secy. Breen. This station was formerly **XGON** on 930, but its call letters are now **XGOX**. From 0630 to 0930, EST, is the time to try for them.

The Radio Engineer attached to the Post and Telegraph Dept., Bangkok, Siam, writing to "Tune In," gives the call letters of the new station at Sala Daeng as **HS8PJ**, and the wavelength as 27.38 meters (10950 kcs.). This 10 kw. station is on the air every Monday from 0800 to 1000, EST and is heard well in some parts of the USA.

Mr. Breen reports that a station **VJI** is received at R7 signal strength in Dunedin (N. Z.). **VJI**, Cloncurry, Qsld., Australia, is testing and asking for reports on 8630 kcs. near 0400, EST, Fridays. Address the Aerial Medical Service at Cloncurry if you are lucky enough to receive this low-powered station.

New Europeans

Some bits of gossip picked here and there; none of this data is confirmed. "Radio Stockholm," Sweden, reported on Saturday mornings on 7.1 megs. A station in **Spanish Morocco** is reported on 6.1 megs. **TFJ**, 12,235 megs., Reykjavik, Iceland, has resumed broadcasting on Sundays, 1440-1530, EST. A new shortwave station is reported under construction in **Kaunas, Lithuania**.



The new modernistic-style building housing the broadcasting facilities of the Frankfurt-am-Main station in Germany. This 25 kilowatt station works on 1195 kcs. and is frequently heard by DXers.

Because of its extensive colonial possessions, the Netherlands is interested in developing s.w. broadcasting along the same lines as the Empire Service from Great Britain. The PHOH now has four frequencies at its disposal, PHI on 11725 and 17775, and PCJ on 9590 and 15220. Broadcasting from these stations has usually been of a more or less experimental nature.

In March of this year Radio Beograd II was put in operation. This Belgrade station, owned by the Post and Telegraph Department of the Yugoslav Government, works on 6100 kcs. with a power at present from 250 to 400 watts. The hours of operation are from 2 to 8:30 am. and from 11:30 to 4:30 pm., EST. Due to the fact announcements are made in seven languages, French, Italian, German, Hungarian, Greek, Albanian and Serbian, this station has already proved popular in the Balkan Countries, which heretofore have had no radio station serving them in their own language. The range of this station will be considerably increased this fall when the power is raised to 2.5 kw.

"The 20-meter Thrill Band is recommended to those who want to hear more foreign countries and to those who just try to log the greatest number of stations possible," points out Ray English, 360 Lafayette Ave., Passaic, N. J. "One big point in favor of this band is that one generally does not have to listen from 30 to 60 minutes for a station announcement; the amateurs give their calls frequently. Foreign amateurs are located at either the high or the low side of the American phone band, and to bring them in one should have a good set, good headphones and a good doublet aerial." Mr. English submitted a list of the 70 amateur stations he has logged outside of North America, but these cannot be included here. The Radio Amateur Call



Sedley Brown and Allie Love Miles, representing a clearing house for domestic relations problems, conduct the program "Husbands and Wives" heard on the Blue Network on Sundays at 6:30 p.m., EST. In this novel program, representative questions sent in by listeners are selected, and then men and women who have successfully solved similar problems are brought to the microphone.

Book Magazine lists all the amateur stations in the world and is recommended to anyone interested in the "hams." We cannot list even the better known stations because their very irregular operating habits make it almost impossible for anyone to tune for a particular station and get it.

One of the most active DXers, on both the s.w. and the BCB, has announced that his DXing activities are over. Eric Butcher, formerly of Cokeville, Wyo., writing from New Orleans, says he is quitting the game because of poor co-operation on the part of stations. This seems strange in view of the fact he has 60 foreign countries verified; we think the sea has called Eric again and we hope he will send us some first-hand information when he gets down to Australia.

Some assorted information comes from Merton T. Meade, 819 Wyandotte, Kansas City, Mo. In condensed form, the information follows: **HJ1ABE** has moved to 6095; **HJ1ABB** has moved to 6128 kcs. **YNLF**, Managua, Nicaragua, is testing on 9670 kcs.; **HISQ**, Trujillo, D.

R., was heard on 6240 kcs. Mr. Meade wishes to exchange SWL cards.

Canadian Police

"I have a 1936 Philco and have logged over three hundred stations already," writes Ed Sharpe, 86 Hunter St., W. Hamilton, Ont. "I have heard Hilversum, PCJ, on their Wednesday night broadcasts on 9590 kcs. with very good volume and clarity. It is one of the best Europeans at this time. The correct call letters of the Toronto police station are **CYQ**, and the Hamilton police have a new Marconi station operating on 1710 kcs. with the call letters **CZ6F**. **CYQ** is on 2318 kcs."

"I recently built a two-tube converter which tunes approximately from 16 to 49 meters," reports Warren Winkley, Hughson, Calif. "On this little set I have picked up a number of s.w. stations, among them **XEXA**, 6.182 meg, daily from 1800-2130, PST. **KKH**, Hawaii, Mondays on 7520 kcs. from 2000 to 2145, PST. **DJN**, Zeesen, Germany. 9540 kcs. daily from 1700 to 1930. **HJ1ABP**, Barranquilla, Colombia, 9600 kcs. from 1600-2000 daily. **LRX**, Buenos Aires, announced its frequency as 9660 kcs. The Japanese programs are heard at present on **JVH**, 14600 kcs. from 2030-2200 with very good volume. In fact, all the stations so far mentioned have been heard at least R6."

"I have been more than satisfied with the performance of my Stewart-Warner radio which I bought in 1933," submits Mrs. Alice Wilbur, 203 Mulberry St., Newark, N. J. "I have heard all continents except Asia, and considering my locality which is surrounded by electrical and railroad lines I think I have done quite well. Among the better catches in my log are **HAT4**, **PCJ**, **HVJ**, seven English stations, seven Germans, two Russians, eleven in the city of Trujillo, D. R., and many others."

Correspondents Wanted

Wallace Howe, 3 Headley Terrace, Irvington, N. J. Uses a 7-tube Grunow and although he would like to hear from anyone, is especially anxious to write to Grunow users. Has heard all continents but likes the hams particularly.

Edward Hughes, 1212 Castlewood Ave., Louisville, Ky. Is 15 years old and wishes to exchange photographs as well as correspondence. Amateur reception is his chief interest and he does his listening on a Stewart-Warner converter.

Roland Doyle, 24 Baden Powell St., Rockhampton, Australia, wants to exchange cards with American fans. He has been DXing about two years, has 540 cards in his collection, and the card he sent us to look at is a beauty, worth having. This one is also a ham listener.

Robert Armstrong, Route 13, Dayton, Ohio, says he will answer all letters he receives. He does not confine his tuning to the amateurs but tries all the bands; confesses he likes the 20-meter hams though.

"Someone may be interested in knowing how long it takes a verification to come from the Fiji Islands," suggests Carl Scherz, Box 856, San Angelo, Texas. "I heard **VPD**, 13075 kcs., on April 4, wrote to them the same day, and received my QSL card on June 15. This station is weak and hard to get here. It is heard between 12:30 in the morning, EST, and 1:30."

Czechoslovakia on the Air

Just as we go to press two listeners write about their reception of the new shortwave station located at Podebrady. *Praha, Czechoslovakia*. W. H. Chorley, 42 Langside St., Winnipeg, Man., says, "You may be interested to hear that at 1620 CST I picked up Prague. The announcer gave his frequency as 19.698 meters, saying that later on he was moving up to 25.51 meters. I was listening to

Berlin and London at the time, and on returning to Prague heard the announcer say that he was moving to the 6 megacycle band."

The other reporter, John F. Holub, 1419 So. Clarence Ave., Berwyn, Ill., learned a few more details. "I heard *Radio Podebrady* testing from 11 p. m. until midnight," he pens. "They announced they had been broadcasting from 20 hours British Summer Time Friday to 8 hours Saturday (2 p. m. to 2 a. m. EST?). They changed every hour and every half hour to a new frequency, in the following order: 15230 kcs., 11 to 11:30 p. m.; 11760 kcs. from 11:30 to midnight; 6115 from midnight until 12:30 a. m. etc. On 19 and 25 meters (15 and 11 megs.) signals were very good and the Czechoslovakian music delightful. I couldn't hear them on 49 meters (6115 kcs.). I have mailed a report and hope to be able to confirm the frequencies and other data."

T14NRH

From Sr. Amando Cespedes Marin comes a letter announcing the return of his well-known s.w. station to the ranks of regular broadcasters. "Now **NRH** is back on the air, on 9670 kcs., between Havana CMQ and Daventry GSC," Sr. Cespedes writes in his distinctive style. "She is crystal controlled now and the schedule is 8 to 9 pm CST and 10:30 to 11 pm CST. The very first one to report my first testing was Mr. Capt. Horace Hall. I did not advise anyone officially about my coming to the air, because I wanted radioways to be our own testification, and thus I have received bunches of mail from USA and West Indies, and they all state NRH is as clear as a big station and all inquire about its power. They all copy all I have to say. How good of them, because they cheer fraternity and no advertisements at all. More over, I talk my own English and feel my own ways. Please advise all friends that NRH is back to stay, for I work no more the TIRCC which actually

is a great failure. I ended my year contract there and decided to renew NRH activities."

Old timers will remember that NRH, Heredia, C. R., was one of the pioneer shortwave stations of the world, and with the very small power of 7.5 watts was heard around the world. His present frequency and operating schedule are very nearly identical with his original set-up. After achieving world renown as the successful operator of the smallest radio station, Sr. Cespedes, hoping to widen his audience still more, increased his power. Subsequently he was called to Nicaragua to install and operate several stations there, and for the past year he has worked and managed TIRCC at San Jose, Costa Rica. Now he is back in his own city, with his old friends and among his bamboo trees and coffee plants, trying to recreate "the world's most friendly station."

Radio Saigon?

"I believe **Radio Saigon** is finally back on the air on 11.75 megacycles," supposes Roy Myers, 4506 St. Elmo Drive, Los Angeles, Calif. "It has become quite a joke among local DXers, every time they hear an unknown station, to say that perhaps it is Saigon, but I think this time it really is. There is another unknown on 6.85 megs which is heard quite regularly at 0500, PST, with a lady broadcasting news items in English about the Orient.

"On the shortwaves, over 150 verifications have been received, with four of them from Africa. I still have five more reports out to Africa with only one overdue, ZTJ. I think that is pretty good, to have nine Africans on the west coast. Listeners who want to hear real DX should tune in the 14 meg. Amateur band; near 1800, PST, I have heard XU3FK at Chefoo China, V5TRA in Ceylon, VS6AQ in Hong Kong, and three Javanese."

Among the Alaskans

READERS may wish to have some up-to-date information concerning many of the Alaskan 'phone stations," surmises Ashley Walcott, 76 San Rafael Way, San Francisco, Calif. "The information I am submitting comes from operators of the respective stations. First, **KAED**, Angoon, is a 40 watt Territorial station on 2616 and 3092.5 kcs. On 2616 it can work any other station, but the operator has a regular schedule only with **KAEP**, Tenakee, at midnight, EST, probably daily. **KAEP** is a new Territorial station on both 2616 and 3092.5 kcs., working Angoon and Juneau. Coming back to **KAED**, it works on 3092.5 exclusively with **WXA**, Juneau, at 12:45 am EST.

"**KGM**, Ketchikan, answered a September report in January, giving his schedule with his ships as noon, 1600 and 2300, EST. It is not known if these schedules still are kept.

"At Cape Pole, **KIJB**, 2994 kcs., with ten watts, works with **KDK** at Wrangell. It is heard occasionally at 0130 EST.

"**KIJR**, Port San Juan, is a 50 watt Northern Radio Co. station, and works two other salmon canneries, one at Todd, Chichagof Isl., and the other at Uganik Bay, Kadiak Isl., and also the Signal Corps station at Anchorage, **WXE**. Port San Juan is located about 5 miles across the bay from Latouche in Prince William Sound, on Evans Island.

"**KIJW**, Shearwater Bay, Kadiak Island, works with **KIJX** on 2912 kcs. at 1330, 1900 and 0015, EST. According to a map he sent, Shearwater Bay is at the extreme end of Killuda Bay. Mr. R. C. DeLong is the operator.

"**KIJX**, in the town of Kadiak, repeats the schedules given by **KIJW**, and adds two with **KIJP**. Uganik at 1315 and 0000, EST. Both **KIJW** and **KIJX** are 50 watt stations,

working on 2913 kcs. most of the time, but with an alternate frequency of 2632 kcs.

"There are three new Territorial stations in the Aleutian Islands: **KAEW**, Umnak Island; **KAJJ**, Atka Island, and **KAJU**, Attu, Isl. All are licensed for 5207.5 kcs. and for 2616, according to **WXE**. These stations work **WXY** at Nome; I am not sure of the schedules but I have heard one at 5:30 am, EST.

"**WXY**, Nome, is heard on 2604 working the Aleutian Islands."



It was reported in the press recently that Andre Kostelanetz and Lily Pons will be married, perhaps the first of next year. Kostelanetz conducts his dance orchestra on the CBS on Wednesdays at 8 p.m., EST. and on Fridays at 9 p.m.

The Red River Broadcasting Co. has a construction permit to move its station **KGFK**, 1500 kcs., from Moorhead to Duluth, Minn. When the station is set up in its new location the call letters will be changed to **KDAL**.

Another New Season on the B. C. BAND

••• By CARLETON LORD

WITH the approach of September, a new DX season looms upon the horizon. After a few months of respite from the regular early-morning sessions at the dials, it is with a decided sense of anticipation that listeners look forward to the coming months and wonder what is in store for them.

A year ago, we ventured to predict a poor season for DX on the broadcast band. This was based on the established fact that the much-publicized sun-spot cycle had passed its 1933 minimum and was on a decided uptrend towards the maximum in 1939.

Listeners will now agree that the 1935-36 season was, to say the least, disappointing. Static was abnormally high most of the time. Signals appeared to be blanketed early in their journeys through space and seldom were satisfactorily received at a distance.

From all indications, the approaching new season will probably be a repetition of last year. We hoped that we were wrong when we made our prediction twelve months ago; we hope that events will prove that we are in error now.

Making Ready

However, while there is little that listeners can do to change nature's strange command of the phenomena of radio, there is a great deal that can be done to make the most of such reception as we have.

Some fortunate DXers will be trying their hands at tuning new 1937 receivers. Those who will be starting another session with their older models would do well to check over their installation carefully.

Two causes of weak signals are dirty condenser plates and tube sockets. A soft pipe cleaner drawn between the plates several times will clean up the condensers. Tubes should be pulled and their prongs polished. Jacks and phone plugs should be cleaned and polished. A small piece of emery cloth, rolled about the size of a match, will do wonders in cleaning up socket contacts. Many other attentions will come to mind after the check-up has been commenced.

The tubes themselves should be checked and replacements made of any which test the least bit weak. While most listeners don't think of tubes until their receivers start to act up, a bad one can mean the difference between hearing a good catch at comfortable volume and absolute silence. Just as a bad spark plug is supposed to waste one gallon of gasoline in ten, a weak tube can waste ten out of ten Aussies or Europeans.

Of primary importance is the aerial and ground. If a sky-wire has been up more than a year, it should be checked carefully. Listeners should make certain that all connections are well-soldered and that bare wire has no chance of grounding anywhere. A tree or a vine may have grown during the summer to the extent that it will touch the wire.

Better still, while the weather continues warm, why not put up a new aerial?

Checking Results

As in most hobbies, DXing offers its devotees some manner of compensation for their efforts. Some listeners point with pride to a growing

list of prize verifications, others count valued friendships as their reward. By whatever scale the returns are measured, the summer months offer DXers a grand opportunity to check on their results and count the profits against the losses.

"Checking through my back copies of RADEX a few days ago, I came upon a letter of mine which appeared in the September, 1935 issue," relates Evan S. Morrow, 2161 Ashland Ave., Detroit, Mich. "This reminded me that I have been DXing for about a year. When I last reported, I had heard 113 stations and had verified none. Now, I have heard 470 and verified 22. My best catch during the year was the 100-watter, KPQ, Wenatchee, Wash. The nicest veri came from WTFI, which was heard during the Mystery DX Contest. WEOA, Evansville, Ind., advises that it will verify for return postage. A few issues ago, someone reported that WMBC was one of three out of 35 stations reported to on a frequency check which had not verified within three months. They verified a report for me four days after it had been sent."

"Using a 6-tube Philco Model 89L, I have just completed my first season as a DXer," admits Robert Patterson, 2119 Kenwood Blvd., Roanoke, Va. "Veries have been received from Radio Normandie, LR1, LR4, LR5, CFCT and CKOV. I am still waiting for LS2 to come through. Next season, I have high hopes to verify every continent on the BCB. Why not make it a rule that all reports should include the make and model of the receiver used by the DXer? If a good catch is reported for a small set, I am very much interested; but I won't lose much sleep trying to duplicate the reception of a 23-tuber. Incidentally, what make of set does Charles Hesterman use?"

According to our last report, the "Saskatoon Skeeter" uses a 12-tube



Charles Hesterman, "The Saskatoon Skeeter" with his 12-tube Canadian Westinghouse super.

Canadian Westinghouse super. A picture of Mr. Hesterman and his receiver is included in this issue.

Cubans Do Verify!

Warren E. Winkley, the Ahwahnee, Cal., DX addict, offers concrete evidence that all is not what we might think down Cuba way. "New veries have rolled in from CKFC, KRNR and CMQ," he writes. "The verie from CMQ is the fourth from them. Considering the average idea about the Cubans, that is a bit unusual. Since my last report, I have been fortunate enough to log as new stations KRNR, KELD, CFRN, KSLM and KASA. That brings my log to exactly 690, which pleases me somewhat as I am 'handicapped' with an eight year old receiver, incessant static and a location remote from most of the stations."

"In a period of approximately 13

months," summarizes Julian Schaefer, 2036 West 83rd St., Cleveland, Ohio, "I have heard 750 stations, of which 593 are verified. During the past seven months, I have used a Midwest 16, on which all of my best 25 catches have been logged: KVL, KIT, KXRO, KFIO, KRNR, KAST, KORE, KIEM, KFXM, KNO, KERN, KDON, KRE, KGFJ, KWG, KUMA, KSUN, KGAR, KGEZ, KFND, CFCT and CKOV. All are verified. Critics said we had a poor season last year, so I should do a lot better this winter."

"By logging 20 new stations to bring my log up to 436," advises Vernon R. Grassie, P. O. Box 213, Duncan, B. C., "I wound up a very fair DX season. Latest veries are KALB, 3YA, 4YA, WGCM, KUMA, KGCU, WAAW, KSLM, KGY, KSAC and KPAC. New catches include KAST, KFIO, WWSW, WCAT, WTAL, KLUF, KRLH, WCAD, KNET, WHBC, WCAP, KROC, WFFF, WGCM, 3GI, 2NC, 2UW and 2AY. 2AY, the 100-watter, was quite a surprise, believe me! I copied a report on them and hope I get a verie." We do, too, Vernon!

"After two years of DXing," greets Harry V. Adams, Bay View, Digby Co., N. S., "my log shows a total of 575 stations, of which 124 are verified. Trans-Atlantics logged this past season were Radio Normandie, Bordeaux, Rennes, Cologne and Poste Parisien. Of the South Americans, I heard LR1, LR4 and LS2. Best veries in North America were CFJC, KFIO, KORE, CJOC, KIRO and KICA. I am using two receivers alternately for DX work—a three tube Westinghouse 53 and a four tube Grimes super."

"At the end of my third season of DX on the broadcast band, I have logged 582 stations," reports Clifford Van Tassel, 138 Washington Ave., Pleasantville, N. Y. "Some of the better catches include Radio Nor-

mandie and LR1, while others heard well but not reported were LR3, LR5, LS2, CX26, Poste Parisien, Bordeaux Lafayette and West Regional at Cardiff. A report is out to LR4 and YVIRC has been verified. Of the Aussies, 4QG and 3LO were weak but positively identified. It has been my experience that TA's are best heard the latter part of December and through January. I tune for them between 2:00 and 3:30 A.M., but fellows on the coast prefer the late afternoon and early evening."

"I have been DXing since September, 1935 with a six tube Philco Model 620," offers Jack Horner, N. Market St., Elizabethtown, Pa. "My aerial is a Philco all-wave, running NE by SW. In this season, I have logged 429 stations, with 112 of these verified. My best catches are LS2, LR4, LR5, TGW, KGIW, KFVD, KROW, KIRO, KPAC and KGFF."

Verifications Again

As might be expected, the question of verifications continues to pop up unexpectedly. In the Midsummer issue of RADEX, Howard L. Spies asked the question, Why Verify? He gave his reasons for believing that the collection of verifications was an unnecessary part of DXing. In another section of this issue, John DeMyer, who might be classed as an expert, takes up the torch for the verifying brethren.

As far as we can determine, a DXer's policy in regard to veries is pretty much a matter of personal preference. Some listeners obtain a great deal of satisfaction merely by hearing a station, and no end of verifications, confirming what they have known all along, can increase their pleasure in a good catch. To these DXers, the process of tuning a new and distant station appears to be their primary source of enjoyment.

Then, too, the process of procuring verifications is often a rather expens-

ive measure. Cards, letters, stamps and repay coupons can run up a tidy bill during the course of a season, and not every listener is in a position to shoulder such a burden. If a verification means nothing to him, he would be foolish to go after them.

Reports from readers seem to indicate, however, that a large majority of listeners want to confirm every station heard. While some DXers will limit their verifying efforts to foreign catches and real DX, most of them agree that the, "You heard us!" message on a verie is quite worth while.

While few of us are inclined to doubt a report of a station heard, a verification does lend a convincing stand to any report. To have heard a station at a distance with sufficient clarity to make a verifiable report is often a fine achievement, and a confirmation may be classed as a welcome reward for time and effort.

Counting Veries

Whenever the subject of verifications is brought up, there is usually raised the question of how to count them when we have them. The matter has been discussed pro and con, time and again, and we shall probably never arrive at a system which will meet the approval of all listeners.

As Paul Sampson, 1820 College Ave., Regina, Sask., points out, "Counting stations is purely a personal matter. The reason I count by calls is that there is less chance of including a station twice when it should be counted but once. As far as I can see, there is only a slight chance of error in this method. After all, logging is a matter of individual honesty."

"If every DXer had a chance to air his pet system of counting verifications," remarks Charles E. Roach, 816 North 7th St., Camden, N. J., "there would be as many systems as

there are DXers. To my mind, a verification is proof of reception of a station, pure and simple, but only proof to you, personally. From the signatures on the verifications I have received, it is understood that most of them are taken care of by office clerks and slip-ups are bound to happen. But as long as you honestly reported your station, you are entitled to your verification and you may count it as you will."

Much as we dislike to admit it, it is impossible to get around the fact that there are a few listeners who have no scruples when it comes to going after a verification. How



"Don't stay up all night DXing," says R. T. Coules, 54 Chelsea Road, Southsea, England. "Do your SW listening in comfort." The cup was first awarded in the British IDA SW contest and was won by Mr. Coules.

they can obtain any personal satisfaction for a verie obtained in an underhanded manner is difficult to appreciate, but they continue to apply for their cards and letters and we suppose they have some use for them. Perhaps they enjoy the knowledge that they have been able to put something across on a station.

"I am acquainted with managers and engineers of many stations," supplies Robert D. Wade, 3704 Tyler, Amarillo, Texas. "Not so long ago, a 1000-watt station in Texas failed to go on for its FCC check because of unforeseen transmitter difficulty. Believe it or not, they received nearly

50 reports requesting a QSL card for that broadcast. The chief engineer and managing director of this station are intelligent men, they enjoy a good report and, to my knowledge, they will go out of their way to assist an honest DXer. I talked with the engineer after these reports came in and his attitude was expressed in five words: 'That ends the verification business.' He later qualified that statement with, 'Well, if I get a report that checks the log, I'll verify; but I still think it's a waste of money.' With such monkey-business going on, how can we expect to have him think otherwise?"

Postage or No

During the past year, many listeners have complained that they sent a three-cent stamp with their report and received just a card of verification. If the station chooses to keep two of the three cents to cover some of the cost of verification, we feel that they are entirely within their rights. It is no small task to sort out letters, check reports with log and write replies. When a station has counted the cost of that labor and added on the expense of a letterhead, we doubt if their margin of two cents leaves them any profit.

Edward R. Peterson, R. D. 2, Box 176, Ventura, Cal., expresses his views: "One night last winter, I heard the Honolulu stations, KGU and KGMB. I wrote these stations, enclosing three cents in coin. KGU sent me a penny postcard, while KGMB never replied. I feel that if a station calls for reports, they should pay the postage on veries; if a listener hears the station and wants a reply, he shall pay the postage."

"Isn't it only civil to enclose a stamp when asking a favor of someone?" queries Mrs. A. C. Johnson, Henry, S. D. "Then, why is it any different when writing for a verifica-

tion? I should think that anyone who writes in for a confirmation would be more than glad to send along a stamp. The stations give their time and it certainly costs them something. The stamp covers the postage only. Why not blacklist all who refuse to enclose stamps."

We tried a variation of the blacklist idea when we printed the names of the postcard reporters on the WCSH transmission during the Mystery DX Contest last winter. Just what effect that had is hard to say. We did receive an apology from one of the listeners. He pleaded ignorance of the rules of decent DXing, saying that he had printed a batch of report cards and couldn't afford to throw them away.

Contest Winners Report

"I can't thank you enough for the splendid Scott receiver which I was fortunate enough to win," acknowledges S. R. Lewis, R. D. 3, Box 660, Toledo, Ohio. "It certainly is a wonderful set and I am more than pleased with its performance. While I haven't had much opportunity to give it the works on the broadcast band, it sure is the berries on short waves. Selectivity, sensitivity and tone are perfect!"

"I received my Hallicrafters receiver O.K.," advises Cleland Herman, 602 S. Cedar St., Owosso, Mich., "and I am getting much enjoyment out of it. I am 18 years old and started DXing in 1932. My first verification was from XED, Reynosa. I now have about 700 veries from all parts of the world."

"Thanks very much for the prize," pens Bill Vornkahl, Westport, Conn. "I sure consider myself both lucky and unlucky. I missed WNEW on one of their transmissions as well as WNBX, two of the easiest-to-get stations for me. I sure did want that Hallicrafters, you know how it is. The old Majestic sure does need tubes, the old ones being three years



A "Miss Radio" is chosen every year, but the radio ladies are becoming so attractive that this year it was necessary to choose three Miss Radios. Helen Marshall, a taffy blonde weighing 113 pounds, was chosen as a beauty of the "outdoor girl" type. Harriet Hilliard and Dorothy Lamour are co-holders of the title.

old. If you have another contest next year, just reserve the first prize for me. If I can get third prize with old tubes, you can judge for yourself what I will do with new ones."

"I want to thank RADEX for the subscription which I won in the contest," notes William Tawzer, Jr., Glenshaw, Pa. "The first issue arrived the other day and it certainly beats buying it at the newsstand."

"Many thanks for the prize," briefs Harry M. Gordon, 317 East 10th St., Erie, Pa. "It was a grand contest and I know that the Candler Code Course will add to my enjoyment of radio."

Another Contest?

Readers seem to be unanimous in the opinion that the contest should be repeated this season. While it is admitted that our setup was not perfect last year, we have received many suggestions and believe that a pos-

sible repetition of the event will interest a greater number of listeners.

It has been suggested that the contest be conducted for three hours a night, one or two nights a week, for two or three weeks. While this would undoubtedly be a bit easier on the listeners, we cannot help but feel that it would offer too much opportunity for contestants to compare notes. We dislike to admit such a possibility, but the last contest offered ample proof that we must guard against any such opportunity. Of course, it would be possible to send in reports for each week's reception immediately, but that would complicate the work of the judges too much to be practical.

Therefore, believing that a prize worth having is worth trying for, we are going to repeat the three successive day idea and have tentatively set the date as the week-end of February 20-22. This would mean Saturday and Sunday mornings, with the addition of a holiday on Monday. We believe that this will permit the greatest number of contestants to take part. Accordingly, DX clubs are requested to refrain from scheduling any special programs on those mornings. In the event that any stations volunteer a dedication, perhaps the clubs concerned could suggest another date.

At present, we are inclined to favor the hours of 2:00 to 6:00 A.M., EST, as we had last time. However, the problems confronting the Pacific Coast listeners will be remembered and we feel that they will have an equal opportunity with the Eastern listeners. If necessary, we will publish a list of Western stations which will *not* take part. This may be necessary since so many stations on the West Coast will still be transmitting regular programs during the first hour or two of the contest.

Also, to take away the advantage which the Central states may have

in position, we plan to give a bonus of five points for each station more than 2000 miles distant. In this way, listeners living East of the 85th parallel and West of the 110th, will make up in points what their locations may lose in stations.

Every letter received so far has been of the opinion that a small fee to cover costs of printing standardized report cards and summary sheets will be justified. We are planning, therefore, to make up a package which will include about 100 report cards, a summary sheet and a complete list of the rules. The cost has not been determined definitely, but will probably be about twenty-five or thirty cents.

We hope to have an even more attractive list of prizes this year and believe that every DXer will find it worth while to enter. An innovation will be in the form of place prizes, which will go to listeners who place 25th, 50th, 75th, 100th, etc. In this way, a listener will not have to rank among the top winners to be assured of a worthwhile award.

It has been suggested that an informal competition be staged among the radio clubs to see which organization can bring forth as contestants the greatest percentage of its members. If the clubs are willing to cooperate in this manner, we will try to arrange a prize for the winning club.

Comments and suggestions on this tentative plan for the contest are requested and it is hoped that all readers will let us have their ideas.

From Esteban Parra, manager of the new Mexican station XEP at Juarez, Chih., comes an announcement of a forthcoming test program: "Since we are a new station on the air," he writes, "you probably do not know much about us. We started on May 10th of this year and, so far, have had very good results on our test programs.

"Knowing that you are always interested in securing DX programs for the members of different DX Clubs, we wish to advise that we will put on a DX program between 3:00 and 5:00 AM, EST, on Saturday morning, September 12th. Being a new station, we are naturally anxious to receive as many letters as possible and, to insure this, we promise to answer each and every letter received. Those that check with our programs will be verified. Those that only report our programs and do not send a detailed log, will receive only an acknowledgement." Station XEP operates on 1160 keys. with 500 watts power.

From G. E. Bott, 507 Southampton St. E. Hastings, N. Z., comes word of two new goals for DXers. Station ZJV at Suva, Fiji, is now operating on 880 keys with 400 watts power, while FJP, Naumea, New Caledonia, is using 500 watts on 600 keys. FJP, according to a verie sent to Mr. Bott, operates between 0730 and 0900 GMT, which would be 2:30 to 4:00 AM, EST.

Attention is called to the regular DX club broadcasts from KGGC, San Francisco, 1420 kcs. which are now on the air at a new time, 12:45 to 1:00 AM, EST.

One reader who will have an opportunity to hear many new stations this summer is Dr. M. Dean Miller, 73 E. Exchange St., Akron, Ohio. He writes: "Am leaving shortly for a vacation which will take in the Gulf Coast, the Southwest, the Pacific Coast from San Diego to Seattle, and then through the National Parks. Will have a radio in the power car and in the trailer. Ought to be able to log plenty of new stations with this layout, but doubt if it would be fair to count them." Perhaps Doctor Miller will favor us with a report on the type of reception he experiences during this long journey.

It has always been a question in

(Continued on page 58)

Radio Troubles and REMEDIES

● ● ● *By the* TECHNICAL EDITOR

MY RADIO is an Emerson, model 105. It has three connections on the back, one for the ground and two for a doublet. When I have the two wires of the doublet connected on these many of the foreign stations do not come in at all. But when I connect only one wire of the doublet I have twice as many stations. It seems to me that I ought to have stronger signals when both doublet wires are connected than when only one wire is attached.

Look and see whether one of the doublet terminals on your radio set is grounded to the ground terminal by a small piece of wire. If so, this wire must be either removed or cut before the doublet type of antenna can be used. It may be that you are partially grounding your antenna when you connect both ends of your doublet leadin to the two contacts on the receiver. When you connect one side of the doublet, which is somewhat like a single-wire antenna at that time, you most likely attach it to the single antenna post and it works fairly well in this position.

If the doublet terminal, mentioned above, is not grounded, then we suggest that a careful examination of the antenna coil which is attached to the doublet terminals, be made for grounding or poor contact. On the other hand, is your doublet perfect? Are you using a set transformer or simply a doublet with twisted leadin? This latter does not always work so well with some types of receivers, and it may be that a set transformer will be necessary.

Antenna Troubles

I wish to erect a new antenna to use with my new all-wave set that covers five wave bands, including all the short waves. I am particularly inclined to the RCA World Wide antenna, but my roof is of such a size that the antenna

cannot be erected as recommended. My roof is only 36 feet long, and the new antenna has a total length of about 45 feet. Can I run the short portion and part of the long portion flat on the roof and drop the remaining part of the long portion down on an angle from the end of the roof?

The manufacturers of noise-reducing antennas have provided certain arrangements of assembly which must be followed in order that good results will be obtained. We do not feel that the scheme you suggest will be so very satisfactory, yet it can be attempted with fairly good results. There are a number of antennas now being offered by manufacturers, all of which vary somewhat in their es-



Harriet Hilliard, Robert L. Ripley and Ozzie Nelson are all enjoying vacations now but will soon be back on the airways. Ripley is flying around the world, crossing the Atlantic on the "Hindenburg" and the Pacific by Clipper Ship. Here Harriet is telling him that once she hit a note THAT high, "Believe it or not."

entials. Perhaps one of these will fit in with your situation.

If you have no need to eliminate man-made static from nearby electrical sources, the doublet type of antenna is not so necessary on the short waves. Most any type of straight, or "L" type, antenna will do. The seemingly peculiar lengths of antenna tops that so many are using are the result of computations which give to the antenna itself the greatest resonance on the different shortwave bands and the harmonics of other bands. There is no such thing as the ideal length of antenna to fit all wave bands. So if you make some slight alterations it may be that you will experience no great disadvantage. The principal thing is to reduce man-made static.

Head-Phone Adapter

How can I use the Perfect head-phone adapter with my new 18-tube Midwest receiver which has two sets of power tubes? I imagine I will have to place several adapters under the power tubes.

This magazine has prepared an instructive leaflet, which you no doubt have seen mentioned in our pages, dealing with the use and connection of the Perfect phone adapter. Write for a copy, and if there is any additional information you may require, we shall be glad to point out anything which you may not understand.

Scott Speakers

Can you advise me as to whether the single 12-inch auditorium speaker furnished with the Scott receiver will be sufficient to bring out all the tone, or will it be best for me to get the high-frequency speakers also to use in conjunction with the big speaker?

The single speaker is all that is needed for any receiver. But, if you are very particular about reproduction and distribution of the highest notes, the additional smaller speakers are of very great value. The com-

bination of different-sized speakers gives the listener a greater fidelity of tone reproduction, but many people are perfectly satisfied with the tone quality from a good single-cone speaker.

The additional, smaller speakers reproduce the highest notes, and because they are set at an angle away from the large speaker, the high notes are thrown out to each side of the cabinet so as to get a better distribution throughout the room. We think that the single speaker will give you most of the tone to a satisfactory degree, but, of course, the additional high-frequency speakers will give you all the tone that it is possible to obtain from present-day radio receivers.

Kolster K-20

I recently obtained a Kolster K-20 set that was built in 1928 but has been used very little. The set is quite sensitive, for when locals are off it picks up foreign broadcast band stations, but it is not very selective. Do you think that shielding and tuning the r-f circuits would help? When I use a wave trap it makes the set more selective but cuts down sensitivity so much that I cannot get anything but the local stations.

This receiver is a tuned-radio-frequency circuit using three type 26 tubes in the three radio-frequency stages. There is a vario-coupler device that tunes the antenna input. It is not very selective, but cannot be used with a wave trap to any advantage. It is a circuit that cannot be helped in this design. A set having four tuned stages should be highly selective, and perhaps this first antenna tuning stage has something wrong with it. Check it over for proper action. You might try replacing it with a simple antenna tuning coil — primary of 18 turns and secondary of about 70 turns, or make it an exact duplicate of the r-f coils that follow in the circuit.



Fibber McGee and his better half, Molly, heard over the Blue Network Mondays at 7 p.m., EST, find their half hour program of comedy and music steadily increasing in popularity as it enters its second year. The roles were created by Jim and Marion Jordan. This team was on the air more than a decade before the big chance came that landed them on the present series.

This circuit does not make provision for careful tuning or aligning. It might be well to purchase four small trimmer condensers and place one across each of the tuning condensers. With the trimmers you can adjust each tuned circuit so that all condensers on the tuning rotor will tune each r-f coil to maximum resonance.

Check over each of the grid leaks and grid condensers placed in the grid circuit of each of the three type 26 tubes as well as the type 27 detector tube. Perhaps replacement of these units will increase the selectivity. How are the type 26 tubes? These tubes can be replaced with type 24s if provision can be made to supply the high voltage needed for the filaments, and circuit changes are made to take care of the cathode and the plate voltages.

Perhaps shielding of the three r-f coils will help, but the manufacturers would have done this if they thought it necessary. However, shielding does not cost much, and, in fact, you can replace the present r-f coils with new ones already encased in shielding can. They may be purchased from most any mail-order radio supply concern. Do not attempt to shield the tuning condensers, as you will alter the tuning and established capacities of the condensers.

Noisy Location

My home lies between an electric line and a railroad. There also are telephone and telegraph lines within 25 feet of the house. My antenna is 40 feet in length and is 40 feet from the railroad but not exactly parallel to it. I have much difficulty in tuning, and get lots of noise mostly in the evening. Then we hear the telegraph clicking most of the time. I have a Stewart-Warner, and hope you can make some suggestion that will help me.

About the only solution is that you try a noise-reducing antenna, such as the Lynch, RCA, Silver, etc. But this will not help you any unless you can place the antenna top far enough away so that it will be outside of the electric fields of the lighting and telegraph lines.

We suggest that, since the house lies between the sources of interference, you erect the antenna at right angles to the railroad and its parallel wires. Place the antenna proper as high as you possibly can. The leadin can be very long, if need be. You have our sympathy, for certainly you are in a bad "spot", and we trust you can be spared at least some of this annoying interference.

Philco 511

I have a Philco model 511 and have been having difficulty in balancing and neutralizing this set. There is a trimmer condenser connected across the first antenna coil and its tuning con-

denser. This seems to be the only trimmer available for aligning this set. When I balance this condenser at full capacity it creates an awful fluttering sound, and changes the tunable area of the dial. Can you give me some definite advice?

The circuit used in this radio embraces three stages of tuned radio-frequency amplification. Balancing of these circuits is not easy to achieve. We suggest that the services of a skilled service man be procured for the operation of neutralizing and aligning. The average radio owner cannot perform this job because of the peculiarity of the set and its lack of manually adjusted units.

Any failure or changes in the tiny condensers shunted across the tuning condensers of the last two type 26 tubes will upset the capacity and balancing of the circuit. If you wish further advice about this circuit and its parts, and really mean to do the work yourself, write to the Service Division of the Philco Corporation, Allegheny Avenue and "A" Street, Philadelphia, Pa., mentioning RA-DEX, and give your query in brief, to the point statements. We feel that they will gladly advise you about this older model of theirs.

Loop Antenna

I am using a model 60-M 5-tube Philco and would like to use a loop directional antenna in conjunction with the regular antenna in order to overcome the interference from other radio stations. Is that possible, and if so would you tell me what type of loop aerial is best? My present antenna is a 60-foot wire running NW-SE, with the leadin at the NW end.

You cannot use a loop antenna in conjunction with a regular antenna. If a loop is used, the other antenna must be disconnected entirely from the receiver. The interference you mention is probably what is called heterodyne interference, and is caused by two stations operating on

nearly the same frequency and being received by a set that is not sharply selective. A loop antenna, if used with a good heterodyne receiver, should help separate these interfering stations if they are located in sections of the country that are not in the same straight line with the radio receiver.

Make a loop antenna on a square frame about 6 feet to each side. Wind on about five turns of No. 20 insulated wire, and attach the two free ends to the ground and antenna terminals of the receiver, with a ground wire connected as usual. A large variable condenser connected across the ends of the loop antenna might also help in the tuning.

The loop or frame is hung upright, suspended from one corner and is rotated through the different points of the compass. It will receive best when its plane lies parallel to a straight line connecting the receiver with the broadcasting station.

Gutter Antenna

In connecting an east-west antenna in the hopes of bringing in the small west coast stations I discovered that the metal gutter around my roof made an excellent aerial. I had supposed it was grounded, but apparently I am wrong. Is it true that this gutter can act as an aerial, or is it a freak condition? If it performs as well in most other cases, the stunt might be a help to DXers who do not have space to put up a regular antenna.

Of course, any piece of metal, anywhere in the world, if it is separated from actual electrical contact with the earth, will act as a radio antenna. This metal does not have to be shaped in the form of a piece of wire. Wire is light and convenient, but does not have to be used. Metal rods, pipes, tapes and beams work just as well. Such is the case with your rainspout gutter around the roof. In your case the gutter is not grounded, but is evidently separated

from the metal down spout. However, in spite of the technical fact that any piece of metal is a radio antenna, we still like a good, well-insulated wire aerial.

Loose Connection

In my new Philco 116X almost every time someone slams a door nearby or jars the set slightly, there is a loud crackling sound. This persists for some time, and hitting the cabinet once or twice is sufficient to stop it. The noise is just as bad when no ground or aerial is connected. Can you tell me what this might be and if other owners of this set are experiencing the same trouble?

This trouble is not the fault of the set in general, for it is obvious that a loose connection or bad tube is the cause. It may be a little difficult to locate, but we suggest that the chassis of the receiver be removed from the cabinet and placed where it can be examined while still connected to the speaker so it can be operated. Do not attempt to turn on the set with the speaker plug removed.

Tap each of the tubes, and if the noise is observed when some particular tube is tapped, replacing that tube should stop the annoyance. If the tubes fail to give a clue to the trouble, then a further and more complicated search must be made.

It is necessary to check all parts that are in electrical contact in order to make sure that the contact is perfect. Tap all soldered joints with a small wooden stick, and touch all wires that lead from coils and transformers. An imperfectly grounded wire and metal shield, if loose, will give rise to noises whenever the receiver is jarred. A tube might be in poor contact with its socket, and the contact springs may need a bit more tension.

If you will go over all parts of the circuit it will not be long before a loose or broken wire or contact will be discovered. Remember, too,

that intermittent grounding of the antenna, or bad connections in the ground or antenna leads, will cause this noise.

Abox Eliminator

I have an Abox "A" eliminator, but its small, central electrode is worn away. I have tried fastening this small bit of metal to a wire and dropping it into the solution, but it failed to work. Also, what solution is used and where can I now obtain the chemical and electrode to repair this eliminator?

This eliminator is also similar to the Balkite unit, and replacement parts for one will work in the other. The Balkite model, which is similar to yours, is type A-6. Some units use different electrolytes, but a saturated solution of ordinary borax is the most commonly prescribed material. The electrodes of many battery eliminators are lead and aluminum. An examination of the worn-out parts should show if they are



Arthur Pryor, America's foremost bandmaster, has returned to the air for his first series in several years. This veteran is currently featured in the Cavalcade of America in Music on the nationwide Columbia network from 7:30 to 8 p.m., EST, on Wednesdays.

made of these two metals. In some Abox and Balkite units a small pencil of tantalum is used as the central electrode, and it may be that this is what you need.

You might experience some difficulty in procuring the metal electrode, but the Federated Purchaser Co., 25 Park Place, New York City, N. Y., which has handled these repair parts, might have material still in stock.

Aligning Set

I have a Victor model 32 which I wish to align. Is it proper to have the antenna on when doing this work; also the volume control on full? Is the plate of the 45 tube gone when the output meter does not respond?

You will find the alignment of this set rather difficult. It also requires neutralizing. There are four small neutralizing condensers, and it may be that you have mistaken them for trimmer condensers to be used for aligning. Neutralizing the set and aligning the tuning are two different operations, both of which are difficult. We suggest that you place this work in the hands of a competent service man who has all the necessary tools and meters.

The antenna must be on when the set is being aligned, as signals are tuned in at three points, the upper end of the dial, the lower end and the middle. Adjustments of the trimmer condensers or the slotted end plates of the tuning condensers, are made on each different signal. The volume control is turned low so that the difference between maximum signal intensity and usual signal volume can be detected by the ear if a meter is not used.

When an output meter, placed in the plate circuit of the 45 tube, does not respond it indicates a dead tube, a broken circuit or failure in some way for the plate voltage to reach the plate of the power tube.

The McMurdo Silver MASTERPIECE IV

● ● ● By R. B. OXRIEDER

TO SUM up in a few words my reasons for liking the Masterpiece IV is a bit difficult, but can best be done by saying that I prefer a set on which I can tell to what station I am tuned by means of the dial setting instead of having to wait for the announcement every time.

Of course I demand tone, sensitivity, selectivity and all the other things that go to make up a good radio, but nearly any good modern set has excellent tone quality and most of them have good sensitivity. However, when it comes to selectivity and the ability to re-log stations by correct setting of the dial, these are features which can be judged quite conclusively by comparative tests.

On the lower frequencies of the broadcast band the dial spacings are sufficiently large that the operator can tell to what frequency he is tuned. However, when he gets down on the shortwave bands it is an entirely different matter.

On most receivers which I have tuned or examined the band from 6000 to 6140 kcs occupies a space anywhere from $3/32$ nds to $1/8$ th of an inch. It is evident then, even if shortwave stations were all separated by 10 kcs., there would be in this space, 15 channels, and imagine the difficulty of splitting $1/8$ th of an inch into 15 parts by eye reading accurately. As a matter of fact there are more than 15 channels in this band; I have logged 30 channels and I can re-tune any of the 30 channels by careful adjustment of the dial.

In order to explain how this is done it might be well to describe the dial. The face of the dial is a large circle, with a large hand pivoted at

its center, one end of which is used to read on each half of the dial. The five tuning bands each occupy 180 degrees of the 360 degree circumference. In addition there is one scale which is numbered throughout the entire 360 degrees and is calibrated simply from 0 to 200. There is a smaller hand which passes over this 0-200 scale. While the large hand moves once across the dial (180 degrees), the small hand goes completely around the dial eight times (8 times 360 degrees) with the result that it spreads $\frac{1}{8}$ th of an inch on the main dial to about 2 inches on the 200-division dial. With this second hand it is possible to re-log accurately time after time, so that if you have a station at a setting of $49\frac{1}{2}$ one day, and with the big hand in the same section of the main dial, you come back to $49\frac{1}{2}$ the next day, you will get the same station again if it is still on the air. I have found that I can read within one or 2 kes. on the 6 megacycle band.

Without the bandsread, imagine trying for HJ4ABE on 6092 with some 30 stations operating within $\frac{1}{8}$ th of an inch of him! The bandsread is also useful in telling you when you have a new station, for when you get a station on a dial reading you haven't had before, it must be either a new station or a new frequency for an old one.

The selectivity of this set is so good that with reasonably equal signal strength signals 2 kes. apart are easily separated; for example, HJ3ABX and W2XE on 6122 and 6120 respectively have been heard; likewise with HJ3ABH and COCO on 6012 and 6010. With COCD on 6130, VE9HX on 6134, HJ3ABP on 6136 and W8XK on 6140, all playing at the same time, each station has been logged in turn and copied complete. On the broadcast band in a side-by-side test with another set, the Masterpiece brought in a 250-watt Cuban between two 50,000 watt sta-

tions on 810 and 820 when the \$180 production set would not even separate the two 50,000 watt stations on the same antenna.

Each of the controls on the Masterpiece (volume, tone, sensitivity) has graduations so that exact conditions may be duplicated later if desired. For purposes of signal comparison this is invaluable.

My average log during the past DX season was from 160 to 200 short-wave stations a month. Many of course were repeats, but each month there were a lot of new ones. This number does not include amateurs, police stations or the like; it was mostly s.w. broadcasters plus commercial phones such as OCI, KKQ, RIO, and experimental stations like DZA, DZE, etc. On the broadcast band at least one station was logged on each channel, in addition to several split frequency channels. Amateurs and police calls have been too numerous to count, or at least I didn't bother to count them as I am more interested in the broadcasters. However, I have been around the world with the amateurs and they are there for anyone who wishes to hear them.

Some of this may sound as though I am bragging of my personal accomplishments, but this is not so; I neither designed nor built the set. I just tune it. And anyone else with similar equipment can do the same.

The Masterpiece IV is a precision instrument that will perform any reasonable requirement asked of it, from listening to a high quality local program for entertainment, to reaching out to the far corners of the earth for new stations.

* * *

The new station in Middleboro, Ky., on 1210 kes. is still under construction, but already it has had two call signs. It was first given the letters WLIN, but within a week or so this was changed to WLMU. It is owned by the Lincoln Memorial University.

Meeting the ARTISTS

• • • With BETTY

IF Gus Haenschen had done as his parents wished he would now be a mechanical engineer instead of one of the most popular maestros on the air. This NBC conductor had all the advantages of a musical education, commencing when he was seven, but by the time he earned his B. Sc. in Mechanical Engineering at Washington University he had decided to forget monkey-wrenches and devote all his time to his music.

His first dance band was organized while he was still an undergraduate, and it had so many assignments that he soon found he was conducting an orchestra booking service. In his spare time he mastered the cello, double bass and cornet, and wrote the music for three college shows.

During the Great War Haenschen served in the navy, spending five months overseas and earning the rank of ensign. After the war he was entrusted with the task of organizing the recording division of the Brunswick-Balke-Callender Co., and when Brunswick started on the air it was only natural that he should organize and direct the orchestra for the Brunswick Hour of Music. He has been on the air ever since, celebrating this year his 14th anniversary in radio.

He is tall, blonde, curly-haired and affable. His studio habits are quiet; he sits on a high kitchen stool while he serenely directs his men, never using a baton. His athletic endeavors are confined to swimming. For relaxation he plows or does the chores at his farm near Norwalk, Conn., or dabbles in photography.

Gus H. is responsible for the success of numerous stars, one of the most notable of whom is Frank Munn. He met Frank Munn when

the singer made several recordings for him. When the director went into radio work he took the popular tenor with him and they have been together ever since.

Peter Van Steeden

Peter Van Steeden's radio career began more than 12 years ago when he and his band appeared for an audition at station WEAJ in New York City. Everything went wrong at the try-out; music fell on the floor, the cornet player missed a cue and then the second violinist followed suit. Although the audition lasted only 20 minutes, it seemed like hours to the boys. After such a poor start it is not difficult to imagine their surprise when, a week later, the studio called them to report for a station assignment.

Van Steeden made his first appearance as a musician at a recital staged by his music teacher. Peter, then 8 years old, played a piece called "Cherries Are Ripe." and he says that they went sour. As he grew older he played in several amateur events, just for the fun of it and it wasn't until he won a silver loving cup at a contest in the Bronx in 1923 that he began to think seriously of music.

His debut was made at the Peek Inn on Broadway, then followed a series of radio programs over the NBC during which he conducted for such artists as Fred Allen, Jack Pearl, Ray Perkins and now with Stoopnagle and Budd.

Sidelights: He was born April 3, 1904. Weighs 160 pounds and is 5 feet 10 inches tall. Has written several popular songs, the best of them being "Home." His parents wanted him to be an engineer, like Haenschen, but Peter says if that ever happens it will be in the form of

musical engineering.

Peter is married, has three youngsters, and his ambition is to take them all on a trip around the world some day. He is modest, ambitious but conservative, and looks like a typical young business man. He used to be superstitious and carried a silver dollar all the time as a good luck charm. When his luck changed he threw the dollar away, and doing that brought his good luck back again. (Some people think they are lucky just to have a dollar).

Tune for Van Steeden's music on the NBC-Red Network at 8 p. m., EST Wednesdays—"Town Hall Tonight" with Stoopnagle and Budd.

* * * * *

Fame, once acquired, is hard to keep. Some of the most deserving never achieve it. And some people have it tossed in their laps. Van Steeden's audition was a failure but he won success nevertheless. A certain feminine star, not quite as famous now as she was a few years ago, got her start by fainting as she approached the microphone; the person in charge felt she fainted so beautifully she must be able to sing. A story was recently told of another director, who, making the rounds of the night clubs, noticed a shapely dancer.

"Can you sing?" he asked her.

"No."

"Can you read music? Do you play any instruments?"

"No. I just know I like to dance."

"Did you ever lead an orchestra or a band?"

"Heavens No!"

"Fine. I am going to headline you as conductor of a girl's orchestra."

This girl is leading her own band now, a great success.

Of No Importance

Gracie was busy watering the geraniums she had planted in an old CBS microphone when Betty called on her. It was known that George and Gracie have been selling their

scripts to the French Broadcasting Co. to be aired from Paris in French; we wondered what Gracie thought about it.

Before the interview started Miss Allen picked up a basket and began to knit.

"Knit one," she recited, "purl one, knit two . . ."

"Miss Allen, I came to ask some questions . . ."

"Who," giggled Gracie, "me?"

"Would it be correct to say, then, Miss Grace . . ."

"Yes, that's correct but it isn't very important. We can't go to France so France comes to us—our doesn't it, Georgie-Porgie?"

We tried again. "Miss Allen, how does it feel to know that fifty million Frenchmen are chuckling over your rib-tickling remarks and enjoying the exasperated replies of your Georgie? Doesn't it thrill you to know that you are the rage in Patee?"

"My nephew had a rage once. Knit one, purl one."

(Curtain)

Gracie's quips have become the rage of Paris and it is common now to hear friends in cafes greet each other with the French equivalent of "I think you're pretty, too," and "I bet you say that to all the girls."

In one of her saner moments Gracie composed a Mother Juice rhyme in honor of their French listeners. "We would like to go to Paris, But since America can't spare us, We'll stay right here in the U.S.A. And sing about tomato juice each Wednesday."

Popeye Returns

Popeye, the Sailor man, along with Olive Oyl, Wimpy and Matey returned from Africa and were greeted by their old friends Victor Erwin, leader of Cartoonland Band, and Kelvin Keech. They are now heard on the CBS on Mondays, Wednesdays and Fridays from 6:15 to 6:30 p.m., EST.

Floyd Thomas Buckley has the
(Continued on page 56)

A Station For The Nation

SINCE the beginning of broadcasting, radio engineers have been confronted with the problem of providing maximum coverage for any transmitting plant. It was never enough that a station should serve the territory of the town or city in which it was located; it must reach out and be heard by listeners at distant points.

Old-time DXers will recall the effective service area offered by a station in the early days. The first 500 and 1000 watt transmitters did well to put a night-time signal a few hundred miles under good conditions, while a report from a listener a thousand miles away was received with open arms.

With increases in station power and rapid advances in receiver design, trans-continental reception became an established fact under good conditions. The international tests in 1927 proved that it was even possible to span the ocean.

And so stations added kilowatts

and manufacturers added tubes, and today we may circle the globe from our homes.

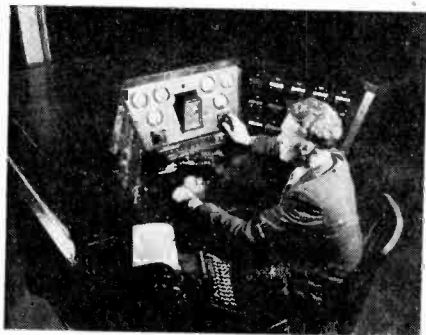
But with all this potential long-distance reception, what do we have? The DXers are obliged to sit up all night to hear Europe or Australia, and even then they are dependent upon certain seasons of the year and favorable conditions. Trans-continental reception is possible only at certain hours of the day, and here again the seasons and conditions are important factors. And the average listener, hungry for his daily diet of Amos 'n' Andy or Jack Benny, gets his programs from a station within fifty or seventy-five miles.

The Ideal Service

The station engineers themselves have defined the type of reception for which they are striving. Each transmitter is supposed to have a primary, effective service area. Within this area, the signals of that station should be received loud and clear, day or night, winter or summer. At no times should there be fading or distortion, and even the most severe summer static should not render reception impossible.

Obviously, the extent of a station's service area is largely dependent upon the design and power of the station. But even with our giant 50-kilowatt installations, they seldom provide real service beyond a radius of a hundred miles.

It is admitted that the United States offers a definite obstacle to Utopian reception solely because of its size. Our present system of scattering hundreds of small stations throughout the country does afford some sort of reception to almost every listener, but are we getting efficient coverage within reasons of economy?



The Chief Transmitter Engineer of stations WLW, WSAI and WSXAL, Mr. Whitehouse, is here shown at the operator's control console of the 500,000 watt transmitter. This panel provides complete control and supervision for all the transmitters, starting, stopping and adjusting them, as well as control over the sub-station.

Most listeners know that European stations are divided into two general classes for national coverage — those employing medium and long wave transmissions. This long wave idea is new to Americans, and so why not look into it further?

Using the Long Waves

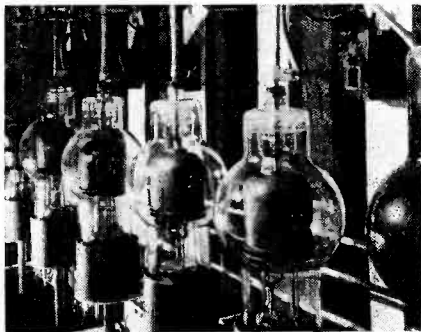
A study of letters in European journals seems to indicate that listeners seem to prefer programs from long wave stations, day and night. When the British Broadcasting Corporation built its superpower Droitwich station, they elected to broadcast on low frequencies.

Recently, a survey by BBC engineers of broadcasting conditions in Australia and New Zealand resulted in the report that "national coverage" could be achieved only by means of long wave broadcasting.

In some respects, Australia and America offer engineers similar problems in coverage. In both countries, listeners in sparsely-settled sections are dependent upon remote stations for their programs. Therefore, might not long-wave broadcasting be a solution to many of our own problems?

A survey made several years ago seemed to show that it would. In the first place, it was estimated that daytime distances would be increased for far better coverage and that night-time reception would be cleared up over long distances by the reduction of fading and distortion.

The question of fading, always a prime obstacle for medium-wave reception, was all in favor of the lower frequencies. For a given section of flat country, signals transmitted on 200 meters would begin to fade at a distance of about 50 miles. Transmissions on 300 meters would fade at 80 miles; on 400 meters, at 120 miles; on 500 meters, 160 miles. At the same location and radiated with equal power, signals on 1200 meters would not fade within a radius of 480 miles from the transmitter, while



The mercury vapor rectifier tubes shown here were especially designed for the 500 kw WLW transmitter. They are the only tubes of their kind in existence, and are rated at 450 amperes. Six of these tubes are used in the rectifier of the station.

1500-meter transmissions would increase the "fade-free" radius to 620 miles.

Cost of Coverage

Further, it was brought out that first-class coverage of the United States would require eighty stations of 50-KW power, costing more than \$24,000,000 to build. The same coverage could be obtained by but seven long-wave stations, using 1000-KW and costing but \$4,000,000 to build.

Thus, it would seem that perhaps long-wave transmissions might provide true "stations for the nation" with economy and efficiency.

The nearest approach we have had so far to a nation's station is the giant WLW, the Crosley 500-kilowatt at Cincinnati. By their very slogan one might believe that they intended to cover at least the greater portion of the Eastern and Central states with a clear, undistorted signal.

Possibly a comparison of their present coverage and service on the higher medium-wave band with what might be expected on long waves would throw a better light on the subject.

It was, therefore, a bit surprising to learn that, with the exception of the so-called "Canadian Protest"

and its resulting requirement in their radiation pattern control, the WLW 500-KW transmitter has met every expectation and the engineers are very enthusiastic about the results. The use of this power increased their signal over their service area about 3.25 times by actual measurement. It increased their service radius out to most defining values of service by 2½ to 3 times, which resulted in an increase in service area of 69 times.

As far as its commercial value is concerned, many WLW clients have conducted independent surveys and investigations, and have found that the use of this power has surpassed any commercial expectations from their point of view.

The Fading Problem

In regard to fading, J. A. Chambers formerly Technical Supervisor of WLW-WSAI, pointed out: "The particular antenna which we originally used was designed to give the best balance of ground wave service and sky wave service. If all our energy was put into a ground wave signal, this would eventually become a sky wave signal, or become worthless because of the curvature of the earth. Fading is, in most cases, a matter of interference between the ground wave and sky wave signals.

"It follows, therefore, that there must be some particular distance at which the ground wave signal disappears and the sky wave signal becomes the service signal. At this point, there must be an appreciable amount of fading. In the case of WLW, we tried to make the ground wave signal fall off as rapidly as possible, before the sky wave became effective. Thus, it also follows that there is a band of low signal strength at this distance."

The particular distance at which these bands occur depends on the height of the ionosphere. Under most night-time conditions and particu-



Mr. Powel Crosley, Jr., standing at the base of the 831-ft. vertical antenna tower of WLW at Cincinnati. A load of more than 900,000 pounds rests on the seemingly fragile porcelain insulator base. The two porcelain pieces are cup-like in shape with walls less than two inches thick. This antenna rises 250 feet higher than the Washington Monument.

larly in the winter, the bands for WLW occurs at between 162 and 200 miles.

With the original installation, WLW engineers were able to reach an adjustment whereby this was not very serious at this distance and optimum results were obtained in all other localities. However, the Canadian government protested that the station was putting too much signal into the Toronto area. As a result, they were required to develop and install their so-called "suppressor type" antenna.

In general, the only effect this antenna had on their United States service area was to aggravate fading in the territory around Cleveland and Erie. In spite of this, however, WLW engineers are very much pleased with the results that are being obtained with the transmitter.

The Crosley Radio Corporation has,

on various occasions, considered and discussed the advisability of attempting to improve their service to the American people by the operation of some high power station on the longer wave lengths.

Long Waves Not Available

According to Mr. Chambers, the first and most important reason why neither WLW or any other station tried long waves was simply the fact that the government prescribed the frequencies between 550 and 1500 kcys as the bands on which broadcast stations should operate. The longer wavelengths had already been assigned to other services — largely Army, Navy, shipping and airway services.

“The original development of broadcasting in Continental Europe,” continued Mr. Chambers, “was on the longer wavelengths, and it is quite satisfactory for the type of service they are attempting. Since most stations and receivers operate on the lower frequencies, it is only natural that their service should continue in that fashion.

“These longer wavelengths, when compared with the medium waves, have some advantages, but also some disadvantages.

“In the first place, although the ground wave attenuation is much lower at the longer wavelengths, an efficient antenna system is a great deal more expensive. It is also very difficult to build an antenna for some of the longer wavelengths which will achieve the benefits of the longer wavelengths without aggravating fading in some locations.

“Static and other man-made interference are generally worse on the longer wavelengths and, in many cases, this may counteract the reduced attenuation. This is particularly true when it is desirable to cover considerable territory, as in the United States.”

Thus, it seems likely that broad-

casting in this country will continue very much as it has in the past. Perhaps the answer for proper national coverage lies in increased power. Certainly the WLW engineers have made good on their claims and expectations.

The Federal Communications Commission has scheduled hearings for early this fall, when applications of a number of stations to increase power to 500 KW will be considered. The results shown by the WLW trailblazing will surely play an important part in these hearings and we may soon find more of these “Stations for the Nation” in various parts of the country.

Why I Verify

● ● ● *By John DeMyer**

WHEN obtaining verifications, it is not my purpose to prove to some “doubting Thomas” that I actually heard a certain station. While most of the DX fraternity consider the possession of a definite confirmation of reception to be conclusive proof that the station was heard, there may be some rare exceptions. At any rate, if proof was necessary, we must agree that a verification is all we would have to show for it.

Verifications may be considered merely as interesting souvenirs of intangible value. I experience the same thrill in obtaining a rare verification that a philatelist does in adding new and rare stamps to his collection. DXers who have a large collection of verifications will agree that each of these cards and letters is an individual work of art, and that they combine to form a beautiful collection. Some prefer to decorate the walls with their veries; personally, I file mine away in a neat arrangement in letter files.

The first step in obtaining verifications is actually to hear the station

and to make a comprehensive log of reception. We consider that all honest DXers do this. Unfortunately, we possibly have a few fakers obtaining "confirmations" through any fraudulent method possible. Quite obviously, such a "verification" would lose its value in an authentic souvenir collection. That "DXer" would be cheating only himself. For this reason, we would consider practically all verification collectors as honest DXers.

In the Midsummer RADEX, Howard L. Spies writes an article titled: "Why Verify?" His statements lead one to believe that a sufficient log of reception would be: "I heard your program. Please send me your verification." I say that's preposterous.

I would not attempt to prove him 100% wrong, but would rate it at about 99.44%. Any verification collector would testify that 99 out of every 100 reports of that nature would end up in the waste basket.

He stated that stations are now highly commercialized and, to maintain public good-will, make it a policy of "good business" to issue verifications on incomplete reports. That wouldn't be good business, for certainly WJBK gained no public good-will by issuing a "verification" in response to a request to get off the air.

Attitude of 2KY

Most stations do have a policy of public good-will and for that purpose maintain a clerical staff to handle mail from listeners. I correspond with an employe of 2KY, Sydney, Australia. Her position with this station is to handle verification requests from overseas, and she tells me that she personally checks each report with the station log and, if merited, issues the confirmation. That would indicate stretching the point of public goodwill quite a bit. Obviously, 2KY would not be interested in advertising Australia farm produce to American listeners.



The Gospel Singer, Edward MacHugh, has one of the largest followings in radio, attracting thousands of letters each week with his friendly, natural voice and extensive repertoire of hymns. Mr. MacHugh has just begun a new series, heard daily from Monday through Friday at 10:45 a.m., EST, over the NBC-Blue chain.

Of course, the station engineers of 2KY are pleased to know that their transmissions are heard in America. We send them a comprehensive log of reception, with helpful technical data on the quality of reception, and in return we receive a station verification. Of course, we should include return postage with our report.

The Hong Kong station, ZBW, was said to have issued a "verification" in response to a request to dedicate a special program to a DX club. That would indeed be careless.

I well remember my first experience in logging ZBW. That particular morning, the program was Oriental in nature and, of course, I could not identify any of the musical selections heard. I did hear one definite announcement in English. With that, and a detailed descriptive log of the

(Continued on page 58)

WHAT'S ON THE AIR TONIGHT

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

COLUMBIA .....(C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

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

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

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

ED-6:45 p.m., E-5:45, C-4:45, M-3:45
C — Renfrew of the Mounted
 KFAB KFII KLIA KMBC KMOX
 KOMA KRLL KRNT KSCJ KTUL
 KWKH WABC WADC WBBM WBNS
 WCCO WDRC WFBM WGR WHCC
 WHK WIBX WICC WISN WJR
 WJSV WKBN WMAS WMBG WNAC
 WNRB WOC WREC WSMK WSPD
 WYVA

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

ED-7:00 p.m., E-6:00, C-5:00, M-4:00
R — Amos 'n' Andy
 KYW WBEN WCAE WCSH WEAF
 WEEL WFBR WGY WJAR WMAQ
 WRC WTAG WTIC

ED-7:15 p.m., E-6:15, C-5:15, M-4:15
R — Uncle Ezra's Radio Station
 KPRC KTBS KTHS KVOO KYW
 WBAP WBEN WCAE WCKY WCSH
 WDAF WEAF WEEL WFBR WGY
 WHO WIRE WJAR WKY WMAQ
 WOAI WOOD WOW WRC WTAG
 WTAM WTIC

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Charioteers and Judy Starr
 KDB KERN KFAB KFBC KFPY
 KPRC KGB KHJ KMJ KMOX KOIN
 KOL KSL KYI KWG WABC WBBM
 WCAO WCAU WCCO WEAN WFBL
 WFBM WGR WHK WJAS WJR
 WJSV WKRC WNAC WOKO

B — Lum and Abner
 WBZ WBZA WENR WJZ WLW
 WMC WSM WSYR

ED-7:45 p.m., E-6:45, C-5:45, M-4:45
C — Boake Carter
 KMBC KMOX KOMA KRLL WABC
 WBBM WBT WCAO WCAU WCCO
 WDRC WEAN WFBL WGR WHAS

WHK WJAS WJR WJSV WKRC
 WNAC

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
C — Horace Heidt and Orchestra
 KDB KERN KFAB KFBC KFH
 KFPY KPRC KGB KHJ KLRA KLZ
 KMBC KMJ KMOX KOIN KOL
 KRLL KRNT KSL KTRH KTSa
 KTUL KYI KWG WABC WBBM
 WBRB WBT WCAO WCAU WCCO
 WDRC WFBL WFBM WGR WGST
 WHAS WHK WJAS WJR WJSV
 WKRC WLAC WMBR WNAC WNAX
 WOKO WREC WWL

R — Fibber McGee and Molly
 KSD KYW WBEN WCAE WCKY
 WCSH WDAF WEAF WEEL WFBR
 WGY WHO WIRE WJAR WMAQ
 WOOD WOW WRC WTAG WTAM
 WTC WJW

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Pick and Pat
 KFAB KMBC WABC WADC WBBM
 WBT WCAO WCAU WDRC WEAN
 WFBL WGR WGST WHCC WHK
 WHP WICC WJAS WJR WJSV
 WKRC WLBB WMAS WNAC WOKO
 WORC WSPD

R — Voice of Firestone
 CFCF CRCT KFYP KPRC KSD
 KSTP KTBS KVOO KYW WAVE
 WBEN WCAE WCSC WCSH WDAF
 WDAY WEAF WEBC WEEL WFAB
 WFBC WFBR WFLA WGY WHO
 WHO WIBA WIOD WIRE WIS
 WJAR WJAX WJDX WKY WMAQ
 WMC WOAI WOW WPTF WRC
 WRVA WSB WSM WSMB WSOC
 WTAG WTAM WTAR WTC WTMJ
 WWJ WYWC

B — Melodiana; Abe Lyman
 KDKA KOIL KSO KWK WBAL WBZ
 WBZA WCKY WFIL WGAR WHAN
 WJZ WLS WMAL WMT WREN
 WSYR WXYZ

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Lux Radio Theatre
 CHRB CRAC KDB KERN KFAB
 KFBC KFPY KPRC KGB KHJ
 KLRA KLZ KMBC KMJ KMOX

KOIN KOL KOMA KRLL KRNT
 KSL KTRH KTSa KTUL KVI KWG
 WABC WADC WBBM WBNS WBRB
 WBT WCAO WCAU WCCO WDAE
 WDBJ WDRC WEAN WFBL WFBM
 WGST WHAS WHCC WHK WHCC
 WISN WJAS WJR WJSV WKBW
 WKRC WLAC WNAC WNAX WOKO
 WORC WQAM WREC WWL

R — A. & P. Gypsies
 KSD KYW WBEN WCAE WCSH
 WDAF WEAF WEEL WGY WHO
 WHO WIRE WJAR WMAQ WOW
 WRC WSAI WTAG WTAM WTC
 WWJ

B — Sinclair Greater Minstrels
 KDKA KDYL KFYP KOA KOIL
 KPRC KSO KSTP KTBS KTHS
 KVOO KWK WBAL WBZ WBZA
 WDAY WEBC WFAB WFLA WGAR
 WHAM WIBA WIOD WIS WJAX
 WJDX WJZ WKY WLS WLW WMAL
 WMC WMT WOAI WPTF WREN
 WRVA WSB WSM WSMB WSOC
 WSYN WSYR WTAR WTMJ WWNC
 WXYZ

ED-9:30 p.m., E-8:30, C-7:30, M-6:30
R — Richard Himber and Orchestra
 KFYP KPRC KSD KSTP KTBS
 KVOO KYW WBEN WCAE WCSH
 WDAF WDAY WEAF WEBC WFAB
 WFBR WGY WHO WIBA WJAR
 WKY WLW WMAQ WOAI WOW
 WRC WTAG WTAM WTC WTMJ
 WWJ

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

C — Wayne King and Orchestra
 KDB KERN KFAB KFBC KFPY
 KPRC KGB KHJ KLZ KMBC
 KMJ KMOX KOIN KOL KRNT
 KSL KVI KWG WAAB WABC

MONDAY (Continued)

WADC WBBM WBNS WBT WCAO
WCAU WCCO WDRG WEAN WFBL
WFBN WHAS WKHK WJWV WJAS
WJR WJSV WKBW WKHC WOKO
WSPD WWL

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
C — The March of Time

KDB KERN KFAB KFBK KFPY
KPRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KRNT
KSL KVI KRW WABC WADC
WBBM WBT WCAO WCAU WCCO
WDAE WDBQ WDRG WEAN WFBL
WFBN WGST WHAS WHEC WKHK
WJAS WJR WJSV WKBW WKRC
WNAC WOKO WQAM WSPD WWL

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

CFRB CKAC WAAB WABC WADC
WCAO WCAU WDRG WFBL WFEA
WHEC WKHK WJWV WJAS WKHN
WKBW WLZB WMA5 WOKO WORC
WPG WSBT WSPD

R — Amos 'n' Andy

KDYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD WRAP WDAF
WHO WKY WLW WMC WOAI WOW
WSB WSM WSMB WTAM WWJ

ED-11:15 p.m., E-10:15, C-9:15, M-8:15
C — Renfrew of the Mounted

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

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

CFRB CKAC KLRA WAAB WAHC
WADC WALA WBNS WBRC WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDDO WDRG WEAN WFBL
WFBN WFEA WGST WHAS WHEC
WHK WJWV WICC WJAS WJR
WJSV WKBW WKBW WKRC WLAC
WLZB WMA5 WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTOC

C — Pick and Pat

KDB KERN KFBK KFPY KPRC
KFB KGKO KHJ KLRA KLZ KMJ
KMOX KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTUL KVI KRW
KWKH WACO WBRC WCCO WFBN
WHAS WLAC WREC

R — Voice of Firestone

KDYL KFI KFSB KGHF KGIR
KGU KGW KHQ KOA KOMO KPO
KTAR

TUESDAY

ED-6:00 p.m., E-5:00, C-4:00, M-3:00
C — Patti Chapin; Songs

CFRB KLRN KFBK KFH KFPY
KPRC KGB KGKO KHJ KIZ KMBC
KNOW KOH KOL KOMA KRLD
KRNT KSCJ KTRH KVI KYOR
KWG WAAB WABC WACO WALA
WBIG WBNS WDRG WCAO WDAE
WDBJ WDBO WDNC WDDO WESG
WFBL WFBN WGST WHAS WHEC
WHK WHP WHV WJWV WKBW
WKRC WLAC WLZB WMBD WMBR
WNOX WOC WOKO WORC WQAM
WREC WSBT WSJS WSMK WSPD
WTOC

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

WABC WADC WBNS WCAO WCAU

WDRG WEAN WFBL WKHK WJWV
WICC WJR WKBW WLZB WNAC
WOKO WORC WWVA

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

C — Renfrew, See Monday

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

B — Easy Aces

KDKA KDYL KFI KGW KHQ KOA
KOIL KOMO KPO KSO KWK WBAL
WBZ WBZA WCKY WENR WFIL
WGAR WHAM WHIO WIRE WJZ
WMA5 WMT WSYR WXYZ

C — Krueger Musical Toast

WABC WBIG WBT WDBJ WDNC
WDRG WEAN WFEA WGST WICC
WLZB WMA5 WMBG WMBR WNAC
WORC

ED-7:15 p.m., E-6:15, C-5:15, M-4:15
R — The Lampighter

KDYL KFI KFYR KGW KHQ KOA
KOMO KPO KSD KSTP KYW WBBN
WCAE WCHS WDAF WDAY WFAF
WIBC WEEL WFBY WGY WHO
WIBA WJAZ WLW WMAQ WOW
WRC WTAG WTAM WTIC

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Kate Smith's Band

KFAB KMBC KMOX KRLD KRNT
KTRH WABC WADC WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDRG WEAN WFBL
WFBN WGR WGST WHAS WKHK
WJAS WJR WJSV WKBW WKRC
WLZB WMA5 WMBG WMBR WNAC
WOKO WORC WWL WWVA

B — Lum and Abner, See Monday

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

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
C — Hammerstein Music Hall

KFAB KMOX KRNT WABC WADC
WBBM WBNS WCAO WCAU WDRG
WEAN WFBL WFBN WGR WHAS
WHK WJAS WJR WJSV WKRC
WMA5 WNAC WOKO WSPD

R — Leo Reisman and Orchestra

KFYR KPRC KSD KSTP KTBS
KVOO KYW WRAP WHEN WCAE
WCHS WDAF WDAY WFAF WEEL
WFBY WFLA WGY WHO WIBA
WIOD WIS WJAZ WJAZ WJDX
WKY WLW WMAQ WOW WPTF
WRC WRVA WSOC WTAG WTAM
WTAR WTIC WTMJ WWJ WWNC

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Russ Morgan; Ken Murray

CFRB CROM KFAB KFH KLRA
KMBC KMOX KOMA KRLD KRNT
KSL KTRH KTSK KTUL WABC
WADC WBBM WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDRG WEAN WFBL WFBN WGR
WGST WHAS WHEC WHK WICC
WISN WJAS WJR WJSV WKRC
WLAC WMA5 WMBD WMBG
WNAC WNA5 WOKO WORC WQAM
WREC WWL

R — Wayne King and Orchestra

KFYR KPRC KSD KSTP KTBS
KVOO KYW WAVE WRAP WHEN
WCAE WCKY WCHS WDAF WDAY
WFAF WIBC WEEL WFBY WGY
WHO WHIO WIBA WIRE WJAZ
WJDX WKY WMAQ WMC WOAI

WOW WRC WSB WSM WSMB WTAG
WTAM WTIC WTMJ WWJ

B — Edgar Guest, Welcome Valley
KDKA KOIL KSO KWK WBAL WHZ
WBZA WFLB WGAR WHAM WJZ
WLS WLW WMA5 WMT WREN
WSYR WXYZ

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Tommy Dorsey and Orchestra

CFRB CKAC KFAB KFH KGKO
KLRA KMBC KMOX KOMA KRLD
KRNT KSCJ KTRH KTSK KTUL
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDNC WDDO WDRG WEAN
WFBL WFBN WFEA WGST WHAS
WHEC WHK WHP WHV WHX
WICC WISN WJAS WJR WJSV
WKBW WKBW WKBW WKRC
WLAC WLZB WMA5 WMBD WMBG
WMBR WMMN WNAC WNA5
WNBW WNOX WOC WOKO WORC
WOW WPG WQAM WREC WSBT
WSFA WSJS WSPD WTOC WWL

R — Vox Pop; Sidewalk Interviews

KSD KYW WHEN WCAE WCKY
WDRG WDAF WFAF WEEL WFBY
WGY WHO WHIO WIRE WJAZ
WMAQ WOW WRC WTAG WTAM
WTIC WWJ

B — Ben Bernie and Orchestra

KDKA KDYL KFI KFSB KFYR
KGW KHQ KOA KOIL KOMO KPO
KPRC KSO KSTP KTAR KTBS
KVOO KWK WAVE WBAL WRAP
WBZ WBZA WDAY WIBC WFIL
WFLA WGAR WHAM WHA WHD
WIS WJAZ WJDX WJZ WKY WLS
WLW WMA5 WMC WMT WOAI
WPTF WREN WRVA WSB WSM
WSMB WSOC WSYR WTAR WTMJ
WWNC WXYZ

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

KDB KERN KFAB KFBK KFH
KFPY KPRC KGB KGKO KHJ
KLRA KLZ KMBC KMJ KMOX
KOH KOIN KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSK
KTUL KVI KYOR KWG KWKH
WABC WACO WADC WALA WBBM
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDDO WDRG WEAN WFBL
WFBN WFEA WGST WHAS WHEC
WHK WHP WHV WHX WICC
WJAS WJR WJWV WKBW WKBW
WKRC WLAC WLZB WMA5 WMBD
WMBG WMBR WNAC WNA5
WNOX WOKO WORC WOW WPG
WQAM WREC WSBT WSFA WSJS
WSPD WTOC WWL

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
C — March of Time, See Monday

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

CKAC WAAB WABC WADC WCAO
WCAU WDRG WFBL WFEA WHEC
WKHK WJAS WJWV WKBW
WLZB WMA5 WOKO WORC WSBT
WSPD

R — Amos 'n' Andy, See Monday

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

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

CFRB CKAC KLRA KSCJ WAAB

TUESDAY (Continued)

WABC WADC WALA WBBM WBNS
WBRC WBT WCAU WCCO WDAE
WDBJ WDBO WDNC WDOO WDRC
WEAN WFBL WFBM WFPA WGST
WHAS WHCQ WHK WHEX WICC
WISN WJAS WJR WJSV WKBW
WKRC WLAC WLBZ WMAS WMHD
WMBG WMBR WNAX WNOX WOC
WOKO WORC WQAM WREC WSBT
WSJS WSNK WSPD WTOC

C — "Laugh with Ken Murray"

KDB KERN KFBK KFPY KFCR
KGB KHJ KLZ KMJ KOH KOIN
KOL KSL KVI KVR KWG

R — Leo Reisman and Orchestra
KDYL KFI KFSD KGHJ KGRH
KGV KHQ KOA KOMO KPO KTAR

WEDNESDAY

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

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

B — Lowell Thomas, See Monday

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

B — Easy Aces, See Tuesday

ED-7:15 p.m., E-6:15, C-5:15, M-4:15
R — Uncle Ezra, See Monday

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

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

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
C — Cavalcade of America

KDB KERN KFAB KFBK KFPY
KFCR KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KRNT
KSL KVI KWG WABC WBBM
WBNS WCAO WCAU WCCO WDRC
WEAN WFBL WFBM WGR WHAS
WHCQ WHK WJAS WJR WJSV
WKRC WLAC WMBG WNAC WOKO
WTOC WWL

B — Folies de Paree

KDKA KOIL KSO KWK WBAL
WBZ WBZA WCKY WFIL WGAR
WHAM WHIO WIRE WJZ WLS
WLMH WMT WREN WSYR WXYZ

R — One Man's Family

KDYL KFI KFYR KGW KHQ KOA
KOMO KPO KPRC KSD KSTP
KTAR KTBS KTHS KVOO KYW
WAPI WAVE WBAP WBen WCAE
WCSH WDAF WDAY WEAF WECB
WEEI WFAA WFBR WFLA WGY
WJO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOB
WSUN WTAG WTAM WTAR WTIC
WTMJ WWJ WWNC

ED-8:30 p.m., E-7:30, C-6:30, M-5:30
C — Burns and Allen

CKAC KFAB KFH KLRA KMBC
KMOX KOMA KRLD KRNT KSCJ
KTRH KTSa KTUL KWKH WABC
WADC WBBM WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDRC WEAN WFBL WFBM
WFOA WGR WGST WHAS WHCQ
WHK WHF WHF WIBX WIK
WJAS WJR WJSV WKRC WLAC
WLBZ WMAS WMHD WMBG

WMBR WNAC WNAX WNOX WOKO
WORC WPG WQAM WREC WSPD
WWL

R — Wayne King, See Tuesday

B — Lavender and Old Lace

KDKA KOIL KSO KWK WBAL
WBZ WBZA WFIL WGAR WHAM
WJZ WLS WMAL WMT WREN
WSAI WSYR WXYZ

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

C — Chesterfield Program

KDB KERN KFAB KFBK KFH
KFPY KFCR KGB KGKO KGMH
KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTSa KTUL KVI KVR KWG
KWKH WABC WACO WADC WALA
WBBM WBIG WBNS WBIC WBT
WCAO WCAU WCCO WCOO WDAE
WDBG WDBO WDNC WDOO WDRC
WEAN WFBL WFBM WFPA WGST
WHAS WHCQ WHK WHF WIBX
WIBX WICC WISN WJAS WJR
WJAX WKBH WKBW WKRC WLAC
WLBZ WMAS WMHD WMHG
WMBR WNAC WNAX WNBFWNOX
WOC WOKO WORC WOWO WPG
WQAM WREC WFA WJSJ WSPD
WTOC WWL

R — Town Hall Tonight

KFYR KPRC KSD KSTP KTBS
KTHS KVOO KYW WAVE WBen
WCAE WCHS WDAF WDAY WEAF
WECB WEEI WFAA WFBR WFLA
WGY WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOAI WOW WPTF WRC WSB
WSM WSMB WSOB WTAG WTAM
WTAR WTIC WTJ WWJ WWNC

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

C — Come On, Let's Sing

KDB KERN KFAB KFBK KFH
KFPY KFCR KGB KGMH KHJ
KLRA KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRLD KRNT
KSL KTRH KTSa KTUL KVI KWG
KWKH WABC WBBM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDRC WEAN WFBL
WFBM WGST WHAS WHCQ WHK
WICC WISN WJAS WJR WJSV
WKBW WKRC WLAC WLBZ WMBG
WMBR WNAC WOKO WORC WOWO
WQAM WREC WTOC WWL

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

C — Crime Crusade; Phil Lord

KDB KERN KFAB KFBK KFH
KFPY KFCR KGB KHJ KERA KLZ
KMBC KMJ KMOX KOIN KOL
KOMA KRLD KRNT KSL KTRH
KTSa KTUL KVI KWG KWKH
WABC WACO WBBM WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDRC WEAN WFBL
WFBM WGST WHAS WHCQ WHK
WICC WISN WJAS WJR WJSV
WKBW WKRC WLAC WLBZ WMBG
WMBR WNAC WOKO WORC WOWO
WQAM WREC WTOC WWL

Red and Blue: Your Hit Parade

KDKA KDYL KECA KEX KFI
KFSD KFYR KGA KGHJ KGRH
KGO KGU KGW KHQ KJR KLD
KOA KOIL KOMO KPO KPRC KSD
KSO KSTP KTAR KTBS KTHS
KVOO KWK KYW WAVE WBAL
WREN WBZ WBZA WCAE WCKY
WCSH WDAF WDAY WEAF WECB

WEEI WENR WFAA WFBR WFIL
WGAR WGY WHAM WHO WHIO
WIBA WIOD WIRE WIS WJAR
WJAX WJDX WJZ WKY WLW
WMAL WMAQ WMO WMT WOAI
WOW WPTF WRC WREN WRVA
WSB WSM WSMB WSOB WSUN
WSYR WTAG WTAM WTAR WTIC
WTMJ WWJ WWNC WXYZ

ED-10:30 p.m., E-9:30, C-8:30, M-7:30
C — March of Time, See Monday

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

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

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

CKAC KLRA WAAB WABC WADO
WALA WBRC WBT WCAO WCAU
WDAE WDBJ WDBO WDNC WDOI
WDRC WEAN WFBL WFBM WFAE
WGST WHAS WHCQ WHK WICC
WJAS WJR WJSV WKBW WKRC
WLAC WLBZ WMBG WMBR WNOX
WOKO WORC WQAM WREC WSPD
WTOC

C — Burns and Allen

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

ED-12:00 p.m., E-11:00, C-10:00, M-9:00
R — Town Hall Tonight

KDYL KFI KGW KHQ KOA KOMO
KPO

THURSDAY

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

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

B — Lowell Thomas, See Monday

ED-7:00 p.m., E-6:00, C-5:00, M-4:00
C — The Atlantic Family

WABC WADC WHIG WBNS WBT
WCAO WCAU WDAE WDBJ WDBO
WDRC WEAN WESG WFBL WGR
WGST WHEC WHK WHF WIBX
WICC WJAS WKBH WMAS WMBG
WMBR WNAC WNBFWNOX WORC
WQAM WSJS WTOC WYVA

R — Amos 'n' Andy, See Monday
B — Easy Aces, See Tuesday

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

ED-7:30 p.m., E-6:30, C-5:30, M-4:30
C — Kate Smith, See Tuesday

B — Lum and Abner, See Monday

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

ED-8:00 p.m., E-7:00, C-6:00, M-5:00
R — Rudy Vallee's Variety Hour

CPCF CRCT KDYL KFI KFYR
KGW KHQ KOA KOMO KPO KSD
KSTP KTAR KYW WBen WCAE
WCSH WDAF WDAY WEAF WECB
WEEI WFBR WGY WHO WJAR
WLW WMAQ WOW WRC WTAM
WTIC WTJ WWJ

ED-9:00 p.m., E-8:00, C-7:00, M-6:00
C — Major Bowes' Amateurs to start
on Sept. 17. List of stations not now
available.

R — Maxwell House Show Boat
KDYL KFI KFSD KFYR KGHJ

THURSDAY (Continued)

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

B — Death Valley Days

KDKA KOIL KSO KWK WRAL WBZ
WBZA WFIL WGAR WHAM WJZ
WLS WLW WMLA WMT WREN
WSYR WXYZ

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

R — **Bing Crosby; Jimmy Dorsey**
CFB CRCT KDYL KFI KFJR
KGW KHQ KOA KOMO KPO KPRC
KSD KSTP KTAR KTBS KTBS
KVOP KYW WAVE WBAP WBEN
WCAE WCSH WDAF WDAY WEAF
WEBC WEEI WFBR WFLA WGY
WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLW WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOC
WTAG WTAM WTAR WTTIC WTJ
WWJ WWNC

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

C — **March of Time, See Monday**

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

C — **Dance Orchestra**
WAAB WABC WADC WCAO WCAU
WFL WBK WIBX WJSY WKIN
WKBW WLWB WMAS WOKO WORC
WPG WSBT WSPD

R — **Amos 'n' Andy, See Monday**

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

C — **Renfrew of Mounted, See Monday**

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

C — **Dance Orchestra**
CFB CBK KLR WAAB WABC
WADC WALA WBNS WBRC WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDOO WDRB WEAN WFBL
WFBM WFEA WGST WHAS WHIC
WHK WIBX WICG WJAS WJR
WJSY WKBW WKRC WLAC
WLWB WMAS WMBG WMBR WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSMK WSPD WTOC

FRIDAY

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

C — **Bobby Benson, See Monday**

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

C — **Renfrew of Mounted, See Tues.**

B — **Lowell Thomas, See Monday**

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

R — **Amos 'n' Andy, See Monday**

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

R — **Uncle Ezra, See Monday**

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

B — **Lum and Abner, See Monday**

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

C — **Boake Carter, See Monday**

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

C — **Flying Red Horse Tavern**

KFAB KFH KMBC KMOX KRNT
WABC WADC WBBM WBNS WCAO

WCAU WCCO WDRC WEAN WFBL
WFBM WGR WHAS WHEC WHK
WIBW WICC WJAS WJR WJSY
WKRC WLWB WMAS WMBD WNAC
WOC WOKO WORC WSPD

R — **Cities Service Concert**

CRCT KFJR KOA KPRC KSD
KRCT KTBS KTHS KVOO KYW
WBAP WBEN WCAE WCSH WDAF
WDAY WEAF WEBC WEEI WFAA
WFBR WGY WHO WHIO WIBA
WIOD WJAR WKY WMAQ WOAI
WOW WRC WRVA WSAI WTAG
WTAM WTTIC WTJ WWJ

B — **Irene Rich; Drama**

KDKA KDYL KFI KGW KHQ KOIL
KOMO KPO KSO KTAR KWK WAVE
WBAL WBZ WBZA WCKY WPIL
WGAR WHAM WIRE WJZ WLS
WMLA WMC WMT WREN WSB
WSM WSYR WXYZ

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

C — **Broadway Varieties**

KDB KERN KFAB KFBC KFY
KPRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KOMA KRNT
KSL KVI KWG WABC WADC
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDRB WEAN WFBL
WFBM WGR WGST WHAS WHK
WJAS WJR WJSY WKRC WMAS
WMBG WNAC WOKO WSPD WWL

B — **Frank Fay Calling**

KDKA KDYL KFI KGW KHQ
KOIL KOMO KPO KSO KWK WBAL
WBZ WBZA WFIL WGAR WHAM
WJZ WLS WLW WMLA WMT
WREN WSYR WXYZ

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

C — **Hollywood Hotel**

CFB CBK KLR KDB KERN KFAB
KFBC KFH KFY KPRC KGB KHJ
KLR KLZ KMBC KMJ KMOX
KOIN KOL KOMA KRNT KRNT
KSCJ KSL KTRH KTSK KTVL KVI
KVOR KWG KWKH WABC WADC
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDRB WEAN WFBL WFBM WFEA
WGST WHAS WHIC WHK WHI
WHW WIBX WICC WJAS WJR
WJSY WKBW WKRC WLAC WLWB
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 WEAF WEEI WFBR WGY
WJAR WLW WMAQ WOW WRC
WTAG WTAM WTTIC WJZ

B — **B. A. Rolfe; Richard Bonelli**

KDKA KDYL KFJR KOA KOIL
KPRC KSD KSTP KTBS KWK
WAPI WAVE WBAL WBZ WBZA
WDAY WEAF WFAA WFIL WFLA
WGAR WHAM WIBA WIOD WIS
WJAX WJDX WJZ WKY WLS WLW
WMLA WMC WMT WOAI WOOD
WPTF WREN WRVA WSB WSM
WSMB WSOC WSN WSYR WTAR
WTMJ WWNC WXYZ

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

R — **True Story Court**

KSD KYW WBN WCAE WCSH
WDAF WEAF WEEI WFBR WGY
WHO WHIO WJAR WMAQ WOW WRC
WTAG WTAM WTTIC WJZ

B — **Clara, Lu 'n' Em**

KDKA KDYL KECA KEN KFI

KFSD KFJR KGW KGHl KGIR
KGO KGW KHQ KJR KOA KOIL
KOMO KPO KPRC KSO KSTP KTAR
KTBS KWK WAPI WAVE WBAL
WBZ WBZA WDAY WEBC WENR
WFAA WFBR WFIL WFLA WGAR
WHAM WHIO WIBA WIOD WIRE
WIS WJAX WJDX WJZ WKY WLW
WMLA WMC WMT WOOD WPTF
WREN WRVA WSB WSM WSMB
WSOC WSN WSYR WTAR WTJ
WWNC WXYZ

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

C — **Andre Kostelanetz**

KDB KERN KFAB KFBC KFH
KPHY KPRC KGB KGKO KGMB
KHJ KLRA KLZ KMBC KMJ KMOX
KOH KOIN KOL KOMA KRNT
KRNT KSCJ KSL KTRH KTSK
KTVL KVI KVOR KWG KWKH
WABC WACO WADC WALA WBBM
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDOO WDRB WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WHP WIBW WIBX
WICC WISN WJAS WJR WJSY
WKBW WKRC WLAC WLWB WMAS
WMBD WMBG WMBR WNOX
WNAX WNBW WNOX WOC WOKO
WORC WOWO WPG WQAM WREC
WSFA WSJS WSMK WSPD WTOC
WWL

R — **Marion Talley and Orchestra**

KDYL KFI KFJR KGW KHQ KOA
KOMO KPO KSD KSTP KYW WBN
WCAE WCKY WCSH WDAF WDAY
WEAF WEBC WEEI WFBR WGY
WHIO WIBA WIRE WJAR WMAQ
WOW WRC WTAG WTAM WTTIC
WTMJ WWJ

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

C — **March of Time, See Monday**

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

R — **Amos 'n' Andy, See Monday**

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

C — **Dance Orchestra**

CFB CBK KLR KSCJ WAAB
WABC WADC WALA WBNS WBRC
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDOO WDRB WDTL
WFEA WGST WHIC WHK WIBX
WISN WJAS WJR WKBW WLAC
WLWB WMAS WMBD WMBG
WMBR WNAX WNOX WOC WOKO
WORC WPG WQAM WREC WSBT
WSJS WSMK WSPD WTOC

C — **Renfrew of Mounted, See Mon.**

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

B — **B. A. Rolfe; Richard Bonelli**

KDYL KFI KFSD KGHl KGIR
KGW KHQ KOA KOMO KPO KTAR

SATURDAY

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

C — **News of Youth, See Tuesday**

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

C — **Al Roth and Orchestra**

CFB KERN KFBC KFH KFY
KPRC KGB KGKO KMBC KMOX
KOH KOL KOMA KRNT KTRH
KVOR KWG WAAB WADC WALA
WCAO WDAE WDBO WDNC WESG
WFEA WGST WHAS WHIC WHP
WIBX WJAS WJSY WKBW WLAC
WLWB WMBD WMBG WMBR WOC
WOKO WORC WQAM WREC WSJS
WSMK WSPD WTOC

SATURDAY (Continued)

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

C — Patti Chapin, Songs
 CKAC KERN KFH KFPY KPRC
 KGB KGKO KHJ KLZ KMBC
 KMOX KOL KOMA KRLD KRNT
 KSCJ KTRH KVI KVOR KWG
 WABC WACO WALA WBBM WBIG
 WBT WCAO WCCO WDAE WDBO
 WDRC WEAN WESG WFBL WFEA
 WGR WGST WHAS WHK WHP
 WIBW WIBX WICC WJAS WKRC
 WLAC WLZ WBZ WMBG WMBR
 WNOX WOC WOKO WORC WQAM
 WREC WSJS WSMK WSPD WTOC

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

C — Saturday Swing Session
 CFRB CKAC KFAB KFH KPRC
 KLRA KMBC KMOX KOMA KRNT
 KTRH KTSK KTLU KWKH KWKH
 WABC WBBM WBNS WBRC WBT
 WCAO WCAU WCCO WDAE WDBJ
 WDBO WDRC WEAN WFBL WFBM
 WGR WGST WHAS WHEC WHK
 WHP WICC WISN WJAS WJR WJSV
 WKRC WLAC WLZ WBZ WMBG WMBR
 WNOX WOKO WORC WQAM WREC
 WTOC WWL

ED-9:30 p.m., E-7:30, C-6:30, M-5:30

C — Columbia Workshop: Drama
 CFRB CKAC KFAB KFH KPRC
 KLRA KMBC KMOX KOMA KRNT
 KTRH KTSK KTLU KWKH KWKH
 WBBM WBNS WBRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDRC WEAN WFBL WFBM WGR
 WGST WHAS WHEC WHK WHP
 WICC WISN WJAS WJR WJSV
 WKRC WLAC WLZ WBZ WMBG WMBR
 WNOX WOKO WORC WQAM WREC
 WTOC WWL

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

R — Shell Chateau
 KDYL KFI KFSD KFYR KGHL
 KGIR KGW KHQ KOA KOMO KPO
 KSD KSTP KTRAR KYW WBEW
 WCAE WCHS WDAF WDAY WEAF
 WIBC WEEL WFBW WGY WIBA
 WJAR WLW WMAQ WOW WRJ
 WTAG WTAM WTCM WTMJ WWJ

B — National Barn Dance

KDKA KOIL KPRC KSO KTBS
 KTHS KWK WAPI WAVE WBAL
 WBAP WBZ WFLA WFSB WFCB
 WFBR WFLW WFLX WGAR WHAM
 WHIO WIOD WIRE WIS WJAX
 WJDX WJZ WKY WLS WMAL WMC
 WMT WOAI WOOD WPTF WREN
 WRVA WSB WSMB WSOC WSUN
 WSYR WTAR WWNC WXYZ

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

C — Your Hit Parade
 KERN KFAB KFBK KFH KFPY
 KFRG KGB KGKO KGMB KHJ
 KLRA KLZ KMBC KMJ KMOX
 KOH KOIN KOL KOMA KRLD
 KRNT KSCJ KSL KTRH KTSK
 KTLU KVI KVOR KWG KWKH
 WABC WACO WADC WALA WBBM
 WBIG WBNS WBRC WBT WCAO
 WCAU WCCO WCOA WDAE WDBJ
 WDBO WDNC WDOD WDRC WEAN
 WFBL WFBM WFEA WGST WHAS
 WHEC WHK WHP WIBC WIBX
 WICC WISN WJAS WJR WJSV
 WKRC WKRC WLAC WLZ WMAS
 WMBD WMBG WMBR WNAC
 WNXA WNOX WOC WOKO WORC

WPG WQAM WREC WSBT WSEA
 WWSJ WSPD WTOC WWL WWSA

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

R — George Olsen; Ethel Shutta
 KDYL KFI KFYR KGW KHQ KOA
 KOMO KPO KSD KSTP KYW WAVE
 WBEW WCAE WCHS WDAF WDAY
 WEAF WIBC WEEL WFBW WGY
 WIBA WJAX WJDX WKY WMAQ
 WMC WOW WRC WBSB WTAG
 WTAM WTCM WTMJ WWJ

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

C — Dance Orchestra
 CFRB CKAC KFH KGKO KLRA
 KLZ KMBC KMOX KOMA KRLD
 KSCJ KSL KTRH KTSK KVOR
 KWKH WABC WACO WADC WALA
 WBBM WBNS WBRC WBT WCAO
 WCAU WCCO WDAE WDBJ WDBO
 WDNC WDOD WDRC WFBL WFBM
 WFEA WGST WHAS WHEC WHK
 WJB WIBX WICC WISN WJAS
 WJR WJSV WKBW WKRC WLAC
 WLZ WMAS WMBD WMBG WMBR
 WNXA WNOX WOC WOKO WORC
 WQAM WREC WSHS WWSJ
 WSMK WSPD WTOC

B — National Barn Dance

KDYL KFI KFSD KFYR KGHL
 KGIR KGW KHQ KOA KOMO
 KPO KSTP KTRAR WDAY WBEW
 WIBA WLW WTMJ

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

C — Dance Orchestra
 CFRB CKAC KFH KGKO KLRA
 KLZ KMBC KMOX KOMA KSL
 KTRH KTSK KVOR KWKH WABC
 WACO WADC WALA WBNS WBRC
 WBT WCAO WCAU WDAE WDBJ
 WDBO WDNC WDOD WDRC WEAN
 WFBL WFBM WFEA WGST WHAS
 WHEC WHK WIBW WIBC WICC
 WJAS WJR WKBW WKRC WLAC
 WLZ WMAS WMBG WMBR WNOX
 WOKO WORC WQAM WREC WSBT
 WJSJ WSMK WSPD WTOC

SUNDAY

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

C — Salt Lake Tabernacle Choir
 KFH KGKO KLRA KLZ KMBC
 KOMA KRLD KSCJ KSL KTRH
 KTSK KWKH WACO WADC WALA
 WBIG WBNS WBRC WBT WCCO
 WDBO WDNC WDOD WDRC WFBL
 WFBM WFEA WGST WHAS WIBW
 WIBX WISN WJAS WJR WJSV
 WKBW WKRC WLAC WLZ WMAS
 WMBD WMBR WNAC WNXA
 WNOX WOKO WORC WQAM WREC
 WSBT WSMK WSPD WTOC

R — Major Bowes' Capitol Family

CFBC CRCT KDYL KFI KFYR
 KGW KHQ KOA KOMO KPO KPRC
 KSD KSTP KTBS KTHS KYW KYW
 WAPI WAVE WBAF WBEW WCAE
 WCGS WCHS WDAF WDAY WEAF
 WIBC WEEL WFAA WFBC WFBW
 WFLA WGY WIO WIBA WIOD
 WIS WJAR WJAX WJDX WKY
 WMAQ WMC WOAI WOW WPTF
 WRC WRVA WSB WSM WSMB
 WWSJ WSN WTAG WTAM WTAR
 WTCM WTMJ WWJ WWSA

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

B — Radio City Music Hall
 CFBC CRCT KDKA KDYL KFI
 KFYR KGW KHQ KOIL KOMO

KPRC KSO KVOO WAPI WBAL
 WBZ WBZA WCKY WDAY WECB
 WGAR WHAM WIS WJDX WJZZ
 WKY WMAL WOAI WREN WWSB
 WSYR WWNC

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

C — Trans-Atlantic Broadcast

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

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

C — Church of the Air

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

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

B — Magic Key of RCA

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

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

C — Everybody's Music

CFRB CKAC KERN KFH KFPY
 KFRG KGB KGKO KHJ KLZ KMBC
 KMOX KOH KOL KOMA KRNT
 KSCJ KSL KTRH KTSK KVI KVOR
 KWG WAAB WABC WALA WBIG
 WBNS WBRC WBT WCAO WCCO
 WDAE WDBJ WDRC WEAN WESG
 WFBL WFBM WFEA WGST WHAS
 WHK WHP WIBW WIBC WICC
 WJAS WKBW WKBW WKRC WLAC
 WLZ WMBD WMBG WMBR
 WNBW WNOX WOC WOKO WORC
 WPG WQAM WREC WSBT WJSJ
 WSMK WSPD WTOC

ED-4:00 p.m., E-3:00, C-2:00, M-1:00

Rev. Charles E. Coughlin

KPEL KNN KSPF KSTP KYOD
 KWK WATR WCAO WCAU WDRC
 WEAN WFBL WFEA WGAR WGR
 WHB WHO WICC WISN WJAS
 WJDX WJR WLZ WLH WLW
 WMAS WNAW WNHU WOKO WOL
 WORC WOW WRDO

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

C — Ann Leaf's Musicale

CFRB CKAC KERN KFAB KFBK
 KFPY KFRG KGB KGKO KHJ
 KLZ KMBC KMOX KOH KOL
 KOMA KRNT KSL KTRH KTSK
 KVI KVOR WABC WACO WADC
 WALA WBIG WBNS WBRC WBT

SUNDAY (Continued)

WCAO WCAU WCCO WDAE WFBJ
 WDBO WDOB WDRR WDEAN WFBL
 WFBB WGST WHAS WHFC WHK
 WHP WIBW WJAS WJR WJSV
 WKBW WKRC WLAC WMBD
 WMBG WMBR WNAC WNOX
 WOKO WPG WQAM WREC WSJS
 WSMK WSPD WTOC

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

C — Tea Time Tunes

KFH KMBC KMOX KOMA KTUL
 WAAB WABC WBNS WCAO WCAU
 WDRR WEAN WFBL WFBB WGR
 WHAS WHFC WHK WIBX WICC
 WJR WJSV WMAS WOKO WORC
 WSPD WWL WWVA

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

B — Tim Ryan; Irene Noblette

CFBC CRCT KDKA KFJR KOIL
 KPRC KSO KSTP KTBS KVOO KWK
 WAVE WBAL WBZ WBZA WDAY
 WEBC WENR WFAA WFIL WFLA
 WGAR WHAM WIBA WIOD WIS
 WJAX WJDX WJZ WKY WLW
 WMAL WMC WMT WOAI WPTF
 WREN WRVA WSB WSM WSMB
 WSOC WSYR WTAR WTMJ WWCN
 WXYZ

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

C — Crumit; Sanderson

KLRA KLZ KRLL KTRH KTSB
 KTUL KWKH WABC WACO WADC
 WALA WBIG WBNS WBRC WBT
 WCAO WCAU WCOA WDAE WDIJ
 WDBO WDNC WDOB WDRR WEAN
 WFBL WFBB WFEA WGR WGST
 WHAS WHFC WHK WHP WIBX
 WICO WLAS WJR WJSV WKHN
 WKRO WLAC WLBZ WMAS WMBG
 WMBR WNAC WNOX WOKO WORC
 WQAM WREC WSBT WSFA WSVA
 WSMK WSPD WTOC WWL WWVA

R — Fireside Recitals

KSD KYW WBN WCAE WCSH
 WDAF WEAF WFBR WGY WHIO
 WIRE WJAR WMAQ WOW WRC
 WSAI WTAG WTAM WTIC WWJ

B — Husbands and Wives

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

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

R — **Sunset Dreams; Morin Sisters**
 CFBC CRCT KSD KYW WBN
 WCAE WCSH WDAF WEAF WFBR
 WGY WHIO WHIO WIRE WJAR
 WLW WMAQ WOAI WOOD WOW
 WRC WTAG WTAM WTIC WWJ

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

C — America Dances; Lud Gluskin

KFAB KFII KFPY KLRA KLZ
 KMBC KMOX KOMA KRLL KRNT
 KTRH KTSB KTUL KWG KWKH
 WABC WADC WALA WBBM WBNS
 WBRC WBT WCAO WCAU WCCO
 WDOB WDRR WEAN WFBL WFBB
 WGR WGST WHAS WHFC WHK
 WHP WICC WJAS WJR WJSV
 WKRC WLAC WNAC WNAK WOW
 WOKO WOWO WREC WSPD WWL

C — Beginning Sept. 27: Joseph Pasternak and Nelson Eddy

R — Major Bowes' Amateur Hour

CFBC CRCT KDYL KFI KFJR
 KGW KHQ KOA KOMO KPO KPRC
 KSD KSTP KTAR KVOO KYW
 WAVE WBNB WBZ WBZA WCAE
 WCSH WDAF WDAY WEAF WEBC
 WFAA WFBR WFLA WGY WHIO
 WIOD WIS WJAR WJAX WJDX
 WKY WLW WMAQ WMC WOAI
 WOW WPTF WRC WRVA WSB
 WSM WSMB WTAG WTAM WTAR
 WTIC WTMJ WWJ WWCN

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

R — Manhattan Merry-Go-Round

CFBC KDYL KFI KFJR KGW
 KHQ KOA KOMO KPO KPRC KSD
 KSTP KTBS KTBS KYW WAVE
 WBNB WCAE WCKY WCSH WDAF
 WDAY WEAF WEBC WEEI WFAA
 WFBR WFLA WGY WHIO WHIO
 WIHA WIOD WIRE WIS WJAR
 WJAX WJDX WKY WMAQ WMC
 WOAI WOW WPTF WRC WRVA
 WSB WSM WSMB WSOC WTAG

WTAM WTAR WTIC WTMJ WWJ
 WWCN

B — Cornelia Otis Skinner

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

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

R — Album of Familiar Music

CFBC CRCT KDYL KFI KFJR
 KGW KHQ KOA KOMO KPO KPRC
 KSD KSTP KTBS KYW WAPI
 KVAE WBNB WCAE WCSH WDAF
 WDAY WEAF WEBC WEEI WFAA
 WFBR WFLA WGY WHIO WHIO
 WIBA WIOD WIS WJAR WJAX
 WJDX WKY WMAQ WMC WOAI
 WOW WPTF WRC WRVA WSAI
 WSB WSM WSMB WSOC WTAG
 WTAM WTAR WTMJ WWJ WWCN

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

B — Paul Whiteman's Musical Varieties

KDKA KFI KSO KWK WBAL
 WBZ WBZA WENR WFIL WGAR
 WHAM WJZ WMAL WMT WREN
 WSAI WSYR WXYZ

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

R — Sunset Dreams; Morin Sisters

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

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

B — Cornelia Otis Skinner

KDYL KFI KFSD KGHL KGIR
 KGW KHQ KOA KOMO KPO KPRC
 KTAR KTBS KTHS WAPI WAVE
 WBAF WJDX WKY WMC WOAI
 WSB WSM WSMB

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

B — Tim Ryan; Irene Noblette

KDYL KFI KFSD KGHL KGIR
 KGU KGW KHQ KOA KOMO KPO
 KTAR

B — Paul Whiteman's Musical Varieties

KECA KEX KFSD KGA KGO KJR
 KPRC KTBS KTBS WAPI WAVE
 WBAP WJDX WKY WMC WOAI
 WSB WSM WSMB

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Daylight Saving

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

CONCERTS

Everybody's Music, 3 p.m. Sunday, C
 Ford Program, 9 p.m. Fri., B
 Radio City Music Hall, 12:30 p.m. Sun., B

DANCE BANDS

Victor Arden, 8:30 p.m. Fri., C
 Bunny Berigan, 8 p.m. Sat., C
 Ben Bernie, 9:00 p.m. Tues., B
 Ray Block, 7 p.m. Tues. and Thurs., C
 Jimmie Dorsey, 10 p.m. Thurs., R
 Eddie Duchin, 8:30 p.m. Wed., C
 Ted Fio Rito, 9:30 p.m. Fri., B
 Lud Gluskin, 8 p.m. Sun., C
 Benny Goodman, 9:30 p.m. Tues., C

Louis Gress, 7 p.m. Sun., C
 Horace Heidt, 8 p.m. Mon., C
 Richard Himber, 9:30 p.m. Mon., R
 Hal Kemp, 7:30 p.m. Sun., C
 Wayne King, 8:30 p.m. Tues. and Wed., R, 10 p.m.
 Mon., C
 Andre Kostelanetz, 9 p.m. Wed., C and 10 p.m. Fri., C
 Benny Krueger, 8:30 and 11:30 p.m. Mon., C
 Abe Lyman, 5 p.m. Sun., C, and 8:30 p.m. Mon., B
 Russ Morgan, 8:30 p.m. Tues., C
 Raymond Paige, 9 p.m. Fri., C
 Leo Reisman, 8 and 11:30 p.m. Tues., R
 Freddie Rich, 10 p.m. Sat., C
 Al Roth, 6:45 Sat., C
 Jack Shilkret, 5:30 p.m. Sun., C
 Nathaniel Shilkret, 9:30 p.m., Tues., C

Phil Spitalny, 6 p.m. Sun., C
 Rudy Vallee, 8 p.m. Thurs., R
 Peter Van Steeden, 9 p.m. Wed., R
 Paul Whiteman, 9:45 and 11:30 p.m. Sun., B
 Victor Young, 9:30 p.m. Sat., R

DIALOG

Amos 'n' Andy, 7 and 11 p.m. daily except Sat. and Sun., R
 Fred Astaire, 9:30 p.m. Tues., R
 Phil Baker, 7:30 p.m. Sun., C
 Burns and Allen, 8:30 and 11:30 p.m. Wed., C
 Clara, Lu 'n' Em, 9:30 p.m. Fri., B
 Easy Aces, 7 p.m. Tues., Wed., Thurs., B
 Frank Fay, 8:30 p.m. Fri., B
 Fibber McGee and Molly, 8 p.m. Mon., R
 Bum and Abner, 7:30 p.m. daily except Sat. and Sun., B
 Ken Murray, 8:30 p.m. and 11:30 p.m. Tues., C
 Pick and Pat, 8:30 and 11:30 p.m. Mon., C
 Stoopnagle and Budd, 9 p.m. Wed., R

DRAMA

Columbia Workshop, 8:30 p.m. Sat., C
 Crime Crusade, 10 p.m. Wed., C
 Death Valley Days, 9 p.m. Thurs., B
 Phillips Lord, 10 p.m. Wed., C
 Lux Radio Theater, 9 p.m. Mon., C
 News of Youth, 6:15 p.m. Tues., Thurs., Sat., C
 One Man's Family, 8 p.m. Wed., R
 Renfrew of the Mounted, 6:45 and 11:15 p.m. Mon. thru Fri., C
 Irene Rich, 8 p.m. Fri., B
 True Story Court, 9:30 p.m. Fri., R
 Welcome Valley, 8:30 p.m. Tues., B

POPULAR PROGRAMS

A. & P. Gypsies, 9 p.m. Mon., R
 Album of Familiar Music, 9:30 p.m. Sun., R
 Atlantic Family, 7 p.m. Thurs., C
 Major Bowes, 11:30 a.m. and 8 p.m. Sun., R
 Broadway Varieties, 8:30 p.m. Fri., C
 Camel Program, 9:30 and 11:30 p.m. Tues., Thurs., C
 Cavalcade of America in Music, 8 p.m. Wed., C
 Chesterfield Program, 9 p.m. Wed., C
 Cities Service Concert, 8 p.m. Fri., R
 Contented Program, 10 p.m. Mon., R
 Come On, Let's Sing, 9:30 p.m. Wed., C
 Fireside Recitals, 7:30 p.m. Sun., R
 Fleischmann Variety Hour, 8 p.m. Thurs., R
 Flying Red Horse Tavern, 8 p.m. Fri., C
 Hammerstein's Music Hall, 8 p.m. Tues., C
 Hit Parade, 10 p.m. Red and Blue Wednesday: 10 p.m. Sat., C
 Hollywood Hotel, 9 p.m. Fri., C
 Krueger Musical, 7 p.m. Tues., C
 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. Mon. thru Fri., C
 Maxwell House Show Boat, 9 p.m. Thurs., R
 Musical Footnotes, 1:30 p.m. Sun., C
 National Barn Dance, 9:30 and 11:30 p.m. Sat., B
 Shell Chateau, 9:30 p.m. Sat., R
 Sinclair Minstrels, 9 p.m. Mon., B
 Swing Session, 8 p.m. Sat., C
 Town Hall Tonight, 9 and 12 p.m. Wed., R
 Uncle Ezra, 7:15 p.m. Mon., Wed., Fri., R
 Voice of Firestone, 8:30 and 11:30 p.m. Mon., R
 Vox Pop, 9 p.m. Tues., R
 Welcome Valley, 8:30 p.m. Tues., B

SINGERS

Fred Astaire, 9:30 p.m. Tues., R
 Smith Ballew, 9:30 p.m. Sat., R
 Richard Bonelli, 9 p.m. Fri., B
 Patti Chaplin, 7 p.m. Sat., C and 6 p.m. Tues., C
 Charlotteers, 7:15 p.m. Mon., C
 Bernice Claire, 5 p.m. Sun., C., and 9 p.m. Fri., R
 Jerry Cooper, 7 p.m. Tues., C
 Bing Crosby, 10 p.m. Thurs., R
 Crumit-Sanderson, 7:30 p.m. Sun., C
 Jessica Dragonette, 8 p.m. Fri., R
 Phil Ducey, 8 and 11:30 p.m. Tues., R

Alexander Gray, 8 p.m. Thurs., C
 Frances Langford, 9 p.m. Fri., C
 Elizabeth Lennox, 8:30 p.m. Fri., C
 Lucy Monroe, 9:30 p.m. Sun., R
 Morin Sisters, 7:45 and 11 p.m. Sun., R
 Frank Munn, 9:30 p.m. Sun. and 9 p.m. Fri., R
 Frank Parker, 7 p.m. Sat., C
 Carmella Ponselle, 8:30 p.m. Fri., C
 Dick Powell, 9 p.m. Fri., C
 Homer Roddeheaver, 9:30 p.m. Wed., C
 Lanny Ross, 9 p.m. Thurs., R
 Oscar Shaw, 8:30 p.m. Fri., C
 Sally Singer, 7 p.m. Mon., Thurs., C
 Kate Smith, 7:30 Tues. and 8 p.m. Thurs., C
 Oliver Smith, 5 p.m. Sun., C
 Margaret Speaks, 8:30 p.m. Mon., R
 Marion Talley, 10 p.m. Fri., R
 Judy Starr, 7:30 p.m. Mon., C

TALKS

Boake Carter, 7:45 p.m. Mon. thru Fri., C
 Rev. Charles E. Coughlin, 4 p.m. Sunday
 Husbands and Wives, 7:30 p.m. 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

**THE MONTH'S CHANGES
 IN STATION DATA**

NEW

640	WSPG	Portland, Me.
830	CMJX	Camaguey, Cuba
1040	KYOS	Merced, Calif.
1160	XEP	Juarez, Chih.
1200	KDNC	Lewistown, Mont.
	KVEC	San Luis Obispo, Calif.
	WOLS	Florence, S. C.
1210	KGLO	Mason City, Iowa
	KOCA	Kilgore, Texas
	WBLY	Lima, Ohio
	WLAU	Middlesboro, Ky.
1310	KROY	Sacramento, Calif.
	KRRV	Sherman, Texas
	KWAT	Watsonville, Calif.
1340	CMAB	Pinar del Rio, Cuba
1370	KBHB	Rapid City, S. Dak.
	KTFM	Temple, Texas
	WDWS	Champaign, Ill.
	WEXP	Clarksburg, W. Va.
1420	WAO	Chattanooga, Tenn.
1500	KUTA	Salt Lake City, Utah
	.....	Valley City, N. Dak.

FREQUENCY

580	WILL	Urbana, Ill., from 890
1400	KHBC	Hilo, T. H., from 1420

POWER

630	CJRC	Winnipeg, Man., 1000 from 500
710	KIRO	Seattle, Wash., 1000 from 500
890	WBAA	W. Lafayette, Ind., 500 from 1000
	WJAR	Providence, R. I., 1000 from 500
1100	CRCV	Vancouver, B. C., 1000 from 500
1210	KPPC	Pasadena, Calif., 100 from 50
	WPAX	Thomasville, Ga., 100 from 250
1400	KHBC	Hilo, T. H., 250 from 100
1410	WHIS	Bluefield, W. Va., 500 from 250
1450	CFCT	Victoria, B. C., 50 from 75

LOCATION

920	WORLD	Boston, Mass., from Needham
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CALL LETTERS

640	WHKC	Columbus, Ohio, from WAIU
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REINSTATED

730	XEBC	Agua Caliente, L. C.
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NETWORK

1500	KNOW	Austin, Texas, new CBS
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Short Wave Stations By Frequencies

Police Broadcasters are shown in italics.

Megs.	Meters		Megs.	Meters	
1.596	187.84	<i>WPGC</i> Findlay, Ohio <i>WPCQ</i> Columbus, Ohio <i>WPHC</i> Massillon, Ohio <i>WPHK</i> Wilmington, Ohio <i>WPHI</i> Cambridge, Ohio <i>WQFT</i> Portable in Ohio			<i>WPDB</i> Chicago, Ill. <i>WPDC</i> Chicago, Ill. <i>WPDD</i> Chicago, Ill. <i>WPDU</i> Pittsburgh, Pa. <i>WPED</i> Arlington, Mass. <i>WPEH</i> Somerville, Mass. <i>WPEI</i> E. Providence, R. I. <i>WPEJ</i> Brookline, Mass. <i>WPEA</i> Newton, Mass. <i>WPFN</i> Fairhaven, Mass. <i>WPGF</i> Providence, R. I. <i>WPGV</i> Boston, Mass. <i>WPHG</i> Medford, Mass. <i>WQFL</i> Oak Park, Ill. <i>WQFX</i> Waukegan, Ill.
1.606	189.69	<i>KGXW</i> Port Alexander, Alaska			<i>CYQ</i> Toronto, Ont.
1.610	186.22	<i>WQPC</i> Chicago, Ill. <i>WQPD</i> DeQuoin, Ill. <i>WQPF</i> Effingham, Ill. <i>WQPG</i> Sterling, Ill. <i>WQPM</i> Macomb, Ill. <i>WQPP</i> Pontiac, Ill. <i>WQPS</i> Springfield, Ill.	2.318	129.34	<i>CGZ</i> Vancouver, B. C.
1.622	184.85	<i>KGXU</i> Port Armstrong, Alaska <i>KIJI</i> Port Conclusion, Alaska <i>KIJK</i> Washington Bay, Alaska <i>KIJO</i> Port Herbert, Alaska <i>KIJS</i> Newport Waiata, Alaska <i>KIJV</i> Deep Cove, Alaska <i>KIOG</i> Red Bluff Bay, Alaska	2.342	128.02	<i>WAKC</i> Freehold, N. J.
1.634	183.48	<i>WPHE</i> Marion County, Ind. <i>WPHS</i> Culver, Ind. <i>WPHU</i> Jasper, Ind. <i>WQFE</i> Seymour, Ind. <i>WQFW</i> Columbia City, Ind.	2.382	125.87	<i>KGHT</i> Brownsville, Texas <i>KGHV</i> Corpus Christi, Tex. <i>KNFE</i> Duluth, Minn. <i>KNIB</i> Green Bay, Wisc. <i>WAKE</i> Oshkosh, Wisc. <i>WPDN</i> Auburn, N. Y. <i>WPEA</i> Syracuse, N. Y. <i>WPFM</i> Birmingham, Ala. <i>WPGW</i> Mobile, Ala.
1.642	182.59	<i>WRDS</i> E. Lansing, Mich.	2.390	125.45	<i>CJW</i> St. John, N. B. <i>CJZ</i> Verdun, P. Q.
1.658	180.83	<i>KNHD</i> Redwood Falls, Minn. <i>KSW</i> Berkeley, Calif. <i>WPGC</i> S. Schenectady, N. Y.	2.396	125.14	<i>FYW</i> Winnipeg, Man.
1.666	179.96	<i>WFMP</i> Framingham, Mass. <i>WPEL</i> W. Bridgewater, Mass. <i>WPEV</i> Portable in Mass. <i>WPEW</i> Northampton, Mass. Nashville, Tenn.	2.406	124.61	<i>KGHZ</i> Little Rock, Ark. <i>KGPW</i> Salt Lake City, Utah <i>KNHE</i> Fort Smith, Ark.
1.674	179.10	<i>KGHK</i> Palo Alto, Calif. <i>KGZT</i> Santa Cruz, Calif. <i>WPSP</i> Harrisburg, Pa.	2.414	124.30	<i>KACE</i> Olympia, Wash. <i>KACJ</i> Wenatchee, Wash. <i>KACK</i> Bellingham, Wash. <i>KACN</i> San Buenaventura, C. <i>KACO</i> Tracy, Calif. <i>KACS</i> Bakersfield, Calif. <i>KACV</i> Walla Walla, Wash. <i>KGHS</i> Spokane, Wash. <i>KGHW</i> Centralia, Wash. <i>KGPA</i> Seattle, Wash. <i>KGPF</i> Santa Fe, N. Mex. <i>KGPS</i> Bakersfield, Calif. <i>KGZA</i> Fresno, Calif. <i>KGZM</i> El Paso, Texas <i>KGZN</i> Tacoma, Wash. <i>KGZO</i> Santa Barbara, Calif. <i>KGZY</i> Aberdeen, Wash. <i>KGZX</i> Albuquerque, N. M. <i>KNFA</i> Clovis, N. Mex. <i>KNFI</i> Mt. Vernon, Wash. <i>KNFP</i> Everett, Wash. <i>KNGU</i> Yakima, Wash. <i>KNGY</i> Lodi, Calif. <i>WCK</i> Detroit, Mich. <i>WMO</i> Highland Park, Mich. <i>WPDA</i> Tulare, Calif. <i>WPDJ</i> Passaic, N. J. <i>WPDX</i> Detroit, Mich. <i>WPDY</i> Atlanta, Ga. <i>WPFH</i> Baltimore, Md. <i>WPEI</i> Columbus, Ga. <i>WPGH</i> Albany, N. Y. <i>WPGJ</i> Utica, N. Y. <i>WPGM</i> La Grange, Ga. <i>WQFB</i> Macon, Ga. <i>WQFJ</i> Onsetta, N. Y. <i>WQFY</i> Augusta, Ga. <i>WRDR</i> Grosse Pointe, Mich. Herkimer, N. Y.
1.682	178.25	<i>KACC</i> Fairfield, Iowa <i>KACD</i> Atlantic, Iowa <i>KGHO</i> Des Moines, Iowa <i>KNFN</i> Waterloo, Iowa <i>KNFO</i> Storm Lake, Iowa			
1.692	177.19	<i>WQFT</i> Portable in Ohio			
1.698	176.57	<i>KNGG</i> Phoenix, Ariz. <i>WAKJ</i> Duval County, Fla.			
1.706	175.74	<i>KGPC</i> St. Louis, Mo. <i>WKDN</i> Cincinnati, Ohio <i>WPET</i> Lexington, Ky.			
1.710	175.33	<i>CZ6F</i> Hamilton, Ont.			
1.712	175.13	<i>COL2</i> Havana, Cuba <i>KACU</i> Gladeater, Texas <i>WHITT</i> Whittier, Calif. <i>KGJX</i> Pasadena, Calif. <i>KGPJ</i> Beaumont, Texas <i>KGPL</i> Los Angeles, Calif. <i>KGPQ</i> Honolulu, T. H. <i>KGPR</i> Fort Worth, Texas <i>KGZB</i> Houston, Texas <i>KGZL</i> Shreveport, La. <i>KGZQ</i> Waco, Texas <i>KGZY</i> San Bernardino, Cal. <i>KNFJ</i> Pomona, Calif. <i>KNCE</i> Cleburne, Texas <i>KNGL</i> Galveston, Texas <i>KNHF</i> Denton, Texas <i>KVP</i> Dallas, Texas <i>VYR</i> Montreal, P. Q. <i>WAKF</i> Everett, Mass.			

SHORT WAVE STATIONS BY FREQUENCIES

Megs.	Meters		Megs.	Meters	
2.416	124.09	CZG			WQFG Roanoke, Va.
		KACA Atchison, Kans.			WQFH Lynchburg, Va.
2.422	123.79	KACI Eureka, Calif.			WQFI Petersburg, Va.
		KGPE Kansas City, Mo.			Huron, S. Dak.
		KGZC Vallejo, Calif.	2.458	121.97	KACM Big Spring, Tex.
		KNGF Topeka, Kans.			KGZI Wichita Falls, Tex.
		KNGV Sacramento, Calif.			KGZW Lubbock, Texas
		WNMJ Salina, Kans.			KNFB Idaho Falls, Idaho
		WNFP Buffalo, N. Y.			KNGW Brownwood, Texas
		WNDR Niagara Falls, N. Y.			WPDC Youngstown, Ohio
		WPDW Rochester, N. Y.			WPDO Akron, Ohio
		WPFU Washington, D. C.			WPDY Charlotte, N. C.
		WPFU Portland, Me.			WPFJ Asheville, N. C.
		WPIB Nashua, N. H.			WPGD Rockford, Ill.
2.430	123.38	KCPB Minneapolis, Minn.			WPHD Steubenville, Ohio
		KGZJ Phoenix, Ariz.			WQFZ Ottawa, Ill.
		KNPJ Shreveport, La.			WRBH Cleveland, Ohio
		KNIG Prescott, Ariz.	2.466	121.58	KGOZ Cedar Rapids, Iowa
		WAKH Bloomfield, N. J.			KCPD San Francisco, Calif.
		WCPD Charleston, S. C.			KCPI Omaha, Nebr.
		WPDI Columbus, Ohio			KCPK Sioux City, Iowa
		WPDM Dayton, Ohio			KGPM San Jose, Calif.
		WPDS St. Paul, Minn.			KGPN Davenport, Iowa
		WPEK New Orleans, La.			KGZG Des Moines, Iowa
		WPEF Highland Park, Ill.			WAKB New London, Conn.
		WPEK Hackensack, N. J.			WAKG Clearwater, Fla.
		WPCI Portsmouth, Ohio			WPEC Memphis, Tenn.
		WPHO Zanesville, Ohio			WPEM Woonsocket, R. I.
		WQFO Lancaster, Ohio			WPEV Pawtucket, R. I.
2.442	122.77	KCHU Austin, Texas			WPFW Bridgeport, Conn.
		KCPD Portland, Ore.			WPGA Bay City, Mich.
		KCPX Denver, Colo.			WPCB Port Huron, Mich.
		KCZH Klamath Falls, Ore.			WPGK Cranston, R. I.
		KCZR Salem, Ore.			WPGX Worcester, Mass.
		KNHM Fargo, N. Dak.			WPHH Fitchburg, Mass.
		WAKO Ft. Lauderdale, Fla.			WPHN Tampa, Fla.
		WMDZ Indianapolis, Ind.			WPHI Jackson, Mich.
		WPDZ Louisville, Ky.			WQFA New Haven, Conn.
		WPDF Flint, Mich.			WQFC Gainsville, Fla.
		WPDH Richmond, Ind.			WQFK Clearwater, Fla.
		WPDJ Lansing, Mich.	2.474	121.19	KGIG Las Vegas, Nev.
		WPEB Grand Rapids, Mich.			KGHM Reno, Nev.
		WPEE Saginaw, Mich.			KNEH Garden City, Kans.
		WPEC Muskegon, Mich.			KNGH Dodge City, Kans.
		WPEF Reading, Pa.			WAKI Sandusky, Ohio
		WPEG Jacksonville, Fla.			WPPD Philadelphia, Pa.
		WPEH Lakeland, Fla.			WPEO Knoxville, Tenn.
		WPEI Palm Beach, Fla.			WPEQ Swarthmore, Pa.
		WPEJ Yonkers, N. Y.			WPEF Asheville, N. C.
		WPEK Miami, Fla.			WPGZ Johnson City, Tenn.
		WPEL Binghamton, N. Y.			WPHY Elizabethton, Tenn.
		WPEM Muncie, Ind.			WQFY Mansfield, Ohio
		WPEO Orlando, Fla.			WRDQ Toledo, Ohio
		WPEP Wilkes-Barre, Pa.	2.482	120.80	KGZE San Antonio, Texas
		WPEQ Lafayette, Ind.			WPGT New Castle, Pa.
2.450	122.38	KACF Chickasha, Okla.			WPHZ Oil City, Pa.
		KACL Altus, Okla.			WQFF Monessen, Pa.
		KACP Ponca City, Okla.			WQFU Sharon, Pa.
		KACR Seminole, Okla.	2.490	120.41	KACQ Kalatoh, Wash.
		KGHN Hutchinson, Kans.			KGIH Seattle, Wash.
		KGHP Lawton, Okla.			KGIX Santa Ana, Calif.
		KGPO Oklahoma City, Ok.			KGZD San Diego, Calif.
		KGZG Tulsa, Okla.			KGZU Lincoln, Nebr.
		KNFB Wichita, Kans.			KNFG Olympia, Wash.
		KNFW Chanute, Kans.			KNFK Bellingham, Wash.
		KNGL Coffeyville, Kans.			KNFM Compton, Calif.
		KNHC Duncan, Okla.			KNFX Ellenburg, Wash.
		KNGT Rapid City, S. Dak.			KNGB Yakima, Wash.
		KNHT Muskogee, Okla.			KNGC Vancouver, Wash.
		KNIC Ada, Okla.			KNGD Walla Walla, Wash.
		KNID Milwaukee, Wis.			KNJE El Centro, Calif.
		KNIP Brooklyn, N. Y.			KNJH Norfolk, Nebr.
		KNIS Bronx, N. Y.			KNJL Wenatchee, Wash.
		KNIT New York, N. Y.			KNJM Spokane, Wash.
		KNIU Kenosha, Wis.			KNJN Ephrata, Wash.
		KNIV Richmond, Va.			KNJO Huntington, Ind.

SHORT WAVE STATIONS BY FREQUENCIES

Megs.	Meters			Megs.	Meters		
		WAKK	Frankfort, Ind.	4.512	66.44	ZFS	Nassau, Bahamas
		WPDY	Kokomo, Ind.	4.600	65.18	HC2ET	Guayaquil, Ecuador
		WPDZ	Fort Wayne, Ind.	4.753	63.08	WOO	Ocean Gate, N. J.
		WPPF	Clarksburg, W. Va.	4.755	63.05	CFU	Rossland, B. C.
		WPGN	South Bend, Ind.	4.795	62.53	VE9BK	Vancouver, B. C.
		WPGO	Huntington, N. Y.	4.820	62.20	GDW	Rugby, England
		WPGS	Mineola, N. Y.	4.865	61.63	VDO	Vancouver, B. C.
		WPHI	Charleston, W. Va.	5.000	59.96	WWV	Beltsville, Md.
		WPHJ	Fairmont, W. Va.	5.025	59.67	ZFA	Hamilton, Bermuda
		WPHQ	Parkersburg, W. Va.	5.520	54.32	TI5HH	San Ramon, Costa Rica
			Marion, Ind.	5.710	52.51	TGS	Guatemala City, Guat.
2.506	119.64	WOU	Marshfield, Mass.	5.720	52.42	YV1ORSC	San Cristobal, Venezuela
2.512	119.36	KGM	Ketchikan, Alaska	5.730	52.32	JVV	Nazaki, Japan
		KLB	Port Althorp, Alaska	5.760	52.05	HJ4ABD	Medellin, Colombia
		KLC	Kake, Alaska	5.780	51.87	OAX4D	Lima, Peru
		KLE	Rose Inlet, Alaska	5.790	51.78	JVU	Nazaki, Japan
2.538	118.13	KDH	Port Alexander, Aaa.	5.800	51.69	YV2RC	Caracas, Venezuela
		KILD	Cordova (Eyak River)Aaa.	5.810	51.60	YV7RMO	Maracaibo, Venez.
2.566	116.84	KFF	Union Bay, Alaska	5.820	51.52	CEC	Santiago, Chile
		KHV	Nakeen, Alaska	5.830	51.43	TIGPH	San Jose, Costa Rica
		KLA	Waterfall, Alaska	5.850	51.25	TDD	Shinkio, Manchukuo
		KLD	Hidden Inlet, Aaa.	5.865	51.12	YV5RMO	Maracaibo, Venez.
2.604	115.14	WVD	Seattle, Wash.	5.875	51.03	HI1J	San Ped. de Macoris, D.R.
		WXH	Ketchikan, Alaska	5.885	50.95	HRN	Tegucigalpa, Honduras
2.616	114.61	KAEB	Hydaburg, Alaska	5.890	50.90	HCK	Quito, Ecuador
		KAED	Angoon, Alaska	5.895	50.86	JIC	Taihoku, Taiwan
		KAEF	Jack Wade, Alaska	5.915	50.69	YV8RB	Barquisimeto, Venez.
		KION	Tin City, Alaska	5.930	50.56	HH2S	Port-au-Prince, Haiti
2.632	113.91	KIJW	Shearwater Bay, Aaa.	5.940	50.47	HJ4ABE	Medellin, Colombia
		KIJX	Kadiak Island, Alaska	5.950	50.39	TG2X	Guatemala City, Guat.
		KIMA	Port Hobron, Alaska	5.980	50.14	HJN	Bogota, Colombia
		KIOC	Port Wakefield, Alaska	5.985	50.10	YNLF	Nanagua, Nicaragua
		KIOD	Nellie Juan, Alaska	6.000	49.97	HIX	Trujillo, D. R.
		KIOH	Iron Creek, Alaska	6.005	49.93	HJ2ABD	Bucaramanga, Colombia
		KIOI	Akutun, Alaska	6.006	49.92	XEVI	Mexico City, D. F.
2.726	109.98	WANB	Dinsmore, Fla.	6.010	49.89	TGWA	Guatemala City, Guat.
2.912	102.96	KHW	Akutun, Alaska	6.012	49.87	XEBT	Mexico City, D. F.
		KHZ	Port Hobron, Alaska	6.005	49.93	CFCX	Montreal, P. Q.
2.986	100.41	KIJP	Uganik, Alaska	6.006	49.92	HP5K	Colon, Panama
		KIJR	Port San Juan, Alaska	6.014	49.85	HJ1ABJ	Santa Marta, Colombia
		KIJU	Todd, Alaska	6.010	49.89	CJCX	Sydney, N. S.
2.994	100.14	KIEJ	Poorman, Alaska	6.020	49.80	COCO	Havana, Cuba
		KIIK	Circle, Alaska	6.030	49.72	HJ1ABC	Quibdo, Colombia
		KIIL	Fort Yukon, Alaska	6.042	49.62	HJ3ABH	Bogota, Colombia
		KIIM	Hot Springs, Alaska	6.014	49.85	HI3U	Santiago, D. R.
		KINN	Eagle, Alaska	6.020	49.80	DJC	Zeesen, Germany
		KIIO	McGrath, Alaska	6.040	49.64	XEUW	Veracruz, Ver.
		KIJB	Cape Pole, Alaska	6.030	49.72	HP5B	Panama City, Panama
		KILY	Excursion Inlet, Alaska	6.040	49.64	W1XAL	Boston, Mass.
		KNBZ	Pillar Bay, Alaska	6.042	49.62	W4XB	Miami, Fla.
2.998	100.00	WXE	Anchorage, Alaska	6.042	49.62	YDA	Tandjongpriok, N.E.I.
3.093	96.94	KIAP	Rose Inlet, Alaska	6.045	49.60	HJ1ABG	Barranquilla, Colombia
		KIAY	Port Althorp, Alaska	6.045	49.60	HI9B	Santiago, D. R.
		KIAY	Ketchikan, Alaska	6.050	49.56	GSA	Davenport, Gt. Britain
		KIBA	Kake, Alaska	6.055	49.52	HJ3ABD	Bogota, Colombia
		KIC1	View Cove, Alaska	6.060	49.48	W3XAU	Philadelphia, Pa.
3.100	96.72	KIIP	Luckyshot, Alaska	6.070	49.39	W8XAL	Cincinnati, Ohio
3.130	93.99	KI1J	Tanana, Alaska	6.070	49.39	CFRX	Toronto, Ont.
		KI1K	Circle, Alaska	6.080	49.31	DJM	Zeesen, Germany
3.265	91.83	KIBZ	Waterfall, Alaska			HP5F	Colon, Panama
		KICE	Nakeen, Alaska			W9XAA	Chicago, Ill.
		KICG	Union Bay, Alaska				
		KIDE	Hidden Inlet, Alaska				
4.098	73.16	WND	Hialeah, Fla.				
4.178	71.76	WOO	Ocean Gate, N. J.				
4.253	70.50	WKF	Lawrenceville, N. J.				
4.273	70.16	RV15	Khabarovsk, USSR.				

SHORT WAVE STATIONS BY FREQUENCIES

Megs.	Meters			Megs.	Meters		
6.085	49.27	HJ5ABD	Cali, Colombia	6.814	44.00	HIH	San Ped. de Macoris, D.R.
6.090	49.23	CRCX	Toronto, Ont.	6.860	43.71	KEL	Bolinas, Calif.
6.098	49.17	HI3C	La Romana, D. R.	6.905	43.42	GDS	Rugby, Gt. Britain
6.100	49.15	HJ4ABL W3XAL W9XF	Manizales, Colombia Bound Brook, N. J. Chicago, Ill.	7.100	42.23	FO8AA	Papeete, Tahiti
6.110	49.07	CHNX GSL HJ4ABB	Halifax, N. S. Daventry, Gt. Britain Manizales, Colombia	7.280	41.18	HJ1ABD	Cartagena, Colombia
6.115	49.03	HJ1ABE	Cartagena, Colombia	7.380	40.63	XECR	Mexico City, D. F.
6.120	48.99	W2XE XEFT YDA5	New York, N. Y. Veracruz, Ver. Bandoeng, N.E.I.	7.520	39.87	KKH	Kahuku, T. H.
6.130	48.91	C0CD TGXA XEOK	Havana, Cuba Guatemala City, Guat. Tijuana, L. C.	7.797	38.47	HBP	Geneva, Switzerland
6.135	48.87	HJ4ABP	Medellin, Colombia	7.850	38.19	HC2JSB	Guayaquil, Ecuador
6.140	48.83	W8XK	Pittsburgh, Pa.	7.900	37.95	VE9EW	Toronto, Ont.
6.150	48.75	CB615 CJRO HI5N HJ5ABC	Santiago, Chile Winnipeg, Man. Santiago, D. R. Cali, Colombia	7.920	37.86	GDP	Rugby, Gt. Britain
6.155	48.74	C0KG	Santiago, Cuba	7.960	37.67	VLZ	Sydney, Australia
6.165	48.63	YV3RC	Caracas, Venezuela	8.050	37.24	WXA	Juneau, Alaska
6.170	48.60	HJ2ABA HJ3ABF	Tunja, Colombia Bogota, Colombia	8.075	37.13	WEZ	Rocky Point, N. Y.
6.182	48.50	XEXA	Mexico, D. F.	8.095	37.04	VLK	Sydney, Australia
6.185	48.48	HI1A	Santiago, D. R.	8.560	35.03	WOO	Ocean Gate, N. J.
6.230	48.13	OAX4G	Lima, Peru	8.565	35.00	HAT3	Budapest, Hungary
6.235	48.09	HRD	La Ceiba, Honduras	8.575	34.96	TYD2 YCP	Pontoise, France Balikpapan, N.E.I.
6.280	47.74	C09WR HIG	Sancti-Spiritus, Cuba Trujillo, D. R.	8.590	34.90	YNVA	Managua, Nicaragua
6.300	47.59	HJ1ABH YV12RM	Cienaga, Colombia Maracay, Venezuela	8.620	34.78	WVD	Seattle, Wash.
6.315	47.48	HIZ	Trujillo, D. R.	8.665	34.60	C09JQ	Camaguey, Cuba
6.330	47.36	JZG	Nazaki, Japan	8.680	34.54	GBC	Rugby, Gt. Britain
6.356	47.17	HRP1	San Pedro Sula, Hond.	8.690	34.50	VWZ	Kirkee, India
6.375	47.03	YV4RC	Caracas, Venez.	8.750	34.26	ZBW	Hong Kong
6.400	46.85	YV9RC	Caracas, Venez.	8.900	36.50	HCJB	Quito, Ecuador
6.410	46.77	TIPG	San Jose, Costa Rica	9.010	33.28	KEJ	Bolinas, Calif.
6.420	46.70	HI1S	Puerto Plata, D. R.	9.020	33.24	GCS	Rugby, Gt. Britain
6.425	46.66	W2XGB W3XL W9XF W9XBS	Hicksville, N. Y. Bound Brook, N. J. Chicago, Ill. Chicago, Ill.	9.045	33.15	VWY	Kirkee, India
6.446	46.50	HJ1ABB	Barranquilla, Colombia	9.125	32.86	HAT4	Budapest, Hungary
6.450	46.48	HJ4ABC	Ibague, Colombia	9.168	32.70	YVR	Maracay, Venezuela
6.480	46.27	HI4V	Trujillo, D. R.	9.280	32.31	GCB	Rugby, Gt. Britain
6.500	46.13	HIL HI4D	Trujillo, D. R. Trujillo, D. R.	9.415	31.84	PLV	Bandoeng, N. E. I.
6.520	45.98	YV6RV	Valencia, Venezuela	9.428	31.80	COCH	Havana, Cuba
6.545	45.81	YV11RB	Bolivar, Venez.	9.448	31.74	WES	Rocky Point, N. Y.
6.550	45.76	TIRC	San Jose, Costa Rica	9.450	31.73	TG1X	Guatemala City, Guat.
6.620	45.29	PRADO	Rio Bamba, Ecuador	9.460	31.69	XGOX WKJ	Nanking, China New Brunswick, N. J.
6.630	45.22	HIT	Trujillo, D. R.	9.470	31.66	WET	Rocky Point, N. Y.
6.650	45.09	HC2RL	Guayaquil, Ecuador	9.480	31.63	KES	Bolinas, Calif.
6.662	45.00	WXH	Ketchikan, Alaska	9.490	31.59	OXY VK3ME	Copenhagen, Denmark Melbourne, Australia
6.672	44.94	YVQ	Maracay, Venezuela	9.500	31.56	PRF5	Rio de Janeiro, Brazil
6.700	44.75	TIEP	San Jose, Costa Rica	9.510	31.53	GSB HJU	Daventry, Gt. Britain Buenaventura, Colombia
6.750	44.42	JVT	Nazaki, Japan	9.520	31.49	XEDQ	Guadalajara, Jal.
6.755	44.38	WOA	Lawrenceville, N. J.	9.530	31.46	W2XAF	Schenectady, N. Y.
				9.540	31.43	DJN LKJ1	Zeesen, Germany Jeloy, Norway
				9.560	31.56	DJA	Zeesen, Germany
				9.570	31.33	W1XK	Boston, Mass.
				9.580	31.30	GSC 3LR	Daventry, Gt. Britain Melbourne, Australia
				9.585	31.28	VK2ME	Sydney, Australia
				9.590	31.26	HP5J PCJ VK6ME W3XAU	Panama City, Panama Hilversum, Netherlands Perth, Australia Philadelphia, Pa.
				9.595	31.25	HBL	Geneva, Switzerland
				9.600	31.23	CB960	Santiago, Chile

SHORT WAVE STATIONS BY FREQUENCIES

Megs.	Meters			Megs.	Meters		
9.610	31.19	HJ1ABP	Cartagena, Colombia	13.585	22.05	GBB	Rugby, Gt. Britain
9.617	31.18	HH3W	Port-au-Prince, Haiti	13.880	21.60	VJZ	Raboul, New Guinea
9.635	31.12	I2RO	Rome, Italy	13.990	21.43	GBA2	Rugby, Gt. Britain
9.650	31.07	CT1AA	Lisbon, Portugal	14.440	20.76	GBW	Rugby, Gt. Britain
9.660	31.03	LRX	Buenos Aires, Argentina	14.590	20.55	WMN	Lawrenceville, N. J.
9.675	30.99	DZA	Zeesen, Germany	14.960	20.04	YSL	San Salvador, El Salv.
9.700	30.91	CQN	Macau	14.970	20.03	LZA	Sofia, Bulgaria
9.755	30.74	COCQ	Havana, Cuba	15.000	19.99	WWV	Beltsville, Md.
9.862	30.40	EAQ	Madrid, Spain	15.040	19.93	RKI	Moscow, USSR.
9.870	30.38	WON	Lawrenceville, N. J.	15.055	19.91	WNC	Hialeah, Fla.
9.895	30.30	LSN	Buenos Aires, Argentina	15.120	19.83	HVJ	Vatican City
9.950	30.13	GCU	Rugby, Gt. Britain	15.140	19.80	G5F	Daventry, Gt. Britain
9.990	30.01	KAZ	Manila, P. I.	15.180	19.75	G5O	Daventry, Gt. Britain
10.000	29.98	WWV	Beltsville, Md.	15.200	19.73	DJB	Zeesen, Germany
10.040	29.86	HII	Trujillo, D. R.	15.210	19.71	W8XK	Pittsburgh, Pa.
10.042	29.85	DZB	Zeesen, Germany	15.220	19.70	PCJ	Hilversum, Netherlands
10.055	29.82	SUV	Cairo, Egypt	15.245	19.67	TPA2	Pontoise, France
		ZFB	Hamilton, Bermuda	15.250	19.66	LRU	Buenos Aires, Argentina
10.135	29.58	OPM	Leopoldville, Bel. Congo	15.260	19.65	GSI	Daventry, Gt. Britain
10.160	29.51	RIO	Baku, USSR.	15.270	19.64	W2XE	New York N. Y.
10.220	29.34	PSH	Rio de Janeiro, Brazil	15.310	19.58	G5P	Daventry, Gt. Britain
10.250	29.25	LSL	Buenos Aires, Argentina	15.330	19.56	W2XAD	Schenectady, N. Y.
10.260	29.22	PMM	Bandoeng, N. E. I.	15.340	19.55	DJR	Berlin, Germany
10.285	29.15	DZC	Zeesen, Germany	15.355	19.52	KWU	Dixon, Calif.
10.290	29.14	HPC	Panama City, Panama	15.360	19.52	DZG	Zeesen, Germany
10.330	29.02	ORK	Brussels, Belgium	15.370	19.51	HAS3	Budapest, Hungary
10.335	29.01	ZFD	St. George, Bermuda	15.415	19.45	KWO	Dixon, Calif.
10.610	28.25	WEA	Rocky Point, N. Y.	16.140	18.58	GBX	Rugby, Gt. Britain
10.660	28.13	JVN	Nazaki, Japan	17.080	17.55	GBC	Rugby, Gt. Britain
10.670	28.10	CEC	Santiago, Chile	17.120	17.51	WOO	Ocean Gate, N. J.
10.740	27.92	JVM	Nazaki, Japan	17.310	17.32	W3XL	Bound Brook, N. J.
10.770	27.84	GCP	Rugby, Gt. Britain	17.480	17.15	VWY2	Kirkee, India
10.840	27.66	KWV	Dixon, Calif.	17.760	16.88	W2XE	New York, N. Y.
10.950	27.38	HS8PJ	Bangkok, Siam	17.775	16.87	PHI	Hilversum, Netherlands
11.595	25.86	VRR4	Stoney Hill, Jamaica	17.780	16.86	W3XAL	Bound Brook, N. J.
11.715	25.59	TPA4	Pontoise, France			W8XK	Pittsburgh, Pa.
11.720	25.58	CJRX	Winnipeg, Man.	17.790	16.85	GSG	Daventry, Gt. Britain
11.750	25.52	GSD	Daventry, Gt. Britain	18.310	16.40	GAS	Rugby, Gt. Britain
11.770	25.47	DJD	Zeesen, Germany	18.350	16.34	WLA	Lawrenceville, N. J.
11.790	25.43	W1XAL	Boston, Mass.	18.620	16.10	GAU	Rugby, Gt. Britain
11.795	25.42	DJO	Zeesen, Germany	18.670	16.06	OCI	Lima, Peru
11.810	25.39	I2RO	Rome, Italy	18.830	15.92	PLE	Bandoeng, N. E. I.
11.820	25.37	G5N	Daventry, Gt. Britain	19.480	15.39	GAD	Rugby, Gt. Britain
11.830	25.34	W2XE	Wayne, N. J.	19.630	15.27	VQG	Nairobi, Kenya
		W9XAA	Chicago, Ill.	19.650	15.26	LSN5	Buenos Aires, Argentina
11.855	25.29	DJP	Zeesen, Germany	20.380	14.71	GAA	Rugby, Gt. Britain
11.860	25.28	G5E	Daventry, Gt. Britain	21.470	13.96	G5H	Daventry, Gt. Britain
11.870	25.25	W8XK	Pittsburgh, Pa.	21.520	13.93	W2XE	New York, N. Y.
11.880	25.24	TPA3	Pontoise, France	21.530	13.93	GSJ	Daventry, Gt. Britain
12.000	24.99	RNE	Moscow USSR.	21.540	13.92	W8XK	Pittsburgh, Pa.
12.225	24.53	TFJ	Reykjavik, Iceland	26.100	11.49	GSK	Daventry, Gt. Britain
12.290	24.49	GBU	Rugby, Gt. Britain				
12.840	23.35	WOO	Ocean Gate, N. J.				
13.075	22.93	VPD	Suva, Fiji				
13.380	22.41	IDU	Asmara, Eritrea				
13.410	22.36	WCT	San Juan, Puerto Rico				

SHORT WAVE STATIONS BY LOCATIONS

ARGENTINA (LOA-LVZ) Buenos Aires LRU 15.250 LRX 9.660 LSL 10.250 LSN 9.895 LSN 14.480 LSN5 19.650 AUSTRALIA (VHA-VMZ) Melbourne VK3LR 9.580 VK3ME 9.490 Perth VK6ME 9.590 Sydney VK2ME 9.585 VLK 8.095 VLZ 7.960 BAHAMAS (ZF-) Nassau ZFS 4.512 BELGIAN CONGO (OP-) Leopoldville OPM 10.135 BELGIUM (ONA-OTZ) Brussels ORK 10.330 BERMUDA (ZF-) Hamilton ZFA 5.025 ZFB 10.055 St. George ZFD 10.335 BRAZIL (PPA-PYZ) Rio de Janeiro PRF5 9.500 PSH 10.220 BULGARIA (LZA-LZZ) Sofia LZA 14.970 CANADA (CFA-CKZ; CYA-CZZ; VAA-VGZ; VXA-VYZ)	BRITISH COLUMBIA Prince Rupert CZG 2.416 Rosland CFU 4.755 Vancouver CGZ 2.342 VDO 4.865 VE9BK 4.795 MANITOBA Winnipeg CJRO 6.150 CJRX 11.720 VYW 2.396 NEW BRUNSWICK St. John CJW 2.390 NOVA SCOTIA Halifax CHNX 6.110 Sydney CJCX 6.010 ONTARIO Hamilton CZ6F 1.710 Toronto CFRX 6.070 CRCX 6.090 CYQ 2.318 VE9EW 7.900 QUEBEC Montreal CFCX 6.005 VYR 1.712 Verdun CJZ 2.390 CHILE (CAA-CEZ) Santiago CB615 6.150 CB960 9.600 CEC 5.828 CEC 10.678 CHINA (XGA-XUZ) Nanking XGOX 9.460 COLOMBIA (HJA-HKZ) Barranquilla HJ1ABB 6.447 HJ1ABG 6.042	Bogota HJN 5.950 HJ3ABD 6.055 HJ3ABF 6.170 HJ3ABH 6.012 Bucaramanga HJ2ABD 5.980 Buenaventura HJU 9.510 Calli HJ5ABC 6.150 HJ5ABD 6.085 Cartagena HJ1ABD 7.280 HJ1ABE 6.115 HJ1ABP 9.610 Cienaga HJ1ABH 6.300 Ibague HJ4ABC 6.450 Manizales HJ4ABB 6.110 HJ4ABL 6.100 Medellin HJ4ABD 5.760 HJ4ABE 5.930 HJ4ABP 6.135 Quibdo HJ1ABC 6.010 Santa Marta HJ1ABJ 6.006 Tunja HJ2ABA 6.170 COSTA RICA (TIA-TIZ) San Jose TIEP 6.700 TIGPH 5.820 TIPG 6.410 TIRCC 6.550 San Ramon TI5HH 5.520 CUBA (CLA-CMZ; COA-COZ) Camaguey CO9JQ 8.665 Havana COCD 6.130 COCH 9.428 COCO 6.010 COCQ 9.755 COL2 1.712 Sancti Spiritus CO9WR 6.280 Santiago COKG 6.155 DENMARK (OUA-OZZ) Copenhagen OXY 9.490 DOMINICAN REPUBLIC (HIA-HIZ) La Romana HI3C 6.098	Puerto Plata HI1S 6.420 San Pedro de Macoris HIH 6.814 HI1J 5.865 Santiago de Los Caballeros HI-1-A 6.185 HI3U 6.014 HI5N 6.150 HI9B 6.045 Trujillo HI6 6.280 HI1 10.040 HI1L 6.500 HI1T 6.630 HI1X 5.980 HI1Z 6.315 HI4D 6.500 HI4V 6.480 ECUADOR (HCA-HCZ) Guayaquil HC2ET 4.600 HC2JSB 7.850 HC2RL 6.650 Quito HCJB 8.900 HCK 5.885 Riobamba PRADO 6.620 EGYPT (STA-SUZ) Cairo SUV 10.055 EL SALVADOR San Salvador YSL 14.960 ERITREA Asmara IDU 13.380 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TPA2 15.245 TPA3 11.880 TPA4 11.715 TYD2 8.575 GERMANY (D) Zeesen DJA 9.560	DJB 15.200 DJC 6.020 DJD 11.770 DJM 6.080 DJN 9.540 DJO 11.795 DJP 11.855 DJQ 15.280 DJR 15.340 DZA 9.675 DZB 10.042 DZC 10.285 DZG 15.360 GREAT BRITAIN (G; M) Daventry GSA 6.050 GIB 9.510 GSC 9.580 GSD 11.750 GSE 11.860 GSF 15.140 GSG 17.790 GSH 21.470 GSI 15.260 GSJ 21.530 GSK 26.100 GSL 6.110 GSN 11.820 GSO 15.180 GSP 15.310 Rugby GAA 20.380 GAD 19.480 GAS 18.310 GAU 18.620 GBA2 13.990 GBB 13.585 GBC 8.680 GBC 17.080 GBU 12.290 GBW 14.440 GBX 16.140 GCB 9.280 GCP 10.770 GCS 9.020 GCU 9.950 GDP 7.920 GDS 6.905 GDW 4.820 GUATEMALA (TGA-TGZ) Guatemala City TGS 5.710 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2S 5.915 HH3W 9.617 HONDURAS (HRA-HRZ) La Ceiba HRD 6.235	San Pedro Sula HRP1 6.356 Tegucigalpa HRN 5.875 HONGKONG (Z) Hongkong ZBW 8.750 HUNGARY (HAA-HAZ) Budapest HAS3 15.370 HAT3 8.565 HAT4 9.125 ICELAND (TFA-TFZ) Reykjavik TFJ 12.225 INDIA (VTA-VWZ) VWY 9.045 VWY2 17.480 VWZ 8.690 ITALY (I) I2RO 9.635 I2RO 11.810 JAMAICA Stoney Hill VRR4 11.595 JAPAN (J) Nazaki JVM 10.740 JVN 10.660 JVT 6.750 JVV 5.790 JVV 5.730 KENYA (VQ7-) Nairobi VQG 19.630 MACAU Macau CQN 9.700 MANCHUKUO (J) Shinkio TDD 5.830
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SHORT WAVE STATIONS BY LOCATIONS

MEXICO (XAA-XFZ)	PHILIPPINE ISLANDS (K)	Anchorage WXE 2.998	Port San Juan KIJR 2.986	Lodi KNGY 2.414	Jacksonville WPFG 2.442
Guadalajara	Manila	Angoon KAED 2.616	P. Wakefield KIOC 2.632	Los Angeles KGPL 1.712	Lakeland WPFT 2.442
XEDQ 9.520	KAZ 9.990	Cape Pole KIJB 2.994	Red Bluff KIOG 1.622	Palo Alto KGHK 1.674	Miami WPFZ 2.442
Mexico City	PORTUGAL (CSA-CUZ)	Circle KIHK 2.994	Rose Inlet KIAP 3.093	Pasadena KGJX 1.712	W4XB 6.040
XEBT 6.000	Lisbon	Cordova KILD 2.538	KLE 2.512	Pomona KNFJ 1.712	Orlando WPHM 2.442
XECR 7.380	CT1AA 9.650	Deep Cove KHP 1.622	Shearwater Bay KIJW 2.632	Sacramento KNGF 2.422	Palm Beach WPFX 2.442
XEVI 5.985	SIAM (HSA-HSZ)	Eagle KIIN 2.994	Tanana KIJJ 3.190	San Bernardino KGZY 1.712	Tampa WPHN 2.466
XEXA 6.182	Bangkok	Excursion Inlet KILY 2.994	Tin City KION 2.616	San KACN 2.414	GEORGIA
Tijuana	HS8PJ 10.950	Fort Yukon KIIL 2.994	Todd KIJU 2.986	Buenaventura KACN 2.414	Atlanta WPDY 2.414
XEOK 6.130	SPAIN (EAA-EHZ)	Hidden Inlet KIDE 3.265	Uganik KIJP 2.986	San Diego KGZD 2.490	Augusta WQFV 2.414
Veracruz	Madrid	KLD 2.566	Union Bay KFF 2.566	San Francisco KQPD 2.466	Columbus WPGI 2.414
XEFT 6.120	EAQ 9.862	Hot Springs KIIM 2.994	KICG 3.265	San Jose KQPM 2.466	La Grange WPGM 2.414
XEUW 6.020	SWITZERLAND (HBA-HBZ)	View Cove KICI 3.093	KIFF 2.566	Santa Ana KGHX 2.490	Macon WQFB 2.414
NETHERLANDS (PAA-PIZ)	Geneva	Washington Bay KIJK 1.622	KICG 3.265	Santa Barbara KGZO 2.414	HAWAII
Hilversum	HBL 9.595	Waterfall KIBZ 3.265	KICG 3.265	Santa Cruz KGZT 1.674	Honolulu KGPQ 1.712
PCJ 9.590	HBP 7.797	KLA 2.566	KICG 3.265	Tracy KACO 2.414	Kahuku KKH 7.520
PCJ 15.220	TAHITI	Wrangell KDK 2.538	KICG 3.265	Tulare WPDA 2.414	IDAHO
PHI 17.775	Papeete	ARIZONA	KICG 3.265	Vallejo KQPG 2.422	Idaho Falls KNFB 2.458
NETHERLAND EAST INDIES (PKA-POZ; YBA-YHZ)	FOSAA 7.100	Phoenix KNGG 1.698	KICG 3.265	Whittier KQHY 1.712	ILLINOIS
Balikpapan	TAIWAN (J)	Prescott KNHG 2.430	KICG 3.265	COLORADO	Chicago WPDB 1.712
YCP 8.575	Taihoku	Fort Smith KNHE 2.406	KICG 3.265	Denver KGPX 2.442	WPDG 1.712
Bandoeng	JIC 5.990	Little Rock KQHZ 2.406	KICG 3.265	CONNECTICUT	WPDD 1.712
PLE 18.830	UNION OF SOCIALIST SOVIET REPUBLICS (R; U)	CALIFORNIA	KICG 3.265	Bridgeport WPFV 2.466	WQPC 1.610
PLV 9.415	Baku	Bakersfield KACS 2.414	KICG 3.265	New Haven WQFA 2.466	W9XAA 6.080
PMN 10.260	RIO 10.160	KACS 2.414	KICG 3.265	New London WAKB 2.466	W9XAA 11.830
YDA5 6.120	Khabarovsk	KGPS 2.414	KICG 3.265	DISTRICT OF COLUMBIA	W9XBS 6.425
Tandjongpriok	RV15 4.273	Berkeley KSW 1.658	KICG 3.265	Washington WPDW 2.422	W9XF 6.100
YDA 6.040	Moscow	Bolinas KEE 7.715	KICG 3.265	FLORIDA	W9XF 6.425
NEW GUINEA	RKI 15.040	Compton KNFM 2.490	KICG 3.265	Clearwater WAKG 2.466	DeQuoin WQPD 1.610
Raboul	RNE 12.000	Dixon KWN 21.060	KICG 3.265	WAKF 2.466	Effingham WQPF 1.610
VJZ 13.880	UNITED STATES (K; N; W)	KWO 15.415	KICG 3.265	WQFK 2.466	Highland Park WQFD 2.430
NICARAGUA (YNA-YNZ)	Birmingham	KWU 15.355	KICG 3.265	Dinsmore WANB 2.726	Macomb WQPM 1.610
Managua	WPFM 2.382	KWV 10.840	KICG 3.265	Duval County WAKJ 1.698	Oak Park WQFL 1.712
YNLF 9.590	Mobile	El Centro KNGJ 2.490	KICG 3.265	Ft. Lauderdale WAKO 2.442	Ottawa WQFZ 2.458
YNVA 9.590	WPGW 2.382	Eureka KACI 2.422	KICG 3.265	WAKO 2.442	Pontiac WQPP 1.610
NORWAY (LAA-LNZ)	ALASKA	Fresno KACI 2.422	KICG 3.265	Gainesville WQFC 2.466	Rockford WPGD 2.458
Jeloy	Akutan	KGZA 2.414	KICG 3.265	Hialeah WND 4.098	Sterling WQPG 1.610
LKJ1 9.540	KHW 2.912	ARKANSAS	KICG 3.265	WNC 15.055	Springfield WQPS 1.610
PANAMA (HPA-HPZ)	KIOI 2.632	Fort Smith KNHE 2.406	KICG 3.265	CONNECTICUT	Waukegan WQFX 1.712
Colon	ALABAMA	Little Rock KQHZ 2.406	KICG 3.265	Bridgeport WPFV 2.466	
HP5F 6.080	Birmingham	CALIFORNIA	KICG 3.265	New Haven WQFA 2.466	
HP5K 6.005	WPFM 2.382	Bakersfield KACS 2.414	KICG 3.265	New London WAKB 2.466	
Panama City	Mobile	KGPS 2.414	KICG 3.265	DISTRICT OF COLUMBIA	
HP5B 6.030	WPGW 2.382	Berkeley KSW 1.658	KICG 3.265	Washington WPDW 2.422	
HP5J 9.590	ALASKA	Bolinas KEE 7.715	KICG 3.265	FLORIDA	
PERU (OAA-OCZ)	Akutan	Compton KNFM 2.490	KICG 3.265	Clearwater WAKG 2.466	
Lima	KHW 2.912	Dixon KWN 21.060	KICG 3.265	WAKF 2.466	
OAX4D 5.780	KIOI 2.632	KWO 15.415	KICG 3.265	Dinsmore WANB 2.726	
OAX4G 6.230		KWU 15.355	KICG 3.265	Duval County WAKJ 1.698	
OCI 18.670		KWV 10.840	KICG 3.265	Ft. Lauderdale WAKO 2.442	
		El Centro KNGJ 2.490	KICG 3.265	WAKO 2.442	
		Eureka KACI 2.422	KICG 3.265	Gainesville WQFC 2.466	
		Fresno KACI 2.422	KICG 3.265	Hialeah WND 4.098	
		KGZA 2.414	KICG 3.265	WNC 15.055	

SHORT WAVE STATIONS BY LOCATIONS

INDIANA Columbia City WQFW 1.634 Culver WPHS 1.634 Fort Wayne WPDZ 2.490 Frankfort WAKK 2.490 Huntington WAKA 2.490 Indianapolis WMDZ 2.442 Jasper WPHU 1.634 Kokomo WPDZ 2.490 Lafayette WQFQ 2.442 Marion 2.490 Marion County WPHE 1.634 Muncie WPGP 2.442 Richmond WPDH 2.442 Seymour WQFE 1.634 South Bend WPGN 2.490 IOWA Atlantic KACD 1.682 Cedar Rapids KGOZ 2.466 Davenport KGPN 2.466 Des Moines KGHO 1.682 KGZG 2.466 Fairfield KACC 1.682 Sioux City KGPK 2.466 Storm Lake KNFO 1.682 Waterloo KNFN 1.682 KANSAS Atchison KACA 2.422 Chanute KGZF 2.450 Coffeyville KGZP 2.450 Dodge City KNGH 2.474 Garden City KNFH 2.474 Hutchinson KGNH 2.450 Salina KNGV 2.422 Topeka KGZC 2.422 Wichita KGPZ 2.450	KENTUCKY Lexington WPET 1.706 Louisville WPDE 2.442 LOUISIANA New Orleans WPEK 2.430 Shreveport KGZL 1.712 KNGP 2.430 MAINE Portland WPFU 2.422 MARYLAND Baltimore WPFH 2.414 Beltsville WWV 5.000 WWV 10.000 WWV 15.000 MASSACHUSETTS Arlington WPED 1.712 Boston WPGV 1.712 W1XAL 6.040 W1XAL 11.790 Brookline WPEJ 1.712 Everett WAKF 1.712 Fairhaven WPFN 1.712 Fitchburg WPHA 2.466 Framingham WMP 1.666 Marshfield WOU 2.506 Medford WPHG 1.712 Millis W1XK 9.570 Newton WPPA 1.712 Northampton WPEW 1.666 Somerville WPEH 1.712 W. Bridgewater WPEL 1.666 Worcester WPGX 2.466 MICHIGAN Bay City WPGA 2.466 Detroit WCK 2.414 WPDZ 2.414 E. Lansing WRDS 1.642	Flint WPDF 2.442 Grand Rapids WPEB 2.442 Grosse Pointe WRDR 2.414 Highland Park WMO 2.414 Jackson WPHP 2.466 Lansing WPDZ 2.442 Manitow Island WWAJ 3.410 Marquette WWM 3.410 Muskegon WPF 2.442 Passage Island WWAL 3.410 Poe Reef WRJ 3.410 Port Huron WPG 2.466 Rock of Ages WWAM 3.410 Saginaw WPEB 2.442 Sault Ste. Marie NOR 2.670 NOR 2.698 Selfridge Field VK1 6.425 MINNESOTA Duluth KNFE 2.382 Minneapolis KGPE 2.430 Redwood Falls KNHD 1.658 St. Paul WPDZ 2.430 MISSOURI Kansas City KGPE 2.422 St. Louis KGPC 1.706 NEBRASKA Lincoln KGZU 2.490 Norfolk KNGN 2.490 Omaha KGPI 2.466 NEVADA Las Vegas KGHG 2.474 Reno KGHM 2.474	NEW HAMPSHIRE Nashua WPHB 2.422 NEW JERSEY Bloomfield WAKH 2.430 Bound Brook W3XAL 6.100 W3XAL 17.780 W3XL 6.425 W3XL 17.310 Freehold WAK 2.366 Hackensack WPFK 2.430 Lawrenceville WKF 4.253 WKF 19.220 WLA 18.350 WMN 14.590 WOA 6.755 WON 9.870 New Brunswick WKJ 9.460 Ocean Gate WOO 4.178 WOO 4.753 WOO 8.560 WOO 12.840 WOO 17.120 Passaic WPDJ 2.414 Wayne W2XE 6.120 W2XE 11.830 W2XE 15.270 W2XE 17.760 W2XE 21.520 NEW MEXICO Albuquerque KGZX 2.414 Clovis KNFA 2.414 Santa Fe KGPF 2.414 NEW YORK Albany WPHG 2.414 Auburn WPDN 2.382 Binghamton WPLG 2.442 Bronx WPEF 2.450 Brooklyn WPEE 2.450 Buffalo WMJ 2.422 Herkimer 2.414 Hicksville W2XGB 6.425 Huntington WPGO 2.490	Mineola WPGS 2.490 New York WPEG 2.450 Niagara Falls WNF 2.422 Oneonta WQFJ 2.414 Rochester WPDZ 2.422 Rocky Point WEA 10.610 WES 9.448 WET 9.470 WEZ 8.075 Schenectady W2XAD 15.330 W2XAF 9.530 S. Schenectady WPGC 1.658 Syracuse WPEA 2.382 Utica WPGJ 2.414 Yonkers WPFY 2.442 NORTH CAROLINA Asheville WPPS 2.458 WPPS 2.474 Charlotte WPDV 2.458 NORTH DAKOTA Fargo KNHM 2.442 OHIO Akron WPDO 2.458 Cambridge WPH 1.596 Cincinnati WKDU 1.706 W8XAL 6.060 Cleveland WRBH 2.458 Columbus WPDZ 2.430 WPGG 1.596 Dayton WPDZ 2.430 Findlay WPGG 1.596 Lancaster WQFO 2.430 Mansfield WQFY 2.474 Massillon WPHC 1.596 Portsmouth WPGI 2.430 Sandusky WAKI 2.474 Steubenville WPHD 2.458	Toledo WRDQ 2.474 Wilmington WPHK 1.596 Youngstown WPDG 2.458 Zanesville WPHO 2.430 OKLAHOMA Ada KNHC 2.450 Altus KACL 2.450 Chickasha KACF 2.450 Duncan KNGK 2.450 Lawton KGHP 2.450 Muskogee KNGT 2.450 Oklahoma City KGHM 2.450 Ponca City KACP 2.450 Seminole KACR 2.450 Tulsa KGPO 2.450 OREGON Klamath Falls KGZH 2.442 Portland KGPP 2.442 Salem KGZR 2.442 PENN-SYLVANIA Harrisburg WPS 1.674 Ronessen WQFF 2.482 New Castle WPGT 2.482 Oil City WPHZ 2.482 Philadelphia WPDZ 2.474 W3XAU 6.060 W3XAU 9.590 Pittsburgh WPDZ 1.712 W8XX 6.146 W8XX 11.870 W8XX 15.210 W8XX 17.780 W8XX 21.540 Reading WFFE 2.442 Sharon WQFU 2.482 Swarthmore WPFQ 2.474 Wilkes-Barre WQFM 2.442
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SHORT WAVE STATIONS BY LOCATIONS

PUERTO RICO	TENNESSEE	El Paso	WASHINGTON	Walla Walla	VATICAN STATE
San Juan	Elizabethton	KGZM 2.414	Aberdeen	KACV 2.414	(HVA-HVZ)
WCT 13.410	WPHY 2.474	Fort Worth	KGZV 2.414	KNGD 2.490	
	Johnson City	KGPR 1.712	Bellingham	Wenatchee	Vatican City
RHODE ISLAND	WPGZ 2.474	Galveston	KACK 2.414	KACJ 2.414	HVJ 15.120
	Knoxville	KNGL 1.712	KNFK 2.490	KNQG 2.490	
Cranston	WFFO 2.474	Gladewater	Centralia	Yakima	VENEZUELA
WPGK 2.466	Memphis	KACU 1.712	KGHW 2.414	KNGB 2.490	(YVA-YWZ)
E. Providence	WPEC 2.466	Houston	Ellensburg	KNGU 2.414	
WPEI 1.712	Nashville	KGZB 1.712	KNFX 2.490	WEST VIRGINIA	Barquisimeto
Pawtucket	..... 1.666	Lubbock	Ephrata	Charleston	YV8RB 5.895
WPFV 2.466	TEXAS	KGZW 2.458	KNZG 2.490	WPHI 2.490	Bolivar
Providence		San Antonio	Everett	Clarksburg	YV11RB 5.545
WPGF 1.712	Austin	KGZE 2.482	KNFP 2.414	WPFF 2.490	Caracas
Woonsocket	KGHU 2.442	Waco	KALC 2.414	Fairmont	YV2RC 5.800
WPEM 2.466	Beaumont	Wichita Falls	KACQ 2.490	WPHJ 2.490	YV3RC 6.165
	KGPI 1.712	KGZI 2.458	Mt. Vernon	Parkersburg	YV4RC 6.375
SOUTH CAROLINA	Big Spring	UTAH	KNFI 2.414	WPHQ 2.490	YV9RC 6.400
Charleston	KACM 2.458	Salt Lake City	KACE 2.414		Maracaibo
WCPD 2.430	Brownsville	KGFW 2.406	KNFG 2.490	WISCONSIN	YVSRMO 5.850
	KGHT 2.382	VIRGINIA	Seattle	Green Bay	YV7RMO 5.810
SOUTH DAKOTA	Brownwood	Lynchburg	KGPA 2.414	KNHB 2.382	Maracay
Huron	KNGW 2.458	WQFH 2.450	WVD 2.604	Kenosha	YVQ 6.672
..... 2.450	Cleburne	WQFI 2.450	WVD 8.620	WPEP 2.450	YVR 9.168
Rapid City	KNGE 1.712	Petersburg	Spokane	WPK 2.450	YV12RM 6.300
KNGM 2.450	KGHV 2.382	Richmond	KGHS 2.414	Milwaukee	San Cristobal
	KNHF 1.712	WPHF 2.450	KNGR 2.490	WPKD 2.450	YV10RSC 5.720
		Roanoke	Tacoma	Oshkosh	Valencia
		WQFG 2.450	KGZN 2.414	WAKE 2.382	YV6RV 6.520
			Vancouver		
			KNGC 2.490		

Meeting the Artists

(Continued from page 35)

title role. Buckley has been featured in nearly every form of entertainment since he started at Hammerstein's Victoria Theater at the turn of the century. He sang bass in the musical comedy "Flora Dora"; had his own drama company in Chicago; formed an independent movie production company with B. A. Rolfe, who later became a noted band leader; played mystery characters for the silent movies and appeared with Houdini. He has been in radio since 1930, playing all kinds of roles.

Olive Oyl is portrayed by Olive La Moy, a diminutive blond who makes her home in Hartford, Conn.

Victor Erwin and his arranger, Ernie Watson, create all the musical effects to describe Popeye's muscle-

raising, his gurgling; the sound of a woman falling from an 83-story building and other such incidents of the dramatizations. He directed the music for "Betty Boop" pictures and "Three Little Pigs." For his radio programs, he memorizes the score and then directs from the script.

What About Speaker?

(Continued from page 11)

within an improperly designed cabinet. In such cases there is little that can be done to alleviate this fault. A good movement of air behind the speaker sometimes helps, and no radio cabinet should be placed close to the wall. Take care to reduce all vibrations in the sides of the cabinet and chassis by strengthening the parts or using rubber cushions wherever practicable.

SHORT WAVE STATIONS BY CALLS

CB615	6.150	GSO	15.180	KACC	1.682	KGZL	1.712	KNGF	2.422	VK3ME	9.490	WPEC	2.466
CB960	9.600	GSP	15.310	KACD	1.682	KGZM	2.414	KNGG	1.698	VK6ME	9.590	WPED	1.712
CEC	5.820	HAS3	15.370	KACE	2.414	KGZN	2.414	KNGJ	2.490	VLK	8.095	WPEE	2.450
CEC	10.670	HAT	5.400	KACF	2.450	KGZO	2.414	KNGK	2.450	VLZ	7.960	WPEF	2.450
CFCX	6.005	HAT2	7.220	KACI	2.422	KGZP	2.450	KNGL	1.712	VPD	13.075	WPEG	2.450
CFRX	6.070	HAT3	8.565	KACJ	2.414	KGZQ	1.712	KNGM	2.450	VQG	19.630	WPEH	1.712
CFU	4.755	HAT4	9.125	KACK	2.414	KGZR	2.442	KNGN	2.490	VRR4	11.595	WPEI	1.712
CGZ	2.342	HLB	9.595	KACL	2.450	KGZT	1.674	KNGP	2.430	VWY	9.045	WPEJ	1.712
CHNX	6.110	HBP	7.797	KACM	2.458	KGZU	2.490	KNGQ	2.490	VWY2	17.480	WPEK	2.430
CJXC	6.010	HCJB	8.900	KACN	2.414	KGZV	2.414	KNGR	2.490	VWZ	8.690	WPEL	1.666
CJRO	6.150	HCK	5.885	KACO	2.414	KGZW	2.458	KNGT	2.450	VYR	1.712	WPEM	2.466
CJRX	11.720	HC2ET	4.600	KACP	2.450	KGZX	2.414	KNGU	2.414	VYV	2.396	WPEP	2.450
CJW	2.390	HC2JSB	7.850	KACQ	2.490	KGZY	1.712	KNGV	2.422	WAKA	2.490	WPEQ	2.442
CJZ	2.390	HC2RL	6.650	KACR	2.450	KHV	2.566	KNGW	2.458	WAKB	2.466	WPET	1.706
COCD	6.130	HM2S	5.915	KACS	2.414	KHW	2.912	KNGY	2.414	WAKC	2.366	WPEV	1.666
COCH	9.428	HM3W	9.617	KACU	1.712	KHZ	2.912	KNGZ	2.490	WAKE	2.382	WPEW	1.666
COCO	6.010	HIG	6.280	KACV	2.414	KIAP	3.093	KNHB	2.382	WAKF	1.712	WPFA	1.712
COCQ	9.755	HIH	6.814	KAEB	2.616	KIAW	3.093	KNHG	2.450	WAKG	2.466	WPFC	2.442
COKG	6.155	HIJ	10.040	KAED	2.616	KIAY	3.093	KNHJ	1.658	WAKH	2.430	WPFD	2.430
COL2	1.712	HIL	6.500	KAEF	2.616	KIBA	3.093	KNHK	2.406	WAKI	2.474	WPFE	2.442
CO9JQ	8.665	HIT	6.630	KAZ	9.990	KIBZ	3.265	KNHF	1.712	WAKJ	1.698	WPGF	2.442
CO9WR	6.280	HIX	5.980	KDHF	2.538	KICE	3.265	KNHG	2.430	WAKK	2.490	WPHM	2.414
CQN	9.700	HIZ	6.315	KEJ	9.010	KICG	3.265	KNHM	2.442	WAKO	2.442	WPFI	2.414
CRCX	6.090	HIJA	6.185	KEL	6.860	KICJ	3.093	KSW	1.658	WANC	2.726	WPKF	2.430
CSL	6.150	HI1A	5.865	KES	9.480	KIDE	3.265	KVP	1.712	WNB	2.414	WPFM	2.382
CT1AA	9.650	HI1S	6.420	KFF	2.566	KIEJ	2.994	KWO	15.415	WCPD	2.430	WPFN	1.712
CYQ	2.318	HI3C	6.098	KGHG	2.490	KIJJ	3.190	KWU	15.355	WCT	13.410	WPGO	2.474
CZG	2.416	HI3U	6.014	KGHG	2.474	KIJK	2.994	KWV	10.840	WEA	10.610	WPGF	2.490
CZGF	1.710	HI4D	6.500	KGHH	1.674	KIJK	3.190	LKJ1	9.540	WES	9.448	WPFQ	2.474
DJA	9.560	HI4V	6.480	KGHM	2.474	KIIL	2.994	LQA	9.600	WET	9.470	WPKS	2.458
DBJ	15.200	HI5N	6.150	KGHN	2.450	KIIM	2.994	LRU	15.250	WEZ	8.075	WPKS	2.474
DJC	6.020	HI9B	6.045	KGHO	1.682	KIIN	2.994	LRX	9.660	WKDU	1.706	WPFT	2.442
DJD	11.770	HJN	5.950	KGHP	2.450	KIIO	2.994	LSL	10.250	WKF	4.253	WPFU	2.422
DJE	17.760	HJP	7.465	KGHS	2.414	KIIP	3.100	LSN	9.895	WKJ	9.460	WPKV	2.466
DJM	6.080	HJU	9.510	KGHT	2.382	KIJB	2.994	LSN5	19.650	WLA	18.350	WPFW	2.466
DJN	9.540	HJ1ABB	6.447	KGHU	2.442	KIJI	1.622	LZA	14.970	WMWZ	2.442	WPFX	2.442
DJO	11.795	HJ1ABC	6.010	KGHV	2.382	KIJK	1.622	OAX4D	5.780	WMIJ	2.422	WPFY	2.442
DJP	11.855	HJ1ABD	7.280	KGHW	2.414	KIJO	1.622	OAX4G	6.230	WMN	14.590	WPFZ	2.442
DJR	15.340	HJ1ABE	6.115	KGHX	2.490	KIJP	2.986	OAI	18.670	WMO	2.414	WPGA	2.466
DZA	9.675	HJ1ABG	6.042	KGHY	1.712	KIJR	2.986	OPM	10.135	WMP	1.666	WPGB	2.466
DZB	10.042	HJ1ABH	6.300	KGHZ	2.406	KIJS	1.622	ORK	10.330	WNC	15.055	WPGC	1.658
DZC	10.285	HJ1ABJ	6.060	KGJX	1.712	KIJU	2.986	OXY	9.490	WND	4.098	WPGD	2.458
DZE	12.130	HJ1ABP	9.116	KGM	2.512	KIJV	1.622	PCJ	9.590	WNFP	2.422	WPGF	1.712
DZG	15.360	HJ2ABA	6.170	KGOZ	2.466	KIJW	2.632	PCJ	15.220	WOA	6.755	WPGG	1.596
EAQ	9.862	HJ2ABD	5.980	KGPA	2.414	KIJX	2.632	PHI	17.775	WON	9.870	WPHG	2.414
FO8AA	7.100	HJ3ABD	6.055	KGPB	2.430	KILD	2.538	PLE	18.830	WOO	4.178	WPGI	2.430
GAA	20.380	HJ3ABF	6.170	KGPC	1.706	KILY	2.994	PLV	9.415	WOO	4.753	WPGJ	2.414
GAD	19.480	HJ3ABH	6.112	KGPD	2.466	KIMA	2.632	PMN	10.260	WOO	8.560	WPGK	2.466
GAG	18.970	HJ4ABB	6.100	KGPE	2.422	KIOC	2.632	PRADO	6.620	WOO	12.840	WPLG	2.442
GAU	18.310	HJ4ABC	6.450	KGPF	2.414	KIOD	2.632	PRF5	9.500	WOO	17.120	WPGM	2.414
GAS	18.620	HJ4ABD	5.760	KGPG	2.422	KIOG	1.622	PSH	10.220	WOU	5.506	WPGN	2.490
GBA2	13.990	HJ4ABE	5.300	KGPH	2.450	KIOH	2.632	RIO	10.160	WPDA	2.414	WPGO	2.490
GBB	13.585	HJ4ABL	6.100	KGPI	2.466	KIOI	2.632	RKI	15.040	WPDB	1.712	WPGP	2.442
GBC	8.680	HJ4ABP	6.135	KGPJ	1.712	KION	2.616	RNE	12.000	WPDC	1.712	WPGQ	1.596
GBC	17.080	HJ5ABC	6.150	KGPK	2.466	KKH	7.520	RV15	4.273	WPDD	1.712	WPGS	2.490
GBU	12.290	HJ5ABD	6.085	KGPL	1.712	KLA	2.566	SUV	10.055	WPDE	2.442	WPGT	2.482
GBW	14.440	HKE	7.090	KGPM	2.466	KLB	2.512	TDD	5.830	WPDF	2.442	WPGV	1.712
GBX	16.140	HPC	10.290	KGPN	2.466	KLC	2.512	TFJ	12.225	WPDG	2.458	WPGW	2.382
GCB	9.280	HP5B	6.030	KGPO	2.450	KLD	2.566	TGS	5.710	WPDH	2.442	WPGX	2.466
GCP	10.770	HP5F	6.080	KGPP	2.442	KLE	2.512	TGWA	6.000	WPDI	2.430	WPGZ	2.474
GCS	9.020	HP5J	5.990	KCPQ	1.712	KNBZ	2.994	TGXA	6.130	WPDJ	2.414	WPHA	2.466
GCU	9.950	HP5K	6.005	KGPR	1.712	KNFA	2.414	TG1X	9.450	WPKD	2.450	WPHB	2.422
GDD	7.920	HRD	6.235	KGPS	2.414	KNFB	2.458	TG2X	5.940	WPDL	2.442	WPHC	1.596
GDS	6.905	HRN	5.875	KGPV	2.406	KNFE	2.382	TIEP	6.700	WPDN	2.430	WPHD	2.458
GDW	4.820	HRP1	6.356	KGPX	2.442	KNFG	2.490	TIGPH	5.820	WPDN	2.382	WPHI	1.634
GSA	6.050	H58PJ	10.950	KGPZ	2.450	KNFH	2.474	TIPG	6.410	WPDO	2.458	WPHF	2.450
GSB	9.510	HVJ	15.120	KGXU	1.622	KNFI	2.414	TIRCC	6.550	WPDP	2.474	WPHG	1.712
GSD	9.580	IDU	13.380	KGXW	1.606	KNFJ	1.712	TISHH	5.520	WPDR	2.422	WPHI	2.490
GSC	11.750	ID2R	9.635	KGZA	2.414	KNFK	2.490	TPA2	15.245	WPDS	2.430	WPHJ	2.490
GSE	11.860	ID2R	11.810	KGZB	1.712	KNFM	2.490	TPA3	11.880	WPDT	2.490	WPHK	1.596
GSF	15.140	JIC	5.890	KGZC	2.422	KNFN	1.682	TPA4	11.715	WPDU	1.712	WPHM	2.442
GSG	17.790	JVM	10.740	KGZD	2.490	KNFO	1.682	TYD2	8.575	WPDV	2.458	WPHN	2.466
SSH	21.470	JVN	10.660	KGZE	2.482	KNFP	2.414	VDO	4.865	WPDW	2.422	WPHO	2.430
GSJ	15.260	JVT	6.750	KGZF	2.450	KNFX	2.490	VE9BK	4.795	WPDX	2.414	WPHP	2.466
GSJ	21.530	JVU	5.790	KGZG	2.466	KNGB	2.490	VE9EW	7.900	WPDY	2.414	WPHQ	2.490
GSK	26.100	JVV	5.730	KGZH	2.442	KNGC	2.490	VJZ	13.880	WPDZ	2.490	WPHS	1.634
GSL	6.110	JZG	6.030	KGZI	2.458	KNGD	2.490	VK2ME	9.585	WPEA	2.382	WPHT	1.596
GSN	11.820	KACA	2.422	KGZJ	2.430	KNGE	1.712	VK3LR	9.580	WPEB	2.442	WPHU	1.634

SHORT WAVE STATIONS BY CALLS

WPHY	2.474	WQFO	2.430	WQPS	1.610	W1XAL	11.790	W3XL	17.310	XEDQ	9.520	YV2RC	5.800
WPHZ	2.482	WQFQ	2.442	WRBH	2.458	W1XK	9.570	W4XB	6.040	XEFT	6.120	YV3RC	6.165
WPSP	1.674	WQFT	1.596	WRDQ	2.474	W2XAD	15.330	W8XL	6.060	XEOK	6.130	YV4RC	6.375
WQFA	2.466	WQFT	1.692	WRDR	2.414	W2XAF	9.530	W8XK	6.140	XEUW	6.020	YV5RMO	6.850
WQFB	2.414	WQFV	2.414	WRDS	1.642	W2XE	6.120	W8XK	11.870	XEVI	5.985	YV6RV	6.520
WQFC	2.466	WQFW	1.634	WVD	2.604	W2XE	11.830	W8XK	15.210	XEXA	6.182	YV7RMO	5.810
WQFE	1.634	WQFX	1.712	WVD	8.620	W2XE	15.270	W8XK	17.780	XGOX	9.460	YV8RB	5.895
WQFF	2.482	WQFY	2.474	WVV	5.000	W2XE	17.760	W8XK	21.540	YCP	8.575	YV9RC	6.400
WQFG	2.450	WQFZ	2.458	WVV	10.000	W2XE	21.520	W9XAA	6.080	YDA	6.040	YV10RS	5.720
WQFH	2.450	WQPC	1.610	WVV	15.000	W2XGB	6.425	W9XAA	11.830	YDAS	6.120	YV11RB	6.545
WQFI	2.450	WQPD	1.610	WXA	8.050	W3XAL	6.100	W9XBS	6.425	YNLF	5.950	YV12RM	6.300
WQFJ	2.414	WQPF	1.610	WXE	2.998	W3XAL	17.780	W9XF	6.100	YNVA	8.590	ZBW	8.750
WQFK	2.466	WQPG	1.610	WXH	2.604	W3XAU	6.060	W9XF	6.425	YSL	14.960	ZFA	5.025
WQFL	1.712	WQPM	1.610	WXH	6.662	W3XAU	9.590	XEBT	6.000	YVQ	6.672	ZFB	10.055
WQFM	2.442	WQPP	1.610	W1XAL	6.040	W3XL	6.425	XECR	7.380	YVR	9.168	ZFD	10.335
												ZFS	4.512

The New B. C. Season

(Continued from page 26)

our minds as to the advisability of printing the requests of readers who desire correspondents. Too often, we hear from listeners who have taken the trouble to answer these requests and have never had the courtesy of a reply. Perhaps those who asked for letters got so many that it was impossible to answer them all. At best, that is the most lenient way of looking at the problem.

At any rate, the following readers have asked for correspondents and have promised faithfully to answer all letters:

Evan S. Morrow, 2161 Ashland Ave., Detroit, Mich.

Robert Patterson, 2119 Kenwood Blvd., Roanoke, Va., wants to hear from Philco owners.

Julian Schaefer, 2036 West 83rd St., Cleveland, Ohio, wants to hear from Canadian listeners.

Jack Horner, N. Market St., Elizabethtown, Pa.

We agree that pen pals get a great deal out of DXing and we are only too glad to provide a medium for making new friendships. However, if we receive any more complaints that letters are not answered, we will be obliged to stop the publishing of such requests.

Why I Verify

(Continued from page 40)

musical selections, I sent a report to the station and requested a verification. In due time, I received the station verification card, but they were very careful to stamp across the face of it in 1/2-inch blue letters: NOT VERIFIED. Also a message penned in red ink: "We regret cannot confirm without detail of items heard."

Later, I heard ZBW again and this time was fortunate to identify titles of four different selections. Now I have another card from the station, on the face of which is stamped in large blue letters: VERIFIED. I appreciate both of these cards and have a lot more respect for ZBW than I would have for a station like WJBK.

Another interesting angle on obtaining verifications is the friendly competitive spirit existing among individual DXers of organized clubs. Of course, each member strives to build up the best possible verified log.

Yes, I believe I shall continue my interesting hobby of collecting verifications. As I review my files, I do so with a feeling of satisfaction that I have actually heard each station represented there.

*545 Baker St., Lansing, Mich.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

540 kcys. (555.2)

CJRM ak 1000 F Moose Jaw, Sask.

550 kcys. (545.1)

CFNB ak 500 F (1) Fredericton, N. B.
 KFUD ae 500 2 (1) St. Louis, Mo.
 KFVR ae 1000 N (5) Bismarck, N. D.
 KOAC ak 1000 Corvallis, Ore.
 KSD ak 1000 2R (5) St. Louis, Mo.
 KUSA ak 1000 C (5) San Antonio, Tex.
 WDEV ae 500 D Waterbury, Vt.
 WGR ck 1000 C Buffalo, N. Y.
 WKRC ak 1000 CX Cincinnati, Ohio
 WSWA ak 500 D Harrisonburg, Va.

560 kcys. (535.4)

KFDM ak 500 (1) Beaumont, Tex.
 KLZ ae 1000 CX Denver, Colo.
 KSFO ak 1000 San Francisco, Cal.
 KWTO ak 5000 D Springfield, Mo.
 WFIL ak 1000 B Philadelphia, Pa.
 WIND ak 1000 (5) Gary, Ind.
 WIS ae 1000 N (5) Columbia, S. C.
 WQAM ae 1000 C Miami, Fla.
 XEAO ak 250 (.15) Mexicali, L. C.
 XEFC ak 100 Merida, Yuc.

570 kcys. (526.0)

KGKO ak 250 C (1) Wichita Falls, Tex.
 KMTR ak 1000 Hollywood, Calif.
 KVI ak 1000 C Tacoma, Wash.
 WKBN ae 500 1C Youngstown, Ohio
 WMCA ak 500 X New York, N. Y.
 WNAX ak 1000 C (5) Yankton, S. D.
 WOSU ak 750 1 (1) Columbus, Ohio
 WSYR ak 250 BX Syracuse, N. Y.
 WWNC ak 1000 N Asheville, N. C.

580 kcys. (516.9)

CFPR z 50 Prince Rupert, B. C.
 CHRC ak 100 F Quebec, Que.
 CJGX ae 100 F Yorkton, Sask.
 CKCL ae 100 F Toronto, Ont.
 CKUA ak 500 Edmonton, Alta.
 KMJ ak 1000 C Fresno, Calif.
 KSAC ak 500 2 (1) Manhattan, Kans.
 WCHS ak 500 (1) Charleston, W. Va.
 WDBO ae 1000 C Orlando, Fla.
 WIBW ak 1000 C2 (5) Topeka, Kans.
 WILL ak 1000 D Urbana, Ill.
 WTAG ae 500 RX Worcester, Mass.

590 kcys. (508.2)

KHO ak 1000 R (2.5) Spokane, Wash.
 WEEL ak 1000 RX Boston, Mass.
 WKZO ae 1000 D Kalamazoo, Mich.
 WOW ae 5000 R (5) Omaha, Nebr.
 XEPN ak 50000 Piedras Negras, Coah.

600 kcys. (499.7)

CFCF ae 400 FN Montreal, Que.
 CJOR ak 500 Vancouver, B. C.
 CMW ak 1400 Havana, Cuba
 CRCW ak 500 F (1) Windsor, Ont.
 FQN z 250 609 St. Pierre, Miq.

Heard Logged Reported Verified

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

					Heard	Logged	Reported	Verified
KFSD	ae	1000	B	San Diego, Calif.				
WCAO	ae	500	C (1)	Baltimore, Md.				
WICC	ae	500	C (1)	Bridgenport, Conn.				
WMT	ak	1000	B (2.5)	Cedar Rapids, Ia.				
WREC	ak	1000	C (2.5)	Memphis, Tenn.				

610 kcys. (491.5)

KFRC	ck	1000	C (5)	San Francisco, Cal.
WDAF	ak	1000	R (5)	Kansas City, Mo.
WIP	ae	1000	X	Philadelphia, Pa.
WJAY	ae	500	D	Cleveland, Ohio
XEXM	z	.....	.....	Mexico City, D. F.
XFX	ak	1000	.....	Mexico City, D. F.

620 kcys. (483.6)

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

630 kcys. (475.9)

CFCO	ak	100	F	Chatham, Ont.
CFCY	ae	1000	F	Charlottetown, P.E.I.
CJRC	ak	1000	F	Winnipeg, Man.
CKOV	ak	100	F	Kelowna, B. C.
KFRU	ak	500	I (1)	Columbia, Mo.
KGFX	ak	200	D	Pierre, S. D.
WGBF	ak	500	I	Evansville, Ind.
WMAL	ak	250	B (.5)	Washington, D. C.
WOS	ak	500	1D	Jefferson City, Mo.
WPRO	ak	250	.....	Providence, R. I.
XEZ	z	500	.....	Merida, Yuc.

640 kcys. (468.5)

CMBC	dj	150	.....	Havana, Cuba
KFI	ah	50000	R	Los Angeles, Calif.
WHKC	ae	500	.....	Columbus, Ohio
WOI	ae	5000	D	Ames, Iowa
WSPG	z	500	P	Portland, Me.
XEOX	ak	500	.....	Saltillo, Coah.

650 kcys. (461.3)

TIGPH	ak	1000	.....	San Jose, C. R.
WSM	ae	50000	N	Nashville, Tenn.

660 kcys. (454.3)

WAAW	ak	500	D	Omaha, Neb.
WEAF	ak	50000	R	New York, N. Y.

670 kcys. (447.5)

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

CMCG	ak	150	Havana, Cuba
KFEQ	ak	2500	D	St. Joseph, Mo.
KPO	ak	50000	R	San Francisco, Cal.
RDN	z	500	.....	San Salvador, E. S.
VAS	akn	2000	685	Glace Bay, N. S.
VOWR	ck	500	681	St. John's, Nfld.
WPTF	ae	5000	DnN	Raleigh, N. C.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

690 keys. (434.5)

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

Heard Logged Reported Verified

700 keys. (428.3)

WLW ak 500000 N Cincinnati, Ohio

710 keys. (422.3)

KIRO ae 1000 Seattle, Wash.
 KMPC ak 500 Beverly Hills, Cal.
 WOR ak 50000 Newark, N. J.
 XEN ak 1000 Mexico City, D. F.

720 keys. (416.4)

WGN ak 50000 Chicago, Ill.

730 keys. (410.7)

CFPL ak 100 F London, Ont.
 GJCA ah 1000 F Edmonton, Alta.
 CKAC ck 5000 C Montreal, Que.
 CKPR ak 100 F Fort William, Ont.
 CMK ae 3000 Havana, Cuba
 XEBC z 5000 Agua Caliente, L.C.

740 keys. (405.2)

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

750 keys. (399.8)

CMCW dk 150 Havana, Cuba
 KGU aj 2500 N Honolulu, T. H.
 WJR ak 50000 G Detroit, Mich.
 XEAM z 7.5 Matamoros, Tams.

760 keys. (394.5)

CMHX ak 200 Cienfuegos, Cuba
 KXA ae 250 (.5) Seattle, Wash.
 WBAL ae 2500 BSy Baltimore, Md.
 WEW ae 1000 D St. Louis, Mo.
 WJZ ak 50000 BSy New York, N. Y.
 XEOK ak 250 Tijuana, L. C.

770 keys. (389.4)

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

780 keys. (384.4)

CHWK dk 100 F Chilliwack, B. C.
 CKSO ak 1000 F Sudbury, Ont.
 CMJK ak 250 Camaguey, Cuba
 KEHE ak 500 (1) X Los Angeles, Calif.
 KFDY ae 1000 D Brookings, S. D.
 KFQD ck 250 Anchorage, Alaska
 KGIL ak 1000 N (2.5) Billings, Mont.
 WEAN ae 500 CX Providence, R. I.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
KFKA	ak	500	2 (1)	Greeley, Colo.			
KLX	ae	1000	.....	Oakland, Calif.			
KPOF	ae	500	2	Denver, Colo.			
WCOC	ae	500	(1)	Meridian, Miss.			
WGBI	ae	500	1	Scranton, Pa.			
WPHR	ak	500	D	Petersburg, Va.			
WQAN	ae	250	1	Scranton, Pa.			
WSUI	ae	500	(1)	Iowa City, Iowa			

890 keys. (336.9)

KARK	ak	250	(.5)X	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	250	C (.5)	Fairmont, W. Va.			
XEW	ak	50000	.....	Mexico City, D. F.			

900 keys. (333.1)

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

910 keys. (329.6)

CJAT	ak	1000	F	Trail, B. C.			
GKY	ak	15000	F	Winnipeg, Man.			
GRCM	ak	5000	F	Montreal, Que.			
XENT	ak	150000	.....	Nuevo Laredo, Tams.			

920 keys. (325.9)

CMX	ae	1000	.....	Havana, Cuba			
HHK	ae	1000	.....	Port-au-Prince, Haiti			
KFEL	ak	500	a	Denver, Colo.			
KOMO	ak	1000	R (5)	Seattle, Wash.			
KPRC	ak	1000	N (5)	Houston, Texas			
KVOD	ak	500	a	Denver, Colo.			
WAAF	ak	1000	D	Chicago, Ill.			
WORL	ae	500	D	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	.....	Prescott, Ont.			
CHNS	ae	1000	F	Halifax, N. S.			
CKPC	ae	100	F	Brantford, Ont.			
KMA	ak	1000	(2.5)	Shenandoah, Iowa			
KROW	ak	1000	.....	Oakland, Calif.			
TIRH	z	50	.....	San Jose, C. R.			
WBRC	ak	1000	C	Birmingham, Ala.			
WDBJ	ae	1000	C (5)	Roanoke, Va.			
XEBH	z	500	.....	Hermosillo, Sonora			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

940 keys. (319.0)

KOIN ak 1000 C (5) Portland, Ore.
 VOAS ak 100 St. John's, Nfld.
 WAAT ae 500 D Jersey City, N. J.
 WAVE bk 1000 N Louisville, Ky.
 WCSH ae 1000 R (2.5) Portland, Maine
 WDAY ae 1000 N (5) Fargo, N. D.
 WHA ak 2500 DX Madison, Wis.
 XEFO ak 5000 (XFO) Mexico City, D. F.

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 D Chico, Calif.
 KMBC ae 1000 C (5) Kansas City, Mo.
 WRC ak 500 R (1) Washington, D. C.
 YNVA z 30 Managua, Nic.

960 keys. (312.3)

CHNC ak 1000 F New Carlisle, Que.
 XEAW ck 50000 Reynosa, Tams.

970 keys. (309.1)

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

980 keys. (306.0)

KDKA ae 50000 B Pittsburgh, Pa.
 XEF z 100 Juarez, Chih.

990 keys. (302.8)

WBZ ak 50000 BSy Boston, Mass.
 WBZA ak 1000 BSy Springfield, Mass.
 XEAF ak 500 Nogales, Sonora
 XEK ak 100 Mexico City, D. F.
 XES dk 250 Tampico, Tams.

1000 keys. (299.8)

CMBZ ak 150 Havana, Cuba
 KFVD ak 250 Dn Los Angeles, Calif.
 TIGH z 500 San Jose, C. R.
 WHO ak 50000 R Des Moines, Iowa
 XEBK z 100 Nuevo Laredo, Tams.
 XEY z 10 Merida, Yuc.

1010 keys. (296.9)

CHML ak 100 F Hamilton, Ont.
 CHWC ak 500 3F Regina, Sask.
 CKCD ak 100 Vancouver, B. C.
 CKCK ak 500 3F Regina, Sask.
 CKCO ak 100 F Ottawa, Ont.
 CKIC ak 50 Wolfville, N. S.
 CKWX ak 100 F Vancouver, B. C.
 CMJA ak 50 Camaguey, Cuba
 KGGF ak 1000 2 Coffeyville, Kans.
 KQW ak 1000 San Jose, Calif.
 TIGA z 30 1014 Cartago, C. R.
 WHN ae 1000 (5) New York, N. Y.
 WNAD ae 1000 2 Norman, Okla.
 WNOX ak 1000 C (2) Knoxville, Tenn.
 XEU ak 250 Veracruz, Ver.

Heard Logged Reported Verified

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
1020 keys. (293.9) <input type="text"/>							
KYW	ak	1000	R	Philadelphia, Pa.			
WDZ	ak	250	D	Tuscola, Ill.			
XEJ	ak	1000	.....	Juarez, Chih.			
1030 keys. (291.1) <input type="text"/>							
CFCN	ak	10000	.....	Calgary, Alta.			
CKLW	ag	5000	.....	Windsor, Ont.			
CMCY	ak	1000	.....	Havana, Cuba			
XEB	ak	10000	.....	Mexico City, D. F.			
1040 keys. (288.3) <input type="text"/>							
KRLD	ae	10000	C	Dallas, Texas			
KWJJ	ak	500	.....	Portland, Ore.			
KYOS	z	250	DP	Merced, Calif.			
WTIC	ah	50000	R	Hartford, Conn.			
1050 keys. (285.5) <input type="text"/>							
CMKD	ak	250	.....	Santiago, Cuba			
CRCK	ak	1000	F	Quebec, Que.			
KFBI	ak	5000	Dn	Abilene, Kans.			
KNX	ak	50000	.....	Hollywood, Calif.			
TIFA	z	75	.....	San Jose, C. R.			
1060 keys. (282.8) <input type="text"/>							
KTHS	ae	10000	N	Hot Springs, Ark.			
VOAC	z	40	1065	St. John's, Nfld.			
WBAL	ak	10000	B	Baltimore, Md.			
WJAG	ak	1000	D	Norfolk, Neb.			
XEA	ak	500	.....	Guadalajara, Jal.			
1070 keys. (280.2) <input type="text"/>							
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) <input type="text"/>							
WBT	ak	50000	C	Charlotte, N. C.			
WCBD	ak	5000	1Dn	Waukegan, Ill.			
WMBI	ak	5000	1Dn	Chicago, Ill.			
1090 keys. (275.1) <input type="text"/>							
KMOX	ak	50000	C	St. Louis, Mo.			
XEAQ	ak	1000	.....	Rosarito, L. C.			
1100 keys. (272.6) <input type="text"/>							
CRCV	ak	1000	F	Vancouver, B. C.			
KGDM	ak	1000	D	Stockton, Calif.			
KWKH	ae	10000	C	Shreveport, La.			
WLWL	ae	5000	1	New York, N. Y.			
WPG	ak	5000	1C	Atlantic City, N. J.			
XEL	z	250	.....	Mexico City, D. F.			
1110 keys. (270.1) <input type="text"/>							
CMCJ	ak	500	.....	Havana, Cuba			
KSOO	ak	2500	Dn	Sioux Falls, S. D.			
WRVA	ae	5000	N	Richmond, Va.			
XELO	z	10000	.....	Piedras Negras, Co.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1120 keys. (267.7)

Heard Logged Reported Verified

CHLP	ak	100	F	Montreal, Que.
CHSJ	ae	500	F (1)	St. John, N. B.
CKOC	ae	500	F (1)	Hamilton, Ont.
CKX	ak	100	F	Brandon, Man.
CMGF	dk	150	.....	Matanzas, Cuba
CMKM	ak	50	.....	Manzanillo, Cuba
KFIO	ae	100	D	Spokane, Wash.
KFSG	ag	500	a (2.5)	Los Angeles, Calif.
KRKD	aj	500	a (2.5)	Los Angeles, Calif.
KRSC	ak	100	DX	Seattle, Wash.
WCOP	ak	500	D	Boston, Mass.
WDEL	ak	250	(.5)	Wilmington, Del.
WISN	ak	250	(1)	Milwaukee, Wis.
WTAW	ae	500	.....	College Station, Tex.

1130 keys. (265.3)

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

1140 keys. (263.0)

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

1150 keys. (260.7)

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

1160 keys. (258.5)

CMHJ	z	100	.....	Cienfuegos, Cuba
WOWO	ae	10000	1C	Fort Wayne, Ind.
WWVA	ak	5000	1C	Wheeling, W. Va.
XEAS	z	100	.....	Saltillo, Coah.
XEC	z	30	.....	Tijuana, L. C.
XEP	ak	500	.....	Juarez, Chih.
XESL	z	.....	.....	Tijuana, L. C.

1170 keys. (256.3)

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

1180 keys. (254.1)

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

1190 keys. (252.0)

HLJ	z	15	1195	Trujillo, D. R.
VONF	ak	500	1195	St. John's, Nfld.
WATR	ak	100	D	Waterbury, Conn.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

WOAI	ak	5000	N	San Antonio, Tex.	Heard	Logged	Reported	Verified
WSAZ	ak	1000	....	Huntington, W. Va.				
1200 kcys. (249.9)					<input type="checkbox"/>			
CHAB	ak	100	F	Moose Jaw, Sask.				
CKNX	ak	50	....	Wingham, Ont.				
CKTB	ae	100	F	St. Catherines, Ont.				
CMCO	ak	150	....	Havana, Cuba				
KADA	ak	100	D	Ada, Okla.				
KBTM	ak	100	D	Jonesboro, Ark.				
KDNC	z	100	P	Lewistown, Mont.				
KFJB	ak	100	(.25)	Marshalltown, Iowa				
KFXD	ae	100	(.25)	Nampa, Idaho				
KFXJ	ak	100	(.25)	Grand Junc., Colo.				
KGDE	ak	100	(.25)	Fergus Falls, Minn.				
KGEK	ak	100	....	Sterling, Colo.				
KGFJ	ae	100	....	Los Angeles, Calif.				
KGHI	ak	100	(.25)	Little Rock, Ark.				
KMLB	ak	100	....	Monroe, La.				
KSUN	ak	100	....	Lowell, Ariz.				
KVCV	z	100	P	Redding, Calif.				
KVEC	z	250	DP	San Luis Obispo, Cal.				
KVOS	dk	100	....	Bellingham, Wash.				
KWG	ak	100	C	Stockton, Calif.				
WABI	ak	100	....	Bangor, Maine				
WAIM	ak	100	XZ	Anderson, S. C.				
WAYX	z	100	P	Waycross, Ga.				
WBBZ	ak	100	....	Ponca City, Okla.				
WBNO	ak	100	I	New Orleans, La.				
WCAT	ak	100	D	Rapid City, S. D.				
WCAX	ak	100	....	Burlington, Vt.				
WCLO	ak	100	X	Janesville, Wis.				
WCPO	ak	100	(.25)	Cincinnati, Ohio				
WEST	ae	100	3 (.25)	Easton, Pa.				
WFAM	ak	100	8	South Bend, Ind.				
WHBC	ak	100	(.25)	Canton, Ohio				
WHBY	ak	100	(.25)	Green Bay, Wis.				
WIBX	aej	100	(.3)C	Utica, N. Y.				
WIL	ak	100	(.25)	St. Louis, Mo.				
WJBC	ak	100	6 (.25)	Bloomington, Ill.				
WJBL	ak	100	6	Decatur, Ill.				
WJBW	ak	100	I	New Orleans, La.				
WJNO	z	100	P	W. Palm Beach, Fla.				
WJRD	z	100	DP	Fuscaloosa, 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.				
WOLS	z	100	DP	Florence, S. C.				
WRBL	ak	100	....	Columbus, Ga.				
WTHH	z	100	DP	Hartford, Conn.				
WWAE	ae	100	8	Hammond, Ind.				
1210 kcys. (247.8)					<input type="checkbox"/>			
CJCS	z	50	....	Stratford, Ont.				
CJCU	z	50	....	Aklavik, N. W. T.				
CKBI	ak	100	F	Prince Albert, Sask.				
CKCH	ak	100	F	Hull, Que.				
CKMC	ak	50	....	Gobalt, Ont.				
CMHI	ak	150	....	Santa Clara, Cuba				
KANS	z	100	P	Wichita, Kans.				
KASA	ck	100	....	Eik City, Okla.				
KDLR	ak	100	....	Devils Lake, N. D.				
KDON	z	100	....	Del Monte, Calif.				
KFJI	ak	100	....	Klamath Falls, Ore.				
KFOR	ae	100	(.25)	C Lincoln, Neb.				
KFPW	ak	100	....	Fort Smith, Ark.				
KFVS	ak	100	6 (.25)	Cape Girardeau, Mo.				
KFXM	ak	100	9	San Bernardino, Calif.				
KGLO	z	100	P	Mason City, Iowa				
KGY	ak	100	....	Olympia, Wash.				

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

				Heard	Logged	Reported	Verified
KIUL	ak	100	....	Garden City, Kans.			
KOCA	z	100	P	Kilgore, Texas			
KPPC	ak	100	9	Pasadena, Calif.			
KVSO	ak	100	....	Ardmore, Okla.			
KWTN	ak	100	....	Watertown, S. D.			
TGW	ak	10000	....	Guatemala City			
WALR	ak	100	....	Zanesville, Ohio			
WABX	ae	100	....	Wilkes Barre, Pa.			
WBBL	ak	100	S	Richmond, Va.			
WBLY	z	100	DP	Lima, Ohio			
WBRB	ak	100	3	Red Bank, N. J.			
WCOL	ak	100	....	Columbus, Ohio			
WCRW	ae	100	4	Chicago, Ill.			
WEBQ	ae	100	6(.25)	Harrisburg, Ill.			
WEDC	ae	100	4	Chicago, Ill.			
WFAS	ak	100	3	White Plains, N. Y.			
WFOY	z	100	P	St. Augustine, Fla.			
WGBB	ae	100	3	Freeport, N. Y.			
WGCM	ae	100	(.25)	Gulfport, Miss.			
WGNV	ak	100	3	Chester, N. Y.			
WHBF	ak	100	(.25)	Rock Island, Ill.			
WHBU	ak	100	(.25)	Anderson, Ind.			
WIBU	ak	100	(.25)	Poynette, Wis.			
WJBY	ak	100	....	Gadsden, Ala.			
WJEJ	ae	100	D	Hagerstown, Md.			
WJIM	z	100	(.25)	Lansing, Mich.			
WJW	ae	100	(.25)	Akron, Ohio			
WKOK	ak	100	....	Sunbury, Pa.			
WLMU	z	100	P	Middlesboro, Ky.			
WMBG	ak	100	C(.25)	Richmond, Va.			
WMFG	z	100	....	Hibbing, Minn.			
WMFN	ak	100	Y	Clarksdale, Miss.			
WOCL	ak	50	....	Jamestown, N. Y.			
WOMT	ak	100	....	Manitowoc, Wis.			
WPAX	ak	100	D	Thomasville, Ga.			
WSAY	z	100	DP	Rochester, N. Y.			
WSBC	ae	100	4	Chicago, Ill.			
WSIX	ak	100	Y	Springfield, Tenn.			
WSOC	ak	100	N(.25)	Charlotte, N. C.			
WTAX	ak	100	....	Springfield, Ill.			
XEAT	z	50	....	Hidalgo, Chih.			
XEE	z	50	....	Durango, Dgo.			
XEFV	ak	100	....	Juarez, Chih.			
XETH	ak	100	....	Puebla, Pue.			

1220 kcys. (245.8)

CMJE	z	50	....	Camaguey, Cuba			
KFKU	ae	1000	a(5)	Lawrence, Kans.			
KTW	ak	1000	S2	Seattle, Wash.			
KWSC	ae	1000	2(2)	Pullman, Wash.			
TIVCA	ak	....	1225	San Jose, C. R.			
WCAD	ak	500	D	Canton, N. Y.			
WCAE	ak	1000	R(5)	Pittsburgh, Pa.			
WDAE	ae	1000	C(2.5)	Tampa, Fla.			
WREN	ak	1000	Ba(5)	Lawrence, Kas.			
XETF	ak	12	....	Veracruz, Ver.			

1230 kcys. (243.8)

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

1240 kcys. (241.8)

CJCB	ak	1000	F	Sydney, N. S.			
CMHB	z	50	....	Sancti Spiritus, Cuba			
KGCU	ak	250	1	Mandan, N. D.			

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KLPM	ak	250	I	Minot, N. D.
KTAT	ak	1000	.....	Fort Worth, Texas
KTFI	ae	1000	.....	Twin Falls, Idaho
WKAQ	ae	1000	.....	San Juan, P. R.
WXYZ	ak	1000	B	Detroit, Mich.
XEAC	z	250	.....	Tijuana, L. C.
XEAI	z	100	Mexico City, D. F.
XEKL	z	500	Leon, Guan.
XELA	z	50	Saltillo, Coah.
XEME	z	15	Merida, Yuc.

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1250 kcys. (239.9)

CMKC	ak	150	Santiago, Cuba
KFOX	ae	1000	Long Beach, Calif.
WCAL	ah	1000	2(2.5)	Northfield, Minn.
WDSU	ak	1000	.....	New Orleans, La.
WHBI	ak	1000	1(2.5)	Newark, N. J.
WLB	ak	1000	2	Minneapolis, Minn.
WNEW	ae	1000	1(2.5)	Newark, N. J.
WTCN	ak	1000	2(5)	Minneapolis, Minn.

1260 kcys. (238.0)

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

1270 kcys. (236.1)

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

1280 kcys. (234.2)

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

1290 kcys. (232.4)

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

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

1300 kcys. (230.6)

KALE	ak	500	3C	Portland, Ore.
KFAC	ak	1000	...	Los Angeles, Calif.
KFH	ak	1000	C	Wichita, Kans.
KFJR	ag	500	3	Portland, Ore.
WBBR	ae	1000	1	Brooklyn, N. Y.
WEVD	ak	1000	1	New York, N. Y.
WFAB	ae	1000	1	New York, N. Y.
WFBC	ak	1000	(5)N	Greenville, S. C.
WHAZ	ae	500	1	Troy, N. Y.
WHBL	ae	500	...	Sheboygan, Wis.
WIOD	ak	1000	N	Miami, Fla.

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1310 kcys. (228.9)

CHCK	ak	50	...	Charlottetown, P.E.I.
CJKL	ak	1000	F	Kirkland Lake, Ont.
CJLS	ak	100	...	Yarmouth, N. S.
CKCV	ak	100	F	Quebec, Que.
KCRJ	ak	100	D	Jerome, Ariz.
KFPL	dk	100	(.25)	Dublin, Texas
KFXR	ak	100	(.25)	Oklahoma City, Okla.
KFYO	dk	100	(.25)	Lubbock, Texas
KGCX	ak	100	(.25)	XZ Wolf Pt., Mont.
KGEZ	aj	100	...	Kalispell, Mont.
KGFV	ak	100	...	Kearney, Neb.
KINY	ak	100	...	Juneau, Alaska
KIT	ak	100	(.25)	Yakima, Wash.
KIUI	ak	100	...	Santa Fe, N. Mex.
KMED	ck	100	(.25)	Medford, Ore.
KPDN	z	100	DP	Pampa, Texas
KRMD	ak	100	...	Shreveport, La.
KROC	z	100	...	Rochester, Minn.
KROY	z	100	DP	Sacramento, Calif.
KRRV	z	100	DP	Sherman, Texas
KTSM	ak	100	...	El Paso, Texas
KVOL	ak	100	...	Lafayette, La.
KWAT	z	250	DP	Watsonville, Calif.
KXRO	ak	100	...	Aberdeen, Wash.
WAML	ak	100	...	Laurel, Miss.
WBEO	ae	100	...	Marquette, Mich.
WBOW	ak	100	(.25)	Terre Haute, Ind.
WBRE	ak	100	...	Wilkes Barre, Pa.
WCLS	ak	100	...	Joliet, Ill.
WCM1	z	100	...	Ashland, Ky.
WDAH	ak	100	S	El Paso, Texas
WEBR	ae	100	B(.25)	Buffalo, N. Y.
WEMP	z	100	D	Milwaukee, Wis.
WEXL	ak	50	...	Royal Oak, Mich.
WFBG	ae	100	3	Altoona, Pa.
WFDL	mk	100	...	Flint, Mich.
WGH	aj	100	(.25)	Newport News, Va.
WHAT	ak	100	4	Philadelphia, Pa.
WJAC	ae	100	3	Johnstown, Pa.
WLAK	z	100	...	Lakeland, Fla.
WLBC	ak	100	6(.25)	Muncie, Ind.
WLNH	ak	100	...	Laconia, N. H.
WMBO	ak	100	...	Auburn, N. Y.
WMFF	ak	250	D	Plattsburg, N. Y.
WNBH	ak	100	(.25)	New Bedford, Mass.
WOL	ak	100	...	Washington, D. C.
WRAW	ak	100	...	Reading, Pa.
WROL	ak	100	(.25)	Knoxville, Tenn.
WSAJ	ae	100	...	Grove City, Pa.
WSGN	ak	100	(.25)	Birmingham, Ala.
WSJS	ak	100	C	Winston-Salem, N.C.
WTAL	ak	100	...	Tallahassee, Fla.
WTEL	ce	100	4	Philadelphia, Pa.
WTJS	ak	100	(.25)	Jackson, Tenn.
WTRC	ak	100	6(.25)	Elkhart, Ind.
XEAG	z	10	...	Cordoba, Ver.
XECW	z	10	...	Mexico City, D. F.
XEFW	ak	250	...	Tampico, Tams.
XETB	ak	125	...	Torreón, Coah.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

XEX ak 125 Monterrey, N. L.
 XFA z 5 ... Aguascalientes, Ags.

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1320 keys. (227.1)

GMOX ak 200 Havana, Cuba
 KGHF ak 500 Pueblo, Colo.
 KGMB ak 1000 C Honolulu, T. H.
 KID ae 500 (1) Idaho Falls, Idaho
 KRNT ak 500 C(1) Des Moines, Iowa
 WADC ae 1000 C(2.5) Akron, Ohio
 WORK ak 1000 York, Pa.
 WSMB ak 500 N(1) New Orleans, La.

1330 keys. (225.4)

CMHK z 250 Cruces, Cuba
 KGB ag 1000 C(2.5) San Diego, Calif.
 KMO ak 250 Tacoma, Wash.
 KSCJ aj 1000 C(2.5) Sioux City, Iowa
 WDRC ae 1000 C(5) Hartford, Conn.
 WSAI ak 1000 R(2.5) Cincinnati, Ohio
 WTAQ ae 1000 Green Bay, Wis.

1340 keys. (223.7)

GMA B z Pinar del Rio, Cuba
 CMJL z 75 Camaguey, Cuba
 HRN z 50 Tegucigalpa, Hond.
 KGDY ak 250 D Huron, S. D.
 KGIR ak 1000 N(2.5) Butte, Mont.
 KGNO ak 250 Dodge City, Kans.
 WCOA ak 500 C Pensacola, Fla.
 WFEA ae 500 C(1) Manchester, N. H.
 WSPD ae 1000 C(5) Toledo, Ohio
 XEFE z 250 Nuevo Laredo, Tams.
 XFD z 350 Jalapa, Ver.

1350 keys. (222.1)

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

1360 keys. (220.4)

GMJH dk 50 Giego de Avila, Cuba
 KGRC ak 250 Entd, Okla.
 KGER ak 1000 Long Beach, Calif.
 WGSC ak 500 (1)N Charleston, S. C.
 WFBL ak 1000 C(5) Syracuse, N. Y.
 WGES ae 500 1 Chicago, Ill.
 WQBC ak 1000 D Vicksburg, Miss.
 WSBT ak 500 1 South Bend, Ind.

1370 keys. (218.8)

GKGW ak 100 F Moncton, N. B.
 CMGE ak 150 Cardenas, Cuba
 HIZ z 10 Trujillo, D. R.
 KAST ak 100 D Astoria, Ore.
 KBHB z 100 P Rapid City, S. Dak.
 KCMO ak 100 Kansas City, Mo.
 KELD z 100 El Dorado, Ark.
 KERN ak 100 Bakersfield, Calif.
 KFGQ ak 100 Boone, Iowa
 KFJM ak 100 (.25) Grand Forks, N. D.
 KFJZ ae 100 X Fort Worth, Texas
 KFRO ak 100 D Longview, Texas
 KGAR ae 100 (.25) Tucson, Ariz.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

KGFG	bk	100	....	Oklahoma City, Okla
KGFL	ak	100	4	Roswell, N. M.
KGKL	ak	100	(.25)	San Angelo, Texas
KICA	ak	100	4	Clovis, N. M.
KIUP	ak	100	....	Durango, Colo.
KLUF	z	100	(.25)	Galveston, Texas
KMAC	ak	100	5	San Antonio, Tex.
KONO	ak	100	5	San Antonio, Tex.
KRE	ak	100	(.25)	Berkeley, Calif.
KRKO	ak	50	1	Everett, Wash.
KSLM	ak	100	....	Salem, Ore.
KTEM	z	100	DP	Temple, Texas
KUJ	ak	100	....	Walla Walla, Wash.
KVL	ak	100	1	Seattle, Wash.
KWYO	ak	100	X	Sheridan, Wyo.
WABY	aj	100	....	Albany, N. Y.
WAGF	ak	250	D	Dothan, Ala.
WATL	ak	100	....	Atlanta, Ga.
WBNY	z	100	2(.25)	Buffalo, N. Y.
WBTM	ak	100	(.25)	Danville, Va.
WCBM	ae	100	(.25)	Baltimore, Md.
WDAS	ae	100	(.25)	Philadelphia, Pa.
WDWS	z	100	DP	Champaign, Ill.
WEOA	z	100	....	Evansville, Ind.
WEXP	z	100	DP	Clarksburg, W. Va.
WGL	ae	100	C	Fort Wayne, Ind.
WGRC	z	250	DP	New Albany, Ind.
WHBQ	ak	100	....	Memphis, Tenn.
WHDF	ak	100	(.25)	Calumet, Mich.
WHLB	z	100	P	Virginia, Minn.
WIBM	ak	100	(.25)	Jackson, Mich.
WLLH	ak	100	(.25)	Lowell, Mass.
WMBR	ak	100	C(.25)	Jacksonville, Fla.
WMFD	ak	100	D	Wilmington, N. C.
WMFO	ak	100	D	Decatur, Ala.
WMIN	z	100	P	St. Paul, Minn.
WOC	ak	100	C(.25)	Davenport, Iowa
WPAY	ak	100	....	Portsmouth, Ohio
WPFB	ak	100	....	Hattiesburg, Miss.
WQDM	ae	100	....	St. Albans, Vt.
WRAK	ak	100	(.25)	Williamsport, Pa.
WRDO	ae	100	....	Augusta, Maine
WRJN	ak	100	(.25)	Racine, Wis.
WSVS	ak	50	D2	Buffalo, N. Y.
XEFZ	ak	100	Mexico City, D. F.
XEI	ak	125	Morelia, Mich.
XEZZ	z	100	San Luis Potosi, SLP.

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1380 keys. (217.3)

CMCR	z	150	Havana, Cuba
KOH	ak	500	C	Reno, Nev.
KOV	ae	500	Pittsburgh, Pa.
WALA	af	500	C(1)	Mobile, Ala.
WKBH	ae	1000	....	LaCrosse, Wis.
WNBC	mk	250	D	New Britain, Conn.
WSMK	ak	200	C	Dayton, Ohio

1390 keys. (215.7)

CMJC	z	150	....	Camaguey, Cuba
HIH	ak	15	1395	San Ped. de Macoris
KLRA	ae	1000	C(2.5)	Little Rock, Ark.
KOOS	ae	250	D	Marshfield, Ore.
KOY	ae	500	(1)	Phoenix, Ariz.
WHK	ae	1000	C(2.5)	Cleveland, Ohio

1400 keys. (214.2)

CMGC	z	100	....	Matanzas, Cuba
CMKR	z	100	....	Santiago, Cuba
KHBC	z	250	....	Hilo, T. H.
KLO	ak	500	N	Ogden, Utah
KTUL	ak	500	C(1)	Tulsa, Okla.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

TGX	ak	250	...	Guatemala City, Gt.
WARD	ak	500	2	Brooklyn, N. Y.
WBBC	ae	500	2(1)	Brooklyn, N. Y.
WEGL	z	500	P	Brooklyn, N. Y.
WIRE	ak	500	R(1)	Indianapolis, Ind.
WLTH	ak	500	2	Brooklyn, N. Y.
WVFW	ak	500	2	Brooklyn, N. Y.

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1410 keys. (212.6)

CKFC	ak	50	5	Vancouver, B. C.
CKMO	ag	100	5F	Vancouver, B. C.
KGNC	ae	1000	(2.5)	Amarillo, Texas
WAAB	ak	500	C	Boston, Mass.
WBCM	ae	500	.....	Bay City, Mich.
WHIS	ak	500	(1)	Bluefield, W. Va.
WROK	ak	500	.....	Rockford, Ill.
WSFA	ak	500	C(1)	Montgomery, Ala.

1420 keys. (211.1)

CKGB	ak	100	F	Timmins, Ont.
CMCO	z	250	.....	Havana, Cuba
KABC	ak	100	(.25)	San Antonio, Texas
KABR	ak	100	.....	Aberdeen, S. Dak.
KALB	z	100	D	Alexandria, La.
KBPS	aj	100	4	Portland, Ore.
KCMC	ak	100	.....	Texarkana, Ark.
KEUB	z	100	P	Price, Utah
KFTZ	ak	100	.....	Fond du Lac, Wis.
KGFF	ak	100	(.25)	Shawnee, Okla.
KGGC	ak	100	.....	San Francisco, Cal.
KGIW	ak	100	1	Alamosa, Colo.
KIDW	ak	100	1	Lamar, Colo.
KIUN	ak	100	.....	Pecos, Texas
KNET	z	100	D	Palestine, Texas
KORE	ae	100	..	Eugene, Ore.
KRBC	z	100	P	Abilene, Tex.
KRLC	ak	100	..	Lewiston, Idaho
KRLH	z	100	D	Midland, Tex.
KUMA	ak	100	.....	Yuma, Ariz.
KWBG	ak	100	.....	Hutchinson, Kans.
KXL	ak	100	4(.25)	Portland, Ore.
WACO	ak	100	C	Waco, Texas
WAGM	ae	100	.....	Presque Isle, Maine
WAPQ	z	100	DP	Chatanooga, Tenn.
WAZL	ak	100	2	Hazleton, Pa.
WCBS	ak	100	.....	Springfield, Ill.
WCIV	ak	100	3(.25)	Charlottesville, Va.
WEED	ak	100	3 X	Rocky Mount, N. C.
WEHS	ak	100	a	Cicero, Ill.
WELL	ak	100	.....	Battle Creek, Mich.
WGPC	ak	100	.....	Albany, Ga.
WHDL	ak	100	D	Albany, N. Y.
WHFG	ae	100	a	Cicero, Ill.
WILM	aj	100	2	Wilmington, Del.
WJBO	ak	100	.....	Baton Rouge, La.
WJBR	z	100	P	Gastonia, N. C.
WJMS	ak	100	.....	Ironwood, Mich.
WKBI	ak	100	a	Cicero, Ill.
WLAP	ak	100	(.25)	Lexington, Ky.
WLBF	ak	100	.....	Kansas City, Kan.
WLEU	ak	100	(.25)	Erie, Pa.
WMAS	ak	100	C(.25)	Springfield, Mass.
WMBC	ae	100	(.25)	Detroit, Mich.
WMBH	ak	100	(.25)	Joplin, Mo.
WMFJ	ak	100	.....	Daytona Beach, Fla.
WMSD	ak	100	.....	Sheffield, Ala.
WPAD	ak	100	(.25)	Paducah, Ky.
WPAR	ak	100	.....	Parkersburg, W. Va.
WPRP	z	100	P(.25)	Ponce, P. R.
XEAZ	z	7	.....	Guanajuato, Gto.
XEFB	ak	100	.....	Monterrey, N. L.

NORTH AMERICAN B. C. STATIONS BY FREQUENCIES

					Heard	Logged	Reported	Verified
KNEL	ak	100	D	Brady, Texas				
KNOW	ak	100	C	Austin, Texas				
KOTN	ak	100	D	Pine Bluff, Ark.				
KPLC	ak	100		Lake Charles, La.				
KPLT	z	100	DP	Paris, Texas				
KPO	ak	100	(.25)	Wenatchee, Wash.				
KRRR	z	100	D	Roseburg, Ore.				
KTEP	z	100	P	El Paso, Texas				
KUTA	z	100	P	Salt Lake City, Utah				
KVOE	ak	100		Santa Ana, Calif.				
KXO	ae	100		El Centro, Calif.				
WCNW	ak	100	1 (.25)	Brooklyn, N. Y.				
WDNC	ae	100	C	Durham, N. C.				
WGAL	ae	100	(.25)	Lancaster, Pa.				
WHBB	z	100	D	Selma, Ala.				
WHBF	ak	100	(.25)	Kosciusko, Miss.				
WJBK	ae	100	(.25)	Detroit, Mich.				
WKBB	ak	100	(.25)	E. Dubuque, Ill.				
WKBV	ak	100		Richmond, Ind.				
WKBZ	ak	100	(.25)	Muskegon, Mich.				
WKEU	ak	100	D	Griffin, Ga.				
WMBO	ae	100	1	Brooklyn, N. Y.				
WMEX	ak	100	(.25)	Boston, Mass.				
WBNF	ae	100	C	Binghamton, N. Y.				
WNLC	z	100	DP	New London, Conn.				
WOPI	ae	100		Bristol, Tenn.				
WRDW	ak	100		Augusta, Ga.				
WRGA	ak	100	(.25)	Rome, Ga.				
WSYB	ak	100		Rutland, Vt.				
WTMV	ak	100		East St. Louis, Ill.				
WWRL	ak	100	1 (.25)	Woodside, N. Y.				
WWSW	ae	100	(.25)	Pittsburgh, Pa.				
.....	z	100	P	Valley City, N. Dak.				
1510 kcys. (198.6)				<input type="text"/>				
CFRC	ak	100	F	Kingston, Ont.				
CKCR	ak	100		Waterloo, Ont.				
1530 kcys. (196.0)				<input type="text"/>				
W1XBS	z	1000		Waterbury, Conn.				
W9XBY	ak	1000		Kansas City, Mo.				
1550 kcys. (193.4)				<input type="text"/>				
W2XR	z	1000		Long Isl. City, N. Y.				
W6XAI	ak	1000		Bakersfield, Calif.				

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 warts in third column. Daytime power is shown in parenthesis in fourth column in kilowatts, thus (.25) indicating 250 warts. Some stations outside the United States use a "split frequency." Their exact frequency is shown in fourth column.

- | | | |
|---|--|---|
| <p>Second Column Symbols</p> <ul style="list-style-type: none"> a Verifies reception for return postage. b Verifies only occasionally. c Does not verify. d Verification 10c; letter 25c. e Sends Ekko stamp for 10c. f Sends Ekko stamp for 5c. g Sends Ekko stamp for postage. h Sends own station stamp for 10c. i Sends own station stamp for 5c. j Sends own station stamp for postage. | <ul style="list-style-type: none"> k Has no stamps. m Verifies for 5c. n Weather or time only z No information available <p>Fourth Column Symbols</p> <ul style="list-style-type: none"> B National "Blue" network. C Columbia network. D Day time only. Dn Day time with occasional evening hours. F Canadian Radio Broadcast Commission. N National "Red" and "Blue" networks | <ul style="list-style-type: none"> P Has construction permit only R National "Red" network S Sunday only. sv Synchronized. X Has permit to increase power. Y Has permit to change location. Z Has permit to change frequency. <p>a-b-c. Small letters show stations using same transmitter.</p> <p>1-2-3. Figures denote stations sharing time.</p> <p>..... No information.</p> |
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Frequency in kilocycles in second column. Night power in watts in third column. Net work affiliations in fourth column: C Columbia, R National Red, B National Blue, N National Red and Blue, F Canadian.

ALABAMA	CALIFORNIA	Stockton	Gainesville
Birmingham	Bakersfield	KGDM 1100 1000	WRUF 830 5000
WAPI 1140 5000 N	KERN 1370 100 C	KWG 1200 100 C	Jacksonville
WBRC 930 1000 C	W6XAI 1550 1000	Watsonville	WJAX 900 1000 N
WSGN 1310 100	Berkeley	KWAT 1310 250	WMBR 1370 100 C
Decatur	KRE 1370 100	COLORADO	Lakeland
WMFO 1370 100	Beverly Hills	Alamosa	WLAK 1310 100
Dathan	KMPC 710 500	KGIV 1420 100	Miami
WAGF 1370 250	Chico	Colorado Springs	WIOD 1300 1000 N
Gadsden	KHSL 950 250	KVOR 1270 1000 C	WQAM 560 1000 C
WJBY 1210 100	Del Monte	Denver	Orlando
WALA 1380 500 C	KDON 1210 100	KFEL 920 500	WDBO 580 1000 C
Mobile	El Centro	KLZ 560 1000 C	Pensacola
WASA 1380 500 C	KXO 1500 100	KOA 830 50000 N	WCOA 1340 500 C
Montgomery	Eureka	KPOF 880 500	St. Augustine
WSFA 1410 500 C	KIEM 1450 500	KVOD 920 500	WFOY 1210 100
Selma	Fresno	Durango	St. Petersburg
WHBB 1500 100	KMJJ 580 1000 C	KIUP 1370 100	WSUN 620 1000 N
Sheffield	Glendale	Grand Junction	Tallahassee
WMSD 1420 100	KIEV 850 250	KFXJ 1200 100	WTAL 1310 100
Tuscaloosa	Hollywood	Greeley	Tampa
WJRD 1200 100	KFWB 950 1000	KFKA 880 500	WDAE 1220 1000 C
ALASKA	KMTR 570 1000	Lamar	West Palm Beach
Anchorage	KNX 1050 50000	KIDW 1420 100	WJNO 1200 100
KFOD 780 250	Long Beach	Pueblo	GEORGIA
Juneau	KFOX 1250 1000	KGHW 1320 500	Albany
KINY 1310 100	KGER 1360 1000	Sterling	WGPC 1420 100
Ketchikan	Los Angeles	KGEK 1200 100	Athens
KGBU 900 500	KECA 1430 1000 B	CONNECTICUT	WTFI 1450 500
ARIZONA	KEHE 780 500	Bridgeport	Atlanta
Jerome	KFAC 1300 1000	WICC 600 500 C	WATL 1370 100
KCRJ 1310 100	KFEI 640 50000 R	Hartford	WGST 890 1000 C
Lowell	KFSG 1120 500	WDRG 1330 1000 C	WSB 740 50000 N
KSUN 1200 100	KFVD 1000 250	WTIC 1040 50000 R	Augusta
Phoenix	KGFJ 1200 100	WTHT 1200 100	WRDW 1500 100
KOY 1390 500	KHJ 900 1000 C	New Britain	Columbus
KTAR 620 1000 N	KRKD 1120 500	WNBC 1380 250	WRBL 1200 100
Tucson	Merced	New Haven	Griffin
KGAR 1370 100	KYOS 1040 250	WELI 900 500	WKEU 1500 100
KVOA 1260 500	Modesto	New London	Macon
Yuma	KTRB 740 250	WNLC 1500 100	WMAZ 1180 1000
KUMA 1420 100	Oakland	Waterbury	Rome
ARKANSAS	KLS 1440 250	WATR 1190 100	WRGA 1500 100
Blytheville	KLX 880 1000	WIXBS 1530 1000	Savannah
KLCN 1290 100	KROW 930 1000	DELAWARE	WTOC 1260 1000 C
El Dorado	Pasadena	Wilmington	Thomasville
KELD 1370 100	KPPC 1210 100	WDEL 1120 250	WPAX 1310 100
Fayetteville	Redding	WILM 1420 100	Waycross
KUOA 1260 1000	KVCV 1200 100	DISTRICT OF COLUMBIA	WAYX 1200 100
Fort Smith	Sacramento	Washington	HAWAII
KFPW 1210 100	KFBK 1490 5000 C	WJSV 1460 10000 C	Hilo
Hot Springs	KROY 1310 100	WMAL 630 250 B	KHBC 1400 250
KTHS 1060 10000 N	San Bernardino	WOL 1310 100	Honolulu
Jonesboro	KFXM 1210 1000	WRC 950 500 R	KGMB 1320 1000 C
KBTM 1200 100	San Diego	FLORIDA	KGU 750 2500 N
Little Rock	KGB 1330 1000 C	Clearwater	IDAHO
KARK 890 250	San Francisco	WFLA 620 1000 N	Boise
KGHI 1200 100	KFRC 610 1000 C	Daytona Beach	KIDN 1350 1000
KLRA 1390 1000 C	KGCC 1420 100	WMFJ 1420 100	Idaho Falls
Pine Bluff	KGO 790 7500 B	Clearwater	KID 1320 500
KOTN 1500 100	KJBS 1070 500	WFLA 620 1000 N	Lewiston
Texarkana	KPO 680 50000 R	Daytona Beach	KRLC 1420 100
KCMC 1420 100	KSFO 560 1000	WTFI 1240 1000	Nampa
	KYA 1230 1000 N		KFXD 1200 100
	San Jose		Pocatello
	KOW 1010 1000		KSEI 900 250
	San Luis Obispo		Twin Falls
	KVEC 1200 250		KTFI 1240 1000
	Santa Ana		
	KVOE 1500 100		
	Santa Barbara		
	KDB 1500 100 C		

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

ILLINOIS	Muncie	Covington	Fall River
Bloomington	WLCB 1310 100	WCKY 1490 5000 B	WSAR 1450 1000
WJBC 1200 100	New Albany	Lexington	Lowell
Carthage	WGRCA 1370 250	WLAP 1420 100	WLLH 1370 100
WCAZ 1070 100	Richmond	Louisville	New Bedford
Champaign	WKBV 1500 100	WAVE 940 1000 N	WNBH 1310 100
WDWS 1370 100	South Bend	WHAS 820 50000 C	Springfield
Chicago	WFAM 1200 100	Middlesboro	WBAZ 990 1000 B
WAAF 920 1000	WSBT 1360 500 C	WLMU 1210 100	WMAS 1420 100 C
WBBM 770 50000 C	Terre Haute	Paducah	WSPR 1140 500
WCFL 970 5000 B	WBCW 1310 100	WPAD 1420 100	Worcester
WCRW 1210 100	West Lafayette		WORC 1280 500 C
WEDC 1210 100	WBAA 890 500		WTAG 580 500 R
WENR 870 50000 N		LOUISIANA	
WGES 1360 500		Alexandria	MICHIGAN
WGN 720 50000	IOWA	KALB 1420 100	Battle Creek
WJJD 1130 20000	Ames	Baton Rouge	WELL 1420 100
WLS 870 50000 N	WOI 640 5000	WJBO 1420 100	Bay City
WMAQ 670 50000 N	Boone	Lafayette	WBCM 1410 500
WMBI 1080 5000	KFGQ 1370 100	KVOL 1310 100	Calumet
WSBC 1210 100	Cedar Rapids	Lake Charles	WIDF 1370 100
Cicero	WMT 600 1000 B	KPLC 1500 100	Detroit
WEHS 1420 100	Council Bluffs	Monroe	WJBK 1500 100
WHFC 1420 100	KOIL 1260 1000 B	KMLB 1200 100	WJR 750 50000 C
WKBI 1420 100	Davenport	New Orleans	WMBC 1420 100
Decatur	WOC 1370 100 C	WBNO 1200 100	WWJ 920 1000 B
WJBL 1200 100	Decorah	WDSU 1250 1000	WXYZ 1240 1000 R
East Dubuque	KGCA 1270 100	WJBW 1200 100	East Lansing
WKBB 1500 100	KWLC 1270 100	WSMB 1320 500 N	WKRAR 850 1000
East St. Louis	Des Moines	WWL 850 10000 C	Flint
WTMV 1500 100	KRNT 1320 500 C	Shreveport	WFDL 1310 100
Harrisburg	KSO 1430 500 B	KRMD 1310 100	Grand Rapids
WEBQ 1210 100	WHO 1000 5000 R	KTBS 1450 1000 N	WASH 1270 500 N
Joliet	Iowa City	KWKH 1100 1000 C	WOOD 1270 500 N
WCLS 1310 100	WSUI 880 500		Ironwood
Peoria	Marshalltown	MAINE	WJMS 1420 100
WMBD 1440 500 C	KFJB 1200 100	Augusta	Jackson
Quincy	Mason City	WRDO 1370 100	WIBM 1370 100
WTAD 900 500	KGLO 1210 100	Bangor	Kalamazoo
Rockford	Shenandoah	WABI 1200 100	WKZO 590 1000
WROK 1410 500	KENF 890 500	WLBZ 620 500 C	Lansing
Rock Island	KMA 930 1000	Portland	WJIM 1210 100
WHBF 1210 100	Sioux City	WCSH 940 1000 R	Lapeer
Springfield	KSCJ 1330 1000 C	WSPG 640 500	WMPK 1200 100
WCBS 1420 100	KANSAS	Presque Isle	Marquette
WTAX 1210 100	Abilene	WAGM 1420 100	WBEO 1310 100
Tuscola	KFBI 1050 5000		Muskegon
WDZ 1020 250	Coffeyville	MARYLAND	WKBZ 1500 100
Urbana	KGGF 1010 1000	Baltimore	Royal Oak
WILL 580 1000	Dodge City	WBAL 760 2500 B	WEXL 1310 50
Waukegan	KGNO 1340 250	WBAL 1060 10000 B	MINNESOTA
WCBD 1080 5000	Garden City	WCAO 600 500 C	Duluth
	KIUL 1210 100	WCBM 1370 100	KDAL
INDIANA	Hutchinson	WFBR 1270 500 R	Fergus Falls
Anderson	KWBG 1420 100	Cumberland	KGDE 1200 100
WHBU 1210 100	Kansas City	WTBO 800 250	Hibbing
Elkhart	WLBK 1420 100	Frederick	WMFG 1210 100
WTRC 1310 100	Lawrence	WFMD 900 500	Minneapolis
Evansville	KFKU 1220 1000	Hagerstown	WCCO 810 50000 C
WEOA 1370 100	WREN 1220 1000 B	WJBJ 1210 100	WDGY 1180 1000
WGFB 630 500	Manhattan		WLB 1250 1000
Fort Wayne	KSAC 580 500	MASSACHUSETTS	WTCN 1250 1000
WGL 1370 100 C	Topeka	Boston	Moorhead
WOWO 1160 10000 C	WIBW 580 1000 C	WAAB 1410 500 B	KGFK 1500 100
Gary	Wichita	WBZ 990 50000 C	Northfield
WIND 560 1000	KANS 1210 100	WCOP 1120 500	WCAL 1250 1000
Hammond	KFH 1300 1000 C	WEEL 590 1000 R	Rochester
WWAE 1200 100	KENTUCKY	WHDH 830 1000 R	KROC 1310 100
Indianapolis	Ashland	WMEX 1500 100	St. Paul
WFBM 1230 1000 C	WCMI 1310 100	WNAK 1230 1000 C	KSTP 1460 25000 N
WIRE 1400 500 R		WORL 920 500	WMIN 1370 100
			Virginia
			WHLB 1370 100

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

MISSISSIPPI

Clarksdale		
WFEN	1210	100
Gulfport		
WGCM	1210	100
Hattiesburg		
WPFB	1370	100
Jackson		
WJDX	1270	1000 N
Kosciusko		
WHEF	1500	100
Laurel		
WAML	1310	100
Meridian		
WGOC	880	500
Vicksburg		
WQBC	1360	1000

MISSOURI

Cape Girardeau		
KFVS	1210	100
Columbia		
KFRU	630	500
WOS	630	500
Jefferson City		
WJoplin	1420	100
WMBH	1420	100
Kansas City		
KCMO	1370	100
KMBC	950	1000 C
WDAF	610	1000 R
WIB	860	1000
W9XBY	1530	1000
St. Joseph		
KFEQ	680	2500
St. Louis		
KFUO	550	500
KMOX	1090	50000 C
KSD	550	1000 R
KWK	1350	1000 B
WEW	760	1000
WTL	1200	100
Springfield		
KGBX	1230	500
KWTO	560	5000

MONTANA

Billings		
KGHL	780	1000 N
Butte		
KGIR	1340	1000 N
Great Falls		
KFBB	1280	1000
Kalispell		
KGEZ	1310	100
Lewistown		
KDNC	1200	100
Missoula		
KGVO	1260	1000
Wolf Point		
KGCX	1310	100

NEBRASKA

Clay Center		
KMMJ	740	1000
Kearney		
KGFW	1310	100
Lincoln		
KFAB	770	10000 C
KFOR	1210	100 C

Norfolk

WJAG	1060	1000
North Platte		
KGNF	1430	1000
Omaha		
WAAW	660	500
WOW	590	5000 R
Scottsbluff		
KGKY	1500	100

NEVADA

Reno		
KOH	1380	500 C

NEW HAMPSHIRE

Laconia		
WLNH	1310	100
Manchester		
WFEA	1340	500 C
Portsmouth		
WHEB	740	250

NEW JERSEY

Asbury Park		
WCAP	1280	500
Atlantic City		
WPG	1100	5000 C
Camden		
WCAM	1280	500
Jersey City		
WAAT	940	500
WHOM	1450	250
Newark		
WHBI	1250	1000
WNEW	1250	1000
WOR	710	50000
Red Bank		
WBRB	1210	100
Trenton		
WINJ	1280	500
Zarephath		
WAWZ	1350	500

NEW MEXICO

Albuquerque		
KGGM	1230	250
KOB	1180	10000
Clovis		
KICA	1370	100
Roswell		
KGRF	1370	100
Santa Fe		
KIUF	1310	100

NEW YORK

Albany		
WABY	1370	100
WOKO	1430	500 C
Auburn		
WMB0	1310	100
Binghamton		
WNBf	1500	100 C
Brooklyn		
WARD	1400	500
WBBc	1400	500
WBBR	1300	1000
WCNW	1500	100
WEGL	1400	500

WLTH	1400	500
WMBO	1500	100
WVWF	1400	500
Buffalo		
WBEN	900	1000 R
WBNY	1370	100
WEBR	1310	100 B
WGR	550	1000 C
WKBW	1480	5000 C
WSVS	1370	50

Canton		
WCAD	1220	500
Chester		
WGNV	1210	100
Elmira		
WESG	850	1000 C
Freeport		
WGBB	1210	100
Jamestown		
WOCL	1210	50
Long Island City		
W2XR	1550	1000

New York		
WABC	860	50000 C
WBNX	1350	250
WBOQ	860	50000
WEAF	660	50000 R
WEVD	1300	1000
WFAB	1300	1000
WHN	1010	1000
WINS	1180	1000
WJZ	760	50000 B
WLWL	1100	5000
WMCA	570	500
WNYC	810	1000
WQV	1130	1000

Olean		
WHDL	1420	100
Plattsburg		
WMFF	1310	250
Rochester		
WIIAM	1150	50000 B
WHEC	1430	500 C
WSAY	1210	100
Saranac Lake		
WNBZ	1290	100
Schenectady		
WGY	790	50000 R

Syracuse		
WFBL	1360	1000 C
WSYR	570	250 B
Troy		
WHAZ	1300	500
Utica		
WIBX	1200	100 C
White Plains		
WFAS	1210	100
Woodside		
WWRL	1500	100

NORTH CAROLINA

Asheville		
WWNC	570	1000 N
Charlotte		
WBT	1080	50000 C
WSOC	1210	100 N
Durham		
WDNC	1500	100 C
Gastonia		
WJBR	1420	100
Greensboro		
WBIG	1440	500 C

High Point		
WMFR	1200	100
Raleigh		
WPTF	680	5000 N
Rocky Mount		
WEED	1420	100
Wilmington		
WMFD	1370	100
Winston-Salem		
WSJS	1310	100 C

NORTH DAKOTA

Bismarck		
KFYR	550	1000 N
Devils Lake		
KDLR	1210	100
Fargo		
WDAY	940	1000 N
Grand Forks		
KFJM	1370	100
Mandan		
KGCU	1240	250
Minot		
KLPM	1240	250
Valley City		
.....	1500	100

OHIO

Akron		
WADC	1320	1000 C
WJW	1210	100
Canton		
WHBC	1200	100
Cincinnati		
WCPO	1200	100
WKRC	550	1000 C
WLW	700	500000 N
WSAI	1330	1000 R
Cleveland		
WGAR	1450	500 B
WHK	1390	1000 C
WJAY	610	500
WTAM	1070	50000 R

Columbus		
WBNS	1430	500 C
WCOL	1210	100
WHKC	640	500
WOSU	570	750
Dayton		
WHIO	1260	1000 R
WSMK	1380	200 C
Lima		
WBLV	1210	100
Portsmouth		
WPAY	1370	100
Toledo		
WSPD	1340	1000 C
Youngstown		
WKBN	570	500 C
Zanesville		
WALR	1210	100

OKLAHOMA

Ada		
KADA	1210	100
Ardmore		
KVSO	1200	100
Elk City		
KASA	1210	100

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Enid KCRC 1360 250	Philadelphia KYW 1020 10000 R WCAU 1170 50000 C WDAS 1370 100 WFIL 560 1000 B WHAT 1310 100 WIP 610 1000 WPEN 920 250 WRAX 920 250 WTEL 1310 100	Huron KGDY 1340 250 Pierre KGFV 630 200 Rapid City KBHB 1370 100 WCAT 1200 100 Sioux Falls KSOO 1110 2500 Vermillion KUSD 890 500 Watertown KWTN 1210 100 Yankton WNAX 570 1000 C	Houston KPRC 920 1000 N KTRH 1290 1000 C KXYZ 1440 1000 Kilgore KOCA 1210 100 Longview KFRO 1370 100 Lubbock KFYO 1310 100 Midland KRLH 1420 100 Palestine KNET 1420 100 Pampa KPDN 1310 100 Paris KPLT 1500 100 Pecos KIUN 1420 100 Port Arthur KPAC 1260 500 San Angelo KGKL 1370 100 San Antonio KABC 1420 100 KMAC 1370 100 KONO 1370 100 K TSA 550 1000 C WOAI 1190 50000 N Sherman KRRV 1310 100 Temple KTEM 1370 100 Tyler K GKB 1500 100 Waco WACO 1420 100 C Weslaco KRGV 1260 500 Wichita Falls K GKO 570 250 C
OREGON	Pittsburgh KDKA 980 50000 B KOV 1380 500 WCAE 1220 1000 R WJAS 1290 1000 C WWSW 1500 100 Reading WEU 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	TENNESSEE	
ASTORIA KAST 1370 100	PUERTO RICO	Bristol WOPI 1500 100 Chattanooga WAPO 1420 100 WDOD 1280 1000 C Jackson WTJS 1310 100 Knoxville WNOX 1010 1000 C WROL 1310 100 Memphis WHBQ 1370 100 WMC 780 1000 N WNBR 1430 500 WREC 600 1000 C Nashville WLAC 1470 5000 C WSM 650 50000 N Springfield WSIX 1210 100	
Corvallis KOAC 550 1000	RHODE ISLAND	Abilene KRBC 1420 100 Amarillo K GNC 1410 1000 Austin KNOW 1500 100 C Beaumont KFDM 560 500 Big Spring KBST 1500 100 Brady KNEL 1500 100 Collage Station WTAW 1120 500 Corpus Christi KGFI 1500 100 Dallas KRLD 1040 10000 C WFAA 800 50000 N WRR 1280 500 Dublin KFPL 1310 100 El Paso KTEP 1500 100 KTSM 1310 100 WDAH 1310 100 Fort Worth KFJZ 1370 100 KTAT 1240 1000 WBAP 800 50000 N Galveston KLUF 1370 100	UTAH
Eugene KORE 1420 100	San Juan WKAQ 1240 1000 WNEL 1290 1000	Springfield WNOX 1010 1000 C WROL 1310 100	Ogden KLO 1400 500 N Price KEUB 1420 100 Salt Lake City KDYL 1290 1000 N KSL 1130 50000 C KUTA 1500 100
Klamath Falls KFJI 1210 100		Wichita Falls K GKO 570 250 C	VERMONT
Marshfield KOOS 1390 250			Burlington WCAX 1200 100 Rutland WSYB 1500 100 St. Albans WQDM 1370 100 Springfield WNBX 1260 1000 Waterbury WDEV 550 500
Medford KMED 1310 100			VIRGINIA
Portland KALE 1300 500 C KBPS 1420 100 KEX 1180 5000 N KFJR 1300 500 KGW 620 1000 R KOIN 940 1000 C KWJJ 1040 500 KXL 1420 100			Arlington NAA 690 1000 Charlottesville WCHV 1420 100
Roseburg KRNR 1500 100	SOUTH CAROLINA		
Salem KSLM 1370 100	Anderson WAIM 1200 100 Charleston WCSC 1360 500 N Columbia WIS 560 1000 N Florence WOLS 1200 100 Greenville WFBC 1300 1000 N Spartanburg WSPA 920 1000		
PENNSYLVANIA	SOUTH DAKOTA		
Allentown WCBA 1440 500 WSAN 1440 500	Aberdeen KABR 1420 100 Brookings KF DY 780 1000		
Altoona WFBG 1310 100			
Easton WEST 1200 100			
Erie WLEU 1420 100			
Glenside WIBG 970 100			
Greensburg WHJB 620 250			
Grove City WSAJ 1310 100			
Harrisburg WHP 1430 500 C WKBO 1200 100			
Hazleton WAZL 1420 100			
Johnstown WJAC 1310 100			
Lancaster WGAL 1500 100			

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Danville		
WBTV 1370	100	
Harrisonburg		
WSVA 550	500	
Lynchburg		
WLVA 1200	100	
Newport News		
WGH 1310	100	
Norfolk		
WTAR 780	500 N	
Petersburg		
WPHR 880	500	
Richmond		
WBFL 1210	100	
WMBG 1210	100 C	
WRVA 1110	5000 N	
Roanoke		
WDBJ 930	1000 C	

WASHINGTON		
Aberdeen		
KXRO 1310	100	
Bellingham		
KVOS 1200	100	
Everett		
KRKO 1370	50	
Olympia		
KGY 1210	100	
Pullman		
KWSC 1220	1000	
Seattle		
KIRO 710	1000	
KJR 970	5000 B	
KOL 1270	1000 C	
KOMO 920	1000 R	
KRSC 1120	100	
KTW 1220	1000	
KVL 1370	100	
KXA 760	250	

Spokane		
KFIO 1120	100	
KFPY 890	1000 C	
KGA 1470	5000 B	
KHQ 590	1000 R	
Tacoma		
KMO 1330	250	
KVI 570	1000 C	
Walla Walla		
KUJ 1370	100	
Wenatchee		
KPY 1500	100	
Yakima		
KIT 1310	100	

WEST VIRGINIA		
Bluefield		
WHIS 1410	500	
Charleston		
WCHS 580	500	
Clarksburg		
WEXP 1370	100	
Fairmont		
WMMN 890	250 C	
Huntington		
WSAZ 1190	1000	
Parkersburg		
WPAR 1420	100	
Wheeling		
WVVA 1160	5000 C	

WISCONSIN		
Fond du Lac		
KFIZ 1420	100	
Green Bay		
WHBY 1200	100	
WTAO 1330	1000	
Janesville		
WCLO 1200	100	
LaCrosse		
WKBH 1380	1000	
Madison		
WHA 940	2500	
WIBA 1280	1000 N	
Manitowoc		
WOMT 1210	100	
Milwaukee		
WEMP 1310	100	
WISN 1120	250 C	
WTMJ 620	1000 N	
Poynette		
WIBU 1210	100	
Racine		
WRJN 1370	100	
Sheboygan		
WHBL 1300	500	
Stevens Point		
WLBL 900	2500	
Superior		
WEBC 1290	1000 N	

WYOMING		
Casper		
KDFN 1440	500	
Sheridan		
KWYO 1370	100	

CANADA

ALBERTA		
Calgary		
CFAC 930	100 F	
CFCN 1030	10000	
CJCF 690	100 F	
Edmonton		
CFRN 1260	100 F	
CJCA 730	1000 F	
CKUA 580	500	
Lethridge		
CJOC 950	100 F	

BRITISH COLUMBIA		
Chilliwack		
CHWK 780	100 F	
Kamloops		
CFJC 880	100 F	
Kelowna		
CKOV 630	100 F	
Prince Rupert		
CFPR 580	50	
Trail		
CJAT 910	1000 F	
Vancouver		
CJOR 600	500	
CKGD 1010	100	
CKFK 1410	50	
CKMO 1410	100 F	
CKWX 1010	100 F	
CRCV 1100	1000 F	
Victoria		
CFVT 1450	50	

MANITOBA		
Brandon		
CKX 1120	100 F	
Winnipeg		
CJRC 630	1000 F	
CKY 910	15000 F	

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

N. W. TERRITORY		
Aklavik		
CJCU 1210	50	

NOVA SCOTIA		
Glace Bay		
VAS 685	2000	
Halifax		
CHNS 930	1000 F	
Sydney		
CJCB 1240	1000 F	
Wolfville		
CKIK 1010	50	
Yarmouth		
CJLS 1310	100	

ONTARIO		
Brantford		
CKPC 930	100 F	
Chatham		
CFCO 630	100 F	
Cobalt		
CKMC 1210	50	
Fort William		
CKPR 730	100 F	
Hamilton		
CHML 1010	100 F	
CKOK 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	
CRGO 880	1000 F	
Prescott		
CFLC 930	100	
St. Catharines		
CKTB 1200	100 F	
Sault Ste. Marie		
CJIC 1500	100	
Stratford		
CJCS 1210	50	
Sudbury		
CKSO 780	1000 F	
Timmins		
CKGB 1420	100 F	

Toronto		
CFRB 690	10000 C	
CKCL 580	100 F	
CRCT 840	5000 N	
Waterloo		
CKCR 1510	100	
Windsor		
CKLW 1030	5000	
CRCW 600	500 F	
Wingham		
CKNX 1200	50	

PRINCE EDWARD ISLAND		
Charlottetown		
CFY 630	1000 F	
CHCK 1310	50	
Summerside		
CHGS 1450	50 F	

QUEBEC		
Chicoutimi		
CRCS 950	100 F	
Hull		
CKCH 1210	100 F	
Montmagny		
VE9EK 1185	10	
Montreal		
CFCF 600	400 N	
CHLP 1120	100 F	
CKAC 730	5000 C	
CRCM 910	5000 F	
New Carlisle		
CHNC 960	1000 F	
Quebec		
CHRC 580	100 F	
CKCY 1310	100 F	
CRCK 1050	1000 F	

SASKATCHEWAN		
Moose Jaw		
CHAB 1200	100 F	
CJRM 540	1000 F	
Prince Albert		
CKBI 1210	100 F	
Regina		
CHWC 1010	500 F	
CKCK 1010	500 F	
Saskatoon		
CFOC 840	1000 F	
Yorkton		
CJGX 580	100 F	

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

MIQUELON		
St. Pierre		
FON 609	250	

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

CENTRAL AMERICA

COSTA RICA

Cartago		
TIFS	1441	7.5
TIGA	1014	30
San Jose		
TIEP	850	500
TIFA	1050	75
TIGH	1000	500
TIGPH	650	1000
TIRH	930	50
TIVCA	1225	.....
TIX	800	.....

GUATEMALA

Guatemala City		
TGW	1210	10000
TGX	1400	250

HONDURAS

Tegucigalpa		
HRN	1340	100

NICARAGUA

Managua		
YNLF	1275	20
YNOP	1230	100
YNVA	950	30

PANAMA

Colon		
HP50	1440	25

EL SALVADOR

San Salvador		
RDN	680	500

MEXICO

AGUASCALIENTES

Aguascalientes		
XFA	1310	5
XFC	810	350

CHIHUAHUA

Chihuahua		
XEFI	1440	250
Hidalgo		
XEAT	1210	50
Juarez		
XEFV	1210	100
XEF	980	100
XEJ	1020	1000
XEP	1160	500

COAHUILA

Piedras Negras		
XELO	1110	10000
XEPN	590	50000

Saltillo		
XEAS	1160	100
XELA	1240	50
XEOX	640	500
Torreon		
XETB	1310	125
Villa Acuna		
XERA	840	250000

D. F.

Mexico City		
XEAI	1240	100
XEB	1030	10000
XECW	1310	10
XEFA	1180	500
XEFO	940	5000
XEFZ	1370	100
XEK	990	100
XEL	1100	250
XEMX	1280	12
XEN	710	1000
XEW	890	50000
XEWZ	1150	100
XEXM	610	.....
XEYZ	780	10000
XFX	610	1000

DURANGO

Durango		
XEE	1210	50

GUANAJUATO

Guanajuato		
XEAZ	1420	7
Leon		
XEKL	1240	500

JALISCO

Guadalajara		
XEA	1060	500
XED	1155	2500

LOWER CALIFORNIA

Agua Caliente		
XEBC	730	5000
Coronado Island		
XEMZ	820	.....
Ensenada		
XEG	1270	200
Mexicali		
XEAA	920	200
XEAO	560	250
Rosarito		
XEAQ	1090	1000
Tijuana		
XEAC	1240	250
XEC	1160	30
XEFL	1150	250
XEMO	860	5000
XEOK	760	250
XESL	1160	.....

MICHOACAN

Morelia		
XEI	1370	125

NUEVO LEON

Monterrey		
XEFB	1420	100
XEFJ	1230	100
XEHI	1150	250
XET	690	500
XEX	1310	125

PUEBLA

Puebla		
XETH	1210	100

SAN LUIS POTOSI

San Luis Potosi		
XEZZ	1370	100

SONORA

Hermosillo		
XEBH	930	500
Nogales		
XEAF	990	500

TAMAULIPAS

Matamoros		
XEAM	750	7.5
Nuevo Laredo		
XEBK	1000	100
XEFE	1340	250
XENT	910	150000
Reynosa		
XEAW	960	50000
Tampico		
XEFW	1310	250
XES	990	250

VERACRUZ

Cordoba		
XEAG	1310	10
Jalapa		
XFB	1270	250
XFD	1340	350
Veracruz		
XETF	1220	12
XEU	1010	250

YUCATAN

Merida		
XEFD	560	100
XEME	1240	15
XEY	1000	10
XEZ	630	500

WEST INDIES

CUBA

Caibarien		
CMHD	1270	250
Camaguey		
CMJA	1010	50
CMJC	1390	150
CMJE	1220	50
CMJF	1150	200
CMJK	780	250
CMJL	1340	100
CMJP	1430	75
CMJX	830	.....

Cardenas		
CMGE	1370	150
Ciego de Avila		
CMJI	1360	100
CMJJ	1130	50
CMJO	1180	50

Cienfuegos		
CMIJ	1160	100
CMHW	820	100
CMHX	760	200

Cruces		
CMHK	1330	250

Havana		
CMBC	640	150
CMBD	1170	150
CMBG	1140	200
CMBN	850	150
CMBS	770	150
CMBX	1070	500
CMBY	970	150
CMBZ	1000	150
CMCA	1350	250
CMCB	1230	150
CMCD	950	250
CMCF	810	600
CMCG	680	150
CMCJ	1110	500
CMCO	1200	150
CMCQ	1420	250
CMCR	1380	150
CMCU	1460	150
CMCV	750	150
CMCX	1500	150
CMCY	1030	1000
CMK	730	3000
CMOA	1440	150
CMOK	1470	150
CMOX	1320	200
CMQ	880	500
CMW	600	1400
CMX	920	1000

Holguin		
CMKF	1460	250
Manzanillo		
CMKM	1120	50
Matanzas		
CMGC	1400	100
CMGF	1120	150
CMGH	790	250
Pinar del Rio		
CMAB	1340	.....

Sagua la Grande		
CMHA	1070	50
Sancti Spiritus		
CMHB	1240	50
Santa Clara		
CMHI	1210	150
Santiago		
CMKC	1250	150
CMKD	1050	250
CMKR	1400	100
CMKX	1190	75

DOMINICAN REPUBLIC

San Pedro de Macoris		
HHH	1395	15
Trujillo		
HJJ	1195	15
HIX	800	700
HIZ	1370	10

HAITI

Port-au-Prince		
HHK	920	1000

NORTH AMERICAN B. C. STATIONS BY CALLS

CFAC 930	100	CJIC 1500	100	CMAB 1340	.....
Calgary, Alta.		S. Ste. Marie, Ont.		Pinar del Rio, Cuba	
CFCF 600	400	CJKL 1310	100	CMBC 640	150
Montreal, Que.		Kirkland Lake, Ont.		Havana, Cuba	
CFCH 930	100	CJLS 1310	100	CMBD 1170	150
North Bay, Ont.		Yarmouth, N. S.		Havana, Cuba	
CFCN 1030	10000	CJOC 950	100	CMBG 1140	200
Calgary, Alta.		Lethbridge, Alta.		Havana, Cuba	
CFCD 630	100	CJOR 600	500	CMBN 850	150
Chatham, Ont.		Vancouver, B. C.		Havana, Cuba	
CFCT 1450	50	CJRC 630	1000	CMBS 770	150
Victoria, B. C.		Winnipeg, Man.		Havana, Cuba	
CFCY 630	1000	CJRM 540	1000	CMBX 1070	500
Charlottetown, P.E.I.		Moose Jaw, Sask.		Havana, Cuba	
CFJC 880	100	CKAC 730	5000	CMBY 970	150
Kamloops, B. C.		Montreal, Que.		Havana, Cuba	
CFLC 930	100	CKBI 1210	100	CMBZ 1000	150
Prescott, Ont.		Prince Albert, Sask.		Havana, Cuba	
CFNB 550	500	CKCD 1010	100	CMCA 1350	250
Fredericton, N. B.		Vancouver, B. C.		Havana, Cuba	
CFPL 730	100	CKCH 1210	100	CMCB 1230	150
London, Ont.		Hull, Que.		Havana, Cuba	
CFPR 580	50	CKCK 1010	500	CMCD 950	250
Prince Rupert, B. C.		Regina, Sask.		Havana, Cuba	
CFQC 840	1000	CKCL 580	100	CMCF 810	600
Saskatoon, Sask.		Toronto, Ont.		Havana, Cuba	
CFRB 690	10000	CKCO 1010	100	CMCG 680	150
Toronto, Ont.		Ottawa, Ont.		Havana, Cuba	
CFRC 1510	100	CKCR 1510	100	CMCJ 1110	500
Kingston, Ont.		Waterloo, Ont.		Havana, Cuba	
CFRN 1260	100	CKCV 1310	100	CMCO 1200	150
Edmonton, Alta.		Quebec, Que.		Havana, Cuba	
CHAB 1200	100	CKCW 1370	100	CMCQ 1420	250
Moose Jaw, Sask.		Moncton, N. B.		Havana, Cuba	
CHCK 1310	50	CKFC 1410	50	CMCR 1380	150
Charlottetown, P. E. I.		Vancouver, B. C.		Havana, Cuba	
CHGS 1450	50	CKGB 1420	100	CMCU 1460	150
Summerside, P. E. I.		Timmins, Ont.		Havana, Cuba	
CHLP 1120	100	CKIC 1010	50	CMCW 750	150
Montreal, Que.		Wolfville, N. S.		Havana, Cuba	
CHML 1010	100	CKLW 1030	5000	CMCX 1500	150
Hamilton, Ont.		Windsor, Ont.		Havana, Cuba	
CHNC 960	1000	CKMC 1210	50	CMCY 1030	1000
New Carlisle, Que.		Cobalt, Ont.		Havana, Cuba	
CHNS 930	1000	CKMO 1410	100	CMGC 1400	100
Halifax, N. S.		Vancouver, B. C.		Matanzas, Cuba	
CHRC 580	100	CKNX 1200	50	CMGE 1370	150
Quebec, Que.		Wingham, Ont.		Cardenas, Cuba	
CHSJ 1120	500	CKOC 1120	500	CMGF 1120	150
St. John, N. B.		Hamilton, Ont.		Matanzas, Cuba	
CHWC 1010	500	CKOV 630	100	CMGH 790	250
Regina, Sask.		Kelowna, B. C.		Matanzas, Cuba	
CHWK 780	100	CKPC 930	100	CMHA 1070	50
Chilliwack, B. C.		Brantford, Ont.		Sagua la Grande, Cu.	
CJAT 910	1000	CKPR 730	100	CMHB 1240	50
Trail, B. C.		Fort William, Ont.		Sancti Spiritus, Cuba	
CJCA 730	1000	CKSO 780	1000	CMHD 1270	250
Edmonton, Alta.		Sudbury, Ont.		Calbarieu, Cuba	
CJCB 1240	1000	CKTB 1200	100	CMHI 1210	150
Sydney, N. S.		St. Catharines, Ont.		Santa Clara, Cuba	
CJ CJ 690	100	CKUA 580	500	CMHJ 1160	100
Calgary, Alta.		Edmonton, Alta.		Cienfuegos, Cuba	
CJCS 1210	50	CKWX 1010	100	CMHK 1330	250
Stratford, Ont.		Vancouver, B. C.		Crucos, Cuba	
CJCU 1210	50	CKX 1120	100	CMHW 820	100
Aklavik, N. W. T.		Brandon, Man.		Cienfuegos, Cuba	
CJGX 580	100	CKY 910	15000	CMHX 760	200
Yorkton, Sask.		Winnipeg, Man.		Cienfuegos, Cuba	

NORTH AMERICAN B. C. STATIONS BY CALLS

CMJA 1010	50	HIJ 1195	15	KEUB 1420	100
Camaguey, Cuba		Trujillo, D. R.		Price, Utah	
CMJC 1390	150	HIX 800	700	KEX 1180	5000
Camaguey, Cuba		Trujillo, D. R.		Portland, Ore.	
CMJE 1220	50	HIZ 1370	10	KFAB 770	10000
Camaguey, Cuba		Trujillo, D. R.		Lincoln, Neb.	
CMJF 1150	200	HP50 1440	25	KFAC 1300	1000
Camaguey, Cuba		Colon, Panama		Los Angeles, Calif.	
CMJH 1360	100	HRN 1340	100	KFBB 1280	1000
Ciego de Avila, Cuba		Tegucigalpa, Hond.		Great Falls, Mont.	
CMJI 1130		KABC 1420	100	KFBI 1050	5000
Ciego de Avila, Cuba		San Antonio, Texas		Abilene, Kans.	
CMJK 780	250	KABR 1420	100	KFBK 1490	5000
Camaguey, Cuba		Aberdeen, S. Dak.		Sacramento, Calif.	
CMJL 1340	100	KADA 1200	100	KFCM 560	500
Camaguey, Cuba		Ada, Okla.		Beaumont, Texas	
CMJO 1180	50	KALB 1420	100	KFDY 780	1000
Ciego de Avila, Cuba		Alexandria, La.		Brookings, S. D.	
CMJP 1430	75	KALE 1300	500	KFEL 920	500
Camaguey, Cuba		Portland, Ore.		Denver, Colo.	
CMJX 830	.....	KANS 1210	100	KFEN 680	2500
Camaguey, Cuba		Wichita, Kans.		St. Joseph, Mo.	
CMK 730	3000	KARK 890	250	KFGQ 1370	100
Havana, Cuba		Little Rock, Ark.		Boone, Iowa	
CMKC 1250	150	KASA 1210	100	KFH 1300	1000
Santiago, Cuba		Elk City, Okla.		Wichita, Kans.	
CMKD 1050	250	KAST 1370	100	KFI 640	50000
Santiago, Cuba		Astoria, Ore.		Los Angeles, Calif.	
CMKF 1460	250	KBHB 1370	100	KFIO 1120	100
Holguin, Cuba		Rapid City, S. Dak.		Spokane, Wash.	
CMKM 1120	50	KBIX 1500	100	KFIZ 1420	100
Manzanillo, Cuba		Muskogee, Okla.		Fond du Lac, Wis.	
CMKR 1400	100	KBPS 1420	100	KFJB 1200	100
Santiago, Cuba		Portland, Ore.		Marshalltown, Iowa	
CMKX 1190	75	KBST 1500	100	KFJI 1210	100
Santiago, Cuba		Big Spring, Texas		Klamath Falls, Ore.	
CMOA 1440	150	KBTM 1200	100	KFJM 1370	100
Havana, Cuba		Jonesboro, Ark.		Grand Forks, N. D.	
CMOK 1470	150	KCMC 1420	100	KFJR 1300	500
Havana, Cuba		Texarkana, Ark.		Portland, Ore.	
CMOX 1320	200	KCMO 1370	100	KFJZ 1370	100
Havana, Cuba		Kansas City, Mo.		Fort Worth, Texas	
CMQ 880	500	KCRC 1360	250	KKFA 880	500
Havana, Cuba		Enid, Okla.		Greeley, Colo.	
CMW 600	1400	KCRJ 1310	100	KFKU 1220	1000
Havana, Cuba		Jerome, Ariz.		Lawrence, Kans.	
CMX 920	1000	KDB 1500	100	KFNF 890	500
Havana, Cuba		Santa Barbara, Calif.		Shenandoah, Iowa	
CRCK 1050	1000	KDFN 1440	500	KFOR 1210	100
Quebec, Que.		Casper, Wyo.		Lincoln, Neb.	
CRCM 910	5000	KDKA 980	50000	KFOX 1250	1000
Montreal, Que.		Pittsburgh, Pa.		Long Beach, Calif.	
CRCO 880	1000	KDLR 1210	100	KFPL 1310	100
Ottawa, Ont.		Devils Lake, N. D.		Dublin, Texas	
CRCS 950	100	KDNC 1200	100	KFPW 1210	100
Chicoutimi, Que.		Lewistown, Mont.		Fort Smith, Ark.	
CRCT 840	5000	KDON 1210	100	KFPY 890	1000
Toronto, Ont.		Del Monte, Calif.		Spokane, Wash.	
CRCV 1100	1000	KDYL 1290	1000	KFQD 780	250
Vancouver, B. C.		Salt Lake City, Utah		Anchorage, Alaska	
CRCW 600	500	KECA 1430	1000	KKFC 610	1000
Windsor, Ont.		Los Angeles, Calif.		San Francisco, Calif.	
FQN 609	250	KEHE 780	500	KKRO 1370	100
St. Pierre, Miq.		Los Angeles, Calif.		Longview, Texas	
HHK 920	1000	KELD 1370	100	KFRU 630	500
Port-au-Prince, Haiti		El Dorado, Ark.		Columbia, Mo.	
HIH 1395	15	KERN 1370	100	KFSD 600	1000
San Pedro de M., D. R.		Bakersfield, Calif.		San Diego, Calif.	

NORTH AMERICAN B. C. STATIONS BY CALLS

KFSD 1120 500 Los Angeles, Calif.	KGGF 1010 1000 Coffeyville, Kans.	KIUJ 1310 100 Santa Fe, N. Mex.
KFUO 550 500 St. Louis, Mo.	KGGM 1230 250 Albuquerque, N. M.	KIUL 1210 100 Garden City, Kans.
KFVD 1000 250 Los Angeles, Calif.	KGHF 1320 500 Pueblo, Colo.	KIUN 1420 100 Pecos, Texas
KFVS 1210 100 Cape Girardeau, Mo.	KGHI 1200 100 Little Rock, Ark.	KIUP 1370 100 Durango, Colo.
KFWB 950 1000 Hollywood, Calif.	KGHL 780 1000 Billings, Mont.	KJBS 1070 500 San Francisco, Calif.
KFXD 1200 100 Nampa, Idaho	KGIR 1340 1000 Butte, Mont.	KJR 970 5000 Seattle, Wash.
KFXJ 1200 100 Grand Junction, Colo.	KGIW 1420 100 Alamosa, Colo.	KLCN 1290 100 Blytheville, Ark.
KFXM 1210 100 San Bernardino, Calif.	KGKB 1500 100 Tyler, Texas	KLO 1400 500 Ogden, Utah
KFXR 1310 100 Oklahoma City, Okla.	KGKL 1370 100 San Angelo, Texas	KLPM 1240 250 Minot, N. D.
KFYO 1310 100 Lubbock, Texas	KGKO 570 250 Wichita Falls, Texas	KLRA 1390 1000 Little Rock, Ark.
KFYR 550 1000 Bismarck, N. D.	KGKY 1500 100 Scottsbluff, Neb.	KLS 1440 250 Oakland, Calif.
KGA 1470 5000 Spokane, Wash.	KGLO 1210 100 Mason City, Iowa	KLUF 1370 100 Galveston, Texas
KGAR 1370 100 Tucson, Ariz.	KGMB 1320 1000 Honolulu, T. H.	KLX 880 1000 Oakland, Calif.
KGB 1330 1000 San Diego, Calif.	KGNC 1410 1000 Amarillo, Texas	KLZ 560 1000 Denver, Colo.
KGBU 900 500 Ketchikan, Alaska	KGNF 1430 1000 North Platte, Neb.	KMA 930 1000 Shenandoah, Iowa
KGBX 1230 500 Springfield, Mo.	KGNO 1340 250 Dodge City, Kans.	KMAC 1370 100 San Antonio, Texas
KGCA 1270 100 Decorah, Iowa	KGO 790 7500 San Francisco, Calif.	KMBC 950 1000 Kansas City, Mo.
KGCU 1240 250 Mandan, N. D.	KGU 750 2500 Honolulu, T. H.	KMED 1310 100 Medford, Ore.
KGCX 1310 100 Wolf Point, Mont.	KGVO 1260 1000 Missoula, Mont.	KMJ 580 1000 Fresno, Calif.
KGDE 1200 100 Fergus Falls, Minn.	KGW 620 1000 Portland, Ore.	KMLB 1200 100 Monroe, La.
KGDM 1100 1000 Stockton, Calif.	KGY 1210 100 Olympia, Wash.	KMMJ 740 1000 Clay Center, Neb.
KGDY 1340 250 Huron, S. D.	KHBC 1400 250 Hilo, T. H.	KMO 1330 250 Tacoma, Wash.
KGEK 1200 100 Sterling, Colo.	KHJ 900 1000 Los Angeles, Calif.	KMOX 1090 50000 St. Louis, Mo.
KGER 1360 1000 Long Beach, Calif.	KHQ 590 1000 Spokane, Wash.	KMPK 710 500 Beverly Hills, Calif.
KGEZ 1310 100 Kalispell, Mont.	KHSL 950 250 Chico, 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 Christl, Texas	KIDO 1350 1000 Boise, Idaho	KNOW 1500 100 Austin, Texas
KGFI 1500 100 Corpus Christl, Texas	KIDW 1420 100 Lamar, Colo.	KNX 1050 50000 Hollywood, Calif.
KGFI 1500 100 Moorhead, Minn.	KIEM 1450 500 Eureka, Calif.	KOA 830 50000 Denver, Colo.
KGFL 1370 100 Roswell, N. M.	KIEV 850 250 Glendale, Calif.	KOAC 550 1000 Corvallis, Ore.
KGFW 1310 100 Kearney, Neb.	KINY 1310 100 Juneau, Alaska	KOB 1180 10000 Albuquerque, N. M.
KGFX 630 200 Pierre, S. D.	KIRO 710 1000 Seattle, Wash.	KOCA 1210 100 Kilgore, Texas
KGGC 1420 100 San Francisco, Calif.	KIT 1310 100 Yakima, Wash.	KOH 1380 500 Reno, Nev.

NORTH AMERICAN B. C. STATIONS BY CALLS

KOIL 1260 1000 Council Bluffs, Iowa	KROY 1310 100 Sacramento, Calif.	KVI 570 1000 Tacoma, Wash.
KOIN 940 1000 Portland, Ore.	KRRV 1310 100 Sherman, Texas	KVL 1370 100 Seattle, Wash.
KOL 1270 1000 Seattle, Wash.	KRSC 1120 100 Seattle, Wash.	KVOA 1260 500 Tucson, Ariz.
KOMA 1480 5000 Oklahoma City, Okla.	KSAC 580 500 Manhattan, Kans.	KVOD 920 500 Denver, Colo.
KOMO 920 1000 Seattle, Wash.	KSCJ 1330 1000 Sioux City, Iowa	KVOE 1500 100 Santa Ana, Calif.
KONO 1370 100 San Antonio, Texas	KSD 550 1000 St. Louis, Mo.	KVOL 1310 100 Lafayette, La.
KOOS 1390 250 Marshfield, Ore.	KSEI 900 250 Pocatello, Idaho	KVVO 1140 25000 Tulsa, Okla.
KORE 1420 100 Eugene, Ore.	KSFO 560 1000 San Francisco, Calif.	KVOR 1270 1000 Colorado Spgs., Colo.
KOTN 1500 100 Pine Bluffs, Ark.	KSL 1130 50000 Salt Lake City, Utah	KVOS 1200 100 Bellingham, Wash.
KOY 1390 500 Phoenix, Ariz.	KSLM 1370 100 Salem, Ore.	KVSO 1210 100 Ardmore, Okla.
KPAC 1260 500 Port Arthur, Texas	KSO 1430 500 Des Moines, Iowa	KWAT 1310 250 Watsonville, Calif.
KPDN 1310 100 Pampa, Texas	KSOO 1110 2500 Sioux Falls, S. D.	KWBG 1420 100 Hutchinson, Kans.
KPLC 1500 100 Lake Charles, La.	KSTP 1460 25000 St. Paul, Minn.	KWG 1200 100 Stockton, Calif.
KPLT 1500 100 Paris, Texas	KSUN 1200 100 Lowell, Ariz.	KWJJ 1040 500 Portland, Ore.
KPO 680 50000 San Francisco, Calif.	KTAR 620 1000 Phoenix, Ariz.	KWK 1350 1000 St. Louis, Mo.
KPOF 880 500 Denver, Colo.	KTAT 1240 1000 Fort Worth, Texas	KWKH 1100 10000 Shreveport, La.
KPPC 1210 100 Pasadena, Calif.	KTBS 1450 1000 Shreveport, La.	KWLC 1270 100 Decora, Iowa
KPQ 1500 100 Wenatchee, Wash.	KTEM 1370 100 Temple, Texas	KWCS 1220 1000 Pullman, Wash.
KPRC 920 1000 Houston, Texas	KTEP 1500 100 El Paso, Texas	KWTN 1210 100 Watertown, S. D.
KQV 1380 500 Pittsburgh, Pa.	KTFI 1240 1000 Twin Falls, Idaho	KWTO 560 5000 Springfield, Mo.
KQW 1010 1000 San Jose, Calif.	KTHS 1060 10000 Hot Springs, Ark.	KWYO 1370 100 Sheridan, Wyo.
KRBC 1420 100 Abilene, Texas	KTRB 740 250 Modesto, Calif.	KXA 760 250 Seattle, Wash.
KRE 1370 100 Berkeley, Calif.	KTRH 1290 1000 Houston, Texas	KXL 1420 100 Portland, Ore.
KRGV 1260 500 Weslaco, Texas	KTSA 550 1000 San Antonio, Texas	KXO 1500 100 El Centro, Calif.
KRKD 1120 500 Los Angeles, Calif.	KTSM 1310 100 El Paso, Texas	KXRO 1310 100 Aberdeen, Wash.
KRKO 1370 50 Everett, Wash.	KTUL 1400 500 Tulsa, Okla.	KXYZ 1440 1000 Houston, Texas
KRLC 1420 100 Lewiston, Idaho	KTW 1220 1000 Seattle, Wash.	KYA 1230 1000 San Francisco, Calif.
KRLD 1040 10000 Dallas, Texas	KUJ 1370 100 Walla Walla, Wash.	KYOS 1040 250 Merced, Calif.
KRLH 1420 100 Midland, Texas	KUMA 1420 100 Yuma, Ariz.	KYW 1020 10000 Philadelphia, Pa.
KRMD 1310 100 Shreveport, La.	KUOA 1260 1000 Fayetteville, Ark.	NAA 690 1000 Arlington, Va.
KRNR 1500 100 Roseburg, Ore.	KUSD 890 500 Vermillion, S. D.	RDN 680 500 San Salvador, E. S.
KRNT 1320 500 Des Moines, Iowa	KUTA 1500 100 Salt Lake City, Utah	TGW 1210 10000 Guatemala, Gua.
KROC 1310 180 Rochester, Minn.	KVCV 1200 100 Redding, Calif.	TXG 1400 250 Guatemala City
KROW 930 1000 Oakland, Calif.	KVEC 1200 250 San Luis Obispo, Calif.	TIEP 850 500 San Jose, C. R.

NORTH AMERICAN B. C. STATIONS BY CALLS

TIFA 1050	75	WATL 1370	100	WCAD 1220	500
San Jose, C. R.		Atlanta, Ga.		Canton, N. Y.	
TIFS 1441	7.5	WATR 1190	100	WCAE 1220	1000
Cartago, C. R.		Waterbury, Conn.		Pittsburgh, Pa.	
TIGA 1014	30	WAVE 940	1000	WCAL 1250	1000
Cartago, C. R.		Louisville, Ky.		Northfield, Minn.	
TIGH 1000	500	WAWZ 1350	500	WCAM 1280	500
San Jose, C. R.		Zarephath, N. J.		Camden, N. J.	
TIGPH 650	1000	WAYX 1200	100	WCAO 600	500
San Jose, C. R.		Waycross, Ga.		Baltimore, Md.	
TIRH 930	50	WAZL 1420	100	WCAP 1280	500
San Jose, C. R.		Hazleton, Pa.		Asbury Park, N. J.	
TIVCA 1225	.....	WBBA 890	500	WCAT 1200	100
San Jose, C. R.		West Lafayette, Ind.		Rapid City, S. D.	
TIX 800	.....	WBAL 760	2500	WCAU 1170	50000
San Jose, C. R.		Baltimore, Md.		Philadelphia, Pa.	
VAS 685	2000	WBAL 1060	10000	WCAX 1200	100
Glace Bay, N. S.		Baltimore, Md.		Burlington, Vt.	
VESEK 1185	10	WBAP 800	50000	WCAZ 1070	100
Montmagny, Que.		Fort Worth, Texas		Carthage, Ill.	
VOAC 1065	40	WBAX 1210	100	WCBA 1440	500
St. John's, Nfld.		Wilkes-Barre, Pa.		Allentown, Pa.	
VOAS 940	100	WBBC 1400	500	WCBB 1080	5000
St. John's, Nfld.		Brooklyn, N. Y.		Waukegan, Ill.	
VOGY 840	400	WBBL 1210	100	WCBM 1370	100
St. John's, Nfld.		Richmond, Va.		Baltimore, Md.	
VONF 1195	500	WBMM 770	50000	WCBS 1420	100
St. John's, Nfld.		Chicago, Ill.		Springfield, Ill.	
VOVR 681	500	WBRR 1300	1000	WCCO 810	50000
St. John's, Nfld.		Brooklyn, N. Y.		Minneapolis, Minn.	
WAAB 1410	500	WBZZ 1200	100	WCFL 970	5000
Boston, Mass.		Ponca City, Okla.		Chicago, Ill.	
WAAF 920	1000	WBCM 1410	500	WCBS 580	500
Chicago, Ill.		Bay City, Mich.		Charleston, W. Va.	
WAAT 940	500	WBEN 900	1000	WCNV 1420	100
Jersey City, N. J.		Buffalo, N. Y.		Charlottesville, Va.	
WAAW 660	500	WBEO 1310	100	WCNY 1490	5000
Omaha, Neb.		Marquette, Mich.		Covington, Ky.	
WABC 860	50000	WBIG 1440	500	WCLO 1200	100
New York, N. Y.		Greensboro, N. C.		Janesville, Wis.	
WABI 1200	100	WBLY 1210	100	WCLS 1310	100
Bangor, Maine		Lima, Ohio		Joliet, Ill.	
WABY 1370	100	WBNO 1200	100	WCMI 1310	100
Albany, N. Y.		New Orleans, La.		Ashland, Ky.	
WACO 1420	100	WBNS 1430	500	WCNW 1500	100
Waco, Texas		Columbus, Ohio		Brooklyn, N. Y.	
WADC 1320	1000	WBNX 1350	250	WCOA 1340	500
Akron, Ohio		New York, N. Y.		Pensacola, Fla.	
WAGF 1370	250	WBNY 1370	100	WCOC 880	500
Dothan, Ala.		Buffalo, N. Y.		Meridian, Miss.	
WAGM 1420	100	WBOQ 860	50000	WCOL 1210	100
Presque Isle, Me.		New York, N. Y.		Columbus, Ohio	
WAIM 1200	100	WBOW 1310	100	WCOP 1120	500
Anderson, S. C.		Terre Haute, Ind.		Boston, Mass.	
WALA 1380	500	WBRB 1210	100	WCPO 1200	100
Mobile, Ala.		Red Bank, N. J.		Cincinnati, Ohio	
WALR 1210	100	WBRC 930	1000	WCRW 1210	100
Zanesville, Ohio		Birmingham, Ala.		Chicago, Ill.	
WAML 1310	100	WBRE 1310	100	WCSC 1360	500
Laurel, Miss.		Wilkes-Barre, Pa.		Charleston, S. C.	
WAPI 1140	5000	WBT 1080	50000	WCSS 940	1000
Birmingham, Ala.		Charlotte, N. C.		Portland, Me.	
WAPO 1420	100	WBTM 1370	100	WDAE 1220	1000
Chattanooga, Tenn.		Danville, Va.		Tampa, Fla.	
WARD 1400	500	WBZ 990	50000	WDAF 610	1000
Brooklyn, N. Y.		Boston, Mass.		Kansas City, Mo.	
WASH 1270	500	WBZA 990	1000	WDAH 1310	100
Grand Rapids, Mich.		Springfield, Mass.		El Paso, Texas	

NORTH AMERICAN B. C. STATIONS BY CALLS

WDAS 1370 Philadelphia, Pa.	100	WEXP 1370 Clarksburg, W. Va.	100	WHAS 820 Louisville, Ky.	50000
WDAY 940 Fargo, N. D.	1000	WFAA 800 Dallas, Texas	50000	WHAT 1310 Philadelphia, Pa.	100
WDBJ 930 Roanoke, Va.	1000	WFAB 1300 New York, N. Y.	1000	WHAZ 1300 Troy, N. Y.	500
WDBO 580 Orlando, Fla.	1000	WFAM 1200 South Bend, Ind.	100	WHB 860 Kansas City, Mo.	1000
WDEL 1120 Wilmington, Del.	250	WFAS 1210 White Plains, N. Y.	100	WHBB 1500 Selma, Alabama	100
WDEV 550 Waterbury, Vt.	500	WFBC 1300 Greenville, S. C.	1000	WHBC 1200 Canton, Ohio	100
WDGY 1180 Minneapolis, Minn.	1000	WFBG 1310 Altoona, Pa.	100	WHBF 1210 Rock Island, Ill.	100
WDNC 1500 Durham, N. C.	100	WFBL 1360 Syracuse, N. Y.	1000	WHBI 1250 Newark, N. J.	1000
WDDO 1280 Chattanooga, Tenn.	1000	WFBM 1230 Indianapolis, Ind.	1000	WHBL 1300 Sheboygan, Wis.	500
WDRC 1330 Hartford, Conn.	1000	WFBR 1270 Baltimore, Md.	500	WHBQ 1370 Memphis, Tenn.	100
WDSU 1250 New Orleans, La.	1000	WFDF 1310 Flint, Mich.	100	WHBU 1210 Anderson, Ind.	100
WDWS 1370 Champaign, Ill.	100	WFEA 1340 Manchester, N. H.	500	WHBY 1200 Green Bay, Wis.	100
WDZ 1020 Tuscola, Ill.	250	WFIL 560 Philadelphia, Pa.	1000	WHDF 1370 Calumet, Mich.	100
WEAF 660 New York, N. Y.	50000	WFLA 620 Clearwater, Fla.	1000	WHDH 830 Boston, Mass.	1000
WEAN 780 Providence, R. I.	500	WFMD 900 Frederick, Md.	500	WHDL 1420 Olean, N. Y.	100
WEBC 1290 Superior, Wis.	1000	WFOY 1210 St. Augustine, Fla.	100	WHBB 740 Portsmouth, N. H.	250
WEBQ 1210 Harrisburg, Ill.	100	WGal 1500 Lancaster, Pa.	100	WHCC 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 Mount, 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
WEUU 830 Reading, Pa.	1000	WGCM 1210 Gulfport, Miss.	100	WHJB 620 Greensburg, Pa.	250
WEGL 1400 Brooklyn, N. Y.	500	WGES 1360 Chicago, Ill.	500	WHK 1390 Cleveland, Ohio	1000
WEHS 1420 Cicero, Ill.	100	WGH 1310 Newport News, Va.	100	WHKC 640 Columbus, Ohio	500
WELI 900 New Haven, Conn.	500	WGL 1370 Fort Wayne, Ind.	100	WHLB 1370 Virginia, Minn.	100
WELL 1420 Battle Creek, Mich.	100	WGN 720 Chicago, Ill.	50000	WHN 1010 New York, N. Y.	1000
WEMP 1310 Milwaukee, Wis.	100	WGNV 1210 Chester, N. Y.	100	WHO 1000 Des Moines, Iowa	50000
WENR 870 Chicago, Ill.	50000	WGPC 1420 Albany, Ga.	100	WHOM 1450 Jersey City, N. J.	250
WEQA 1370 Evansville, Ind.	100	WGR 550 Buffalo, N. Y.	1000	WHP 1430 Harrisburg, Pa.	500
WESG 850 Elmira, N. Y.	1000	WGRC 1370 New Albany, Ind.	250	WIBA 1280 Madison, Wis.	1000
WEST 1200 Easton, Pa.	100	WGST 890 Atlanta, Ga.	1000	WIBG 970 Glenside, Pa.	100
WEVD 1300 New York, N. Y.	1000	WGY 790 Schenectady, N. Y.	50000	WIBM 1370 Jackson, Mich.	100
WEW 760 St. Louis, Mo.	1000	WHA 940 Madison, Wis.	2500	WIBU 1210 Poyette, Wis.	100
WEXL 1310 Royal Oak, Mich.	50	WHAM 1150 Rochester, N. Y.	50000	WIBW 580 Topeka, Kans.	1000

NORTH AMERICAN B. C. STATIONS BY CALLS

WIBX 1200 Utica, N. Y.	100	WJW 1210 Akron, Ohio	100	WMAL 630 Washington, D. C.	250
WICC 600 Bridgeport, Conn.	500	WJZ 760 New York, N. Y.	50000	WMAQ 670 Chicago, Ill.	50000
WIL 1200 St. Louis, Mo.	100	WKAQ 1240 San Juan, P. R.	1000	WMAS 1420 Springfield, Mass.	100
WILL 580 Urbana, Ill.	1000	WKAR 850 East Lansing, Mich.	1000	WMAZ 1180 Macon, Ga.	1000
WILM 1420 Wilmington, Del.	100	WKBB 1500 East Dubuque, Ill.	100	WMBE 1420 Detroit, Mich.	100
WIND 560 Gary, Ind.	1000	WKBH 1380 LaCrosse, Wis.	1000	WMBD 1440 Peoria, Ill.	500
WINS 1180 New York, N. Y.	1000	WKBI 1420 Cicero, Ill.	100	WMBG 1210 Richmond, Va.	100
WIOD 1300 Miami, Fla.	1000	WKBN 570 Youngstown, Ohio	500	WMBH 1420 Joplin, Mo.	100
WIP 610 Philadelphia, Pa.	1000	WKBO 1200 Harrisburg, Pa.	100	WMBI 1080 Chicago, Ill.	5000
WIRE 1400 Indianapolis, Ind.	500	WKBV 1500 Richmond, Ind.	100	WMBQ 1310 Auburn, N. Y.	100
WIS 560 Columbia, S. C.	1000	WKBW 1480 Buffalo, N. Y.	5000	WMBP 1500 Brooklyn, N. Y.	100
WISN 1120 Milwaukee, Wis.	250	WKBZ 1500 Muskegon, Mich.	100	WMBR 1370 Jacksonville, Fla.	100
WJAC 1310 Johnstown, Pa.	100	WKBU 1500 Griffin, Ga.	100	WMC 780 Memphis, Tenn.	1000
WJAG 1060 Norfolk, Neb.	1000	WKCK 1210 Sunbury, Pa.	100	WMCB 570 New York, N. Y.	500
WJAR 890 Providence, R. I.	1000	WKRC 550 Cincinnati, Ohio	1000	WMEX 1500 Boston, Mass.	100
WJAS 1290 Pittsburgh, Pa.	1000	WKY 900 Oklahoma City, Okla.	1000	WMFD 1370 Wilmington, N. C.	100
WJAX 900 Jacksonville, Fla.	1000	WKZO 590 Kalamazoo, Mich.	1000	WMFF 1320 Plattsburg, N. Y.	250
WJAY 610 Cleveland, Ohio	500	WLAC 1470 Nashville, Tenn.	5000	WMFG 1210 Hibbing, Minn.	100
WJBC 1200 Bloomington, Ill.	100	WLAK 1310 Lakeland, Fla.	100	WMFJ 1420 Daytona Beach, Fla.	100
WJBK 1500 Detroit, Mich.	100	WLAP 1420 Lexington, Ky.	100	WMFN 1210 Clarksdale, Miss.	100
WJBL 1200 Decatur, Ill.	100	WLB 1250 Minneapolis, Minn.	1000	WMFO 1370 Decatur, Ala.	100
WJBO 1420 Baton Rouge, La.	100	WLBG 1310 Muncie, Ind.	100	WMFR 1200 High Point, N. C.	100
WJBR 1420 Gastonia, N. C.	100	WLBH 1420 Kansas City, Kans.	100	WMIN 1370 St. Paul, Minn.	100
WJBW 1200 New Orleans, La.	100	WLBL 900 Stevens Point, Wis.	2500	WMMN 890 Fairmont, W. Va.	250
WJBY 1210 Gadsden, Ala.	100	WLBZ 620 Bangor, Me.	500	WMPC 1200 Lapeer, Mich.	100
WJDX 1270 Jackson, Miss.	1000	WLEU 1420 Erie, Pa.	100	WMSD 1420 Sheffield, Ala.	100
WJEJ 1210 Hagerstown, Md.	100	WLLH 1370 Lowell, Mass.	100	WMT 600 Cedar Rapids, Iowa	1000
WJIM 1210 Lansing, Mich.	100	WLMU 1210 Middlesboro, Ky.	100	WNAC 1230 Boston, Mass.	1000
WJJD 1130 Chicago, Ill.	20000	WLNH 1310 Laconia, N. H.	100	WNAD 1010 Norman, Okla.	1000
WJMS 1420 Ironwood, Mich.	100	WLS 870 Chicago, Ill.	50000	WNAX 570 Yankton, S. D.	1000
WJNO 1200 W. Palm Beach, Fla.	100	WLTH 1400 Brooklyn, N. Y.	500	WNBC 1380 New Britain, Conn.	250
WJR 750 Detroit, Mich.	50000	WLVA 1200 Lynchburg, Va.	100	WNBF 1500 Binghamton, N. Y.	100
WJRD 1200 Tuscaloosa, Ala.	100	WLW 700 Cincinnati, Ohio	500000	WNBH 1310 New Bedford, Mass.	100
WJSV 1460 Washington, D. C.	10000	WLWL 1100 New York, N. Y.	5000	WNBR 1430 Memphis, Tenn.	500

NORTH AMERICAN B. C. STATIONS BY CALLS

WNBX 1260	1000	WPHR 880	500	WSGN 1310	100
Springfield, Vt.		Petersburg, Va.		Birmingham, Ala.	
WNBZ 1290	100	WPRO 630	250	WSIX 1210	100
Saranac Lake, N. Y.		Providence, R. I.		Springfield, Tenn.	
WNEL 1290	1000	WRPR 1420	100	WSJS 1310	100
San Juan, P. R.		Ponce, P. R.		Winston-Salem, N. C.	
WNEW 1250	1000	WPTF 680	5000	WSM 650	50000
Newark, N. J.		Raleigh, N. C.		Nashville, Tenn.	
WNLC 1500	100	WQAM 560	1000	WSMB 1320	500
New London, Conn.		Miami, Fla.		New Orleans, La.	
WNOX 1010	1000	WQAN 880	250	WSMK 1380	200
Knoxville, Tenn.		Scranton, Pa.		Dayton, Ohio	
WNRI 1200	100	WQBC 1360	1000	WSOC 1210	100
Newport, R. I.		Vicksburg, Miss.		Charlotte, N. C.	
WNYC 810	1000	WQDM 1370	100	WSPA 920	1000
New York, N. Y.		St. Albans, Vt.		Spartanburg, S. C.	
WQAI 1190	50000	WRAK 1370	100	WSPD 1340	1000
San Antonio, Texas		Williamsport, Pa.		Toledo, Ohio	
WOC 1370	100	WRWA 1310	100	WSPG 640	500
Davenport, Iowa		Reading, Pa.		Portland, Me.	
WOCL 1210	50	WRAX 920	250	WSPR 1140	500
Jamestown, N. Y.		Philadelphia, Pa.		Springfield, Mass.	
WOI 640	5000	WRBL 1200	100	WSUI 880	500
Ames, Iowa		Columbus, Ga.		Iowa City, Iowa	
WOKO 1430	500	WRC 950	500	WSUN 620	1000
Albany, N. Y.		Washington, D. C.		St. Petersburg, Fla.	
WOL 1310	100	WRDO 1370	100	WSVA 550	500
Washington, D. C.		Augusta, Me.		Harrisonburg, Va.	
WOLS 1200	100	WRDW 1500	100	WSVS 1370	50
Florence, S. C.		Augusta, Ga.		Buffalo, N. Y.	
WOMT 1210	100	WREC 600	1000	WSYB 1500	100
Manitowoc, Wis.		Memphis, Tenn.		Rutland, Vt.	
WOOD 1270	500	WREN 1220	1000	WSYR 570	250
Grand Rapids, Mich.		Lawrence, Kans.		Syracuse, N. Y.	
WOPI 1500	100	WRGA 1500	100	WTAD 900	500
Bristol, Tenn.		Rome, Ga.		Quincy, Ill.	
WOR 710	50000	WRJN 1370	100	WTAG 580	500
Newark, N. J.		Racine, Wis.		Worcester, Mass.	
WORC 1280	500	WROK 1410	500	WTAL 1310	100
Worcester, Mass.		Rockford, Ill.		Tallahassee, Fla.	
WORK 1320	1000	WROL 1310	100	WTAM 1070	50000
York, Pa.		Knoxville, Tenn.		Cleveland, Ohio	
WORL 920	500	WRR 1280	500	WTAQ 1330	1000
Boston, Mass.		Dallas, Texas		Green Bay, Wis.	
WOS 630	500	WRUF 830	5000	WTAR 780	500
Jefferson City, Mo.		Gainesville, Fla.		Norfolk, Va.	
WOSU 570	750	WRVA 1110	5000	WTAW 1120	500
Columbus, Ohio		Richmond, Va.		College Station, Tex.	
WOV 1130	1000	WSAI 1330	1000	WTAX 1210	100
New York, N. Y.		Cincinnati, Ohio		Springfield, Ill.	
WOW 590	5000	WSAJ 1310	100	WTBO 800	250
Omaha, Neb.		Grove City, Pa.		Cumberland, Md.	
WOWO 1160	10000	WSAN 1440	500	WTCN 1250	1000
Fort Wayne, Ind.		Allentown, Pa.		Minneapolis, Minn.	
WPAD 1420	100	WSAR 1350	1000	WTEL 1310	100
Paducah, Ky.		Fall River, Mass.		Philadelphia, Pa.	
WPAR 1420	100	WSAY 1210	100	WTFI 1450	500
Parkersburg, W. Va.		Rochester, N. Y.		Athens, Ga.	
WPAX 1210	100	WSAZ 1190	1000	WTHT 1200	100
Thomasville, Ga.		Huntington, W. Va.		Hartford, Conn.	
WPAY 1370	100	WSB 740	50000	WTIC 1040	50000
Portsmouth, Ohio		Atlanta, Ga.		Hartford, Conn.	
WPEN 920	250	WSBC 1210	100	WTJS 1310	100
Philadelphia, Pa.		Chicago, Ill.		Jackson, Tenn.	
WPFB 1370	100	WSBT 1360	500	WTMJ 620	1000
Hattiesburg, Miss.		South Bend, Ind.		Milwaukee, Wis.	
WPG 1100	5000	WSFA 1410	500	WTMV 1500	100
Atlantic City, N. J.		Montgomery, Ala.		East St. Louis, Ill.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WTNJ 1280	500	XECW 1310	10	XERA 840	250000
Trenton, N. J.		Mexico City, D. F.		Villa Acuna, Coah.	
WTOC 1260	1000	XED 1155	2500	XES 990	250
Savannah, Ga.		Guadalajara, Jal.		Tampico, Tams.	
WTRC 1310	100	XEE 1210	50	XESL 1160	
Elkhart, Ind.		Durango, Dgo.		Tijuana, L. C.	
WVFW 1400	500	XEF 980	100	XET 690	500
Brooklyn, N. Y.		Juarez, Chih.		Monterrey, N. L.	
WWAE 1200	100	XEFA 1180	500	XETB 1310	125
Hammond, Ind.		Mexico City, D. F.		Torreón, Coah.	
WWJ 920	1000	XEFB 1420	100	XETF 1220	12
Detroit, Mich.		Monterrey, N. L.		Veraeruz, Ver.	
WWL 850	10000	XEFC 560	100	XETH 1210	100
New Orleans, La.		Merida, Yuc.		Puebla, Pue.	
WWNC 570	1000	XEFE 1340	250	XEU 1010	250
Asheville, N. C.		Laredo, Tams.		Veraeruz, Ver.	
WWRL 1500	100	XEFI 1440	250	XEW 890	50000
Woodside, N. Y.		Chihuahua, Chih.		Mexico City, D. F.	
WWSW 1500	100	XEFJ 1230	100	XEWZ 1150	100
Pittsburgh, Pa.		Monterrey, N. L.		Mexico City, D. F.	
WWVA 1160	5000	XEFL 1150	250	XEX 1310	125
Wheeling, W. Va.		Tijuana, L. C.		Monterrey, N. L.	
WXYZ 1240	1000	XEFO 940	5000	XEXM 610	
Detroit, Mich.		Mexico City, D. F.		Mexico City, D. F.	
W1XBS 1530	1000	XEFV 1210	100	XEY 1000	10
Waterbury, Conn.		Juarez, Chih.		Merida, Yuc.	
W2XR 1550	1000	XEFW 1310	250	XEYZ 780	10000
Long Island City, N. Y.		Tampico, Tams.		Mexico City, D. F.	
W6XAI 1550	1000	XEFZ 1370	100	XEZ 630	500
Bakersfield, Calif.		Mexico City, D. F.		Merida, Yuc.	
W9XBY 1530	1000	XEG 1270	200	XEZZ 1370	100
Kansas City, Mo.		Ensenada, B. C.		San Luis Potosí, S. L. P.	
XEA 1060	500	XEH 1150	250	XFA 1310	5
Guadalajara, Jal.		Monterrey, N. L.		Aguaascalientes, Ags.	
XEAA 920	200	XEI 1370	125	XFB 1270	250
Mexicali, B. C.		Morelia, Mich.		Jalapa, Ver.	
XEAC 1240	250	XEJ 1020	1000	XFC 810	350
Tijuana, L. C.		Juarez, Chih.		Aguaascalientes, Ags.	
XEAF 990	500	XEK 990	100	XFD 1340	350
Nogales, Son.		Mexico City, D. F.		Jalapa, Ver.	
XEAG 1310	10	XEKL 1240	500	XFO 940	5000
Cordoba, Ver.		Leon, Guan.		Mexico City, D. F.	
XEAI 1240	100	XEL 1100	250	XFX 610	1000
Mexico City, D. F.		Mexico City, D. F.		Mexico City, D. F.	
XEAM 750	7.5	XELA 1240	50	YNLF 1275	20
Matamoros, Tams.		Saltillo, Coah.		Managua, Nicaragua	
XEAO 560	250	XELO 1110	10000	YNOP 1230	100
Mexicali, B. C.		Piedras Negras, Coah.		Managua, Nicaragua	
XEAQ 1090	1000	XEME 1240	15	YNVA 950	30
Rosarito, L. C.		Merida, Yuc.		Managua, Nicaragua	
XEAS 1160	100	XEMO 860	5000		
Saltillo, Coah.		Tijuana, L. C.			
XEAT 1210	50	XEMX 1280	12		
Hidalgo, Chih.		Mexico City, D. F.			
XEAW 960	50000	XEMZ 820			
Reynosa, Tams.		Coronado Isl., L. C.			
XEAZ 1420	7	XEN 710	1000		
Guanajuato, Gto.		Mexico City, D. F.			
XEB 1030	10000	XENT 910	150000		
Mexico City, D. F.		Nuevo Laredo, Tams.			
XEBC 730	5000	XEOK 760	250		
Agua Caliente, L. C.		Tijuana, L. C.			
XEBH 930	500	XEOX 640	500		
Hermosillo, Sonora		Saltillo, Coah.			
XEBK 1000	100	XEP 1160	500		
Nuevo Laredo, Tams.		Juarez, Chih.			
XEC 1160	30	XEPN 590	50000		
Tijuana, L. C.		Piedras Negras, Coah.			

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The Radex Press, Conneaut, Ohio

AROUND THE CLOCK ON THE SHORT WAVES

The time is given by the 24-hour clock. Noon is always 12:00 but midnight may be either 00:00 or 24:00. To change time to your own clock, subtract twelve from p.m. hours. Thus, 18:00 is 6 p.m. and 23:00 is 11:00 p.m. The time lines used in charts are for Eastern Standard. Those living in other zones may slip out the lines below and paste them over the EST lines. The following strips are for Central Standard Time. For MST, start with 10:00 and 22:00. For PST with 09:00 and 21:00.

Central Time A. M.	23:00	23:15	23:30	23:45	00:00	00:15	00:30	00:45	01:00	01:15	01:30	01:45	02:00	02:15	02:30	02:45	03:00	03:15	03:30	03:45	04:00	04:15	04:30	04:45	05:00	05:15	05:30	05:45	06:00	06:15	06:30	06:45	07:00	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45
Central Time P. M.	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45
Central Time P. M.	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45

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INSURE YOUR RADIO ENJOYMENT

SEND THIS BLANK TODAY

The Radex Press Inc.,
 Conneaut, Ohio:

Enclosed find \$.....for which send me postpaid my choice of your offers
 as checked below:

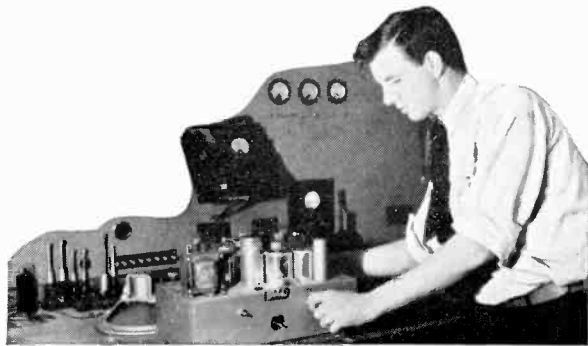
- Program "slates" 1 for 10c 2 for 15c 4 for 25c
- One Radio World Map and Time Converter 25c
- One copy of the next RADEX 25c
- One year's subscription to RADEX, 10 issues.....\$1.75
- Two years.....\$3.25 Three years.....\$4.75
- Beginner's Story of Radio50
 (If you live in Ohio, add 3% for State Sales Tax. No tax on Subscriptions.)

Write Name Plainly

Street and Number

City and State

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 how 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. 6JO, Washington, D. C.

J. E. SMITH, President,
National Radio Institute
Dept. 6JO, 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

Exclusive New MIDWEST ELECTRIK-SAVER Slashes Radio Current Bills IN HALF!



NEW
1937
AIR
TESTED

16-TUBE MIDWEST

5 WAVE BANDS

9 to 2,200
METERS



The Elektrik-Saver is today's most sensational radio feature. It cuts radio wattage consumption as much as 50% and results in Midwest 16 and 18-tube radios consuming no more current than an ordinary 7 or 8-tube set. This feature enables the "Air Tested" Midwest to operate on low line voltages—as low as 80 volts! In addition, the Elektrik-Saver increases tube life, reduces strain on the set, eliminates repair bills, and makes for more consistent and glorious realistic reception.

SAVE UP TO 50%
DIRECT FROM MIDWEST FACTORY

NO middlemen's profits to pay! Buying direct from the Midwest factory makes your radio dollar go twice as far. See for yourself that Midwest offers you greater radio values—enables you to buy the more economical factory-to-you way that scores of thousands of radio purchasers have preferred since 1920. Never before so much radio for so little money! Why pay more? The broad Midwest Foreign Reception and Money-Back Guarantees insure your satisfaction. You get 30 days FREE trial in your own home!

Once again, Midwest demonstrates its leadership by offering the world's most powerful and most beautiful ALL-WAVE 16-tube, 5-Band Radio. A startling achievement, it makes the whole world your playground. Powerful Triple-Twin tubes (two tubes in one!) give 18-tube results. This advanced radio is a master achievement, a highly perfected, precisely built, radio-musical instrument that will thrill you with its marvelous super performance... glorious crystal-clear "concert" realism... and magnificent foreign reception. The Dual Audio Program Expander gives a living, vital realistic quality to voice and musical reproduction. Before

35 ADVANCED 1937 FEATURES

This Super Deluxe Midwest is so powerful, so amazingly selective, so delicately sensitive that it brings in distant foreign stations with full loud speaker volume on channels adjacent to powerful locals. Scores of marvelous Midwest features, many of them exclusive, make it easy to parade the nations of the world before you. You can switch instantly from American programs to Canadian, police, amateur, commercial, airplane and ship broadcasts... to the finest and most fascinating foreign programs. The new Midwest Tuning System, for example, shows you exactly where to tune for foreign stations... while Automatic Aerial Adaption triples the number of foreign stations that can be secured and doubles the excitement and joy of ordinary light bulb short wave tuning.



MIDWEST USES LESS THAN AN ORDINARY LIGHT BULB

With a Midwest, the finest entertainment the world has to offer is at your command. It is preferred by famous orchestra leaders, musicians, movie stars and discriminating radio purchasers everywhere. It enjoys an increasing world-wide sale because it outperforms ordinary receivers costing twice as much. You can order your Midwest "Air-Tested" radio from the new 40-page catalog with as much certainty of satisfaction as if you were to come yourself to our great factory. (1) It pictures the beautiful 1937 radios... in their actual colors! You pay as little as 10¢ a day. Three iron-clad guarantees protect you: (1) A Foreign Reception Guarantee—(2) Absolute Guarantee of Satisfaction—(3) One-Year Warranty. Fill in and mail the coupon NOW!

\$49.95 COMPLETE WITH GIANT THEATRE-SOUND SPEAKER

TERMS AS LOW AS 10¢ A DAY

MY MIDWEST HAS UNEQUALLED BEAUTY OF TONE AND SHARPNESS OF SELECTIVITY.
Glen Gray

CONGRATULATIONS FOR CREATING THE MIDWEST. IT BRINGS IN WONDERFUL FOREIGN RECEPTION.
Rubinoff

Only MIDWEST gives you 16 TUBES 5 WAVE BANDS 9 TO 2,200 METERS ELECTRIK-SAVER PUSH BUTTON TUNING AUTOMATIC AERIAL ADAPTION DUAL AUDIO PROGRAM EXPANDER 30 DAYS FREE TRIAL



MAIL COUPON TODAY for Free 30-DAY TRIAL OFFER and 40-PAGE FOUR-COLOR Free CATALOG

MIDWEST RADIO CORPORATION Dept. C-81, Cincinnati, Ohio

Without obligation on my part, send me your new FREE catalog and complete details of your liberal 30-day FREE trial offer. This is NOT an order.

Name _____
Address _____
Town _____ State _____

MIDWEST RADIO CORP.

DEPT. C-81 CINCINNATI, OHIO, U.S.A.
Established 1920 Cable Address MIRACO...All Codes