MIDSUMMER EDITION 1933

RADEX EX

A COMPLETE RADIO LOG OF THE WORLD



25°

Sweeping Changes in Canada How to Build a Simple Short Wave Converter

The Most Interesting Station in the World

JUNE 1, 1933



Reg. U. S. Patent Office

FRED CLAYTON BUTLER Editor and Publisher



PAGE TAYLOR Short Wave Editor

NUMBER 70

Technical Editor NINTH YEAR

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ADDRESS ALL CORRESPONDENCE TO CLEVELAND OFFICE

TUNE DX CALENDAR

Special Programs for Distant Listeners

A. M. time is given as the night before. Thus early Monday morning programs are listed under Sunday night. Time is given in Eastern Standard so that programs may be listed in proper sequence.

SUNDAY NIGHT

June 4th

12:00-2:00-CMCH, 1405, Havana, Cuba. June 4th, 11th, 18th, 25th 12:15-1:00-KSOO, 1110, Sioux Falls, S. D. 1:00-3:00-WGES, 1360, Chicago, Ill.

MONDAY NIGHT June 5th

4:30-5:15-WEAO, 570, Columbus, Ohio. June 19th

2:30-5:00-10-BI, 1200, Prince Albert, Sask

June 12th, 26th

5:00-6:00-WAWZ, 1350, Zarephath, N. J. June 5th, 12th, 19th, 26th 12:00-2:30-WMIL, 1500, Brooklyn, N. Y.

1:00-5:00—WSUI, 880, Iowa City, Iowa. 5:00-5:15—WCAH, 1430, Columbus, Ohio. 5:15-5:30-WHP, 1430, Harrisburg, Pa.

TUESDAY NIGHT May 30th, June 27th

2:30-3:30-WCLO, 1200, Janesville, Wis.

2:00-3:00-WJMS, 1420, Ironwood, Mich.

5:30-7:00-WRAK, 1370, Williamsport, Pa.

June 6th. 13th. 20th. 27th

12:00-1:00—KFUO, 550, St. Louis, Mo. 2:00-4:00—CFJC, 1120, Kamloops, B. C. 5:00-6:00—KFGQ, 1310, Boone, Iowa.

WEDNESDAY NIGHT May 31st

2:30-4:00-CHWK, 780, Chilliwack, B. C.

2:00-2:30-WHBF, 1210, Rock Island, Ill.

June 7th, 14th 12:00-1:00-WHBL, 1410, Sheboygan, Wis. June 14th

4:00-6:00-KFBI, 1050, Abilene, Kans

June 7th, 14th, 21st, 29th

2:00-3:00-KFXJ, 1200, Grand Junction, Colo. 2:30-4:30-CKWX, 1010, Vancouver, B. C.

THURSDAY NIGHT

June 1st

9:00-11:00-OFH, 1031, Viipuri, Finland. 4:00-5:00-KASA, 1210, Elk City, Okla.

June 1st, 8th, 15th, 22nd, 29th

11:00-12:30-WHOM, 1450, Jersey City, N. J. 12:00:1:00 KFUO, 550, St. Louis, Mo. 12:00-2:30-WMIL, 1500, Brooklyn, N. Y. 1:00-2:00-WBBX, 1200, New Orleans, La. 1:00-2:00-WENC, 1420, Americus, Ga.

FRIDAY NIGHT June 2nd

4:15-4:45-WNBZ, 1290, Saranac Lake, N. Y. June 30th

2:30-4:00-CHWK, 780, Chilliwack, B. C.

June 2nd, 9th, 16th, 23rd, 30th

12:30-1:30—WCAJ, 590, Lincoln, Neb. 1:00-1:30—CFCN, 1030, Calgary, Alta. 1:30-3:30—KGEK, 1200, Yuma, Colo. 4:30-5:00-CMJH, 1150, Ciego de Avila, Cuba.

SATURDAY NIGHT June 3rd

12:00-4:00-WRBX, 1410, Roanoke, Va.

June 24th

3:00-4:00-KDLR, 1210, Devils Lake, N. D.

June 8rd, 10th, 17th, 24th June 3rd, 10tn, 1 ftm, 24th 9:00-2:00—WWRL, 1500, Woodside, N. Y. 12:00-1:00—WGBI, 880, Scranton, Pa. 12:00-1:00—WBK, 1370, Detroit, Mich. 12:00-1:30—WWVA, 1160, Wheeling, W. Va. 12:00-3:00—CMCD, 1140, Havana, Cuba. 12:00-4:00—WNAC, 1230, Beston, Mass. 1:00-1:30—WKY, 900, Oklahoma City, Okla. 1:00-2:00—KQV, 1380, Pittsburgh, Pa. 1:00-2:00—KQV, 1380, Pittsburgh, Pa. 1:00-2:00—WCBF, 620, Evansylle, Ind. 1:00-2:00—WCBF, 620, Evansylle, Ind. 1:00-2:00-WGBF, 630, Evansville, Ind. 1:00-3:00—WGES, 1360, Chicago, Ill. 1:00-3:00—WWAE, 1200, Hammond, Ind. 1:00-4:00-KGU, 750, Honolulu, Hawaii. 1:30-3:00—KMAC, 1370, San Antonio, Tex. 2:00-3:00—CMGE, 1375, Cardenas, Cuba. 2:00-3:00—CMGE, 137.5, Cardenas, Cuba. 2:00-3:00—CMQ, 630, Havana, Cuba. 2:00-5:00—KFBL, 920, Denver, Colo. 2:00-7:00—KGBU, 900, Ketchikan, Alaaka. 2:30-4:30—CKWX, 1010, Vancouver, B. C. 3:00-4:00—KXL, 1420, Fortland, Ore. 3:00-5:00—CFCT, 1430, Victoria, B. C.

4:00-6:00-KVOA, 1260, Tucson, Ariz.

4:00-6:00-XFB, 1290, Jalapa, Ver., Mex.

THE MONTH'S CHANGES

FREQUENCY

New York, N. Y., from 810 Lethbridge, Alta., from 1120 Moncton, N. B., from 630 Montreal, Que., from 1030 Charlottetown, P. E. I., from 580 570 CJOC 580 580 CRCA 600 CFCF 630 CFCY 630 ніх Santo Domingo, D. R., from 579 690 HJNBogota, Colombia, from 685 Edmonton, Alta., from 745 730 CJCA 780 CHWK Chilliwack, B. C., from 665 780 CKPR Fort William, Ont., from 890 New York, N. Y., from 570 WNYC Moose Jaw, Sask., from 665 Fleming, Sask., from 665 Ottawa, Ont., from 600 880 CJRM 880 CJRW 880 CRCO CFQC CHML 890 Saskatoon, Sask., from 910 890 Hamtilton, Ont., from 880 910 CKY Winnipeg, Man., from 780 915 CFRC Kingston, Ont., from 930 CFCH North Bay, Ont., from 910 Prescott, Ont., from 915 Regina, Sask., from 960 930 CFLC 1010 CHWC 1010 CKCD Vancouver, B. C., from 730 CKCK Regina, Sask., from 960 1010 1010 CKCO Ottawa, Ont., from 890 CKOC Hamilton, Ont., from 635 Vancouver, B. C., from 730 1010 CKWX 1010 CFBO St. John, N. B., from 890 1030 CFCN Calgary, Alta., from 985 1030 Toronto, Ont., from 960 Halifax, N. S., from 815 1050 CHNS (Continued on page 45)

BUILDING a Short-Wave CONVERTER

• • By B. FRANCIS DASHIELL

AST month a list of parts necessary for our short-wave converter was published, and if they now have been gathered together we are ready to proceed with actual construction. RADEX herewith presents exclusively for its readers a special converter circuit designed for this magazine. It is shown in Figure 1. Its originator, Mr. Henry K. Bradford, member I. R. E., is a well-known short-wave expert and technical official of the National Radio Institute, of Washington, D. C.

The converter employs a 58 type r.f. pentode tube as detector, and a type 56 for oscillator. The latter is a Hartley modification with its cathode coupled to the detector. The antenna control grid circuit of the detector is tuned with a short-wave variable condenser, while a similar condenser is used to control oscillations. These two condensers may be ganged on a single shaft, but it is not recommended for sets that are home constructed. It is practically impossible to build coils and circuits that will balance to perfection over the entire wave band.

Converts S. W. to Long

The circuits have been designed to provide a "beat" frequency of between 1,000 and 1,500 kilocycles, to which the broadcast set must be tuned permanently while the short wave converter is used. The two frequencies-that of the incoming signal wave, and that created by the oscillator of the converter-are mixed together and create a "beat" note or frequency that in turn is fed to the antenna terminal of the broadcast receiver. In other words, the short waves are increased in wave length so as to fall within the tuning limits of the broadcast receiver.

For instance, if a short-wave sig-

nal is being broadcast on a frequency of 8.734 kilocycles, and the broadcast receiver is tuned to a silent spot that happens to fall upon 1,360 kilocycles, it will be necessary automatically to create a frequency of 7,374 kilocycles by tuning the oscillator condenser so that a beat frequency of 1,360 kilocycles will be sent into the broadcast set. Beat frequency equals the difference between the received frequency and the oscillator frequency. The antenna condenser tunes the detector to the incoming short wave and the oscillator creates a different frequency, so it can be seen how difficult it is to align the condensers on a single shaft.

Making the Coils

There are two coils in use at one time when the converter is working. These coils represent the only difficult work in making this converter, and it is important that these instructions be carefully followed if satisfactory results are to be obtained. One coil is the antenna or detector coil, indicated by L1 and L2, and the other is the oscillator coil, L3. However, because each coil responds only to a limited portion of the short-wave band, it is necessary to wind a number of sets or pairs of coils. A total of eight will be needed, two to a set, or four pairs in all. Blank forms (16 to 23) for the coils are about 11/2 inches in diameter, and are fitted with four prongs or pins to fit standard 4-contact sockets (11 and 12). They can be procured from any radio supply house, and many have bakelite handles to facilitate removal from sockets when changing to different wave-lengths.

All coils are wound with number 26 double-cotton-covered copper magnet wire. All must be wound in the same direction. Take four blanks for the detector coils, and four for the oscil-

lator coils. In the detector or antenna coil, L_1 is the primary coil wound at the bottom of the form, and L_2 is the secondary coil wound above L_1 , but with a space of not more than $\frac{1}{2}$ inch between the two coils. Wind the wire tightly, evenly and carefully, with the ends passing directly to the proper pins to which they must be soldered.

For the 10-20 meter detector coil, wind 3 turns on the primary L₁, and 4 turns on the secondary L₂. For the oscillator coil on another form, L₃, wind 4 turns with a tap taken off at exactly 1 ½ turns from the bottom.

The ends of the coil wires—two from each the primary and secondary—of L₁ and L₂, respectively, connect to the four pins of the base, while the two ends of the oscillator coil L₃, and the single wire cathode tap, connect to but three prongs of the base, as shown in Figure 2. One prong of the oscillator coil form remains unused. It will be noted that the number of turns of wire on the detector coil secondary L₂ and the oscillator coil L₃, are equal. This gives the dials a tendency to track rather nicely.

The assembly of the parts may be

LIST OF PARTS

One .001 mfd. fixed condenser (1) Two .0001 mfd. ditto (2 and 3) Two .1 mfd. ditto (4 and

5)
One 5000 ohms resistor (6)

One 50,000 ohms ditto (7)
One 100,000 ohms ditto (8)
Two .00015 mfd. variable
condensers (9 and 10)
Two 4-pin tube sockets (11

and 12)
One 5-pin tube socket (13)
One 6-pin tube socket (14)
One 50-millionry r. f.

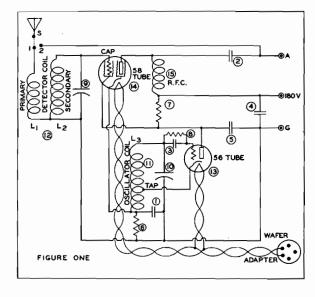
choke coil (15)
Eight 1½ inch diameter
plug-in coil forms, 4prong to fit sockets 11
and 12 (16 to 23 inclusive)

One wafer socket adapter to fit under any 1½ volt tube in broadcast receiver to obtain current to heat converter tubes.

One 56 type super-triode oscillator tube, 5-pin
One 58 type triple-grid super-control amplifier tube, 6-pin
Small quantity of No. 28 d.c.c. magnet wire.

Numbers in parentheses refer to similar numbers on the drawings.

For the 20-40 meter detector coil, wind 4 turns on L₁, and 8 turns on the secondary L₂. Its oscillator coil L₃ has 8 turns, tapped 2% turns from the bottom. For the 40-80 meter coil, wind 5 turns on L₁, and 18 turns on the secondary L₂. The oscillator coil L₃ has 18 turns, tapped 6 turns from the bottom. For the 80-200 meter coil, wind 10 turns on the primary L₁, and 50 turns on secondary L₂. For the oscillator coil L₃, wind 50 turns, tapped 17 turns from the bottom.



arranged on the base to suit the builder. But the two coils should be spaced as far apart as practicable so there will be no magnetic coupling between them. The oscillator coil $L_{\rm s}$ should be closely associated with its 56 type tube. All wires must be as short as possible for careful assembly. Shields over the two coils are not recommended, but the 58 detector tube should be placed within a metallic tube shield.

While the converter can be assembled on a wooden base and hard rub-

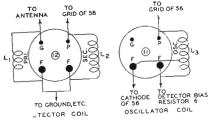


FIGURE TWO

ber panel, a metal panel and base are advised. And, in fact, it will be well if the entire converter is built within a metal container. The metal panel, base, shields, partitions, variable condenser frames, and other parts, must be well grounded to the converter ground connection. A wire must connect this ground terminal to the ground connection or negative B supply of the broadcast receiver with which the converter is used.

Securing Filament Current

The two tubes of the converter obtain their filament current from one of the tubes in the broadcast receiver. The additional load of 2 amperes on the filament winding of the broadcast set will not ordinarily affect the average a.c. set. A wafer adapter, with either four or five holes, to fit beneath some tube that takes 2.5 volts, is used for this purpose. The filament contacts of the 56 and 58 sockets (13 and 14) are connected in parallel with twisted cord to the wafer adapter. A switch to turn the converter on and off is inserted in one of the leads.

The plates of the two tubes require 180 volts. This is taken off also from the broadcast set at some point such as a common plate supply lead, voltage divider, speaker field coil, or in the filter system. Or 180 volts of B batteries can be used, and operation will be smoother and more quiet. Another wafer adapter can be utilized to connect to the plate of some tube that takes approximately 180 volts within the set.

ne set. After the radio-frequency choke

coil (15), resistors (6, 7 and 8), and fixed condensers (1, 2, 3, 4 and 5) are arranged in the proper circuit positions, the converter is ready to test. Terminal post marked "A" is connected to the antenna terminal of the broadcast set. The filament adapter is placed directly on top of a conveniently selected socket in the set and the tube replaced. Switch S₁ of the converter is closed. When the converter is not in use it need not be disconnected. The switch is placed at S₂, which then connects the antenna directly to the broadcast set.

Operating the Converter

Select some point on the dial of the receiver between 1,000 and 1,500 kilocycles where no signal or interference can be heard. Set the volume control at its maximum but without undue noise. With the antenna tuning condenser (9) remaining in one position, the oscillation condenser (10) is rotated until the characteristic "rushing" noise or sound is heard. This means that oscillation is taking place, and the beat frequency will be produced at the proper frequency to which the broadcast receiver is tuned. The two condensers are then simultaneously rotated, very, very slowly, until a short-wave signal is picked up. Further adjustment of these condensers, and perhaps a final micrometer adjustment of the dial of the broadcast set together with its volume control, should bring shortwave stations in at their maximum strength.

CANADIAN CHANGES

Official data from the Canadian Radio Commission enables us to make the necessary revision in all of our lists. A number of stations do not appear in the official list. The presumption is that these will be deleted. They are marked with an asterisk in the list by calls. CJGC, London, and CKOK, Windsor, are combined with the call CKLW. This station will use 540 kcs. at least for a time.

REMARKABLE RECEPTION in B. C. Band

HOSE of us who give three cheers when we tune in Cuba can only stand aghast when we consider the reception recently reported by C. R. Caraven, 1840 East Georgia St., Vancouver, British Columbia. We have on our desk half a dozen really remarkable verifications of stations in the broadcast band.

The first is from Ostmarken Rundfunk, Konigsberg in East Prussia, on the Baltic Sea east of Poland. It says in part: "After your communication, there can be no doubt that you have heard our sender. Your two noticeable tones, which were repeated three times, stand between pauses. The sender of Konigsberg worked on 1382 kcs. with a strong wave of 600 watts."

The second is from Radio Journal Praha XII, at Praha (The Prague) in Czechoslovakia and from it we quote: "There can be no doubt about your picking up our station although we are emitting on 614 kcs. and not at 616 (!) as you assumed. We are working with a power of 120 k. w. and 488.6 meters wavelength. This is the first time that we have been received in Canada and it would be very interesting for us to have a report from time to time." The exclamation point is our own. How could Mr. Caraven make such a big mistake as two kilocycles when reporting his reception?

The next is from Radio Bucuresti in Bucarest, Roumania: "The reception heard by you has been from station Bucarest. Herewith we acknowledge the reception by you of our program in the day of January 1st."

From CX-26, Montevideo, Uruguay, comes this: "At the same time as we thank you for your valuable data we have the pleasure to confirm to you that reception as that night we

made in fact a transmission dedicated to the hams at a great distance. Before becoming broadcasters we had been enthusiastic amateurs and it is in memory of our reception of DX then that we at times give those emissions dedicated to the radio amateurs. The detailed information that you gave us is for us of inestimable value for the care of the observations and for the considerable distance that separates us. We are pleased to inform you that you are the record-holder for reception from CX-26, Radio Uruguay, at a distance."

For good measure we have this verification from 7ZL, Hobart, Tasmania: "The information you give is correct and corresponds with our station log."

And somewhat in the short waves,



Lots of people who thought they were listening to Greta Garbo on the air, were hearing Alice Hill. She now has the part of Thelma Jasper, Jack Arnold's secretary, in "Myrt and Marge," daily except Saturday and Sunday on the See-Bes at 7:00 p. m. EDST.

about 1713 kcs. to be exact, Mr. Caraven finds this one although he does not say whether he received it on his regular broadcast receiver or on a short wave set: From The Western India Wireless Association, Poona, India: "We have the greatest pleasure confirming your report of reception from our experimental transmitter VU2BY. This transmitter operates on 175 meters with ten watts input, but this last few days we have increased the output to 50 watts and now work on 42 meters between 8:00 and 9:00 p. m. I. S. T. We work Thursdays and Saturdays. Yours is the first real long-distance report we have had and I think, with the power employed, it must constitute a record for telephony anywhere."

"I have been DXing for many years," writes Mr. Caraven, "beginning at a time when foreign reception was considered impossible. It is my firm belief that DXers are today pioneering the field for that future when foreign reception will be an everyday matter. To those desiring



A microphone view of the broadcast of the Best Foods Musical Grocery Store. Herbert Polesic, Jeannie Lang and Tom Howard and Polesic, Jeannie Lang and Tom Howard and his derby. NBC-WEAF net, Fridays at 9:00 p. m. EDST and again at 12:30 a. m.

distant reception, it should hardly be necessary to emphasize the necessity of having a perfect aerial and ground, good tubes and soldered connections. Such factors are of vital importance for, without these, foreign reception can not be expected. I have found it essential to have up-to-date lists of transmitting stations, to know times in foreign countries and to have a systematic manner of logging. Through the years RADEX has fulfilled these requirements in every respect and without this assistance, I should not have been able to accomplish such reception."

Mr. Caraven has a Remler 10-tube Superheterodyne receiver, a single-wire inverted L antenna and an Ollie Ross ground. He is a member of the International DXers Alliance.

A Phone Receptor

The Amplivox "Phone Receptor" enables the owner of any radio set to listen with phones to distant radio signals. The outstanding feature of the unit is its ability automatically to cut out the speaker at will, but without unbalancing the receiver. The Receptor should fill a long-felt want where listeners wish to DX during the static season or at late hours when the loudspeaker is undesirable.

The device is made for any type of 4, 5, 6 and 7-prong power tubes. One or two socket-prong adapters are connected with a five-foot cable to a metal headphone-jack box. In the case of push-pull power circuits the tubes are removed from the output stages of the set. The two adapters are then inserted into the sockets. The tubes are replaced in the top sockets of the adapters. When the phones are desired the plug is inserted in the jack box and the loudspeaker is automatically silenced without its circuit being opened. The jack merely connects the phones in series with the grid contacts of the power socket or sockets, and in turn grounds the grids of the power tube

(Continued on page 33)

FADING, Broad Tuning and OTHER TROUBLES

• • • By the TECHNICAL EDITOR

DURING evenings and early mornings the radio programs come in good for a while, then the reception becomes blurred and distorted for a minute or so. Then it clears up but only to do the same things again. The service man checked my Philco 112 and found nothing wrong. It seems to do this on all stations. Is it a disadvantage of the automatic volume control?

Fading accompanied by blurring distortion is characteristic of distant reception, and is attributed to waveinterference. This is made more pronounced by automatic volume control. which brings the fading signal in strong at its lowest field strength at the time when wave-interference occurs. When signal fading is absent. the automatic volume control naturally is working at its minimum volume and the interfering station is drowned out and reception is clear. Then as fading comes on and the a.v.c. comes into action the interfering station becomes louder and you have distortion and blurring. When fewer stations are on the air there is less likelihood of so much station interference.

Broad Tuning

I have an Acme 6-tube receiver and it seems to tune very broadly on nights when reception is good. This prevents stations from coming in clearly at all times.

The trouble you are experiencing is due to the fact that so many stations are now on the air. The more power a broadcasting station has, and the louder its signals are received, the more dial space it covers on a receiving set. When reception at nights is very good, signals come in

louder and more stations are heard. Thus, reception is spread out over a wider portion of the dial in a ratio proportional to the selectivity of the set, and more interference is noted.

Frequently selectivity in an old receiver becomes poor because of the accumulation of dust within the set. A radio set should be cleaned carefully twice a year. The plates of the variable condensers must be polished carefully and cotton pipe cleaners are best for this purpose. All parts should be brushed and dusted off. If tubes are old, they should be tested, and replaced if weak.

Phones on AK 55

I wish to attach headphones to my Atwater Kent model 55 set, but wish advice for this particular receiver.

Your receiver has two power tubes in push-pull amplification. We suggest that you use the hook-up that is shown in Figure 4 of the article in the February issue of RADEX, as this corresponds to the circuit in your set. Use the wafer adapter shown in "A" of Figure 2 for the -45 tube, or the one at "B" for the -47 tube. Place an adapter beneath each tube in the same position shown in Figure 2. Insert the tube in its socket and press down on the wafer and fit snugly in place. Flexible wires, which have been soldered to the proper lug, as shown in Fig. 2, then run to the phones through the condensers and resistor. Two wires run from the output of the audio transformer which is fed by the two power tubes, either -45s or -47s. They terminate at the socket into which the speaker cable is plugged. The silencing switch can be placed in either one of these two wires which are colored yellow with

a black trace through them.

Locating Tubes

Can you tell me the location of the various tubes and the value of the volume control in my Silver Marshall 9-tube receiver?

We assume that your receiver is model 36A. The model 724 is identical, except that it has only three variable condensers in the gang instead of four as in the 36A.

Looking down upon the receiver, standing at the rear, the tubes are as follows: Left to right in a row beginning in the rear of the four-gang variable condensers—the first -24 is the radio-frequency tube; second -24, the first detector; third -27 is the oscillator; fourth -24, the first intermediate frequency tube; fifth -24, the second intermediate frequency; and sixth -24, the second detector. In the rear will be found the -80 rectifier, and two -45s, connected in push-pull audio power output.

The value of the volume control is 3,000 ohms. It is a simple potentiometer with the arm and one end connected together to one end of a resistor of 375 ohms which in turn is grounded. The other end of the control connects into the circuit. In the 724 model receiver this control is similar except that the additional 375 ohm resistor is not used between the control and the ground.

New R.F. Amplifier

What about the "Amplitenna" device, and will it increase the sensitivity of my receiver?

The "Amplitenna" scheme, which has been published in another radio magazine, has not been tested by RADEX. However, it is said to increase antenna signals before they pass into the radio set. It is a sort of pre-stage signal amplifier. The drawback, which has always hindered these radio-frequency untuned amplifiers from being in wider use with radio sets, is that all static and other noises are so amplified as to prevent even fair reception on the set. A high noise level is handed the set right at

the start and cannot be eliminated. Such r.f. amplification schemes, when reception is clear and perfect, will tend to increase the range and sensitivity of smaller sets, those of few tubes and little or no radio amplification.

Two-Volt Tubes

I wish to use 2-volt tubes in my Radiola 20 battery set that now utilizes the -99 tubes. Please explain what to do.

The -30 series of tubes can be used in your set in all positions except the power tube (now a -20), for which a -31 should be substituted. If you use a 6-volt A battery or an eliminator it will be necessary to insert a suitable resistance in the filament lead in order to cut down the voltage to the 2-volts needed for the new tubes. We recommend the use of a 2-volt storage cell or the new Aircell battery. The present volume rheostat will be turned all the way on, and slightly less if the Aircell is used. The resistance, if 6-volts are used, should be of 12 ohms and is inserted in series in the yellow A plus wire next to the rheostat. The same B battery for the -30s and the -31 power tube will be suitable, and the same holds good for the C battery now on the -20 tube.

Short Wave Harmonics

My short wave receiver brings in local stations and some others that are not on short waves. Also I use this set and keep it near my Radiola 3 battery receiver, using the same aerial and ground. What seems to be wrong here?

All short-wave sets bring in harmonics of local or other strong broadcasting stations if their harmonics fall within the range of the particular short wave coil being used. These harmonics are always multiples of the original frequency and are two, three, four, five, etc., times the broadcast frequency. For instance, if a station broadcasts on 1,000 kcs., it will emit harmonics on 2,000, 3,000, 4,000, 5,000, etc., kilocycles—all of which

will be within the short wave range.

A short-wave set should never be placed in close proximity to another tuned circuit, such as a broadcast receiver. The latter may have serious effects on short-wave reception unless the latter set is very well shielded. A separate aerial must be used, and never run the two sets at the same time if fairly close together.

Phones on Zenith 430

My new Zenith, model 430 receiver, is a new one using dual-speakers and some new type tubes. How can I attach headphones to this circuit which is not fully covered in your February issue?

You can connect phones to the two 59 power tubes, but you cannot obtain adapters for these 7-contact sockets. It will be necessary to make the connections to plate contacts of the power tube sockets. These may be located by looking down upon the sockets: The two large holes at the bottom are the filament or heater terminals; next on the right is the plate; two grids, numbers 1 and 3, are tied to the plate. Thus they all have the same potential. Any of these and the plate may be used to attach the phones as shown in Figure 4 of the February, 1933, article.

Or the phones may be connected as shown in the upper left-hand corner of Figure 3, by attaching to the 59 driver tube in the right rear corner of your Zenith chassis. Connection is made to the plate of this tube. You can also attach the phones to the 56 first audio tube with a 5-hole wafer adapter. The dual speakers are connected together, and the wires leading from the output transformer may be considered as feeding just a single speaker. The silencing switch may be put in either of the leads from the transformer output.

A Separate A.V.C.

Can I procure a separate automatic volume control device to attach to my receiver which is not so equipped?

We do not know of any separate automatic volume control that can be



No wonder Raymond Knight goes "Cuckoo" listening to a perfectly charming singer like Mary McCoy flatting her notes in burlesque. For she can sing. She had leading roles in two Broadway operetta hits after studying under Mme. Schumann-Heink. At 10:80 p. m., Saturdays, EDST, on the NBC Blue chaim.

attached to a radio set. Because the automatic volume control is a complicated affair, requiring changes in wiring and the circuit of the receiver, we doubt whether the idea is practicable. When a.v.c. is designed for a set having only manual control it must be built within, and attached to, the parts and circuit of the broadcast receiver.

RCA 50 With New Tubes

Can new tubes be used in my RCA-Victor model 50 receiver?

The first r.f. tube in your set, a -35, may be replaced with a new 58, provided a suitable adapter to convert the present 5-contact socket to a 6-hole socket is used. We believe a small improvement will be noted, and there will be a saving of current consumed. We do not recommend changing the first and second detectors or

intermediate frequencies. The -47s in power amplification cannot be improved upon in this set.

Converter With AK 85

Can my Atwater Kent model 85 receiver be used with some kind of short-wave converter?

Your receiver can be used with any short-wave converter on the market. See the March, 1932, and May, 1933, issues of RADEX for articles on these converters. The instrument is simply attached to your receiver and all short-wave tuning done by a single control on the converter instead of the broadcast set. They are very satisfactory, and perhaps you have read of some of the remarkable results our readers are obtaining with this kind of radio reception.

Dial Reads 0 to 100

The dial of my Stewart-Warner short-wave converter reads 0-100. How can I tell where different frequencies can be located?

Since your dial on the converter is divided into 0 to 100 spaces it is difficult to state where certain kilocycles will be found without experimentation. The preparation of a curve from a few known stations is the most satisfactory plan. This converter has two switch positions and the dial readings change when the switch is moved. Thus, if a straightline variable condenser is used, the 0 reading should be for either 15 or 65 meters, and the 100 for 65 or 200 meters, provided the entire coil and condenser is used when tuning. This is purely problematical. At 50 on the dial with the low and high wave switches, you should get either 40 or 135 meters, respectively. Various other wave lengths or frequencies should be heard at intermediate points, and these can be calculated. But since these are theoretical readings, actual wave lengths may be found some spaces to either side of the estimated number on the dial.

60 vs. 30 Cycles

Will my Majestic "B" eliminator,

which works on 110 volts at 60 cycles, operate the same on house current of 30 cycles in another locality?

No alternating current device designed to operate on 60 cycles will operate satisfactorily on 30 or 25 cycles. If you use your eliminator on 30 cycles it will not deliver its full output and there will also be much hum. The primary coil of the transformer will tend to heat up and use considerable current. The resistance of a coil of wire at 60 cycles is higher than at 30 cycles, and therefore the coil becomes a carrier of more current which it cannot absorb-it is a partial short-circuit across the 110volt line to which it is attached. There is nothing that you can do except replace the transformer and parallel condensers in the filter system, which latter should be twice the size of the originals, in order to reduce the hum that would otherwise arise.

Short Wave Circuits

Which is the best for a 2-volt and 3-tube short-wave circuit: One r.f. tube, one detector tube, one audio frequency tube; one detector, two audios; or two r.f. tubes, and one detector tube?

We believe you will obtain better gain if you use a -32 tube as a radio-frequency amplifier and a -30 as a detector, with a -31 tube as an audio amplifier. Two stages of r.f. followed by a detector will give greater gain, but the volume will be low because there is no audio amplifier tube. Of three tubes, therefore, a r.f. amplifier, a detector, and an audio amplifier, will give the best all-around service and satisfaction.

140 Zenith Tubes

Can I change the tubes in my Zenith model 140 receiver to still newer types and get better satisfaction?

Your receiver now employs 56, 57, 58 and 59 tubes. We cannot advise any change from these tubes. This set is the latest, except in a few re(Continued on page 79)

THE WORLD'S Most Friendly STATION

By AMANDO CESPEDES MARIN

Editor's Note: We are pleased to present this message to our readers from the builder and operator of what is undoubtedly the most unique station in all the world, TI-4-NRH. We are giving it in the author's own words that our readers may enjoy the pleasant sincerity of the writer. In no other way could they catch the extreme friendliness which the author so evidently feels for the radio listeners of all the world.

RIVE years ago, by this time, the waves from a little tiny broadcaster were sprouting from 3800 feet shack, in the ever green mountains of near-by the city of Heredia, in the Benjamin Republic of the Americas, the girdle of the Continent, known as Costa Rica.

And since then all the readers of RADEX have known more or less of the marvellous success of the old NRH, a pure amateur station, built for fun and maintained through out by the help of amateur fans in the world, all admiring the so many events occurred in the "junk" amidst friendship, flowers and coffee trees.

It is the only known case in the world, that with tiny 7½ watts power, the whole continents were conquered with mere broadcasting efforts to please, in three years. Then, for two more years the power was increased



Here's one reason why visitors try to witness the broadcast of Pond's Program each Friday night at 9:30 EDST in the Red studios of the NBC. Her name is Lee Wiley.

to 15 watts, and with them the NRH obtained long DX records from India, Russia and Japan, Denmark, Holland, and South Africa, not obstant that North and South America became obsolette to the waves, for some skip effects.

It has been all very queer, and today, when the NRH files have 16,800 letters from 46 countries on earth, you can not but repeat the phrase of Mr. Rigle in Massillon, Ohio, which reads: "—and I certainly hope we all hear you daily from now on, as you seem to be the only friendly station there is anymore."

Broadcasting Is Fun

It is all love down here and fun, therefore we all make merryment, and when Miss Cespedes speaks, we laugh and when my boy plays the piano we applause and when the music is pretty I whistle, no matter if 52 years is upon me. I am just beginning to live. And radio is my plaything. The voice of the youngest announcer is that one of Alvarito, 4 years old, and the only announcer in the world, which has been heard ever since 45 days old.

The NRH has been a friend and it ever will be, because she does not carry paid up advertising of any nature, but that of his owner announcing his gospel of Friendship, or the headquarters of the Union Radio Americana, a big Club started for and by the listeners and radio followers in the American Continental countries, under the Spanish language domain.

The station works every evening from 4:30 to 5:30 p.m. central standard time, and is using two bottles DeForest type 503A in push pull, which nominally most give at least 200 watts. The modulation is done with two 845 type jugs, but one of them is under silence, and thus, some (Continued on page 79)

TRIALS and TROUBLES

of the EDITOR

HE May issue of this compendium of radio information was all ready for the press when the first reports of the kilocycle earthquake in Canada first reached us. Time and Tide and RADEX can wait for no man. Much as we disliked to do so, we had to let the May issue go forward without the latest Canadian data.

Press reports from the Dominion are apprehensive that this reallocation is merely prophetic of others yet to come and that the new Radio Commission in Ottawa is going to follow the modern education principle of "learning by doing." Many complaints of conditions following the recent shift are coming from Canada, some intimating that it is all a part of a vast conspiracy on the part of the new Commission to keep U.S. vibrations out of Canada or at least out of Canadian sets.

Our sympathy goes both to Canadian listeners and to the new Radio Commission. It's some problem. We hope that we shall be able to give a complete picture in the proper departments of this issue of the Canadian broadcasting situation "as is." Some of the reports that have reached us are contradictory and we are awaiting official word from the Ottawa authorities.

Radio in A B C

Our Technical Editor has under consideration a series of Simple Lessons in Radio to start with the September issue. These would be written in as nearly non-technical language as may be used to present a highly technical subject. The plan is to begin with the simplest phase of radio and lead the reader, through a series of ten monthly lessons, into an understanding of the real principles underlying radio. These articles would constitute a home-study course in radio. How many of our readers want Mr. Dashiell to prepare such a course? Let us hear from you. As the ads say, "Write now-today."

For years we have wanted a really good world globe large enough to be of real, practical value. We have found it at last and one of them now ornaments your Editor's desk where it is used daily. It is surprising what a different aspect the countries of the world take on when presented in globe form and how many things are made clear that cannot be grasped from a series of maps on different pages. Heretofore a good large globe cost from \$15.00 to \$20.00 but at last we have found one at a very reasonable price and we are passing the advantage on to our readers. With one of these globes and a RADEX Time Converter, the radio listener can say "OK. Australia."

Building Sets

There is still a widespread interest in building a set of one's own, particularly the smaller sets of one, two and three tubes. No music seems quite so sweet as that which comes from a set which one has himself created. As a child is to its mother, so a radio set is to the one who constructs it.

"Now that we have heard so much about two-tube records, why not have a one-tube set competition and see who can build the best set ('bloopless' by all means), and the most efficient hookup using one of the new tubes," suggests Douglas Wauchope, 501 S. Candler St., Decatur, Ga. "Those who 'bloop' should be disqualified and also dismembered! Do you think there is anything in the theory that double-wire aerials are less efficient than single? I have been told that each wire has a tendency to neutralize the other, thus lowering the

signal strength. At the present time, my aerial consists of a double copper ribbon system replacing a sevenstrand one. Now I notice more difference on my crystal set than my tube receiver. Stations come in much louder on the former receiver than before, while there is some, though not as much difference on the latter. Perhaps the ribbon gives greater pick-up than the wire, but has anybody really settled this question of multiple-wire aerials?

"Incidentally, some of your readers might be interested in my crystal set, which is the most selective that I have ever been able to build. Living only two miles from WSB's transmitter and six from WGST, the first can be practically eliminated while the latter comes in fine even with only one-twentieth the power. All this on my double-wire aerial about 175 feet long. With this arrangement. I have listened to WENR, WSM, KDKA, WLW, WGST, WSB and one other Chicago station. No battery is used to bias the crystal. Anyone desiring this hook-up may have it by sending me a stamped, addressed envelope. Do you know anything about the 'Tunicoil' tuner manufactured by the Radio Products Co., of Kansas City, Mo.?"

"Here is another entry for your 'baby' department, which seems to be ever growing," remarks Bill McPherson, 134 Murray St., Peterborough, Ont. "I have my homemade one-peanut tube set, on which I have received 202 stations in a little over two months. I have received all the 50 k.w. stations in the U.S., 4 stations in Mexico, CMJK and CMAF, Cuba. Some of my best catches in Canada are CKY, CKCR, CFCO and CHGS. I would like to know when to tune in KOB."

We hesitate to give records made on regenerative sets for fear we will encourage readers to build such sets which are nearly always unpardonable squealers and may easily cause annovance to other listeners for blocks around. Richard Hanau, 308



A favorite of many thousands of chuaren, Madge Tucker plays "The Lady Next Door." Mondays, Tuesdays, Thursdays and Fridays at favorite of many thousands of children, 4:45 p. m. EDST and Saturday at 5:00.

West 11th Street, New York City, writes us of two one-tube sets he has built, the first one using a screen-grid tube and the second a 230. He logged a total of 301 stations with the two sets.

The 24 Hour Pest

"I wish to refer," writes H. F. Strain, 15031 Vose St., Van Nuys, Calif., "to the article on page 19 of the April number by Mr. Alfred H. Bacon, New Westminster, B. C. I think his article is swell in regard to the 'wave hogs' and I most heartily agree with him, and especially in regard to our local KGFJ. I have been DXing since 1925 and I have been knocked out of getting nearly every station on the 1200 channel simply due to KGFJ. The only ones that I have on that channel are stations that I got at some time before they went on that frequency. I think it is an outrage and a shame. I know that

there are many more DXers who agree with me. It does seem as though if enough pressure was brought to bear and enough protests sent in that we could get the F. R. C. to do a little something about it. I would suggest that we all pull together and try to get KGFJ to sign off for at least one hour a night, say from one to two, or two to three, during the DX season each year, say from the first of October until the first of May. I don't think that would be asking too much and it would give us DXers here on the coast at least an even break. It would then show that KGFJ was at least human anyway."

And the Unlicensed Station

"Here is some more dope on outlaws," complains R. B. Rolfe, 1741 Burnett Ave., Waco, Texas. "The Rosebud station, 720 kcys., has apparently gone off the air, as I can't raise him any more. But there is BLTX on 1000 kcys., in Belton, Texas. They use the slogan 'The Playground of Central Texas' and there is also a station in Taylor, Texas, on 980 kcys. They don't have any special time on the air, as I get them at odd times. The Belton station also comes in at odd times. The Taylor station has never given any call other than 'This is the Cotton Belt station in Taylor.' There is also a station in Temple, Texas, with studios in the Doring (?) Hotel. Their call is also a slogan, 'The Voice of Bell County,' which is all I have ever heard them announce. What has become of XEPN? I can't get him any more. He used to be good 24 hours a day, on 585 kcys., but now I can never get him at all. My radio is a Philco Model 90 9-tube Baby Grand, and 1500 kcys. is as low as the dial reads. The Home Benefit Life Insurance Assn. station in Marlin comes in about as far as 30 keys. would be below 1500. Are they a shortwave station? My pals say they are. I don't see how they could be."

Arthur Johnson, Secretary Newfoundland Boxing Commission, Box

E5103, St. John's, Newfoundland, sends us this interesting information: "Re: Wrestling Match Enquiry, page 27, April RADEX. While I cannot verify the source of the program, this may throw light on the subject. Wrestling by 10-minute rounds is common in many parts of the British Empire-England, South Africa, New Zealand, Australia (and we have also had some of it here). The short periods and rests give faster and more varied action when the wrestlers are used to the system. Therefore it is safe to assume that it was an Empire station, and from the time of reception, to select New Zealand (or perhaps Australia) but wrestling is more popular in the former."

Some Station Affinities

"Alfred H. Bacon, New Westminster, B. C., writes for help about stations who almost absolutely block various kilocycles," writes Miss C. A. Brinkerhoff, 317 Clinton Ave., Oak Park, Ill. "Now I have never been able to tune in KGFJ on 1200 kcys., though I do get KERN and KWG. It seems to me that various radios have super-sensitiveness, for if I bring in a station once that special one is almost always in evidence. On 570 kcys. WEAO and WNOX are always there in full force, and only in specially good DX weather can other stations cut in. On 580 I can sometimes cut through WIBW. On 600 WMT, Waterloo, Iowa, day and night is never silent it seems to me. 620 gives WTMJ; 660 WEAF; 880 WSUI; 910 XEW; 960 XEAW; 1200 WWAE; 1210 WSBC or WEDC; 1300 KFH; 1310 WCLS or WKBC spoils all DX usually until after 11:00 p.m. KFJZ is ever evident on 1370; WHFC drowns out everything on 1420 until early morning. These are a few stations which bother me for early DX. Perhaps after 1 or 2 a. m. it would be better and locals would be off also, but it is marvelous how a fine selective radio can act so strangely at

Our good friend, Raoul Karman of

CMCF, Havana, Cuba, helps us materially in bringing our Cuban data up to the moment. He thinks there will be three or four new stations in that country soon. Senor Karman adds: "I must congratulate you on your campaign for better reports which has already given splendid results. The percentage of doubtful reports in two late programs I gave this season, was almost Zero—only two or three 'stamp-collectors' in 140 reports."

"May I make a suggestion?" inquires Earl R. Roberts, 105 Gomber Ave., Cambridge, Ohio. "In your list by frequencies, instead of listing the Mex's as being in Juarez, Mexico; Morelia, Mexico; N. Laredo, Mex., etc., why not list them by their states? We know that since their calls begin with 'X' they are in Mexico, but in order to find the state, have to look in the list by states. Would it be possible to list them as Juarez, Chih.; Morelia, Mich.; N. Laredo, Tams.; Mexico Citv. D. F., etc.?"

This suggestion is well made and there is no reason at all why it should not be put into effect.

Converter Brought Zealand

W. T. R. Morris, Jr., 3219 Garland Ave., Richmond, Va., reports that he has just brought in his first really distant broadcast station. Says he: "Received my RADEX Map and Time Converter a few days ago and have certainly put it to use. I surely do urge those other DXers who have not as yet sent for theirs, to do so immediately. It has enabled me to bring in ten new stations on the short waves and is responsible for my first New Zealand long-waver."

"Early on the morning of April 23rd, I received a station on 1170 kcys. with the call letters of WJKY, Sandusky, Ohio," reports George R. Schneider, 3148 Yorkshire Road, Cleveland Heights, Ohio, who wants to know what this station was doing on the broadcast band. Who knows WJKY?

Sufficient data for a DX Club Di-



Presenting the "Men About Town" who provide the vocal harmonies for B. A. Rolfe and his Terraplane Orchestra on the Saturday Night Dancing Party over the NBC Red network at 10:00 p. m. EST. Will Donaldson and Frank Luther (top) and Phil Dewey and Jack Parker (bottom).

rectory will not reach us in time for this issue. We hope secretaries of the clubs will send us the information requested in the May issue, so that we may have a complete roster of the leading DX Clubs of North America in our September issue.

"May I draw your attention to the fact that station WKAV, Laconia, N. H., mentioned in the April RADEX, has been off the air for at least two months?" complains B. B. Bosworth, 50 Clymer St., Burlington, Vt.

"I listened to a DX program over XEFV, Juarez, Mexico, on March 26," writes Charles Meyer, Jr., 411 Blake St., St. Joseph, Mo.," and I distinctly heard them say that XEFV was the greatest little 50-watt station in the world, while in the April RADEX you list them at 100 watts."

SHORT STORIES of your **FAVORITES**

• • • By "Betty"

RUNAWAY boy from New York, hungry and broke, leaped at the chance to make fifty cents by appearing in an amateur night show at the Bowdoin Square theatre in Boston.

Years later that boy became the first \$5,000 a week headliner and master-of-ceremonies in the great picture-and-vaudeville houses of America.

Now the boy, Phil Baker, is starring on the Armour program, heard every Friday night over a coast-tocoast NBC (Blue) network at 9:30 p.m. EDST.

The story of Phil's stage career, from that amateur night in Boston, covers well over twenty years.

Returning to his New York home after the runaway to Boston, he eventually became secretary to Carl Laemmle in the old IMP Film Company. Mary and Lottie Pickford and King Baggot were the company's stars. Bored by a secretary's chores, young Phil spent all his leisure moments at a movie house around the corner from his home. He almost lived there, he says, sitting down front and watching with envy the nimble fingers of the girl pianist. One hot night the girl was taken ill and had to leave. The picture was continuing without music when Phil, without invitation, slipped down to the piano and began to play. He could only play three tunes, among them "Hearts and Flowers," but the manager gave him a job, and he was really started on his career.

And Then to Vaudeville

Phil's first real stage venture was in vaudeville, accompanying a violinist on the piano. Later he formed the team of Bernie and Baker with Ben

Bernie, the "Old Maestro" of today. By that time Phil had deserted the piano in favor of his accordion. When the team split, each became a star in his own right. When America entered the World War, Phil joined the Navy. "That did wonders for me," he declares. "I never had the nerve to speak a line on the stage until I put on that uniform. And now, well, even Beetle can't keep me quiet."

A flash at Phil's career since the war years brings in the names of some of the most successful musical comedies and revues the American stage has seen. He was starred in



With Myrtle Vail out of "Myrt and Marge" by reason of an automobile accident, Bobby Brown, director of the series, is a busy man. In addition to directing, he now writes the script, a task formerly performed by Myrt. Here's Brown conferring with Marge on the new plot which, by reason of necessity, revolves about the question, "Where is Myrt?"

"Greenwich Village Follies," and in the "Passing Show." He was a leading factor in the two-year run of "Artists and Models." He was the star in the "Music Box Revue." His comedy and his accordion helped a "Night in Spain" to its successful run of two years.

Only a little more than a year ago, Phil, teamed with Fanny Brice and Ted Healey in "Crazy Quilt," astounded the theatrical world by carrying that production to every key city and every likely one-night-stand in the country.

Outstanding in Phil's record is a run of twelve consecutive weeks in the Palace Theatre in New York. That was the achievement that made him the first \$5,000 a week headliner in history. Phil acted as master-ofceremonies in addition to producing his own act.

Strange as it may sound, Phil doesn't relish the idea of being called a comedian. Every time he begins rehearsal for a new show, he extracts a promise from the management that he be given one classical solo on his accordion, and he has carried that idea into his radio programs.

The Rise of "Myrt"

Once upon a time there was a beautiful chorus girl who fell in love with the tenor lead. The girl was Myrtle Vail, known to several millions of radio listeners as "Mvrt." The tenor lead is George Damerel, famous as the "Prince" during the long run of "The Merry Widow."

Myrtle stepped into the theatrical picture at the age of fifteen, in the back row of the chorus in the thencurrent show, "The Umpire." From her isolated position she took one long look at the rising star, Damerel, and fell in love. Damerel was so busy with the make-believe love-making on the stage that more than a year passed before he realized the real thing was going on back stage. Then came a prompt marriage and one of those story-book types of stage partnerships.



Phil Baker and his Accordion

They have two children-the daughter, christened Donna, is now better known as "Marge," her mother's partner in the "Myrt and Marge" show. The son, George, Jr., is now 14 years old, a student in a California military academy.

Two years after their marriage the Damerels were playing opposite one another in "The Merry Widow." When Franz Lehar wrote the first condensed version for vaudeville presentation this couple grabbed the rights and toured the big-time circuits with the piece, as "Damerel and Vail." In eight years they crossed the continent eleven times in the two-a-day. Then young Donna was placed in a private girls' school in Chicago, with instructions that anything pertaining to the stage be omitted from her curriculum. Myrt went into temporary retirement, and George, Jr., appeared on the scene.

A year later she was back with her husband in vaudeville. This time she was writing the acts.

When Donna was fifteen, she served notice on the family that she was joining their act, or some other act—this in spite of the private school influence. The show became Damerel, Vail & Company," Donna being the "& Company." For two years she toured with mother and dad. Then they bought a chicken farm, and took up real-estate as a sideline, and a sub-division was soon flourishing.

When the stock market took its famous nose-dive, dragging real estate values along with it, Myrt remembered those vaudeville skits she once wrote. She remembered all of the real-life tragedies and comedies behind the scenes, often far more vividly than those before the footlights-and "Myrt and Marge" was born. Of course, there were a few difficulties in getting those first sample scripts before P. K. Wrigley, but a girl who'd spent some sixteen years fighting for success could hardly be stopped by a half-dozen secretaries. And in radio Myrtle Vail has attained a success greater than that afforded by musical comedy, vaudeville, chicken-farming, or real estate.

The Official Weeper

Most young ladies can get along with their weeping with the aid of a small hankie, but earning a living by crying requires more equipment. And any time you hear a baby crying on NBC programs, you can be pretty sure it is Sally Belle Cox, aged twenty-five.

The beginning of Miss Cox's unusual professional career was described in a recent issue of the New Yorker magazine. "Miss Cox seemed destined for a tearless life when, five years ago, she got a job at an orphan asylum in Cleveland," the New Yorker said, and told how she amused the children by imitating a wailing child. "It brought down the house, and the squawler shut up and let somebody squawl that could squawl. One day she read in the paper that the one sound the radio people had had no



Sally Belle Cox

success in imitating was the wailing of a baby. Miss Cox put on her hat and went right up to the National Broadcasting Company. She cried for several officials, and was solemnly hired."

She uses the pillow to help her cry in various ages, from an hour to fourteen years old. She laughs and coos, too, and her varied imitations are heard on many NBC programs, including the Maxwell House Show Boat, on Thursdays at 9:00 p.m. EDST, over an NBC (Red) network, on which she has the important role of Henry Maxwell.

You can't tell these radio artists by their names—particularly after the numerologist has been working on them. Latest to fall under the spell of the "number lady" are the Neil Sisters, that trio of blonde blues singers. In the home town of Indianapolis, Lucille, Ann and Gwyneth are known as the Neal girls. But they were told that luck, fame and fortune awaited them if they put an "i" in their name.

● ● By PAGE TAYLOR

ANY of our readers who are constructing the converter described in Mr. Dashiell's department are probably wondering just what they will be able to hear on it before "good DX commences again in the winter." These persons who have tuned exclusively in the broadcast band may be surprised to learn that the greatest distances are more easily accomplished on short waves during sultry summer weather than during the winter months. Many stations are very difficult to tune during the winter while they are heard with tremendous volume in the summer. This is particularly true of the Australian stations.

On completing the converter the builder should confine a few days to becoming familiar with it, following the procedure outlined in the article "Breaking into the Short Waves" in the May number of RADEX. After the required fundamentals have been acquired, if the tuner will confine his efforts to the ten best stations mentioned this month he will avoid many pitfalls usually encountered by the beginner. Perhaps of greatest interest among the stations listed are the two Australian stations.

The Friendly Australians

These friendly stations are among the oldest short wave stations in the world, VK2ME having broadcast the first British Empire Program on September 5, 1927, on a wavelength of 28.5 meters. Since that time Amalgamated Wireless has pioneered in many radio activities, adding immeasurably to our store of radio knowledge. Their efforts to please by transmitting interesting and instructive programs are earning for them the reputation once held by PCJ, that of being the station with the largest audience in the world.

The present series of World Wide

Broadcasts was inaugurated on July 5, 1931, and continues to hold the interest of thousands of fans. These programs are transmitted every Sunday morning and may easily be heard by anyone with the most simple kind of receiver. The schedule of 2ME is changed slightly each month so as to obtain optimum results in each zone to which the various parts of the program are addressed. The schedule for the next three months will be as follows, time in EST.

June: 12 to 2 a. m.; 5 to 9 a. m.; 11:30 a. m. to 1:30 p. m.

July: 12 to 2 a. m.; 4:30 to 8:30 a. m.; 11:30 a. m. to 1:30 p. m.

August: 12 to 2 a. m.; 4:30 to 8:30 a. m.; 10:30 a. m. to 12:30 p. m. VK3ME is heard on Wednesday

VK3ME is heard on Wednesday mornings from 5 to 6:30 and on Saturdays from 5 to 7 a.m., EST. De-



Permit us to present the distinguished Lieutenant Commander Rudy Vallee in his pretty new uniform. Rudy enters the navy via the staff of the Governor of Maine. The Lieutenant Commander still directs the Fleischmann Hour on the NBC-WEAF net each Thursday night at 8:00 EDST.

spite the fact that 3ME uses only 4000 watts as compared with 2ME's 12,000 watts, the volume and quality of the two stations is about equal.

Amalgamated Wireless is very anxious to receive reports of reception and always acknowledges them. They may be addressed as follows:

VK2ME: Amalgamated Wireless (A/sia), Ltd., 47 York St., Sydney, Australia.

VK3ME: Amalgamated Wireless (A/sia), Ltd., Box No. 1272L, Elizabeth St. P. O., Melbourne, Australia.

Ten For Practice

Following are the ten stations most often reported to us by readers. These are recommended especially to beginners as the most dependable and most easily tuned of the stations broadcasting musical programs regularly.

6,050 49.56, GSA, Daventry, Eng-

land. 6.119 49.00, YV1BC, Caracas, Venezuela.

6.618 45.31, PRADO, Riobamba, Ecuador.

9.503 31.55, VK3ME, Melbourne, Australia.

9.510 31.53, GSB, Daventry, England.

9.585 31.28, VK2ME, Sydney, Australia.

9.862 30.40, EAQ, Madrid, Spain. 11.711 25.60, Pontoise, France. 11.753 25.51 DJD, Zeesen, Ger-

many. 11.800 25.40, I2RO, Rome, Italy.

The T-P Phones

We have been advised that the stations owned by Transpacific Communications, Ltd., located at Dixon, California (KWO, KWU, KWV and KWX) have been licensed to add Manila as a point of communication, while KEE at Bolinas is now authorized to communicate with Shanghai, Manila and Honolulu. These circuits are not yet in operation, but the trans-Pacifics will be as follows:

The stations of the Radio Corpora-

tion of the Philippines, Plaza Moraga, Manila: KAX, 19.980; KAY, 14.980; KAZ, 9.990; KBI, 21.140; KBJ, 13.240; KBK, 6.680; KTO, 16.240; KTP, 8.120; KTR, 10.910; KUS, 18.220; KUV, 12.280; KUW, 9.110. The frequencies are given in megacycles. Of these, KAY and KAZ have been heard testing by readers.

Whether new stations will be built at Shanghai is not known, but it is believed that the stations of the Chinese Government Radio Administration will be brought into use. These stations are, XGK, 18.692; XGL, 7.963; XGN, 16.383, and XGO, 7.575 megacycles. They may be addressed at Sassoon House, Jinkee Road, Shanghai, China.

Mr. E. N. Luken, a RADEXER in Crooks, S. Dak., reports station WXH at Ketchikan, Alaska, on 45 meters or 6.662 megs., testing with WBD or WVD, Seattle, Wash., on 45.3 meters or 6.618 megs. It appears that the long awaited Alaskan radiotelephone circuit is now in operation.

Airways and Police

Of particular interest are the new Canadian Airways stations. CJU, Winnipeg, Manitoba, operates on 86.9 and 97.7 meters (3.450 and 3.068 megs.). The other stations are UYO, Echo Bay, Northwest Territories; CGK, Ft. Chipweyan, Alberta; UYN, Ft. McMurray, Alta., and UYM, Fort Rae, N. W. T. These four stations transmit on 2.481 megs. (120.8 meters); 3.450 (86.9); 4.751 (63.1); 8.353 (35.89), and 12.951 (23.15).

Several new police stations have recently been licensed, the first of these not yet having call letters assigned. It is located at Asheville, N. C., and uses the 2458 kcs. frequency with 100 watts. Others are:

WPEL — W. Bridgewater, Mass., 1574 kcs., 500 watts. WPFI—Columbus, Ga., 2414 kcs..

50 watts. WPOF—Knoxville, Tenn., 2470 kcs., 100 watts. Station WPEY at Chattanooga, Tenn., has been deleted.

Hialeah, Florida, station WNC, has been heard working with several South American countries in addition to the formerly chronicled Pan-Americans. All the stations which have so far been heard talking with WNC are listed here: Argentina, LSR; Bahamas, VPN; Chile, CEC; Colombia, HJB and HJP: Costa Rica, TIR: Guatemala, TGA: Nicaragua, YNA: Panama, RXF: Peru, OCI, and Venezuela, YVQ. CEC, OCI and LSR are usually heard near 3-4 p. m., EST. and TGA and YNA near 5-6 p. m. The others are on the air at various times during the day from 10 a. m. to 6 p. m.

From the Other Side

One of our overseas correspondents reports some stations that may interest readers who like to fish for those hard-to-get ones. Mr. H. N. Walker of Brisbane, Australia, reports that VK6AG at Perth, Western Australia, has returned to the air on 40 meters, transmitting at a time that is hardly favorable for general reception in the United States. Readers on the Pacific Coast may be able to hear it near 6 a.m. on Sundays, Pacific Time. The station of the Kuala Lampur Radio Society located at Kuala Lampur, Federated Malay States, broadcasts several mornings each week on 49.1 meters with the call sign ZGE. It has been heard a few times in the U.S.A. near 7 a. m., EST. A station that should be received here is VWZ at Kirkee. Poona, India, working duplex telephony with London. VWZ is on 17.3 meters. From 6 to 8 a. m., EST. should be the most favorable time for reception. Quoting from Mr. Walker's letter, "On Thursday between 2:30 and 3 a. m., EST., I heard KOR calling GMBJ, the Empress of Britain, on 40-41 meters and on Friday heard KOO, 38-39 meters working the same boat. KOO and KOR are at Dixon, Calif. KAY, Manila, has been on a lot lately, gen-



Dolores Gillen, attractive young NBC dramatic actress, plays the part of Alice Dudley, daughter of the newspaper editor in "Northwestern Chronicle" on the Blue net Sundays at 2:30 p.m. EDST.

erally between 5 and 8 a.m., EST., on 14,980 kcs., working with Berlin. VK2ME has been testing with VJDY, the S. S. Katoomba, which plys between Sydney and Perth. A few nights ago on about 32 meters, heard Mukden, Manchuria. The call here seems to be accepted as ZILY."

S.W. DX Chat

We are printing this month a short article on station TI-4-NRH of Costa Rica, which was written especially for RADEX by Sr. Amando Cespedes M., the operator of the station. This will be found on another page and we are sure readers will find it highly interesting, being written by the man who has done more than any other person to spread the fame of that little Central American Republic.

"All you short-wavers who want to get a really elaborate verification from a pretty hard-to-get station, try for TI-4-NRH on 31 meters, suggests W. T. R. Morris, Jr., 3219 Gar-

land Ave., Richmond, Va. He continues, "They sent me one and it's surely the best looking veri I've ever received. NRH takes pride in the fact that it is the only amateur station in the world providing programs for the short wave listener."

Doyle E. Carpenter, Emmetsburg, Iowa, comments on his reception of PHI, Huizen, Holland, at noon, announcing in English. He writes: "I have also heard PCK this week. They were working with Bangkok near 2 p. m., EST. DIQ was on Wednesday p. m., at about 8 o'clock with music, and also heard DJC the same night. Have been getting Radio Coloniale well on all three freqs. Its address is 103 Rue de Grenelle, Paris. I get their new broadcast in English best near 8:45 a. m., on 15,234 kcs."

"GSF has become my best 19-meter station," writes Geo. K. Glass, 1320 Cadillac Blvd., Detroit, Mich. "I received a card from VK2ME verifying my log just 9 weeks after the reception. I also got quite a booklet from YV1BC replete with photos and even a Lucky Strike ad." Mr. Glass lists 19 new stations received in the past month... says he is able to hear YV1BC with W2XE on top of it... and expresses his satisfaction with the promptness and courtesy with which the BBC verifies the Daventry station reports.

J. F. Maney, Spring Lane, Stoneham, Mass., says he "can't understand how those fellows with 11-tube sets fail to get foreigners. Have a National SW5AC and aside from Java, Japan and Russia have heard everywhere else. PHI came in with terrific volume last Saturday." Mr. Maney would like to hear from owners of the National FB7.

A reader who wishes his name withheld reports a Colombian station near 42 meters at 9 p. m., announcing their location as an island possession of that country.

The schedule of VE9GW as given in the lists this month was contributed by Alf Raymond, Avon, Ill. He also reports fine reception from EAQ



Carveth Wells, traveler, explorer and naturalist, who makes the truth sound like a terrible whopper. He turns natural history into a "believe-it-or-not." On a split NBC Red network from Chicago at 10:30 p.m., Wednesdays, EDST.

and GSA on his Philco converter.

With a good log of stations in Australia, Europe, Africa and Asia, Bartlett Bemister, 522 Clifton St., Winnipeg, Man., is unable to hear anything in South America, Guatemala City, station TGX being the closest he has gotten. He is 16 and would be pleased to hear from other 16 year old readers.

"Patience probably plays about 50 per cent of a good DX record," advises Clarence Sargent, Dansville, N. Y. "I was tuning in the 20 meter band for about 2 hours and was about to give up when OA1B, Negritos, Peru, came in. Tuned in EAR262, a Spanish amateur, after listening an hour to all those 41 meter codes."

"I have been an ardent short wave DX'er for the past two months," advises Henry King, Jr., 743 Simpson St., Atlanta, Ga. "I have such foreigners as DJD in Germany, which signs off daily near 4 o'clock, I2RO in Rome, EAQ, Madrid, like a local, YV1BC, Caracas, which I can hear

in spite of W2XE, Daventry, on three wavelengths, VK2ME early Sunday mornings with their laughing Kookaburra, and the travel talks about Australia, and, best of all, NRH in Costa Rica. As I work nights my listening during the week is confined to the day time. I would like to hear from anyone else who gets good daylight reception."

Richard Zorn of Tucson, Ariz., tells us that he logged EAQ on the loudspeaker every day for a month. He has heard stations on every continent, not to mention numerous ocean liners, airplanes and police stations.

"Although I have no television set, I enjoy the television sound stations," advises Frank W. Pollitt, 1427 Reisterstown Road, Pikesville, Md. "I think W2XAR, Long Island, on 1550 kcs. and W1XAU, Boston, on 1550 present very good sound programs."

"I haven't seen many reports in RADEX regarding reception of ship to shore transmissions, so here's some dope that may be of value to the fans," contributes K. P. Williamson, of Montreal. "For the last few months I have been listening quite

frequently between 6 and 9 p. m., EST., on and around 4 megacycles, to ships talking to WOO on 4.75 megs. I have heard DDAS, DDNY, IBLI, VTSX, VPTG, WSBN, GLRZ and GMBJ and can be sure of one of the Bermuda ships almost any night. My best catch is the 'Empress of Britain', 1800 miles off New York. The 'Monarch' and 'Queen of Bermuda' can also be heard talking to VRT-ZFA in the early evening, the Bermuda phone having a very strong signal.

"Regarding the Empire's stations GSA, GSB, etc.," adds Mr. Williamson, "it may be of interest to readers to know that they merely acknowledge reports with a printed card which says: 'We regret that we do not issue specific verifications of reception.'"

His First Results

"Although several others here have had this same converter and could get no satisfaction with it, I am very much pleased with the Philco s. w. converter which I purchased a week or so ago," reports Eugene L. Beebee, 210 Franklin St., West, Jackson, Mich. "I am using it in connection with a

Authors of "Somebody Loves You" and other song hits, May Singhi Breen and Peter de Rose (otherwise Mr. and Mrs.) are heard in piano and ukulele melodies each morning at 10:00 EDST excepting Tuesdays, Thursdays and Sundays.



[23]

Sparton 7-tube super. I am on the second floor of a three-story building, four blocks from downtown district, and have only a picture-moulding antenna and a ground to a steam pipe and consequently have much manmade static to contend with.

"The first night or two I received nothing but U.S. and Canadian stations including some 35 police, a few airport and airplane stations, and, of course, quite a number of amateurs. However, on the third day, which was Sunday, I received GSE and GSF with good loud speaker volume. A few evenings after that I received a station announcing as HJ-4-ABB at Manzanales, Colombia. Later I received HJB at Bogota, Colombia, with quite a long broadcast which I held for sometime or until man-made static stopped my activities. All my listening is necessarily done before 10:30 p. m. as I have not vet adapted a set of headphones to my set.

"Whether fate was kind to me or whether I was more careful in tuning for foreign stations than the average new s. w. fan, I do not know. I feel that if I had a real good antenna, a

good location away from local interference and a good ground, I could pile them up quite fast for a time at least.

"As a result of my last letter in RADEX I have acquired several new friends in different parts of the country and I would be glad to hear from others particularly those who are using Sparton sets or Philco converters."

From Benigno Contreras, Box 74, Marina Station, Mataguez, Porto Rico, comes this report: "Although static has been more bothersome than ever this season and I am disappointed in my b. c. band reception, on the short waves I have had better luck. I have added Hawaii, Holland, Jave, Portugal, Costa Rica and Switzerland to my list of countries heard which now totals twenty-five."

"My log shows 543 stations, both long and short wave," advises C. C. Bargen, Box 224, Mountain Lake, Minn. "On the short waves, I have GSA, GSC, GSD, DGT, YV11BMO, YVQ, I2RO, PLV, VK2ME, VK3ME, FYA, HKC, and VE9GW, the latter in daytime as clear as W8XK."

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FINAL Reports on Closing Season

• • From the Radexers

TITHER radio is permanently imroving due to the activities of the engineers, or the season of 1932-1933 has been an unusually favorable one and the pendulum may swing backward another year. There is no doubt that more and farther stations have been reported this season than in any that have preceded it. Scores of our readers who have fished in vain for those elusive T-P's in the past, have this year brought them in. And more of them have been reported from the Middle West and even from the Atlantic Seaboard than ever before. No longer are they confined to reports from the Pacific Coast division of the fraternity.

Has Ten T-P's

"I operate a 1932 Lucerne 7-tube TRF Northern Electric set," declares William Ansell, 168 Wascana St.. North Regina, Sask., "and on November 15, 1932, my log stood at 137 stations, and then I commenced DXing, and to date my log has reached 369 stations, an increase of 232 this winter. I have logged 43 states and in addition the District of Columbia, KGBU, WKAQ, and KGU: 7 provinces in Canada; 5 Cuban and 19 Mexican. My trans-Pacific log to date is 2CO. 3AR, 5CK, 2YA, 4QG, 3LO, 2BL, 4RK, 3HA and 4BC. Have also heard one Chinese and several Jap stations, but have been unable to log them. My log consists in part of 110 stations operating on 250 watts power and under. including 81 100-watters, but, with the exception of trans-Pacific stations, I consider my greatest catches to be CKIC, Wolfville, N. S., and CHGS. Summerside, P. E. I., 50 and 100-watters respectively. I can use from 90 to 400 feet of antenna including leadins as conditions require, and have often used the maximum in order to log some of the Australians first, having found through experiments that directional aerials give me greater reception in the direction I am searching

"Following is a quotation from my verification from 4BC: 'Your two most interesting letters of the 17th and 19th December, '32, reporting reception of 4BC programmes to hand with thanks, and we wish to congratulate you on your very excellent reception. The programme accurately reported in your letter of the 17th December was a relay from 200 miles away in the Australian bush of a real Aboriginal Corroboree, which was relayed to every Australian state and from station 3ME, Melbourne, on short waves for European reception. Your letter of the 19th December is practically a



Introducing H. V. Kaltenborn, expert commentator on world affairs, whose program, "Current Events" is heard each Sunday at 7:00 p. m. EDST and Thursdays at 6:00 p. m. EDST, over WABC and the Columbia network.

word by word report of our programme and the session featuring the Kelly family is a serial comedy drama presented one episode per week, entitled 'On Enterprise Farm,' and is a feature presented on behalf of United Metal Industries of Brisbane. Queensland."

Spokane Gets News via Japan

"Had a rather interesting experience this morning while listening to the Japanese," writes S. S., R. No. 4. Spokane, Wash, "This morning DX seemed to be in the doldrums so decided to listen to the Japs awhile, and at 2:45 tuned in JOIK and heard a fellow say in English, 'So she said to Walter,' followed by a minute's talk in Jap, when this sentence was repeated, some more Jap, then, 'And he made her queen of the Broadlands.' This was also repeated after a little more Jap explanations, then more English sentences, followed by more Jap. After about



Meet the "Greek Grocer" with Fred Waring and his Pennsylvanians on the Old Gold program, Wednesdays at 10:00 p. m. EDST. Take our tip and listen to him murder the good King's English. In humdrum, every-day life he is George Givot, of the Omaha Givots.

ten minutes of this the whole story was read in English, sentence after sentence. Very evidently this was a lesson in English, with a fairy tale as the practice theme. At 2:55 a man with an English accent took the air and read news cables of world interest. The first news was of the Jan situation in Manchuria. Then a cable from Washington regarding prohibition here, followed by a report that Mayor Cermak was dangerously wounded by the assassin. Then a few New York stock exchange quotations. Then a cable from Ottawa and one from London. This news was broadcast from 2:55 to 3:00 a. m. PST. over the entire Japanese network of 10kw stations, as were the English lessons. While this is the first time I have heard this, it is probably a regular nightly feature. This was the first time I have listened to a Jap for any length of time. The Japs have been coming in here very well this winter, and it was no more difficult to hear every word in their English program than in a news report from nearby domestic stations. As a coincidence with the news report, we have been snowed in here all this month (February) and our last mail delivery came a week ago. I live ten miles from the city. But here I am getting the latest news from Japan."

Europe From Santa Barbara

"Having become interested in the DX game only a short time ago." writes E. B. Martin, Deane School, Santa Barbara, Calif., "I cannot boast of long use of RADEX, but the two issues I have used have afforded me every possible advantage in getting distance. I have been DXing for three weeks with my new Scott All-Wave and am very pleased with its performance. Please find for me, either through your readers or through Washington, the address of EAJ1, in Barcelona, on 860 kcvs. I have a very nice program received from them last Tuesday and have been trying frantically to find their

address, because I wish to verify this. my best catch. Europe from Santa Barbara! I failed to understand their Spanish, but have the music, time, etc. I am buying a phonograph hookup to take records of my more distant stations. Now for the statistics. In those three weeks. by rather concentrated effort, I have logged 308 longwave stations and 120 short-wave. making a total of 428 stations. Among the long wave are the following: 32 in Australia. 17 in Japan, 4 New Zealand. 2 Tasmania. 4 Cuba. 2 Hawaii. 2 Alaska, 1 Formosa, EAJ1, and of course XGOA, and 18 in Canada and 14 in Mexico. This makes 97 foreign stations or 57 trans-Pacific, and 211 U. S. stations. The latter record is rather poor because I spent most of my short time on the foreign ones. On short wave I have the usual Europeans and 7 in South America, Lots of police and airport stations bring the total to 428. Your magazine has been the deciding factor in bringing out what I believe is a good record from a superb radio."

Take Your Choice

"In your April issue, I notice some of your readers have received verifications from 4RK in Rockhampton on reports about the recent cricket matches played in Australia." remarks Clyde W. Ham, 1002 S. Lafavette St., Shelby, N. C. "I would like to say that the following Australian stations broadcast the matches: 5CL, 5CK, 2FC, 2BL, 3LO, 3AR, 4QG, 4RK, 2CO, 7ZL, 6WF, 2GB, 5KA, 2UW, 5DN, 3UZ, 4BH. All of the class A stations gave the scores at the fall of each wicket. Talks were given from other stations by the following: Don Bradman, W. Woodfull, and Stan McCabe. I am of the belief that your readers who received veris from Rockhampton did not really hear 4RK, but did hear Poste Parisien. Some of your readers will want to know what I mean by this. Well 4RK was broadcasting the matches as explained, as was the French station, both at practically the same time, so naturally if a report was sent to 4RK he would verify it because he was really broadcasting the matches, but still they could have been coming from Parisien, and again it was really too early for reliable trans-Pacific reception. This is the reason I think it was not 4RK, but Poste Parisien."

His Year's Report

"Well the DX season is all over the shouting, so I will do mine now," exclaims Lee F. Blodgett. 9171/2 W. Montgomery St., Creston, Iowa, "I have never had an article about my DXing in print except for the local paper news items. As I live in a small town I have a lot of my good verification news published in the local newspaper. I now have 545 stations in my log from 11 countries of the world. I have 10 countries verified to date. My best foreign stations are: 2YA, 2BL, 4QG, 4BC. 5CK and KGU. Of this list 4BC. 2YA and KGU verified, as well as JOIK and JOCK of course. I also have WKAQ and YV1BC verified. I now have 331 verified in 44 states of the U.S. A., 6 provinces of Canada verified, but I have heard 7. I have 7 states in Mexico heard and 7 verified. My set is an Earl Model 21-22, using none of the screen-grid tubes. The antenna, which I intend to junk for a cage type next season, runs N-W by S-W on the first 100 feet and S-W by N-E on the last 50 feet, with a lead-in directional on Australia. I would appreciate receiving any information on a cage antenna that anyone who has tried one can give me."

Verifies 100 Per Cent

"After reading of the numerous DX catches by many readers," comments C. Hesterman, 506 Fourth Ave. N., Saskatoon, Sask., "I, with many misgivings, submit my own list. I have verifications from some of the stations and the others should come within the next two weeks. Not one



Pearl Pickens is registering something or other as she listens to Carson Robison in the Friday night series "Triple Bar X Days and Nights" on the CBS at 8:80 p. m. EDST.

of the stations has failed to send verification to date. Therefore I am very optimistic regarding those yet to come. I make it a set rule never to ask for verification until I have heard at least two station identifications and thirty minutes of the program. Class me with the 'Baron' or 'Ripley' if you will. Nevertheless I have sent to most of the Australians and New Zealanders a log of reception that encompasses from two to three and a half hours of their programs, with very few blank spaces due to fadeouts, static, etc. Now follows a list of my star catches. Don't forget all these stations were heard for more than an hour and a half at least: 2CO, 7ZL, JOAK, 3AR, 5CK, 4YA, 2YA, 5CL, 4QG, 3LO, 1YA, JOIK, 2BL, JOBK, 4RK, 2GB, 5DN, 3YA, 2UE, 4BC, WKAQ, KGU, YV1BC, CMX, CMBY, CMCD and CMCJ. I must thank RADEX for them all, as it showed me just where to go for them."

"Concerning the publicity on those remarkable catches of five and ten-

watters half way around the globe, while I don't question their authenticity, my sympathies are all with the anonymous agnostic," complains Arthur L. Robb, Topeka, Kans. "My claim to recognition lies in the fact that I have never heard Japan, Hawaii, New Zealand, Australia, or cricket matches. The only station I have heard off of the North American continent was HJN on the morning of February 26th. While countless other listeners had 'enormous volume' and 'heard call and location 15 times' I had a hard time holding a faint signal long enough to hear one station identification. Here are some questions: Does XER use the call XEF any more? I haven't heard it now for about a year. Also, has anyone heard XEPN since it left 885 for 585?"

Logs Italy On B. C. Band

"I just want to tell you what I have been doing with my 2-tube battery receiver," writes Charles H. Peterson, W2CFW, 168 Beacon Ave., Jersey City, N. J. "Have had the set about a month and have heard 37 states and 5 countries. My best catch is IMI in Milan, Italy. I heard them on the morning of March 25th and was listening to them from 2:30 to 4:00 a. m. EST., on 905 kcys. They were coming in fairly well, but managed to get enough of their broadcast to send for a verification. Perhaps some of your readers heard this station also. I think that the morning of March 27th was about the best morning I ever heard. All the west coast stations were coming in as loud as Chicago. Some of the stations I heard were KPO, KGO, KHJ, KFI, KGER, KSL, KDYL, KECA, KEX, KNX, KGB, KFPY and finally finished the evening with KERN, the little 100-watter in Bakersfield. I built the receiver, using the old Ambassador coil to kill time while I'm not using my amateur transmitter. I operate an amateur station and operate on the 20 meter band, but DX has been so poor down there

lately that I built this little outfit." "Have a DX log of 533 stations, all verified by either card or letter and am a member of the Buffalo News DX Club," advises Joseph B. Reilley, 5 Forest Park, Jamestown, N. Y. "Am a make-up man on our morning newspaper here and get home about 2:30 a. m. just in time to DX. All my verifications but ten are verified from stations heard after 2:30 a. m. and are all real verifications. Have all our states verified, all the provinces of Canada (never have had Newfoundland), have a dozen from Cuba, the same number from Mexico, WKAQ in Porto Rico, YV1BC in Venezuela, HIX in Santo Domingo, and expect one from HJN in Bogota soon. In the summer of 1931 I received \$5.00 in gold from the Buffalo News DX Club for logging the longest distance, smallest powered station during June, which, as you know, is about the noisiest month of the year for DX, and the station was KFPM in Greenville, Texas, using 15 watts, and have a verified letter of ten consecutive records, verified by the owner himself, which I think is the most valuable verification in my collection."

Revises Log Monthly

"In the six months since October 1st, I have logged 365 stations on the b.c. band, including 329 in the U.S., 22 in Canada, 7 in Mexico, one in Porto Rico, and one in South America," reports Alf Raymond, Avon, Ill. "I have logged stations on all of the 97 channels, and 44 states. My log is on the same plan as that of A. L. Long, Oklahoma City, in that I never log a station unless I hear the call letters and I am DXing for my own pleasure. I revise my log every month with the latest copy of RADEX, and the stations logged, as numbered above, are all active stations and are listed in the new copy of RADEX, Here are some stations to illustrate my plan. I did not add another station to my log when the call XED was changed to XEAW, or when

WTSL was changed to WAML. Neither did I again count XEPN when they changed their wave from 885 to 585 kcys."

"Although I have been a Radexer since November, 1931, this is my first letter to you," greets Wilkins B. Green, 63 Thyra Ave., Toronto, Ont. "I have a Kolster CK66 model, which I have had since last May, and since then I have managed to log 494 stations, of which 84 are 100 watts, 8 fifties, 4 twenty-fives, 2 fifteen, and one lone ten. I have logged 84 over 2000 miles away. Some of my best catches are 2YA, KGU, YV1BC, HJN, KXO, KPCB, CKMO, KFPM and several others. In regard to the records claimed by some of your listeners. I would like to say that in radio reception almost anything is possible. Take the incident of my reception of KFPM, a 15-watt station over 1500 miles away. At the time of the reception it came in a great deal louder than WEBR. a 100-watt station on the same band, but only 40 miles, and it was as loud as



And this is the one-man radio show—Smiling Ed McConnell—who is heard each Sunday at 2:00 p. m. EDST from Cineinnati over the Columbia met.

WBBM, Chicago, was that night. So why not anything!"

Best In Four Years

Guy B. Welch, 114 Brown Street, Reynoldsville, Pa., thinks "there is no doubt that this year has been the best for reception in the four years past. This is indicated by the fact that I can pick up Australian and New Zealand stations which I have tried to hear in other years ever since I started and this in spite of the fact that my old 8-tube Philco is now in its last stages. I'm sure that with a new set similar to mine I could have logged at least 20 foreigners." Guy reports the following "outlaws" now rampant in his state and wonders what the FRC is doing: WJAE, 1030 kcs., in Brookville, Pa., on daily; XYZ, 1010 kcs., Dubois Pa., daily: WRT, 800 kcs., Indiana, Pa., daily; have other readers logged these?

"After reading other readers' reports in DXing, I thought I would tell you about mine, since I am rather proud of it," comments C. Albin Johnson, 561 Trenton Ave., Wilkinsburg, Pa. "I have only been DXing since last October and to date I have received 222 stations. I have only recently started writing for verifications. Included are stations from Mexico, Canada, Cuba and Porto Rico. I have not had such good luck with the far western states. I have logged quite a number in California, but that is the only state in the far west where I have logged more than one. The best I have received are KABC, KDB and WKAQ, Porto Rico. Am using an American Bosch Model 200. Am not using any aerial as it works better when I attach the aerial connection to my ground."

"RADEX started me DXing," blames J. Dickenson, 2109 Winnipeg St., Regina, Sask. "Being a policeman I can tune in when I get home in the morning at 4:00 a. m. My log stands at present at 171 stations, all of which are listed in RADEX and are operating at present. I am using a Philco Model 20 Baby Grand TRF.

On the morning of April 9th I received the surprise of my life when I tuned in 2CO, 2YA, 4QG, 3LO, 4BC, and on April 11th and 12th I again tuned in 4QG. I noticed something which I have not seen in print in your magazine and that is the wave band is very narrow. In other words, it requires finer tuning for Australia. Those who have been trying for Australia better take note. No one would believe me when I told them what I received on a Baby Grand, so I am getting them verified, if I can. I received KGU also on March 25th."

Regarding CMQ

"I have just received my verification from CMQ," announces Francis E. Andrew, 96 22nd St., Warwood, Wheeling, W. Va. "They write in English and have changed power to 500 watts. They inform me that they are on the air every Sunday from 2 to 3 a.m. with special programs dedicated to radiofans in foreign countries, which we hope you will enjoy. I have been logging stations since March 17 and have 151 to date. Have sent to about 70 for verification and have received 29 to date. I know that most of these are commonplace. but I really am proud of WLBC. My radio is four years old and has very little selectivity. I am about 250 feet from a street car line. There is also a leaky transformer across the street which, despite numerous protests, is still interfering."

"I never did any DXing until three months ago," confesses Theo. Emmons, 88 River St., Niles, Mich., "and since then have logged several 100, 250 and 500-watt stations on the west coast and Canada. Some of them are KXA, KGDM, KFVD, KMPC, KFWI, CHGS and 10-BP, a 25-watter. My two best catches are HJN and 2YA. I logged an hour of HJN's DX program on Sunday morning, February 26. This program was announced in English, the call letters being given after every musical selection. I received them on 685

(Continued on page 75)

FAN CHAT from the Pacific Coast

● ● By CHARLES C. NORTON, Vice-President Transcontinental Radio DX Club

→OM WALLACE was born in Bisbee, Arizona, about 32 years A ago: is 5 feet 10 inches tall, weighs 170 pounds, has blue eyes, light brown hair, athletic shoulders and clear-cut features. At high and college he excelled in sports: football, baseball, basketball, track. Also, he sang in the University of Arizona Glee Club, played in the campus band, went in for dramatics, held various offices, was president of his fraternity, Kappa Sigma, during his senior year, and upon graduation in 1922 operated a tire business in Oklahoma for about a year. From that he went into real estate in Long Beach, California, and then came an opportunity to act as instructor in physical education and atnletic coach for the Long Beach High School. Radio opened new avenues; he sang over KFI for 3 years, switched to KNX and has been more than active announcing sports, appearing in dramas and writing ever since. There is an attractive Mrs. Thomas Jay Wallace, and three children, two boys and a little girl, complete the happy family.

Rob Roberts, after an absence of a year, has returned as the General Manager of KTAB. He resigned from that job last year to enter his own radio advertising business which he still maintains. Roberts was largely responsible for building up KTAB to the top of the medium class stations in the San Francisco Bay area at that time. He has many new plans for the growth of the station and is busy formulating them. KTAB is now located in the Kohler-Chase Building in San Francisco, to which it recently moved from Oakland.

The Mauna Keans (KQW), specializing in native Hawaiian music, were originally the Mauna Kea Trio.

Three American girls (Lei Lani, Lei Aloha and Lei Nani) started out with a "big idea." Seeing great possibilities in these girls, Kimo Haulani joined them, forming the troupe of Mauna Keans. Kimo is native Hawaiian. He has played in all the larger radio stations on the Pacific Coast. The Mauna Keans are one of the most popular groups playing over the air on the Pacific Coast. Their fan mail has reached tremendous proportions.

Eddie Holden, the inimitable Japanese house boy of "Frank Watanabe and the Honorable Archie" (KNX), was born in San Francisco and still readily admits it. He spent most of his boyhood playing with Japanese youngsters on the sand lots of the Bay district, absorbing the colloquialisms of the language that are so much a part of his radio dialect. Holden now numbers his friends among the Japanese by the hundreds.

Monroe Upton was born in Bandon, Oregon, in 1898, finished school in Marshfield, went to seas as a ship's radio operator, spent a year with a radio station in Shanghai, saw more travel, landed in San Francisco and began broadcasting 6 years ago. Although he is best known as a comedian—(his "Lord Bilgewater" on Associated Spotlight has them in stitches)—he is a successful writer and has turned out several books. Six feet tall, blonde, blue eyes, married.

Joe Wright, whose orchestra has been heard over KYA until a recent fire destroyed the cafe from which they played, is mourning the loss of a Stradivarius violin destroyed by the fire. He says that during the entire time that the valuable instrument was in his possession this was the only oc-

casion upon which he left it anywhere overnight. He is now heard with his orchestra over KFWI broadcasting from the New Lido Cafe.

Claude Sweeten is now musical director of KFRC. He directed the orchestra at the RKO-Golden Gate Theatre in San Francisco for 10 years and previous to that was concert master of the Salt Lake Symphony orchestra. Sweeten succeeds Walter Kelsey.

The Emporium, one of San Francisco's larger department stores, is sponsoring a program over KYA from 8 to 9 a. m., daily except Sunday. Barbara Lee conducts the program which consists of chats on styles, beauty, household hints, coupled with a good round of music.

Jack Hall's "Keep Smiling Revue" on KTAB is featuring a thirty-piece accordion orchestra every Wednesday afternoon, under the direction of Danti Barsi, one of the "Chile Peppers."

After a lay-off of several months KOL's Mid-Week Jubilee has returned to the air. Wen Niles is the new master of ceremonies.

The "Goldbergs" are now heard only over KPO on the Pacific Coast.

He Tried to Prove DX Claims Impossible By JOHN DE MYER*

AWAY back about 1922, in the days of the one-tube "Blooper" receiver, I was a DXer. In those days our stations were few and of low power, and it was a real thrill to tune in a station out on the Pacific Coast. In fact, it was an event to proudly tell all your friends about. As time marched on, our station list increased, also power was increased to many thousands of watts, and most of our

broadcast stations were taken over, or at least the programs were sponsored, by commercial advertisers. Their sole aim seemed to be dedicated to the task of impressing us with our possible social handicap if we did not use a certain brand of tooth paste or cold cure, etc. It was about this time that I lost my enthusiasm for DXing.

Last fall, as I was looking over some radio magazines on the news stand, I ran on to RADEX. The station listing in RADEX looked very impressive, also the DXers' comments. I purchased a copy and in it I read several "preposterous claims" of trans-Pacific reception on the broadcast band. After giving this trans-Pacific business some careful consideration. I decided to try it myself. I designed and installed the most efficient aerial and ground system that I could think of and had room for, and in this installation I decided to spare no expense.

Well, sir, the installation was soon made to my satisfaction and I selected a good clear night in December, set the alarm for 3:30 a.m. and was all set for my initial test to definitely prove to myself that 10,000-mile broadcast reception was impossible. I tuned in first on 750 kcys. for KGU, and of all things impossible, I heard him, very clearly. Then I tuned in on 720 kcys. and heard a man announcing the next portion of his program. His accent was very distinctly English. Could this possibly be Zealand? It was—ZL2YA.

Following I shall list a few foreign stations that I have since heard on the broadcast band: ZL1YA, KGMB, RUS, HIX, HHK, TICR, WKAQ, YV1BC, HJN, KGBU, VOWR, VK5CK, VK6WF, VK5CL, VK4QG. VK3LO, VK2BL, VK4RK, VK4BC. VK4TO, JOBK, JOHK, JOGK, JOCK, JOIK, JOFK, JOAK and XGOA. In addition to this list I have heard many Canadian, Mexican and Cuban stations. Incidentally, I do some shortwave DXing. My shortwave log consists of over 100 foreign phone stations, located in 35 countries in every continent on earth.

My receivers are a Model No. 111 A. C. Phileo (11 tubes) and a Model No. 4 Philco converter (3 tubes). My aerial is a 2" copper tube mounted vertically on a weather-proof insulator on top of the house. Also I have an 8" copper ball on this tube and it looks very much like a tall flag pole. My ground is made of 40 feet of onehalf inch copper tube wound into a six-foot coil and sunk into the ground. I filled in, with the earth around it, about fifty pounds of rock salt. Well, with this outfit, again I am a DXer, and you and your magazine are to blame for it.

*545 Baker Street, Lansing, Mich.

Verifying Under Difficulties By IRVING VAN ZANDT, JR.*

ONLY in one case out of over two dozen, have I succeeded in getting my report to the mail within 48 hours after reception, and never within the 24-hour limit that many stations are adopting. I live 18 miles from town on a road that, from Christmas until Easter, only a horse can get through. The nearest telephone is five miles away and it rarely works in winter. There is no mail delivery up this way and we venture to town but once every five weeks or so in winter. Mail delivery and collection is made by neighbors, and this service varies from once a week to once every three or four weeks. I have destroyed numerous reports that have been in the mail bag for over a week. A few stations have been generous enough to accept my explanation, but the vast majority, I fear, merely raise one eyebrow. The 24hour deadline is a good idea, but it drives me crazy. I should greatly appreciate any suggestions from you or from readers of RADEX.

I have been DXing since last November with a Philco 35, after having been out of the DX game since 1923. Due to a remarkable location, results

have been most satisfactory. When my log began to include a few real good catches, I started to seek verifications, writing only to 3000-milers, and 2000-milers if less than 1000 watts. I have been most careful, writing only after having logged definitely at least 15 consecutive minutes of reception, and I never even log a station whose call I have not unquestionably heard.

I heartily endorse any fight that you may make towards the rapid and complete extinction of "channel hogs." I wish to add KXL to this list. They seem to be on the air indefinitely every Saturday morning, playing records for Gertie and Joe and for the Broadway Cab Co., and announcing most infrequently. Once I listened to them for an hour and twenty minutes without their giving the slightest indication of who or where they were. Perhaps the F.R.C., if it functions at all, could work out a ratio between time on the air and power. Or perhaps the ax is the sole solu-

*Forsythe Range, Bozeman, Montana.

A Phone Receptor

(Continued from page 6)

or tubes. The bias thus thrown on the tubes renders them inoperative although the filaments remain lighted. The box with jack may be placed in any convenient location.

Any signal that can be heard with the speaker can be heard on the phones. The volume of sound is pleasing, and stations that cannot be identified on the speaker due to the high noise level, can be heard with the phone receptor.

The "Phone Receptor" is manufactured and sold by the Amplivox Laboratories, 82 East 95th Street, Brooklyn, N. Y.

Would you like a fine world-globe? See back cover.

STATIONS CAUGHT and Those That GOT AWAY

HERE would be very little fun in DX or in any other hobby, for that matter, if we couldn't brag a bit to others about our progress and talk over our triumphs and disappointments. So here we are at the regular monthly meeting of the greatest radio club on earth-the RADEX family. Our first speaker is a new member of the tribe.

"I have just discovered RADEX and like it very much," comments Maxwell Hall, 806 Fifth St., Marietta, Ohio. "It seems to me that your idea of having certain minimum requirements for counting DX reception is an excellent one. When we report receiving a certain number of stations it should be generally understood just what we mean. This is more important that verification. At our house we have been interested in seeing how large a portion of the stations licensed by the F.R.C. we can get. Counting only stations listed in the F.R.C. bulletin of January 1, 1933, we have listed since December 1, 1931, 507 out of 608 stations, and including all stations listed in 12 states, Puerto Rico and D. of C., all but one in 17 states, and at least half the stations in all other states. We have also identified 23 stations in Canada, 16 in Cuba, 14 in Mexico, and one in Colombia. The above includes one or more stations on every standard frequency in the regular broadcast band between 540 and 1500 kcys."

Added 151 New Ones

"For lack of space and other reasons I am unable to erect a really efficient aerial, an aerial suited to real distant reception," writes Rudolph Kuré, 3633 Vine St., Clifton, Cincinnati, Ohio. "In spite of this handicap and the bad location I am dwelling in, with my rejuvenated

RCA 60-although the number of stations logged then was pretty high and the higher the number the harder it is to add new ones-I managed to log 151 new stations from October 1, 1932 to March 13, 1933. And good stations, too, such as KPJM, Prescott, Ariz., 100 watts; CKOV. Kelowna. B. C., 100 watts; KFXM, San Bernardino, Calif.; 10-BQ, 10-AB, CKIC, WAGM, CHGS, CHRC, KREG, KFIO, YV1BC and HJN, giving me a total of 836 stations."

"I have now received 550 stations, 218 veris." comments George E. Lowrey, David St., Brampton, Ont. "All the states and provinces logged, but not Newfoundland. One in France, YV1BC and HJN in South America; 2BL and 4QG in Australia, and 2YA in New Zealand; KGU logged and verified. 15 100-watters on the west coast; 31 stations in California logged. Connecticut, D. of C., New Hampshire, North Carolina, Porto Rico, Tennessee, Utah, West Virginia, Wyoming and Manitoba completed. CKIC, a 50-watter, was logged and verified at 7:00 p. m., also CHNS of Nova Scotia, after 6:00 p. m. My best is KFPM rating 75.3 with 10-BI, 10-AB and CMJH coming close. WHBC is my lowest powered station, having 10 watts, logged with lots of volume on April 1st."

Can't Get Over Seas

"I have been much interested in letters from other DXers published in your magazine," comments F. Herbert Peters, Woodbury, N. J., "but so far have hesitated to write to you because my record must seem rather small beside some of those published. However, if you are interested, here goes: I have logged 279 stations since October on a Philco 9-tube baby

(Continued on page 71)

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)......WABC NATIONAL, Red (R)......WEAF NATIONAL Blue (B).......WIZ

Call	Dial	CaII	Dial	Call	Dial	Call	Dial	Call	
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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-5:45 p.m., E-4:45, C-3:45, M-2:45 B — Little Orphan Annie

CKGW KDKA WBAL WBZA WCKY WGAR WHAM WIS WJAX WJR WJZ WRVA WWNC

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 R — Waldorf-Astoria Orchestra

CKGW KFYR KGO KOA KPRC KSD KTBS WBEN WCAE WCKY WCSH WDAF WEAF WENR WFBR WFI WHO WIBA WIOD WJAR WKY WMC WOAI WOC WRC WSB WSMB WTAG WWNC

C - Reis and Dunn CFRB CKOK KFAB KFH KLZ KMBC KSCJ KSL KTRH KVOR WAAB WADC WBCM WBIG WBRC WBT WCAO WDAE WDBO WDOD WDSU WEAN WFAN WGR WHEC WIP WISN WJAS WJSV WKBH WLBW WLBZ WNAX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ WTAR WTOC

ED-6:30 p.m., E-5:30, C-4:30, M-3:30 R — Richard Himber's Ensemble

KFYR KGO KGW KHQ KOA KOMO KPRC KSD KTBS KTHS KVOO WDAF WEAF WFBR WIBA WIS WMAQ WMC WOAI WSB WSMB

C — Happy Wonder Bakers WAAB WABC WHEC WKBW WMAS WORC

B - Tastyeast Jesters KDKA WBAL WBZ WBZA WGAR WHAM WJR WJZ

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

R — Couriess Olga Albani
KFSD KGO KGW KOMO WBEN
WCAE WEAF WFBR WHO WIS
WJAR WJAX WMAQ WMC WOC
WOW WRC WSAI WSB WSM WTAG

C - Just Plain Bill CKOK WAAB WABC WCAO WCAU WHK WJSV WKBW

B — Lowell Thomas CKGW KDKA WBAL WBZ WBZA WGAR WHAM WJR WJZ WLW B — Little Orphan Annie KFYR KOIL KPRC KSO KSTP KTBS KWCR KWK WBAP WDAY WEBC WENR WKY WOAI WREN

ED-7:00 p.m., E-6:00, C-5:00, M-4:00 B — Amos 'n' Andy CKGW KDKA WBAL WBZ WBZA WCKY WFLA WGAR WIOD WJAX WJZ WLW WMAL WPTF WRVA

C - Theo. Karle, Tenor

CFRB KFH KLZ KMBC KSŁ KVOR WABC WACO WBBM WBIG WBRC WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGR WGST WHK WHP WISN WLAC WLBW WMBG WMT WNAC WODX WOKO WORC WQAM WSFA WSJS WSPD WTAQ

R - Southernaires Male Quartet KDYL KOA KOMO KSTP KTBS WBEN WCAE WCSH WDAF WEAF WFBR WGY WHO WIBA WMAQ WOC WOW WRC WSAI WTAM

ED-7:15 p.m., E-6, 15 C:5:15, M-415 C — Buck Rogers—Year 2433 CKOK KMOX WABC WBBM WCAU WCCO WGR WHAS WHK

B - Everett Marshall, Baritone KDKA WBAL WBZ WBZA WCKY WJR WJZ WMAL WSYR

R — Century of Progress CFCF CKGW KFSD KFYR KGO KOMO KPRC KSD KTHS WBEN WCAE WCSH WDAF WEAF WEEL WFBR WGY WHO WIBA WIOD WIS WJAR WKY WLIT WMAQ WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WTIC WWJ WWNC

ED-7:30 p.m., E-6:30, C:5:30, M-4:30 B - Five Star Theatre

KDKA KTBS WBAL WBZ WBZA WHAM WIS WJZ WMAL WMC WPTF WRVA WSAZ WSMB WWNC C — Dolph Martin's Orchestra

WABC WCAO WCAU WDRC WEAN WFBL WFEA WGR WHEC WHP WJAS WJSV WLBZ WNAC WOKO WORC

R - Eivia Aliman WCKY WCSH WDAF WEAF WEEL WENR WFBR WGY WJAR WSAI WTAG

ED-7:45 p.m., E-6:45, C-5:45, M-4:45 R — The Goldbergs

KFYR KPRC WBEN WCAE WCSH WDAF WEAF WEEI WENR WFAA WFBR WGY WJAR WKY WLIT WOAI WOW WRC WSAI WTAG WTAM WTMJ WWJ

C — Boake Carter, News Flashes CKOK KMBC KMOX WABC WBBM WBT WCAO WCAU WCCO WGR WHAS WHK WJSV WNAC

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

C — Singin' Sam CKOK KMBC KMOX WABC WADC WCAO WCAU WDRC WEAN WFBL WFBM WGN WGR WHK WJAS

WJSV WKRC WNAC WOKO WSPD R - Soconyland Sketches WBEN WCSH WEAF WEEL WGY

Dial

Call

WJAR WTAG WTIC B — Clicquot Club Eskimos KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WCKY WGAR

WHAM WJZ WLS WREN ED-8:15 p.m., E-7:15 C-6:15, M-5:15

C — Carson Robison and Buckaroos CFRB KFH KLRA KMBC KTRH KVOR WABC WBIG WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHEC WHK WHP WISN WJAS WLAC WLBW WMBG WNAC WODX WOKO WORC WQAM WSFA WSJS WSPD WTAQ

ED-8:30 p.m., E-7:30, C-6:30, M-5:30 R — Sizzlers Trio

CFCF CKGW KSD WBEN WCAE WCKY WCSH WEAF WEEL WFBR WGY WHO WJAR WLIT WMAQ WOC WOW WRC WSAI WTAG WTAM WTIC WWJ

ED-8:45 p.m., E-7:45, C-6:45, M-5:45 R — Famous Brands—Ranny Weeks WBEN WCAE WCSH WDAF WEAF WEEL WGY WJAR WLIT WLW WMAQ WRC WTAG WTAM WTIC WWJ

B — Phil Cook-Andy Sanella KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WCKY WGAR WJAX WJR WJZ WLS WMAL WREN

ED-9:00 p.m., E-8:00, C-7:00, M-6:00 R — A. & P. Gypsies

KSD WBEN WCAE WCSH WDAF WEAF WEEL WGY WHO WJAR WLIT WMAQ WOC WOW WRC WSAI WTAG WTAM WTIC WWJ B - Sinclair Minstrels

KDKA KFYR KOIL KPRC KSO KSTP KTBS KTHS KVOO KWCR KWK WAPI WBAL WBZ WBZA WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJR WJZ WKY WLW WMC WOAI WREN WRVA WSB WSM WSMB WTMJ WWNC

C -- Eton Boys, Do Re Mi Girls CFRB KLRA KLZ KMBC KRLD KTRH KVOR WABC WBIG WCAH

WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHEC WHK WHP WIBW WICC WISN MONDAY—(Continued)

WJAS WKBW WLAC WLBW WMBG WOKO WORC WQAM WSFA WSJS WSPD WTAQ WWVA

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

CFRB KFH KLRA KMBC KTRH KTSA KVOR WABC WBIG WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHEC WHK WHP WICC WISN WJAS WKBW WLAC WLBW WLBZ WMBG WMT WNAC WOKO WORC WQAM WSFA WSJS WSPD WTAQ WWVA

ED-9:30 p.m., E-8:30, C-7:30, M-6:30 C—Evening in Paris CKOK KLZ KMBC KMOX KOMA KSL WABC WCAO WCAU WCCO WDSU WEAN WGN WGST WHK WJAS WJSV WNAC

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

ED-10:00 p.m., E-9:00, C-6:00, M-7:00 C - Golden Country Club

WAAB WABC WCAO WCAU WDRC WFBL WHEC WHP WICC WJAS WJSV WKBW WLBW WOKO WPG

R - Contented Program CFCF CKGW KFYR KPRC KSD KSTP WBEN WCAE WDAF WEAF WEBC WENR WFAA WFLA WGY WHO WIOD WJAX WKY WMC WOAI WOC WRVA WSAI WSB WSM WTAM WTMJ WWJ

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

CFRB CKOK KLRA KLZ KMBC KMOX KSCJ KTRH KTSA KVOR WAAB WABC WADC WBCM WBIG WBRC WBT WCAH WCAO WCCO WDAE WDBJ WDOD WDRC WDSU WFAN WFBL WFBM WFEA WGST WHAS WHEC WHP WIP WISN WJAS WJSV WKBH WKBN WKBW WLBW WLBZ WMBD WNAX WNOX WODX WOKO WORC WQAM WREC WSJS WSPD WTOC

R - Neighbors, Drama CFCF CKGW KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR KTHS WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WIBA WIOD WJAR WJAX WJDX WKY WLIT WMAQ WMC WOC WOW WRC WSAI WSB WSM WSMB WTAG WTAM WTIC WWJ WWNC

ED-10:45 p.m., E-9:45, C-8:45, M-7:45 C — Howard Barlow's Symphony CFRB CKOK KFAB KFH KLZ KMBC KSCJ KSL KTRH KVOR WAAB WABC WADC WBCM WBRC WBT WCAO WDOD WDRC WDSU WEAN WFAN WFBM WHK WIBW WICC WIP WISN WJAS WJSD WKBN WKBW WLBW WLBZ WMBD WNAX WODX WOKO WORC WQAM

WSBT WSJS WSPD WTAR WTOC ED-11:00 p.m., E-10:00, C-9:00, M-8:00 B - Amos 'n' Andy KDYL KFI KFSD KGO KGW KHQ KOA KOIL KOMO KPRC KSTP KTHS KWK WBAP WDAF WENR WHAM WJDX WJR WKY WMAQ WMC WOAI WREN WSB WSM WSMB WTMJ

B - Ann Butler, Comedienne WBAL WFLA WHAM WIOD WIS WJZ WWNC

ED-11:15 p.m., E-10:15, C-9:15, M-8:15 B — Everett Marshall, Baritone KDYL KFI KFYR KGO KGW KHQ

KOA KOIL KOMO KPRC KSO KSTI KTHS KWCR KWK KYW WDAY WEBC WFAA WIBA WJDX WKY WMC WOAI WREN WSB WSMB WTMJ

C — William O'Neal Tenor

CFRB CKOK WAAB WABC WADC WCAU WDRC WEAN WFBL WFEA WHEC WHK WICC WJAS WJSV WKBN WKBW WLBW WLBZ WOKO WORC WPG WSPD

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

CFRB CKOK KFAB KFH KLRA KLZ KMBC KMOX KSCJ KSL KTRH KVOR WAAB WABC WACO WADC WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WGST WHEC WHP WIBW WICC WJSV WKBN WKBW WLAC WLBW WLBZ WMBD WMT WNAX WNOX WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC

B — Phantom Gypsy
CFCF KFYR KPRC KSO KSTP
KTBS KTHS KWCR KWK WBAL WBAP WCKY WDAY WEBC WENR WGAR WHAM WIBA WJZ WKY WMAL WMC WOAI WREN WSB WSMB WSYR

ED-12:00 p.m. E-11:00, C-10:00, M-9:00 C — Leon Belasco and Orchestra

CKOK KFAB KLRA KLZ KMBC KRLD KSCJ KTRH KVOR WABC WACO WCAH WCAO WCAU WCCO WDOD WDSU WEAN WFBL WGST WHP WIBW WICC WISN WJAS WJSV WKBW WLAC WLBW WMBD WMT WNAC WNAX WNOX WOKO WREC WSBT WSPD WTOC

TUESDAY

ED-5:45 p.m., E-4:45, C-3:45, M-2:45 B — Orphan Annie See Monday

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 C — Reis and Dunn See Monday R - Waldorf-Astoria, See Monday

ED-6:15 p.m., E-5:15, C-4:15, M-3:16 C - Ozzie Nelson and Orchestra

CFRB KFH KLRA KLZ KTRH KVOR WAAB WABC WACO WBIG WBRC WCAH WDAE WDBJ WDBO WDOD WDRC WDSU WFEA WGR WGST WHK WHP WIBW WIP WISN WJAS WLAC WLBW WMBG WMT WODX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ WWVA

ED-6:30 p.m., E-5:30, C-4:30, M-3:30 **B** — Three X Sisters K80 KWCR KWK WCKY WJZ WLW WMAL WREN WSYR

R — Mid-Week Hymn Sing KFYR KGO KOA KOMO KTBS KTHS KVOO WBEN WDAF WEAF WFBR WFI WIS WMAQ WMC WOAI WPTE WSB WSMB WTAG WWNC

ED-6:45 p.m., E-5:45, C-4:45, M-3:45 R — James Melton, Tenor

KOA WEAF WFBR WFI WHO WIS WJAR WMAQ WOC WOW WRC WSAI WSM WTAG

B - Lowell Thomas, See Monday B - Orphan Annie, See Monday

C — Just Plain Bill, See Monday

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

R—Three Keys WEAF WEEI WFBR WFI WJAR WRC WTAG

ED-7:15 p.m., E-6:15, C-5:15, M-4:15 C - Buck Rogers, See Monday

B - Radio in Education KDKA KDYL KECA KEX KFSD KFYR KGA KGIR KJR KOA KOIL KPO KTBS KVOO KWCR WBZ WBZA WENR WFLA WIBA WIS WJDX WJZ WMC WOAI WPTF WREN WSB WSM WSMB WWNC R -- Century of Progress, See Monday

ED-7:30 p.m., E-6:30, C-5:30, M-4:30 C — Jack Dempsey's Gymnasium CFRB WABC WCAO WCAU WHK WKBW WKRC

ED-7:45 p.m., E-8:45, C-5:45, M-4:45 B - Irene Bordoni

CFCF CKGW KDKA KFYR KOIL KPRC KSO KWCR KWK KYW WBAL WBZ WBZA WCKY WDAY WEBC WGAR WHAM WIBA WIOD WIS WJR WJZ WKY WMAL WMC WOAI WREN WRVA WSB WSM WSMB WSYR

C - Boake Carter, See Monday R — The Goldbergs, See Monday

ED-8:00 p.m., E-7:00, C-6:00, M-5:00 R — Blackstone, Sanderson-Crumit KSD KSTP KYW WBEN WCAE WCSH WDAF WEAF WEBC WEE1 WFI WGY WHO WJAR WOC WOW WRC WSAI WTAG WTAM WWJ

B — Eno Crime Club KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WGAR WHAM WJZ WLW WMAQ WREN

C - Mary Eastman, Soprano CFRB KFH KLZ KMBC KRLD KSL KTRH KVOR WABC VBBM WBIG WBRC WCAH WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGR WGST WHEC WHK WHP WISN WJAS WLAC WLBW WMBG WMT WNAC WODX WOKO WORC WPG WQAM WSFA WSJS WSPD WTAQ WWVA

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

C — Magic Voice CKOK KMBC KMOX WABC WADC WCAO WCAU WDRC WEAN WFBL WFBM WGN WGR WHAS WHK WJAS WJSV WKRC WNAC WOKO TUESDAY—(Continued) ED-8:30 p.m., E-7:30, C-6:30, M-5:30

C - Kate Smith CKOK KMBC KMOX WABC WADC WBCM WCAH WCAO WCAU WCCO WFBL WFBM WGN WGR WHAS WHEC WHK WISN WJAS WJSV WKBH WKRC WOKO WOWO WSPD

R — Wayne King and Orchestra KSD KSTP WBEN WCAE WCKY WCSH WEAF WEBC WEEI WFBR WFI WGY WHO WIBA WJAR WMAQ WOC WOW WRC WSAI WTAG WTAM WTMJ WWJ B — Horlick-Health Talks

KDKA KOIL KWCR KWK WBAL WBZ WBZA WGAR WHAM WJZ WLS WLW WREN

ED-8:45 p.m., E-7:45, C-6:45, M-5:45 C — Abe Lyman and Orchestra CKOK KMBC KMOX WABC WADC WCAO WCAU WDRC WEAN WFBL WFBM WGN WGR WHAS WHK WJAS WJSV WKRC WNAC WOKO WOWO WSPD

B — Herman Hupfeld, Songs

KDKA KDYL KFSD KOA KOIL KPO KPRC KSO KTAR KTBS KWCR KWK KYW WBAL WBAP WCKY WFLA WGAR WHAM WIOD WIS WJR WJZ WKY WMAL WMC WOAI WREN WSB WSM WSMB WSYR WWNC

ED-9:00 p.m., E-8:00, C-7:00, M-6:00 C — Easy Aces
CKOK KMBC KMOX WABC WADC
WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGN WGR WHAS WHK WJAS WJSV WKRC WNAC

WOKO WSPD R — Ben Bernie and Orchestra KFYR KOA KPRC KSTP WBAP WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEEL WFBR WFI WGY WHO WJAR WKY WLS WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ

B — Willard Robison and Orchestra CFCF CKGW KDKA KOIL KSO KWCR KWK WBAL WBZA WGAR WJR WJZ WMAQ WREN WSYR

ED-9:15 p.m., E-8:15, C-7:15, M-6:15 C — Threads of Happiness

CKOK KDB KERN KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOMA KRLD KSL KTRH KTSA KVI KWG WABC WADC WBRC WBT WCAO WCAU WCCO WDAE WDBO WDOD WORD WOST WHAS WHEC WHK
WJAS WJSV WKBW WKRC WLAC WNAC WOKO WOWO WQAM WREC WSPD WTAR WTOC

ED-9:30 p.m., E-8:30, C-7:30, M-6:30 R — Ed Wynn-Don Voorhees

CFCF KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR KTBS KTHS KVOO WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFI WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMAC WOAI WOC WOW WRC WRVA WSB WSM WSMB WTAG WTAM WTMJ WWJ WWNC

C — Nino Martini, Tenor CFRB KFH KLRA KLZ KMBC KRLD KTRH KVOR WABC WBBM WBIG WBRC WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHEC WHK WHP WIBW WICC WIP WISN WJAS WKBW WLAC WLBW WMBG WMT WNAC WOKO WORC WQAM WSFA WSJS WSPD WTAQ

B — Sigmund Spaeth, Tune Detective CFCF KDKA KOIL KSO KWCR KWK WBAL WCKY WGAR WHAM WJR WJZ WMAQ WREN WSYR

ED-10:00 p.m., E-8:00, C-8:00, M-7:00 C — Five Star Theatre

KLRA WABC WBIG WBT WCAO WCAU WDBJ WDOD WDRC WDSU WEAN WFBL WFEA WHP WICC WJAS WJSV WKBW WLAC WMBG WNAC WNOX WOBU WOKO WORC WREC WSJS WTAR

R — Lives at Stake, Drama KDYL KFI KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTBS KTHS KVOO WAPI WBAP WBEN WCAE WCSH WDAF WEAF WEBC WEEI WENR WFBR WFI WGY WHO WJAR WJDX WKY WLW WMC WOAI WOC WRC WRVA WSB WSMB WTAG WTAM WTMJ WWJ B — Household Musical Memories KDKA KSO KWK WBAL WBZ WBZA WHAM WJR WJZ WMAQ WREN WSYR

ED-10:30 p.m., E-9:30, C-8:30, M-7:30 C — Edwin C. Hill, See Monday

B — Miss Lilla. Southern Drama KDKA KSO KWCR WBAL WCKY WHAM WJR WJZ WMAQ WREN

ED-10:45 p.m., E-9:45, C-8:45, M-7:45 C - Howard Barlow See Monday

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

ED-11:30 p.m., E-10:30, C-9:30, M-8:30 6 — Abe Lyman and Orchestra

CFRB CKOK KFAB KFH KLRA KLZ KMBC KSCJ KSL KTRH KVOR WAAB WABC WACO WADC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WGST WHK WHP WIBW WICC WISN WJSV WKBN WKBW WLAC WLBW WLBZ WMBD WMT WNAX WNOX WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC WWVA

R - Talkie Picture Time, Drama KPRC KSD KTBS KTHS WBEN WCAE WCSH WDAF WEAF WEEL WFAA WFBR WFI WHO WJAR WKY WMAQ WOAI WOC WOW WRC WSAI WTAG WTAM WWJ B — Phantom Gypsy, See Monday

ED-12:00 p.m., E-11:00, C-10:00, M-8:00 C — Glen Gray and Orchestra KFH KLRA KLZ KMBC KSL KTRH

KVOR WABC WACO WBRC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDSU WEAN WFBL WFBM WGST WHEC WHP WIBW WICC WISN WJAS WKBW WLAC WLBW WMBD WMBG WMT WNAC WODX WOKO WQAM WSBT WSJS WSPD WWVA

ED-12:30 a.m., E-11:30, C-10:30, M-9:30 R — Ben Bernie and Orchestra KFI KFSD KGO KHQ KOMO KSD

WEDNESDAY ED-5:45 p.m., E-4:45, C-3:45, M-2:45 B — Orphan Annie, See Monday

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 R-Walderf-Asteria, See Mon lay

C — Art Coogan and Orchestre CFRB KFH KLRA KLZ KMBC KSL KTRH KTSA KVOR WAAB WABC WACO WBBM WBIG WBRC WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WFBL WFEA WGST WHAS WHK WHP WIBW WIP WISN WJAS WKBW WLAC WLBW WLBZ WMBG WMT WODX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ WWVA

ED-5:80 p.m., E-5:30, C-4:30, M-3:30 C — Happy Wonder Bakers, See Monday B - Three X Sisters, See Tuesday R — Back of the News—Wm. Hard KECA KEX KFYR KGA KJR KOA KPO KSD KTBS KTHS WBEN WCKY WDAF WEAF WFBR WIBA WIOD WIS WJAR WMAQ WMG WOAI WSB WTAG WWNC

ED-6:46 p.m., E-5:45, C-4:45, M-3:45 R — John Pierce, Tenor KFSD KPO WBEN WCAE WEAF WFBR WHO WIS WJAR WMAQ WMC WOC WOW WSAI WTAG C - Just Plain Bill, See Monday

B — Lowell Thomas, See Monday B — Orphan Annie, See Monday ED-7:00 p.m., E-6:00, C-5:00, M-4:00

B — Amos 'n' Andy, See Monday C — Mildred Bailey, Songs CFRB KFH KLZ KMBC KSL KTSA KVOR WABC WACO WBIG WBRC WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGR WGST WHAS WHK WHP WISN WJAS WJSV WKBN WLAC WLBW WLBZ WMBG WMT WNAC WODX WORC WQAM WSFA WSJS WSPD WTAQ

ED-7:15 p.m., E-8:15, C-5:15, M-4:15 R — Century ef Progress See Monday B — Everett Marshall, See Monday C — Buck Rogers, See Monday

ED-7:30 p.m., E-6:30, C-5:30, M-4:30 B—String Symphony KDKA KOLL KWCR WBAL WCKY WIOD WIS WJDX WJZ WMAL WMC WREN WSMB WSYR WWNC R — Elvia Aliman See Monday

C — Jack Dempsey See Tuesday

ED-7:45 p.m., E-8:45, C-5:45, M-4:45 C — Boake Carter, See Monday R — The Goldbergs, See Monday

ED-8:00 p.m., E-7:00, C-6:00, M-5:00 C — Voice of Experience KMBC KMOX WABC WCAO WCAU WDRC WEAN WGR WHAS WHK WJAS WJSV WKRC WNAC

B — Eno Crime Club, See Tuesday R — George Olson-Fanny Brico KSD WBEN WCAE WCSH WDAF WEAF WEEL WFBR WGY WHO WJAR WLIT WLS WOC WOW WRC WSAI WTAG WTAM WTIC WWJ

WEDNESDAY—(Cont'd))

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

CFRB KMBC KRLD KTRH KTSA KVOR WABC WBIG WCAH WDBJ WDBO WDOD WDSU WEAN WFBL WFEA WGR WGST WHEC WHK WHP WISN WJAS WJSV WLAC WLBW WLBZ WMBG WNAC WOKO WORC WQAM WSFA WSJS WSPD WTAQ WWVA

ED-8:30 p.m., E-7:30, C-6:30, M-5:30 R — Woodbury—Donald Movis KSD KTBS KTHS KVOO WAPI WBEN WCAE WCSH WDAF WEAF WEEL WEAA WEBR WGY WHO WJAR WJDX WKY WLIT WMAQ WMC WOAI WOC WOW WRC WSB WSM WSMB WTAG WTAM WTIC WWJ

B — Tastyeast Jesters KDKA WBAL WBZ WBZA WCKY WHAM WJZ C - Kate Smith, See Tuesday

ED-8:45 p.m., E-7:45, C-6:45, M-5:45 B — Phil Cook, See Monday C — Abe Lyman, See Tuesday

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

CFRB CKOK KFH KLRA KLZ KMBC KRLD KSCJ KTRH KTSA KVOR WABC WADC WBIG WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHEC WHK WHP WIBW WICC WISN WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMT WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC

R — Famous Brands—Ranny Wooks KSD WBEN WCAE WCSH WDAF WEAF WEEI WGY WJAR WLIT WMAQ WRC WTAG WTAM WTIC WWJ

B — Sherlock Holmes CFCF CKGW KDKA KOIL KWCR KWK WBAL WBZ WBZA WGAR WHAM WJR WJZ WLS WLW WREN

ED-9:15 p.m., E-8:15, C-7:15, M-6:15 C - Street Singer, See Monday R — Vic Erwin and Band

KDYL KFI KFSD KFYR KGO KGW KHO KOA KOMO KPRC KSD KSTP KTBS KVOO WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLIT WMAQ WOAI WOC WOW WRC WRVA WSAI WSB WSM WTAM WTIC WWJ WWNC

ED-9:30 p.m., E-8:30, C-7:30, M-6:30 C - Guy Lombardo-Burns and Allen CKOK KMBC KMOX KOMA KRLD KTRH KTSA WABC WADC WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGN WHK WJAS WJSV WKBW WKRC WNAC WOKO WOWO WSPD

R — Mischa Lovitzki, Pianist CFCF CKGW KDYL KFI KGO KGW KHQ KOA KOMO KSD WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WFLA WHO WIOD WIS WJAR WJAX WLIT WMAQ WOC WOW WRC WRVA WSAI WTAG WTAM WTIC WWJ WWNC

B - Conrad Thibault, Baritono KDKA KOIL KPRC KSO KSTP KTBS KTHS KVOO KWCR KWK WBAL WBZ WBZA WENR WFAA WGAR WHAM WJDX WJZ WKY WLW WMC WOAI WREN WSB WSM WSMB

ED-10:00 p.m., E-9:00, C-8:00, M-7:00 C — Old Gold—Fred Waring

CKOK KDB KERN KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMO KSL KTAT KTRH KTSA KVI KWG WAAB WABC WADC WBRC WBT WACH WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WFBL WFBM WGN WGST WHAS WHEC WHK WIBW WJAS WJSV WKBW WKRC WODX WOKO WOWO WQAM WREC WRR WSPD

R - Corn Cob Pipe Club

KDYL KFI KGHL KGIR KGO KGW KHQ KOA KOMO KSD WBEN WCAE WCSH WDAF WEAF WEEI WENR WFBR WGY WHO WJAR WLIT WLW WOC WOW WRC WRVA WTAG WTAM WTIC WWJ

ED-10:15 p.m., E-9:15, C-8:15, M-7:15 B — Irene Franklin, Songs

KSO KTBS KWCR KWK KYW WAPI WBAL WCKY WFAA WFLA WGAR WIOD WIS WJAX WJR WJZ WKY WMAL WMC WOAI WREN WSMB WSYR WWNC

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

B — Century of Progress
CKGW KOIL KSO KWCR KWK
KYW WAPI WBAL WFLA WGAR
WHAM WIOD WIS WJAX WJR
WJZ WMAL WMC WREN WSB WSMB WSYR WWNC

C — Edwin C. Hill, See Monday R — Dance Hits of Yesteryear

WAPI WBEN WCAE WCKY WCSH WEAF WEEI WGY WJAR WMC WSB WSMB WTAG WTAM WWJ

R - Carveth Wolls KDYL KFYR KGHL KGIR KOA KPRC KSD KSTP KTBS KTHS WDAF WDAY WEBC WFAA WFBR WHO WIBA WKY WMAQ WOAI WOC WOW WRVA WTMJ

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

C — Light Opera Gems
CFRB CKOK KFH KLZ KMBC
KRLD KSCJ KSL KTSA KVOR WABC WADC WBCM WBIG WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHEC WHK WHP WIBW WISN WJAS WLAC WLBW WLBZ WNAC WNAX WNOX WOKO WORC WQAM WREC WSFA WSJS WSPD WTAQ WTOC

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

ED-11:15 p.m., E-10:15, C-9:15, M-8:15 B - Everott Marshall, See Monday

ED-11:30 p.m., E-10:30, C-9:30; M-0:30 C - Freddie Martin and Orchestra CFRB KLRA KLZ KMBC KSL KTRH KTSA KVOR WABC WBIG WBRC WCAH WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN

WFBL WFBM WGST WHAS WHEC WHK WHP WIBW WICC WISN WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMBG WMT WNAC WODX WOKO WORC WPG WQAM WSBT WSJS WSPD

B - Sixteen Male Voices KSO KWCR KWK WBAL WBZ WBZA WCKY WENR WGAR WHAM WJZ WREN

ED-12:00 p.m., E-11:00, C-10:00, M-9:00 C — Eddie Duchin and Orchestra CKOK KFAB KLZ KMBC KSCJ KTRH KVOR WABC WBRC WBT WCAH WCAU WCCO WDAE WDOD WDSU WEAN WFBL WGST WHAS WHK WHP WICC WISN WJAS WJSV WKBW WLBW WMBD WMT WNAC WNAX WNOX WOKO WORC

ED-12:15 a.m., E-11:15, C-10:15, M-9:15 B — Sherlock Holmes KDYL KFI KFSD KGHL KGIR KGO KGW KHQ KOA KOMO KTAR

WPG WREC WSBT WSPD WTOC

THURSDAY

ED-5:45 p.m., E-4:45, C-3:45, M-2:45 B - Orphan Annie, See Monday

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 R - Walderf-Asteria, See Monday C - H. V. Kaltonborn

CFRB CKOK KFAB KFH KLZ KSCJ KVOR WAAB WABC WACO WBIG WBRC WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFEA WGST WHAS WHEC WHP WICC WIP WISN WKBH WKBN WLBW WLBZ WMT WNAX WNOX WODX WOKO WORC WQAM WREC WSBT WSFA WSJS WSPD WTAQ WTAR WTOC

ED-6:15 p.m., E-5:15, C-4:15, M-3:15 C - Ozzio Nelson and Orchestra CFRB CKOK WAAB WABC WACO WBIG WBRC WCAO WDAE WDBJ WDBO WDOD WDRC WDSU WFEA WGST WHEC WHP WLBW WLBZ WNOX WODX WOKO WORC WOAM WREC WSBT WSFA WSJS WSPD WTAR WTOC

ED-0:30 p.m., E-5:30, C-4:30, M-3:30 R - Three Keys KECA KEX KFSD KFYR KGA KJR KOA KPO KSD KTBS KTHS WAPI WDAF WDAY WEAF WFBR WFI WIBA WIS WJAR WMAQ WMC WOAI WSAI WSB WSMB WTAG WWJ WWNC

ED-6:45 p.m., E-5:45, C-4:45, M-3:45 R — Olga Albani, See Monday C — Just Plain Bill, See Monday B — Lowell Thomas, See Monday
B — Orphan Annie, See Monday

ED-7:00 p.m., E-6:00, C-5:00, M-4:00 B — Amos 'n' Andy, See Monday C — Charles Carlile, Tenor CFRB CKLW KFH KLZ KMBC KSL

KTSA KVOR WABC WACO WBIG WBRC WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGR WGST WHAS WHK WHP WISN WJAS WJSV WKBN WLAC WLBW WLBZ WMBG WMT WNAC WODX WOKO WORD WQAM WREC WSFA WSJS WSPD WTAQ WTAR

THURSDAY—(Continued)

ED-7:15 p.m., E-6:15, C-5:15, M-4:15 C - Buck Rogers, See Monday R - Century of Progress, See Monday

ED-7:30 p.m., E-6:30, C-5:30, M-4:30 C - Jack Dempsey, See Tuesday

ED-7:45 p.m., E-6:45, C-5:45, M-4:45 B — Merie Thorpe, Talks KDKA KECA KFSD KGA KGIR KGW KJR KOA KOIL KSO KWCR KWK KYW WAPI WBAL WGAR WHAM WIOD WIS WJDX WJZ WMAL WMC WREN WSB WSM WSYR WWNC

C - Boake Carter, See Monday R — The Goldbergs, See Monday

ED-8:00 p.m., E-7:00, C-6:00, M-5:00 C — Evan Evans—Do Re Mi CFRB CKOK KFH KLRA KMBC KSCJ KTRH KTSA KVOR WABC WADC WCAH WCAO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHAS WHEC WHE WHP WIBW WIP WISN WJAS WJSV WKBH WLAC WLBW WLBZ WMBG WNAC WNOX WOKO WPG WQAM WREC WSFA WSJS WSPD WTAQ WTAR WTOC WWVA

R — Rudy Vallee and Orchestra CFCF CKGW KDYL KFI KFYR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR WAPI WBAP WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEL WFBR WFI WFLA WGY WHO WIOD WJAR WJAX WJDX WKY WMAQ WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WTMJ WWJ

ED-8:30 p.m., E-7:30, C-8:30, M-5:30 C - Kate Smith, See Tuesday B - Rin Tin Tin Thriller

KDKA KOIL KWK WBZ WBZA WGAR WHAM WJZ WLS WLW WREN

ED-8:45 p.m., E-7:45, C-6:45, M-5:45 C - Abe Lyman, See Tuesday

ED-9:00 p.m., E-8:00, C-7:00, M-6:00 R - Maxwell House Show Boat KPRC KSD KSTP KTBS WAPI WBAP WBEN WCAE WCKY WCSH WDAF WEAF WEEL WFBR WFI

WFLA WGY WHO WIOD WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WTMJ WWJ WWNC C - Easy Aces, See Tuesday

8 — Death Valley Days KDKA KOIL KWK WBAL WBZ WBZA WGAR WHAM WJR WJZ WLS WLW WREN

ED-9:15 p.m., E-8:15, C-7:15, M-6:15 C — Fray and Braggiotti CFRB CKOK KFH KLRA KLZ KMBC KSCJ KTRH KTSA KVOR WABC WADC WBIG WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGST WHEC WHP WIBW WICC WISN WJAS WKBN WKBW WLAC WLBW WLBZ WMT WNAC WNAX WNOX WOKO WORC WPG WQAM

WREC WSBT WSJS WSPD WTOC

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

C — Col. Stoopnagle and Budd CKOK KDB KERN KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KSCJ KSL KTRH KTAT KTSA KVI KWG WABC WADC WBRC WBT WCAH WCAO WCAU WCCO WDAE WDBO WDRC WDSU WEAN WFBL WFBM WGN WGST WHAS WHEC WHK WJAS WJSV WKBW WKRC WLAC WNAC WOKO WOWO WQAM WREC WRR WSPD WTAR

B — Wayne King and Orchestra KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WENR WJZ WREN

ED-10:00 p.m., E-9:00, C-8:00, M-7:00 R — Lucky Strike—Jack Pearl KDYL KFI KFSD KFYR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR KTBS KTHS KVOO WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WENR WFBR WFI WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMC WOAI WOC WOW WRC WRVA WSB WSM WSMB WTAG WTAM WTMJ WWJ WWNC

C — John Henry—River Giant CFRB CKLW KFH KLRA KLZ KMBC KSL KTRH KTSA KVOR WAAB WABC WBBM WBIG WBRC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGST WHAS WHK WHP WIBW WICC WISN WJAS WJSV WKBN WKBW WLAC WLBW WLBZ WMBD WMBG WMT WODX WOKO WORC WPG WQAM WREC WSBT WSJS WSPD

ED-10:15 p.m., E-9:15, C-8:15, M-7:15 C — California Melodies CFRB CKLW KFH KLRA KLZ KMBC KSL KTRH KTSA KVOR WAAB WABC WBBM WBIG WBRC

WCAH WCAO WGAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WICC WJAS WJSV WKBN WKBW WLAC WLBW WLBZ WMBD WMBG WMT WODX WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTAR

ED-10:45 p.m., E-9:45, C-8:45, M-7:45 C — Howard Barlow, See Monday

ED-11:00 p.m., E-10:00, C-9:00, M-8:00 B — Sizzlers Trio WBAL WFLA WGAR WHAM WIS WJAX WJZ WMAL WRVA WSYR WWNC

R — James Melton, Tenor KSD WCAE WCKY WEAF WFBR WRC WSAI WTAG WWJ B — Ames 'n' Andy, See Monday

ED-11:30 p.m., E-10:30, C-9:30, M-8:30 C — Ted Lewis, See Monday

ED-1:00 a.m., E-12:00, C-11:00, M-10:00 R — Maxwell House Show Boat KDYL KFI KFSD KGO KGW KHQ KOA KOMO KTAR

FRIDAY

ED-5:45 p.m., E-4:45, C-3:45, M-2:45 B - Drphan Annie, See Monday

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 R — Waldorf-Astoria, See Monday

ED-6:30 p.m., E-5:30, C-4:30, M-3:30 R — Betty Boop-Mae Questel KFSD KFYR KOA KPO KSD KTBS KTHS WBEN WDAF WEAF WFBR WGY WIBA WIS WJDX WOAI WSB WSMB WWNC

B - Tastyeast Jesters, See Monday C - Happy Wonder Bakers See Monday

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

ED-7:00 p.m., E-6:00, C-5:00, M-4:00 B — Amos 'n' Andy, See Monday Mildred Bailey See Wednesday R - Borrah Minevitch, Harmonica WAPI WEAF WFBR WJAR WMC WRC WSAI WSB WSM WWJ

ED-7:15 p.m., E-6:15, C-5:15, M-4:15 R — Century of Progress, See Monday C - Buck Rogers, See Monday

ED-7:30 p.m., E-8:30, C-5:30, M-4:30 B - Five Star Theatre, See Monday

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

ED-8:00 p.m., E-7:00, C-8:00, M-5:00 R — Cities Service Concert
CKGW KDYL KOA KPRC KSD

KSTP KTBS KYW WBEN WCAE WCSH WDAF WEAF WEBC WEEL WFAA WFBR WGY WHO WJAR WKY WLIT WOAI WOC WOW WRC WSAI WTAG WTAM WTIC WTMJ WWJ

B — Nestle's Program KDKA KOIL KWK WBAL WBZ WBZA WGAR WHAM WJR WJZ WLS WREN

C — Nino Martini, Tenor CFRB CKLW KMBC KTRH KTSA KVOR WABC WBIG WBRC WCAH WCAO WCAU WCCO WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGR WGST WHEC WHK WHP WISN WJAS WJSV WLAC WLBW WLBZ WMBG WMT WODX WOKO WORC WQAM WREC WSBT WSFA WSJS WSPD WTAQ WTAR

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

C — Foreign Legion CFRB CKLW KLRA KMBC KSI KTRH KTSA KVOR WABC WBIG WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WFBL WFEA WGR WGST WHAS WHEC WHK WHP WISN WJAS WJSV WLAC WLBW WLBZ WMBG WMT WOKO WORC WOAM WREC WSBT WSFA WSJS WSPD WTAQ

B - Horlick Program, See Tuesday

ED-8:45 p.m., E-7:45, C-8:45, M-5:45 B — Phil Cook See Monday

ED-9:00 p.m., E-8:00, C-7:00, M-8:00 B — Archer Gibson, Organist KDYL KFSD KFYR KGO KGW KHQ KOA KOMO KSO KTBS KWCR KWK KYW WBAL WDAY WFAA WFLA WIBA WIS WJR WJZ WKY WOAI WREN WRVA WSB WSMB WSYR WWNC

FRIDAY—(Continued)

C - Irvin S. Cobb, See Wednesday R - Musical Groeery Store KSD WBEN WCSH WDAF WEAF WEEL WFBR WGY WJAR WLIT

WMAQ WRC WTAG WTAM WTIC ED-9:15 p.m., E-8:15, C-7:15, M-6:15 C — Street Singer, See Monday

ED-9:30 p.m., E-8:30, C-7:30, M-6:30 R — Pond's Program

KSD WBEN WCAE WCSH WDAF WEAF WENR WFBR WGY WHO WJAR WLIT WOC WOW WRC WSAI WTAG WTAM WWJ

C — Edwin C. Hill, Inside Story CKOK KFH KLRA KMBC KMOX KOMA KRLD KTRH KTSA WABC WADC WBCM WCAH WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGN WHAD WHAS WHK WHP WIBW WJAS WJSV WKBH WKBW WKRC WLBW WLBZ WMBD WNAC WOKO WORC WOWO WREC WSPD B - Armour Program-Phil Baker

KDKA KDYL KFI KGO KGW KHQ KOA KOIL KOMO KPRC KSO KSTP KWK WAPI WBAL WBZ WBZA WEBC WFAA WGAR WHAM WIOD WJAX WJR WJZ WKY WMAQ WMC WOAI WREN WRVA WSB WSM WSMB WTMJ WWNC

ED-10:00 p.m., E-9:00, C-8:00, M-7:00 R — Chevrolet—Jack Benny

KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR KTBS KTHS KVOO WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEL WENR WFAA WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WKY WLIT WLW WMC WOAI WOC WOW WRC WRVA WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

C — Chesterfield—Lou Holtz CKLW KDB KERN KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLD KSL KTRH KTSA KVI KWG WABC WADC WBRC WBT WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WDSU WEAN WFBL WFBM WGN WGST WHAS WHEC WHK WISN WJAS WJSV WKBW WKRC WLAC WLBZ WMBG WMT

WQAM WREC WSPD WTAR WTOC ED-10:15 p.m., E-9:15, C-8:15, M-7:15 B — Irene Franklin, See Wednesday

WNAC WOKO WORC WOWO WPG

ED-10:30 p.m., E-9:30, C-8:30, M-7:30 R — Richfield Country Club WBEN WCAE WEAF WEEI WFBR WGY WJAR WLIT WRC WTIC

C -- Little Jack Little

CFRB CKLW KFH KLRA KLZ KMBC KRLD KSL KTSA KVOR WAAB WABC WBBM WBIG WBRC WCAH WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMBG WMT WODX WOKO WORC WPG WQAM WREC W8BT WSJS WSPD WTAR

B — First Nighter, Drama KDKA KDYL KFI KFSD KGO KGW KHQ KOA KOIL KOMO KPRC KSTP KTAR KWK WAPI WBAL WBZ WBZA WCKY WEBC WGAR WHAM WJR WJZ WKY WLS WOAI WREN WSB WSM WSMB WTMJ

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

ED-11:15 p.m., E-10:15, C-9:15, M-8:15 C — Do Re Mi Girls

CFRB CKLW KLRA KLZ KMBC KSL KTSA KVOR WABC WBIG WBRC WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHP WIBW WIP WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMBG WMT WNAC WODX WOKO WORC WPG WOAM WSBT WSJS WSPD WTAR WWVA B — Dorothy Fields—Jimmy McHugh KSO KWCR KWK WBAL WENR WGAR WHAM WJR WJZ WMAL WREN

ED-11:30 p.m., E-10:30, C-9:30, M-8:30 R - Musical Grocery Store KDYL KFI KFSD KGO KGW KHQ KOA KOMO KTAR WDAF

C — Abe Lyman, See Tuesday B - Phantom Gypsy, See Monday

ED-12:00 p.m., E-11:00, C-10:00, M-9:00 C — George Hall and Orchestra CKOK KFAB KLZ KMBC KRLD

KSCJ KSL KTRH KVOR WABC WBRC WBT WCAU WCCO WDAE WDOD WDSU WICC WISN WJSV WLBW WMBD WNAC WNAX WOKO WPG WSBT WSPD WTOC

SATURDAY

ED-5:45 p.m., E-4:45, C-3:45, M-2:45 B - Orphan Annie, See Monday

ED-8:00 p.m., E-5:00, C-4:00, M-3:00 B — Don Bestor and Orchestra KDKA KOIL KSO KWCR KWK WBAL WENR WHAM WJR WJZ WMAL WREN WSYR

C - America's Grub Street CFRB CKOK KFAB KFH KSCJ KSL KTRH KVOR WAAB WABC WADC WBBM WBCM WBIG WBRC WBT WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WEAN WFEA WHEC WICC WISN WJSV WKBH WLBW WLBZ WNAX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ WTAR WTOC WWVA

R - Walderf-Asteria, See Monday

ED-6:15 p.m., E-5:15, C-4:15, M-3:15 C — Art Coogan and Orchestra

CFRB CKLW KFH KLRA KLZ KMBC KSL KTRH KTSA KVOR WAAB WABC WACO WBIG WBRC WCAH WDAE WDBJ WDBO WDOD WDRC WDSU WFBL WFEA WGR WGST WHAS WHK WHP WIBW WICC WIP WISN WJAS WJSV WLAC WLBW WLBZ WMBG WMT WODX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ WTAR WWVA

ED-6:30 p.m., E-5:30, C-4:30, M-3:30 C — Billy Burton and Orchestra

CFRB CKOK KTRH WAAB WABC WACO WADC WBIG WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFEA WGR WGST WHEC WHP WICC WJSV WLAC WLBW WLBZ WNOX WODX WOKO WORC WOAM WREC WSBT WSFA WSJS WSPD WTOC

B - Laws That Safeguard KDYL KEX KFSD KFYR KGA KGIR KJR KOA KOIL KPO KPRC KSO KSTP KTAR KTBS KTHS KWCR KWK WBAL WBZ WBZA WCKY WEBC WFLA WIBA WIOD WIS WJAX WJR WJZ WKY WMAQ WMC WOAI WREN WRVA WSB WSMB WWNC

ED-6:45 p.m., E-5:45, C-4:45, M-3:45 B — Orphan Annie, See Monday R — Pickens Sisters

CKGW KDYL WBEN WCAE WEAF WFBR WGY WHO WIOD WIS WJAR WJAX WMC WOC WOW WSAI

B — Vincent Lopez and Orchestra WBAL WGAR WHAM WJR WJZ WSYR

ED-7:00 p.m., E-6:00, C-5:00, M-4:00 R — Bert Lown and Orchestra CFCF WBEN WDAF WEAF WFBR WFI WGY WJAR WMAQ WSAI WTAG WTAM

B — American Taxpayers' League KDKA KDYL KFSD KGA KJR KOA KPO KSO KTBS KWCR WBAL WEBC WFLA WHAM WIBA WJR WJZ WMAL WMC WSB WSMB WSYR WWNC

C — Frederic William Wile KMBC KRLD KTRH WABC WADE WBBM WBCM WBIG WBRC WBT WCAO WCAU WDAE WDBO WDOD WDRC WDSU WEAN WFBM WFEA WGR WHEC WHK WICC WJAS WJSV WLBW WLBZ WNAC WOKO

WQAM WSFA WSPD WTAR WWVA ED-7:15 p.m., E-6:15, C-5:15, M-4:15 C — Gypsy Nina

CFRB CKLW KFH KLZ KMBC KTRH KTSA KVOR WABC WACO WBBM WBIG WBRC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFEA WGR WGST WHK WHP WIBW WISN WJAS WJSV WLAC WLBW WLBZ WMBG WMT WNAC WODX WOKO WORC WOAM WREC WSFA WSJS WSPD WTAQ WTAR

R — Century of Progress, See Monday B - Everett Marshall, See Monday

ED-7:30 p.m., E-6:30, C-5:30, M-4:30 C — Glen Gray and Orchestra CFRB CKLW KFH KLZ

KMBC KTRH KTSA KVOR WABC WACO WBIG WBRC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WFBM WFEA WGR WGST WHEC WHP WICC WISN WJAS WJSV WLAC WLBW WLBZ WMBG WMT WNAC WODX WOKO WORC WQAM WREC WSFA WSJS WSPD WTAQ WTAR

R - Elvia Allman, See Monday

ED-7:45 p.m., E-8:45, C-5:45, M-4:45 R — The World Today KFYR KTBS WBEN WDAF WEAF WENR WFBR WFLA WGY WHO WIBA WIS WJAR WJAX WKY WOAI WOC WOW WPTF WRC WSAI WTAG WTAM WWJ WWNC B - Ireno Bordoni, See Tuesday

ED-8:00 p.m., E-7:00, C-6:00, M-5:00 R — Ortiz Tirado, Mexican Tenor CKGW KFYR KOA KPO KPRC KSD SATURDAY—(Continued)

KSTP KTBS WBEN WCKY WCSH WDAF WDAY WEAF WEBC WEEL WFI WGY WHO WIBA WIOD WIS WJAR WMAQ WMC WOAI WOC WRC WSAI WSMB WTAG WTAM WWJ WWNC

ED-8:15 p.m., E-7:15, C-8:15, M-5:15 C - Magic Voice, See Tuesday

ED-8:30 p.m., E-7:30, C-8:30, M-5:30 C - Leon Belasco and Orchestra

CFRB CKOK KFH KLRA KLZ KMBC KSCJ KSL KTRH KTSA KVOR WABC WADC WBIG WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHEC WHK WHP WIBW WICC WISN WJAS WJSV WLAC WLBW WLBZ WMT WNAC WNAX WNOX WODX WOKO WORC WQAM WREC WSBT WSFA WSPD WTAQ WTOC

R - Economic World Today KDYL KFSD KFYR KGA KFHL KGIR KJR KOA KPO KPRC KSD KSTP WAPI WBAP WBEN WCSH WDAF WDAY WEAF WEBC WEEL WFBR WFI WFLA WGY WHO WIBA WIOD WIS WJAR WJDX WKY WMAQ WMC WOAI WOC WOW WRC WSAI WSMB WTAG WTAM WWJ WWNC

ED-9:00 p.m., E-8:00, C-7:00, M-8:00 C — Easy Aces, See Tuesday R - Ranny Weeks, See Wednesday

ED-9:15 p.m., E-8:15, C-7:15, M-8:15 C — Boswell Sisters

CFRB CKOK KFH KLRA KLZ KMBC KMOX KRLD KSCJ KSL KTRH KTSA KVOR WAAB WABC WACO WADC WBBM WBCM WBIG WBRC WBT WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WIBW WICC WIP WISN WJAS WJSV WKBH WKBW WLBW WLBZ WMT WNAX WNOX WODX WOKO WORC WOWO WQAM WREC WSPD WTAR WTOC

ED-9:30 p.m., E-8:30, C-7:30, M-8:30 R — K-7, Drama

KSD WBEN WCAE WCSH WDAF WEAF WEEI WFBR WFI WGY WHO WJAR WMAQ WOC WOW WRC WSAI WTAG WTAM WWJ

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

CFRB CKOK KFH KLRA KLZ KMBC KMOX KSCJ KSL KTRH KTSA KVOR WABC WADC WBBM WBIG WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDSU WEAN WFBL WFBM WFEA WGST WHP WIBW WICC WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMT WNAC WNAX WNOX WODX WOKO WORC WPG WOAM WREC WSBT WSJS WSPD WTOC

ED-10:00 p.m., E-9:00, C-8:00, M-7:00 B — Gilbert and Sullivan Gems KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WCKY WFLA WGAR WHAM WIS WJAX WJR WJZ WMAL WREN WRVA WSYR WWNC

R — B. A. Relfo and Orchestra
CFCF CKGW KDYL KFI KGO
KOA KSD KSTP WBAP WBEN WCAE WCSH WDAF WEAF WEEN
WFBR WFI WGY WHO WJAR
WLW WMAQ WOC WOW WRC
WSB WSMB WTAG WTAM WWJ

ED-10:15 p.m., E-9:15, C-8:15, M-7:15 C — Public Affairs Institute

KFH KLZ KSCJ KTRH KTSA KVOR WAAB WBAC WADC WBBM WBCM WBIG WBRC WBT WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WEAN WFBM WFEA WHEC WICC WJAS WJSV WKBH WLBW WLBZ WMBD WNAX WOKO WORC WPG WQAM WSBT WSJS WSPD WTAR WTOC WWVA

ED-10:30 p.m., E-9:30, C-8:30, M-7:30 B — Cuckoo Program

CKGW KDKA KOIL KSO KWCR KWK KYW WBAL WCKY WGAR WHAM WJZ WREN WSYR

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

CFRB CKOK KFH KLRA KLZ KMBC KSCJ KTRH KTSA KVOR WAAB WABC WBIG WCAO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFEA WGST WHAS WHEC WHK WHP WICC WIP WISN WJAS WJSV WKBW WLAC WLBW WLBZ WMBD WMT WNAX WNOX WODX WOKO WORC WPG WQAM WREC WSRT WSJS WSPD WTAR WTOC WWVA

ED-11:00 p.m., E-10:00, C-9:00, M-8:00 **B** — The Buccaneers Vocal Trio

KDKA KDYL KFSD KFYR KGHL KOA KOIL KPO KPRC KSO KSTP KTBS KWCR KWK WBAL WBZ WBZA WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJDX WJR WJZ WKY WLW WMAQ WMC WREN WSB WSMB WSYR WWNC C — Freddie Martin and Orchestra

CFRB CKOK KFAB KLRA KLZ KMBC KSCJ KSL KTRH KVOR WAAB WABC WACO WADC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDSU WEAN WFBM WGR WGST WHEC WHK WHP WIBW WICC WISN WJAS WJSV WLAC WLBW WLBZ WMBD WMT WNAX WNOX WODX WOKO WORC WQAM WREC WSBT WSJS WSPD WTOC WWVA

ED-11:15 p.m., E-10:15, C-9:15, M-8:15 B — Everett Marshall, See Monday

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

CFRB CKLW KFH KLRA KLZ KMBC KTRH KTSA KVOR WABC WBIG WBRC WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WICC WIP WISN WJSV WKBW WLAC WLBW WLBZ WMBD WMBG WNAC WODX WOKO WORC WQAM WREC WSBT WSPD WTAR WWVA

B — The Witching Heur KDKA KDYL KEX KFSD KFYR KGA KGHL KJR KOIL KPO KPRC KSO KSTP KTBS KWCR KWK WBAL WBZ WBZA WDAY WEBC WFLA WGAR WIBA WIOD WIS WJR WJZ WKY WLW WMAL WMC WREN WRVA WSB WSMB WSYR WWNC

R — Harold Stern and Orchestra

KSD WBEN WCAE WCKY WCSH WDAF WEAF WEEL WFBR WFI WGY WHO WJAR WMAQ WOC WRC WSAI WTAG WTAM WWJ

ED-12:00 m., E-11:00, C-10:00, M-9:00 R — Johnny Johnson and Orchestra KSD WCAE WCKY WDAF WEAF WFBR WFI WGY WHO WJAR WMAQ WOC WRC WTAG WTAM B — Mark Fisher's Orchestra

KOIL KSO KWCR KWK KYW WGAR WJZ WLW WRC WREN

SUNDAY

ED-11:15 a.m., E-10:15, C-9:15, M-8:15 R — Major Bowes' Family

KDYL KEX KFSD KFYR KGA KJR KOA KPO KPRC KVOO WBAP WDAF WDAY WEAF WFBR WFLA WGY WHO WIOD WJAR WJAX WKY WMC WOC WRC WSM WSMB WTAG WTAM WTMJ WWJ WWNC

ED-11:30 a.m., E-10:38, C-9:30, M-8:30 C - Salt Lake Tabernacle Choir

CFRB CKOK KFAB KLZ KSCJ KSL KTRH KTSA KVOR WABC WADC WBCM WBIG WBT WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WEAN WFEA WGR WHEC WHK WIBW WISN WJAS WJSV WKBH WKBN WLBW WLBZ WMBD WNAC WNAX WODX WOKO WORC WPG WQAM WSBT WSJS WSPD WTAQ WTAR WWVA

ED-12:15 p.m., E-11:15, C-10:15, M-9:15 B — Radio City Concert CFCF CKGW KDKA KDYL KECA

KEX KFSD KFYR KGA KJR KOA KOIL KPO KPRC KSTP KTAR KVOO KWK WAPI WBAL WBZ WBZA WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJR WJZ WKY WLW WMAQ WOAI WRC WREN WRVA WSB WSM WSMB WSYR WWNC

ED-12:30 p.m., E-11:30, C-10:30, M-9:30 R - Walter Logan Pop Concert

CFCF CKGW KDYL KFYR KOA KPRC KSTP KTBS KVOO WAPI WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEL WFAA WFBR WFI WGY WHO WIBA WIOD WIS WJAR WKY WOAI WOC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

ED-12:45 p.m., E-11:45, C-10:45, M-9:45 C — Street Singer CFRB CKOK KFAB KLZ KMBC

KSCJ KSL KTRH KTSA KVOR WABC WADC WBCM WBIG WBT WCAO WCCO WDAE WDBO WDOD WDSU WGR WHEC WHK WIBW WISN WJAS WJSV WKBH WKBN WLBW WLBZ WMBD WNAX WODX WOKO WPG WQAM WSJS WSPD WTAQ WTAR WTOC WWVA

ED-1:08 p.m., E-12:00, C-11:00, M-10:0 C — Columbia Church of the Air

CFRB CKOK KLZ KSCJ KSL KTRH KTSA KVOR WAAB WABC WADC WBCM WBIG WCAO WCCO WDAE

SUNDAY—(Continued)

WDBO WDOD WDRC WDSU WGR WHEC WIBW WJAS WJSV WKBH WLBW WLBZ WNAX WODX WOKO WPG WQAM WSBT WSJS WSPD WTAQ WTAR WTOC WWVA

ED-1:15 p.m., E-12:15, C-11:15, M-10:15 B — Cook Travelogues

KDKA WBAL WBZ WBZA WCKY WGAR WHAM WJR WJZ WMAL WMAQ WSYR

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

C — Lazy Dan, Minstrel Man CKOK KMBC KMOX WAAB WABC WBBM WCAH WCAO WCAU WCCO WHAS WJAS WJSV WKRC WMBG R - Folks from Dixie

CFCF CKGW KFI KFSD KFYR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTBS KVOO WAPI WBEN WCAE WCKY WDAF WDAY WEAF WEBC WEEL WFAA WFBR WFI WGY WHO WIBA WIOD WIS WJAR WJAX WKY WMAQ WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

ED-2:00 p.m., E-1:00, C-12:00, M-11:00 C — Smiling Ed McConnell CKOK KERN KFBK KFPY KFRC

KGB KHJ KLZ KMBC KMOX KOIN KOL KSL KVI KWG WABC WBBM WBT WCCO WDSU WGR WGST WHAS WHEC WJAS WJSV WKRC WLAC WNAC WOWO WQAM WRR

B — Monarch Mystery Tenor KDKA KDYL KFI KFYR KGO KOA KOIL KSO KSTP KWCR KWK WBZ WBZA WCKY WDAY WEBC WGAR WHAM WIBA WJAR WJAX WJR WJZ WMAQ WREN WTMJ WWNC

R — Pilgrims Mixed Chorus CFCF KSD KTBS KTHS KYW WAPI WBEN WCAE WCKY WCSH WEAF WEEI WFAA WGY WJAR WJDX WMC WOAI WOW WSAI WSM WSMB WTAG WTAM WWJ

ED-2:15 p.m., E-1:15, C-12:15, M-11:15 B — International Radio Forum KDKA KOIL KSO KWCR KWK WBAL WJZ WMAL WMAQ WREN WSYR

C — Albert Bartlett Tango King CKOK KMBC KMOX WABC WBBM WCAO WCAU WGR WHEC WHK WJAS WJSV WKRC WNAC WOKO WOWO

ED-2:30 p.m., E-1:30, C-12:30, M-11:30 R — Joe Green's Marimba Band

CFCF CKGW WBEN WCAE WCKY WDAF WEAF WFBR WGY WJAR WMAQ WOW WRC WTAG WTAM B — Northwestern Chronicfo, Drama

KDKA KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOIL KOMO KPRC KSO KSTP KTAR KTHS KVOO KWCR KWK KYW WAPI WBAL WBZ WBZA WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJR WJZ WKY WLW WMAL WMC WOAI WPTF WREN WRVA WSB WSM WSMB WTMJ WWNC

C — Victor Arden and Orchestra CKOK KMBC KMOX WABC WBBM WCAO WCAU WGR WHEC WHK WJAS WJSV WKRC WNAC WOKO ED-2:45 p.m., E-1:45, C-12:45, M-11:45

C — Armida, Songstress CKLW KMBC KMOX WABC WBBM WCAO WCAU WGR WHEC WHK WJAS WJSV WKRC WNAC WOKO

ED-3:00 p.m., E-2:00, C-1:00, M-12:00 B — National Opera Concert

CFCF KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WCKY WHAM WJZ WMAL WMAQ WREN WSYR

R — Wayne King and Orchestra KDYL KFI KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTBS KTHS KVOO KYW WBEN WCAE WCKY WCSH WDAF WEAF WEBC WEEI WFAA WFBR WGY WHO WIBA WJAR WKY WLIT WOAI WOC WOW WRC WSAI WTAG

ED-3:15 p.m., E-2:15, C-1:15, M-12:15 C — Howard Barlow, Symphony

WTAM WTMJ WWJ

CFRB KFH KLRA KLZ KMBC KTRH KVOR WABC WACO WBIG WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBM WFEA WGR WGST WHEC WHK WHP WIBW WICC WISN WJAS WLAC WLBW WMBD WMBG WMT WNAC WODX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAQ

ED-3:30 p.m., E-2:30, C-1:30, M-12:30 R — Radio Pulpit

KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOMO KPRC KSD KTHS KVOO WBEN WCAE WCSH WDAF WEAF WEBC WEEL WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLIT WMC WOAI WOC WOW WPTF WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

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

CFCF CKGW KDYL KFI KFSD KFYR KGO KGW KHO KOA KOMO KPRC KTAR KTBS KTHS KVOO WAPI WBAP WBEN WCAE WDAF WEAF WEBC WEEI WFBR WFLA WGY WIOD WIS WJAR WJAX WJDX WKY WLIT WMAQ WMC WOAI WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWNC

C — Cathedral Hour CFRB CKOK KFH KLZ KMBC KRLD KSCJ KSL KVOR WAAB WABC WADC WBBM WBCM WBIG WBRC WBT WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WFBM WFEA WHEC WIBW WICC WISN WJAS WJSV WKBH WKBN WWKB WLBW WLBZ WNAX WOKO WORC WQAM WSBT WSFA WSJS WSPD WTAR WTOC WWVA

ED-4:15 p.m., E-8:15, C-2:15, M-1:15 B — Symphonette CFCF CKGW KDKA KOIL KPRC

KSO KTBS KWCR KWK WBAL WBAP WCKY WFLA WHAM WIOD WJAX WJZ WMAL WMC WOAI WREN WRVA WSB WSM WSMB WSYR WWNC

R — Wildroot—Veo Lawnburst KDYL KFI KGO KGW KHQ KOA KOMO WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WJAR WLIT WMAQ WOW WRC WSAI WTAG WTAM WWJ

ED-4:30 p.m., E-3:30, C-2:30, M-1:30 R — Temple of Song
WBEN WCAE WCSH WDAF WEAF
WEEI WFBR WFI WGY WJAR WMAQ WOW WRC WSAI WTAG WTAM WWJ

ED-5:00 p.m., E-4:00, C-3:00, M-2:00 R — Impressions of Italy
WBEN WCAE WCSH WDAF WEAF

WEEI WFBR WFI WGY WJAR WMAQ WOW WRC WSAI WTAG WTAM WWJ

B — World of Religion KDYL KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOIL KOMO KSTP KTAR KTBS KVOO KWCR KWK WBAL WBAP WBZ WBZA WCFL WCKY WEBC WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WMAL WMC WOAI WPTF WREN WRVA WSB

ED-5:30 p.m., E-4:30, C-3:30, M-2:38 C - Sanderson and Crumit

WSM WSMB WTMJ WWNC

CKLW KFAB KFH KMBC KMOX KOMA WAAB WABC WADC WCAH WCAO WCAU WDRC WDSU WEAN WFBL WFBM WGR WHAS WHEC WHK WICC WJSV WOKO WORC WSPD WTAR WWVA

R — Clyde Doerr's Saxophone Octet KSD WBEN WCAE WCSH WDAF WEAF WEEL WENR WFBR WFI WFLA WGY WHO WIOD WIS WJAR WMC WOC WOW WRC WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

B — Pages of Romance, Drama KDKA KOIL KSO KWCR KWK KYW WBAL WBZ WBZA WGAR WJR WJZ WLW WREN

ED-6:00 p.m., E-5:00, C-4:00, M-3:00 B — L'Heure Exquiso

KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA WCKY WGAR WHAM WJR WJZ WMAQ WREN WSYR

R — Catholic Hour

KDYL KEX KFYR KGHL KGIR KJR KOA KPRC KSD KTAR KTBS KVOO WAPI WBAP WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEL WENR WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLIT WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

C - The Lawyer and Public CFRB KFAB KFH KLZ KRLD KSCJ KSL KVOR WAAB WABC WACO WBCM WBIG WBRC WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFEA WGST WHAS WHP WIBW WICC WISN WKBH WLBW WLBZ WNAX WNOX WODX WOKO WORC WPG WQAM WREC WSFA WSJS WSPD WTAQ WTAR WTOC WWVA

ED-6:80 p.m., E-5:30, C-4:30, M-3:30 C — Rosos and Drums CKOK KMBC KMOX KRLD WAAB WABC WADC WCAO WCCO WDSU WGN WGR WHAS WHK WJAS WJSV WKRC

SUNDAY—(Continued)

R - Our American Schools KDYL KECA KEX KFSD KFYR KGA KOA KPO KPRC KSD KSTP KTBS KVOO WBAP WBEN WCAE WCSH WDAY WEAF WEBC WEEL WENR WFBR WFLA WGY WIBA WIOD WJAR WKY WLIT WMC WOAI WOW WPTF WRC WRVA WSAI WSM WSMB WTAG WWJ WWNC

ED-6:45 p.m., E-5:45, C-4:45, M-3:45 B - Dick Daring, Children's Sketch KDKA KOIL KSO KWCR WBAL WBZ WBZA WCKY WENR WGAR WHAM WJZ WMAL WREN WSYR

ED-7:00 p.m., E-6:00, C-5:00, M-4:00 B — Borrah Minevitch, Harmonica KDYL KFYR KOA KOIL KPRC KSO KTBS KVOO KWK WBAL WCKY WDAY WEBC WFLA WIBA WIOD WIS WJZ WKY WLS WOAI WREN WRVA WSMB WWNC

R - James Melton, Tenor KDYL KFYR KOA KPRC KSD KSTP KTBS KVOO WBEN WDAF WDAY WEAF WEBC WEEL WFBR WFLA WGY WIBA WIOD WIS WJAR WMAQ WOAI WRVA WSAI WSMB WTAG WWJ WWNC

ED-7:30 p.m., E-6:30, C-5:30, M-4:30 R — Joe Moss and Orchestra WCSH WEAF WJAR WTAG WTIC B - Great Moments in History KDKA KDYL KFI KFSD KFYR KGO KGW KHQ KOA KOIL KOMO KPRC KSTP KTAR KVOO KWCR KWK WBAL WBZ WBZA WDAY

WEBC WFAA WFLA WGAR WHAM WIBA WIOD WJAX WJDX WJR WJZ WKY WLS WLW WMC WOAI WPTF WREN WRVA WSB WSM WSMB WTMJ WWNC

C — Fray and Braggiotti
CKOK KFAB KFH KLZ KMBC KSCJ KSL KTRH KVOR WABC WACO WADC WBRC WCAH WCAO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHP WIBW WISN WJAS WJSV WLBW WLBZ WMT WNAC WNOX WOKO WORC WQAM WSFA WSJS WSPD WTAR WTOC WWVA

ED-7:45 p.m., E-8:45, C-5:45, M-4:45 C — Angelo Patri, Your Child CKOK KMBC KMOX WABC WCAO

WCAU WCCO WFBL WGN WGR WHAS WHK WJAS WJSV WKRC WNAC

ED-8:00 p.m., E-7:00, C-6:00, M-5:00 R -- Chase and Sanborn

CFCF CKGW KDYL KFI KFSD KFYR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KATR KVOO WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WIOD WIS WJAR WJDX WKY WLIT WLW WMAQ WMC WOAI WOC WOW WRC WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

C — The Gauchos CKOK KFAB KFH KLZ KSCJ KTRH KVOR WAAB WABC WADC WBCM WBRC WBT WCAO WDAE WDBO WDOD WDRC WDSU WEAN WFAN WFBM WGR WHEC WIBW WICC

WIP WISN WJAS WJSV WKBN WLBW WLBZ WMBD WNAX WODX WOKO WPG WQAM WSJS WSPD WTAR WTOC

ED-8:30 p.m., E-7:30, C-6:30, M-5:30 C — Chicago Variety Program KFH KLRA KLZ KMBC KSL KTRH KVOR WABC WACO WBBM WBIG WBRC WCAH WCAO WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHEC WHP WICC WISN WJAS WLBW WMT WNAC WODX WOKO WORC WQAM WSFA WSJS WSPD WTAQ WWVA

ED-9:00 p.m., E-8:00, C-7:00, M-6:00 C — Columbia Dramatic Guild CFRB KLRA KLZ KMBC KSL KTRH KVOR WABC WACO WBRC WCAH

WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGR WGST WHEC WHK WHP WIBW WICC WISN WJAS WLAC WLBW WNAC WOKO WORC WOAM WSFA WSJS WSPD WTAQ WWVA

B - Will Rogers KPRC KTBS KTHS WAPI WBAL WBZ WBZA WFAA WFLA WGAR WHAM WIS WJAX WJDX WJR WJZ WLW WMAL WMC WOAI WPTF WRVA WSB WSM WSMB WSYR WWNC

R — Manhattan Merry-Go-Round KSD WDAF WEAF WENR WFBR WFI WGY WHO WJAR WOC WOW WRC WSAI WTIC WWJ

ED-9:30 p.m., E-8:30, C-7:30, M-6:30 R — Album of Familiar Music KDYL KFI KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTHS WAPI WBEN WCAE WCKY WCSH WEAF WENR WFAA WFBR WFI WFLA WGY WHO WIOD WJAR WJAX WJDX WKY WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WTMJ

B - Walter Winchell KDKA KOIL KSO KWCR KWK KYW WBAL WBZ WBZA WGAR WHAM WJR WJZ WLW WREN C — Andre Kostelanetz Presents

CKOK KLZ KMBC KMOX KRLD KSCJ KSL KTRH KTSA KVOR WABC WADC WBBM WBCM WBRC WBT WCAO WCAU WCCO WDAE WDBO WDOD WDRC WDSU WEAN WFBM WFEA WGR WHEC WHK WIBW WISN WJAS WJSV WKBH WLBW WLBZ WNAC WNAX WOKO WORC WSBT WSFA WSJS WSPD WTAR WTOC WWVA

ED-9:45 p.m., E-8:45, G-7:45, M-6:45 B — Pickens Sisters CFCF CKGW KDKA KOIL KSO KWCR KWK KYW WBAL WHAM WJR WJZ WREN WSYR

ED-10:00 p.m., E-9:00, C-8:00, M-7:00 R — David Lawrence

KDYL KFI KFSD KFYR KGO KGW KHQ KOA KOMO KPRC KSTP KTBS WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFI WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WKY WMC WOAI WOC WRC WSAI WSM WSMB WTAG WTAM WTIC WWJ WWNC B — Phil Dewey, Fireside Songs KDKA KOIL KSO KWCR KWK

WBAL WBZ WBZA WCKY WGAR WHAM WJR WJZ WMAQ WREN WSYR

C — John Henry—River Giant CKOK KLRA KLZ KMBC KRLD KSCJ KSL KTRH KTSA KVOR WABC WACO WADC WBBM WBCM WBRC WBT WCAH WCAO WCCO WDAE WDBJ WDOD WDRC WDSU WFBL WFBM WFEA WGR WGST WHEC WHK WHP WISN WJAS WKBH WLBW WLBZ WNAX WNOX WOKO WORC WREC WSFA WSJS WSPD WWVA

ED-10:15 p.m., E-9:15, C-8:15, M-7:15 C — Columbia Revue

CFRB KLRA KLZ KMBC KRLD KSL KTRH KVOR WAAB WABC WBIG WBRC WCAH WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WFBL WFBM WFEA WGR WGST WHEC WHP WIBW WICC WISN WJAS WKBW WLAC WLBW WMBD WMT WODX WOKO WORC WPG WQAM WSBT WSJS WSPD WTAQ

R — Highlights and Shadows
CKGW KYW WBEN WCAE WCKY
WCSH WDAF WEAF WEEL WFBR WFLA WGY WIOD WIS WJAR WOW WRC WSAI WTAG WTAM WWJ WWNC

B — Vincent Lopez; Pratt-Sherman KDKA KDYL KFI KGO KGW KHQ KOA KOIL KOMO KPRC KSTP KTHS KWK WBAL WBAP WBZ WBZA WGAR WIBA WJDX WJR WJZ WKY WLW WMAQ WOAI WREN WSB WSM WSMB WTMJ

ED-10:45 p.m., E-9:45, C-8:45, M-7:45 R — Sunday at Seth Parker's

CFCF CKGW KDYL KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KPRC KSTP KTAR KTBS KTHS KYW WAPI WBAP WBEN WCAE WCKY WCSH WDAF WDAY WEAF WEBC WEEL WFBR WFL WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WTMJ WWJ WWNC

B — Orange Lantern, Mystery Drama KDKA KSO KWCR KWK WBAL WGAR WHAM WJZ WREN

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

CKOK KFAB KFH KLRA KLZ KMOX KSCJ KTRH KVOR WAAB WABC WBCM WBRC WCAO WCAU WCCO WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WGST WHK WHP WIBW WICC WISN WKBN WLBW WLBZ WMBD WMT WNAC WNAX WNOX WOKO WPG WQAM WREC WSBT WSJS WSPD WTAR WTOC

ED-11:15 p.m., E-10:15, C-9:15, M-8:15 R — Don Hall Trio

KFYR KSTP WCAE WCKY WCSH WDAF WDAY WEAF WEBC WENR WFBR WFI WGY WHO WIBA WOC WRC WSAI WTAG WTIC

ED-11:30 p.m., E-10:30, C-9:30, M-8:30 C — Abe Lyman, See Tuesday B - Minneapolis Symphony Orchestra KDKA KSO KWCR KWK KYW WBAL WBZ WBZA WGAR WHAM WJR WJZ WMAL WREN WSYR

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Daylight Saving

CONCERTS

Howard Barlow, 3:15 p.m., Sun.; 10:45 p.m., Mon., Tues., Thurs., C. Gauchos, 8:00 p.m., Sunday, C. Gilbert and Sullivan Gems, 10 p.m., Saturday, B. Impressions of Italy, 5:00 p.m., Sunday, R. Impressions of Italy, 5:00 p.m., Sunday, R.
L'Heure Exquise, 6:00 p.m., Sunday, B.
Walter Logan, 12:30 p.m., Sunday, R.
Minneapolis Symphony, 11:30 p.m., Sunday, B.
National Opera, 3:00 p.m., Sunday, B.
Orchestral Gems, 11:30 p.m., Sunday, R.
Radio City Symphony, 12:15 p.m., Sunday, B.
Riesenfeld's Viennese, 8:00 p.m., Sunday, B.
String Symphony, 7:30 p.m., Wednesday, B.
Symphonette, 4:15 p.m., Sunday, B.
Waldorf-Astoria, 6:00 p.m., daily, ex. Sunday, R.

DANCE BANDS

Victor Arden, 2:30 p.m., Sunday, C. Albert Bartlett, 2:15 p.m., Sunday, C. Ben Bernie, 9:00 p.m. and 12:30 a.m., Tuesday, R. Ben Bernie, 9:00 p.m. and 12:30 a.m., Tuesday, R. Don Bestor, 6:00 p.m., Saturday, B. Frank Black, 10:00 p.m., Friday, R. Art Coogan, 6:00 p.m., Wed.; 6:15 p.m., Sat., C. Clyde Doerr, 5:30 p.m., Sunday, R. Eddie Duchin, 11:00 p.m., Sun; 12 mid., Wed., C. Vio Erwin, 9:15 p.m., Wednesday, R. Glen Gray, 12 mid., Tuesday; 7:30 p.m., Sat., C. Richard Himber, 6:30 p.m., Monday, R. Johnny Johnson, 12 mid., Saturday, R. Wayne King, 3:00 p.m., Sun.; 8:30 p.m., Tues., R; 9:30 p.m., Thurs., B. Thurs, B.
Ted Lewis, 11:30 p.m., Mon. and Thurs, C.
Guy Lombardo, 9:30 p.m., Wednesday, C.
Vincent Lopez. 10:15 p.m., Sun.; 6:45 p.m., Sat., B.
Bert Lown, 7:00 p.m., Saturday, R.
Abe Lyman, 11:30 p.m., Sun, Tues., Fri.; 8:45 p.m., Tues.,
Wed., Thurs, C.
Dolph Martin, 7:30 p.m., Monday, C.
Freddie Martin, 11:30 p.m., Wed.; 11:00 p.m., Sat., C.
Joe Moss, 7:30 p.m., Sunday, R.
Ozzie Nelson, 6:15 p.m., Tuesday, C.
George Olsen, 8:00 p.m., Wednesday, R.
Ben Pollack, 12 mid., Sun.; 11:30 p.m., Sat., C.
Willard Robison, 9:00 p.m., Tuesday, B.
B. A. Rolfe, 10:00 p.m., Saturday, R.
Harold Stern, 11:30 p.m., Saturday, R. Thurs., B. Harold Stern, 11:30 p.m., Saturday, R. Rudy Vallee, 8:00 p.m., Thursday, R. Fred Waring. 10:00 p.m., Wednesday, C.

DIALOG

Amos 'n' Andy, 7 and 11 p.m., daily, ex. Sat. and Sun., B. Phil Baker, 9:30 p.m., Friday, B. Jack Benny, 10:00 p.m., Friday, R. Burns and Allen, 9:30 p.m., Wednesday, C. Ann Butler, 11:00 p.m., Monday, B. Phil Cook, 8:45 p.m., Mon., Wed., Fri., B. Cuckoo, 10:30 p.m., Saturday, B. Easy Aces, 9:00 p.m., Tues, Thurs., Sat., C. Lou Holtz, 10:00 p.m., Friday, C. Tom Howard, 9:00 p.m. and 11:30 p.m., Friday, R. Marx Bros. 7:30 n.m. Monday B. Marx Bross, 7:30 p.m. and 11:30 p.m., Friday Marx Bross, 7:30 p.m., Monday, B. Baron Munchausen, 10:00 p.m., Thursday, R. Jack Osterman, 2:30 p.m., Sunday, C. Reis and Dunn, 6:00 p.m., Mon. and Tues., C. Stoopnagle and Budd, 9:30 p.m., Thursday, C.

Columbia Dramatic Guild, 9:00 p.m., Sunday, C. Columbia Dramatic Guild, 9:00 p.m., Sunday, C. Diek Daring, 6:45 p.m., Sunday, B. Death Valley Days, 9:00 p.m., Thursday, B. Eno Crime Clues, 8:00 p.m., Tues. and Wed., B. First Nighter, 10:30 p.m., Friday, B. Folks from Dirk, 1:30 p.m., Sunday, R. Foreign Legion, 8:30 p.m., Friday, C. Goldbergs, 7:45 p.m., daily, ex. Sat. and Sun., R. John Henry, 10:00 p.m., Sun. and Thurs., C. Sherlock Holmes, 9:00 p.m. and 12:15 a.m., Wednesday, B. K-7, 9:30 p.m., Saturday, R.
Miss Lilla, 10:30 p.m., Tuesday, B.
Lives at Stake, 10:00 p.m., Tuesday, R.
Magic Voice, 8:15 p.m., Tuesday and Saturday, C.
Neighbors, 10:30 p.m., Monday, R.
Northwestern Chronicle, 2:30 p.m., Sunday, B.
Pages of Romance, 5:30 p.m., Sunday, B.
Rin Tin Tin, 8:30 p.m., Thursday, B.
Rin Tin Tin, 8:30 p.m., Thursday, B. Buck Rogers, 7:15 p.m., daily, ex. Sat. and Sun., C. Roses and Drums, 6:30 p.m., Sunday, C. Soconyland Sketches, 8:00 p.m., Monday, R.

PIANO AND ORGAN

Fray and Braggiotti, 7:30 p.m., Sun.; 9:15 p.m., Thurs., C. Archer Gibson, 9:00 p.m., Friday, B. Vee Lawhurst, 4:15 p.m., Sunday, R. Mischa Lebitzki, 9:30 p.m., Wednesday, R. Ohman and Arden, 2:30 p.m., Sun., C; 9:30 p.m., Sun., R

POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m., Monday, R. Album of Familiar Music, 9:30 p.m., Sunday, R. Armour Program, 9:30 p.m., Friday, B. Major Bowes' Family, 11:15 a.m., Sunday, R. California Melodies, 10:15 p.m., Thursday, C. Chase and Sanborn, 8:00 p.m., Sunday, R. Cbesterfield, 10:00 p.m., Friday, C. Chevrolet Program, 10:00 p.m., Friday, R. Chicago Variety, 8:30 p.m., Sunday, R. Cicquot Club, 8:00 p.m., Finday, R. Clicquot Club, 8:00 p.m., Monday, R. Corn Cob Pipe Club, 10:15 p.m., Sunday, R. Corn Cob Pipe Club, 10:00 p.m., Monday, R. Corn Cob Pipe Club, 10:00 p.m., Wednesday, R. Evening in Paris, 9:30 p.m., Monday, R. Five Star Theatre, 10:00 p.m., Tues., C; 7:30 p.m., Mon. and Fri., B. and Fri., B.
Jack Frost's Melody, 9:30 p.m., Monday, B.
Golden Country Club, 10:00 p.m., Monday, C.
Happy Wonder Bakers, 6:30 p.m., Monday, C.
Happy Wonder Bakers, 6:30 p.m., Mon., Wed., Fri., C.
Household Musical Memories, 10:00 p.m., Tuesday, B.
Inside Story, 9:30 p.m., Friday, C.
Lucky Strike, 10:00 p.m., Thursday, R.
Manhattan Merry-Go-Round, 9:00 p.m., Sunday, R.
Marwell House, 9:00 p.m., and 1:00 a.m., Thursday, R.
Borrah Minevitch, 7:00 p.m., Sun., B; 7:00 p.m., Fri., R.
Nestle's Program, 8:00 p.m., Friday, B.
Old Gold, 10:00 p.m., Wednesday, C.
Pond's Program, 9:30 p.m., Friday, R.
Richfield Country Club, 10:30 p.m., Friday, R.
Royal Vagabonds, 8:00 p.m., Wednesday, R.
Saturday Frivolities, 9:45 p.m., Saturday, C.
Sinelair Minstrels, 9:00 p.m., Monday, B.
Wildroot Institute, 4:15 p.m., Sunday, R.
Woodbury Program, 8:30 p.m., Wednesday, R. and Fri., B. Woodbury Program, 8:30 p.m., Wednesday, R. Ed Wynn, 9:30 p.m., Tuesday, R.

RELIGIOUS

Cathedral Hour, 4:00 p.m., Sunday, C. Catholic Hour, 6:00 p.m., Sunday, C.
Catholic Hour, 6:00 p.m., Sunday, R.
Church of the Air, 1:00 p.m., Sunday, C.
Mid-Week Hymn Sing, 6:30 p.m., Tuesday, R.
Seth Parker's, 10:45 p.m., Sunday, R.
Pilgrims, 2:00 p.m., Sunday, R.
Salt Lake Choir, 11:30 a.m., Sunday, C.
World of Religion, 5:00 p.m., Sunday, B.

Countess Olga Albani, 6:45 p.m., Mon. and Thurs., R. Countess Olga Albani, 6:45 p.m., Mon. and Thurs., 1 Frances Alda, 6:00 p.m., Tuesday, R. Elvia Aliman, 7:30 p.m., Mon., Wed. and Sat., R. Armida, 2:45 p.m., Sunday, C. Mildred Bailey, 7:00 p.m., Wed. and Fri., C. Betty Barthell, 10:30 p.m., Friday, R. Irene Bordoni, 7:45 p.m., Tuesday and Saturday, B. Boswell Sisters, 8:15 p.m., Wed; 9:15 p.m., Sat., C. Fanny Brice, 8:00 p.m., Wednesday, R.

Buccaneers, 11:00 p.m., Saturday, B. Charles Carlile, 7:00 p.m., Thursday, C. Phil Dewey, 10:00 p.m., Sunday, B. Do Re Mi, 9:00 p.m., Mon.; 8:00 p.m., Thurs.; 11:15 p.m., Do Re Mi, 9:00 p.m., Mon.; 8:00 p.m., Thurs.; 11:15 p.m., Fri., C. Jessica Dragonette, 8:00 p.m., Friday, R. Mary Eastman, 9:30 p.m., Sunday; 8:00 p.m., Tuesday, C. Evan Evans, 9:30 p.m., Monday, C. Evan Evans, 9:30 p.m., Monday, C. Evan Evans, 9:30 p.m., Sun.; 8:00 p.m., Thurs., C. Fields and McHugh, 11:15 p.m., Friday, B. Irene Franklin, 10:15 p.m., Wed. and Fri., B. Gypsy Nina, 7:15 p.m., Saturday, C. Don Hall Trio, 11:15 p.m., Sunday, R. Herman Hupfield, 8:45 p.m., Tuesday, B. Theo Karle, 7:00 p.m., Monday, C. Irving Kaufman, 8:45 p.m., Tues., Wed., Thurs., C. Jeannie Lang, 9:30 p.m., Thurs., C; 9:00 and 11:30 p.m., Friday, R. Friday, R.
Lazy Dan, 1:30 p.m., Sunday, C.
Little Jack Little, 11:15 p.m., Wed.; 10:30 p.m., Fri., C.
Everett Marshall, 7:15 and 11:15 p.m., Mon., Wed., Sat., B.
Nino Martini, 9:30 p.m., Tues.; 8:00 p.m., Fri., C.
Smiling Ed McConnell, 2:00 p.m., Sunday, C.
Tommy McLaughlin, 9:15 p.m., Tuesday, C. Tommy McLaughlin, 9:15 p.m., Tuesday, C. James Melton, 7:00 p.m., Sun.; 6:45 p.m., Tues.; 11:00 p.m., Thurs., 10:00 p.m., Fri., R. Monarch Mystery Tenor, 2:00 p.m., Sunday, B. Frank Munn, 9:30 p.m., Sunday, R. Gertrude Niesen, 10:45 p.m., Saturday, C. Donald Novis, 8:30 p.m., Wednesday, R. William O'Neal, 11:15 p.m., Monday, C. Pickens Sisters, 9:45 p.m., Sunday, B; 6:45 p.m., Sat., R. Mae Questel, 6:30 p.m., Friday, R. Carson Robison, 8:15 p.m., Monday, C. Lanny Ross, 9:00 p.m., Thursday, R. Sanderson-Crumit, 5:30 p.m., Sunday, C; 8:00 p.m. Tues, R. Singin' Sam, 8:00 p.m., Monday, C. Sixteen Male Voices, 11:30 p.m., Wednesday, B. Sizzlers Trio, 8:30 p.m., Mon.; 11:00 p.m., Thurs., B.

Kate Smith, 8:30 p.m., Tues., Wed., Thurs., C. Southernaires Male Quartet, 7:00 p.m., Monday, R. Street Singer, 12:45 p.m., Sun.; 9:15 p.m., Mon., Wed., Fr., C.
Tastyeast Jesters, 6:30 p.m., Mon., Fri.; 8:30 p.m., Wed., B.
Conrad Thibault, 9:30 p.m., Wednesday, B.
Three Keys, 7:00 p.m., Tues.; 6:30 p.m., Thurs., R.
Three X Sisters, 6:30 p.m., Tues. and Wed., B.
Ortiz Tirado, 9:30 p.m., Mon.; 8:00 p.m., Sat., R. Ranny Weeks, 8:45 p.m., Mon.; 9:00 p.m., Wed. and Sat., R. Witching Hour, 11:30 p.m., Saturday, B.

America's Grub Street, 6:00 p.m., Saturday, C. American Taxpayers' League, 7:00 p.m., Saturday, B. Boake Carter, 7:45 p.m., daily, ex. Sat. and Sun., C. Century of Progress, 7:15 p.m., daily, ex. Sun., R; 10:30 p.m. Wed., B.
Irvin Cobb. 9:00 p.m., Wed. and Fri., C.
Cook Travelogu., 1:15 p.m., Sunday, B.
Jack Dempsey, 7:30 p.m., Tues., Wed., Thurs., C.
William Hard, 6:30 p.m., Wednesday, R.
Edwin C. Hili, 10:30 p.m., Mon., Tues., Wed.; 9:30 p.m.,
Fri., C.
Horlick's Health, 8:30 p.m., Tues. and Fri., B.
David Lawrence, 10:00 p.m., Sunday, R.
Laws that Safeguard, 6:30 p.m., Saturday, B.
Lawyer and Public, 6:00 p.m., Sunday, C.
Alex Morrison on Golf, 10:00 p.m., Mon., C; 10:30 p.m.,
Fri. R. Fri., R.
Angelo Patri, 7:45 and 11:15 p.m., Sunday, C.
Radio Pulpit, 3:30 p.m., Sunday, R. Hadio Pulpt, 3:30 p.m., Sunday, R.
Will Rogers, 9:00 p.m., Sunday, B.
Sigmund Spaeth, 9:30 p.m., Tuesday, B.
Lowell Thomas, 6:45 p.m., daily, ex. Sat. and Sun., B.
Merle Thorpe, 7:45 p.m., Thursday, B.
Voice of Experience, 8:00 p.m., Wednesday, C.
Carveth Wells, 10:30 p.m., Wednesday, C.
Frederic William Wile, 7:00 p.m., Saturday, C.
Welter Winshell, 0:20 and 1:15: 20 Sunday B. Walter Winchell, 9:30 and 11:15 p.m., Sunday, B.

THE MONTH'S CHANGES

(Continued from page 1)

		(Continued	110116	page 1	/
1100	CRCV	Vancouver, B. C., from 1030			OWNERS
1210 1260	CFCO KUOA	Chatham, Ont., from 1010 Fayetteville, Ark., from 1390	580	CRCA	Moncton, N. B., to Canadian Radio Broadcasting Commission
1310	CHCK	Charlottetown, P. E. I., from 960	680	WPTF	Raleigh, N. C., to WPTF Radio Co.
1310 1340	KGNO	Quebec, Que., from 880 Dodge City, Kans., from 1210	880	CRCO	Ottawa, Ont., to Canadian Radio Broad- casting Commission
1410 1410	CKFC CKMO	Vancouver, B. C., from 730 Vancouver, B. C., from 730	1100	CRCV	Vancouver, B. C., to Canadian Radio Broadcasting Commission
1430	CFCT	Victoria, B. C., from 630	1290	KFUL	Galveston, Texas, to Southwest Broad- cast Co.
		POWER	1310	WFDF	Flint, Mich., to Flint Broadcasting Co.
			1390	KUOA	Fayetteville, Ark., to KUOA, Inc.
580	CKCL	Toronto, Ont., 500 to 100	1440	WSAN	Allentown, Pa., to WSAN, Inc.
580	CRCA	Moncton, N. B., 700 to 500			
630	\mathbf{CMQ}	Havana, Cuba, 250 to 500			CALLS
680	\mathbf{KPO}	San Francisco, Calif., 5000 to 50000			
690	HJN	Bogota, Colombia, 2000 to 1000	540	CKLW	Windsor, Ont., formerly CKOK
880	CJRW	Fleming, Sask., 1000 to 500	580	CRCA	Moncton, N. B., formerly CNRA
940	WAAT	Jersey City, N. J., 300 to 500	880	CRCO	Ottawa, Ont., formerly CNRO
1000	$\mathbf{w}\mathbf{H}\mathbf{o}$	Des Moines, Iowa, 5000 to 50000	1100	CRCV	Vancouver, B. C., formerly CNRV
1000	WOC	Davenport, Iowa, 5000 to 50000	1400	WARD.	Brooklyn, N. Y., formerly WCGU
1010	\mathbf{ckoc}	Hamilton. Ont., 1000 to 100			
1030	CKNC	Toronto, Ont., 500 to 100			DELETED
1120	CFCA	Toronto, Ont., 500 to 100			
1210	CFCO	Chatham, Ont., 250 to 100	595		London, Ont.
1310	WTRC	Elkhart, Ind., 50 to 100	1200	KGEW	Fort Morgan, Colo.
1340	KGNO	Dodge City, Kans., 100 to 250	1420	WERE,	Erie, Pa.

INDEX B	Y	FREQUENCIES	AND	DIAL	NUMBERS
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IN	NDEX BY FREQUENCE	ES AND DI	AL NUMBERS
520 kcs.	576.6 m.	RW38 1200 WDBO 250	Alexandrovsk, USSR
250		WDBO 250 WIBW 1000	
700	522 Hamar, Norway	WOBU 250	Charleston, W. Va.
7000	522 Ljubljana, Yugo.	WTAG 250 XEPN 100000	Worcester, Mass. 585 Pedras Negras, Coah.
530 kcs.	565.7 m.	ZTB 750	588 Bloemfontaine, S. Africa
		7ZL 15000	581 Vienna, Austria Hobart, Australia
OFE 1000	536 Tampera Finland		*
RW24 2000 250	531 Smolensk, USSR 536 Augsburg, Germany Grenoble, France Hanover, Germany	590 kcs.	508.2 m.
2000	Grenoble, France	IFI 20000	598 Firenze, Italy
	536 Kaiserslautern, Germany	JOAK-2 10000 KHQ 1000	Tokyo, Japan Spokane, Wash.
16000	533 Wilno, Poland	LP6 1500	Buenos Aires, Argentina
540 kcs.	555.2 m.	RW42 10000 WCAJ 500	598 COPKI, USSIK.
		WEEI 1000	Boston, Mass.
CKLW 5000 HAL-2 20000	Windsor, Ont. 545 Budapest, Hungary	WOW 1000	Kalamazoo, Mich. Omaha, Neb.
700	Tammersfors, Finland	No. 1 15000 10000	Brussels, Belgium
XEY 105	546 Merida, Yucatan		
550 kcs.	545.1 m.	600 kcs.	499.7 m.
IPA 3000	559 Polormo Ytaly	CFCF 500 CMW 1400	Montreal, Que.
KFDY 1000 KFUO 1000	Brookings, S. Dak.	KFSD 1000	Havana, Cuba San Diego, Calif.
KFUO 1000 KFYR 1000	St. Louis, Mo. Bismarck, N. Dak.	LKT 1200	San Diego, Calif. 608 Trondelag, Norway San Jose, Costa Rica
KOAC 1000	Corvallis, Ore.	TISO 50 WCAC 250	Storre Conn
KSD 500 RW48 1200	554 Romsk, USSR	WCAO 250	Baltimore, Md.
SBD 10000	554 Sundsvall Sweden	WICC 250 WMT 500	Baltimore, Md. Bridgeport, Conn. Waterloo, Iowa Memphis, Tenn.
WDEV 500 WGR 1000	Waterbury, Vt. Buffalo, N. Y. Cincinnati, Ohio	WREC 500	Memphis, Tenn.
WKRC 1000	Cincinnati, Ohio	2ZK 120 1750	Wanganui, N. Z. Colombo, Ceylon
560 kcs.	535.4 m.	1200	605 Trondheim, Norway
KFDM 500	Beaumont, Texas	610 kcs.	491.5 m.
KLZ 1000	Denver, Colo.	JODK-1 1000	Keijo, Korea
KTAB 1000 RW41 1200	San Francisco, Calif. 563 Syktyvkar, USSR	KFRC 1000	San Francisco Calif.
WFI 500	Philadelphia, Pa.	KZRM 50000 OKP 120000	618.5 Manila, P. I. 614 Praha, Czech. 617 Oufa, USSR
WIBO 1000 WLIT 500	Chicago, Ill Philadelphia, Pa.	RW22 10000	617 Oufa, USSR
WNOX 1900	Knovville Lenn	TIXA 7.5 WDAF 1000	614 San Jose, C. R Kansas City, Mo Philadelphia, Pa.
WPCC 500 WQAM 1000	Chicago, III. Miami, Fla.	WIP 500	Philadelphia, Pa.
XEAO 7.5	Mexicali, B. C.	WJAY 500 XETR 1000	Cleveland, Ohio Mexico City, D. F.
2CO 7500 120000	Corowa, Australia 563 Makhatch, USSR	3AR 5000	Mexico City, D. F Melbourne, Australia
60000	563 Munich, Germany	620 kcs.	483.6 m.
570 kcs.	526.0 m.	CE62 1000	
		JOTK 500	625 Matsuye, Japan
KGKO 250	Wichita Falls, Texas	KGW 1000 KTAR 500 LV3 350	Portland, Ore. Phoenix, Ariz.
KMPR 500	St. Pierre, Miquelon Wichita Falls, Texas Hollywood, Calif. Tacoma, Wash.	LV3 350 NR 50000	Cordova, Arg. 625 Manchester, G. B.
WEAO 1000		OFD 500	622 Port Finland
WKBN 500 WMCA 500	Youngstown, Ohio New York, N. Y.	RW31 10000 RW40 1000	625 Ivanovo, USSR 621 Gomel, USSR Clearwater, Fla.
WNAX 1000	Yankton, S. Dak.	WFLA 1000	Clearwater, Fla.
WPCH 500	Vankton & Dak	WFLA 1000 WLBZ 500	Bangor, Maine
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		INL	DEX BY FREQUENC	IES AN	ID DIA	LN	UMBERS
750 3			99.8 m.	810	kcs.	37	70.2 m.
JOBK-1 KGU	10000 2500		. Osaka, Japan.	CNRH CX14	500	815	Halifax, N. S. Montivideo, Uruguay.
LR7	1000)	. Buenos Aires, Arg.	CX14 EAJ5	1000 1500	815	Montivideo, Uruguay.
MR	25000		9 Davianter C D	IIBZ	1000	815	Seville, Spain. Bolzano, Italy.
PRAA RW64	2000 10000	75	. Kio de Janeiro, Brazil. 2. Vladikavkaz HSSR	JOCK- LKF	1 10000 700		Nagoya, Japan
VOWR	500		. St. John's, Nfld.	$_{ m LL}$	1200	815	Fredrikstad, Norway. Paris, France.
VQ7LO WJR	1000 1 000 0		. Nairobi, Kenya. Detroit Mich	OFA RW20	10000	815	Helsinki, Finland.
XEAN	5000)	. Juarez, Chih.	VOAS VUC	10000 75	815	St. John's, Nfld.
	. 250		. Mont-de-Marsan, France.	WCCO	3000		St. John's, Nfld. Calcutta, India.
760 1	kcs.	30	94.5 m.	WNYC	50000 500		Minneapolis, Minn. New York, N. Y.
	1000			XFC XFI	350 1000	818	Aguascalientes, Ags. Mexico City, D. F. Canatown, S. Africa
JQAK KXA	250		Seattle, Wash.	ZTC	1000		Capetown, S. Africa.
LT4 WBAL	170 10000		. Mendoza, Arg.				
WEW WJZ	1000		St. Louis, Mo.	820	kcs.	36	5.6 m.
WJZ 4QG	50000 5000		St. Louis, Mo. New York, N. Y.				
	12000	761	Brisbane, Australia. Bucharest, Rumania.	CE82 CMGC	1000 30	825	Santiago, Chile. Matanzas, Cuba.
77A 1	I	20		F8GC	1500	825	Paris, France.
<i>770 1</i>	KCS.	38	89.4 m.	LKB LV7	1000 200	824	Bergen, Norway.
CX12	500		Montivideo, Uruguay.	RW68	1500	824	Tucuman, Arg. Tcheliabinsk, USSR.
JOHK KFAB	10000 5000		Sendai, Japan.	$rac{RW69}{WHAS}$	4000 25000	825	Ijevsk, USSR.
RW26	10000	779		1YA	50 0		Jievsk, USSR. Louisville, Ky. Auckland, N. Z.
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CE78	1000	785	Santiago, Chile.	KOA	12500		Sapporo, Japan. Denver, Colo. Buenos Aires, Arg. Tiraspol, USSR.
CHWK CKPR	100 100	• • • •	Chilliwack, B. C.	LR5 RW57	1600 4000	838	Buenos Aires, Arg.
CMBS	150	• • • • •	Fort William, Ont. Havana, Cuba.	TIEA	7.5	833	San Jose, C. R.
CMCQ JOPK	1000 500	• • • •	Hayana Cuba	$f WEEU \ WHDH$	1000 1 0 00	• • • •	San Jose, C. R. Reading, Pa. Boston, Mass.
KELW	500	• • • •	Shizuoka, Japan. Burbank, Calif. Los Angeles, Calif.	WRUF	5000		Gainesville, Fla.
KTM LT1	500 4500		Los Angeles, Calif.	XETW	500 60000		Mexico City, D. F.
PRAJ	200	789	Rosario, Arg. Juiz de Fora, Brazil.		00000	832	Stuttgart, Germany.
PRAN	.8	789	Curityba, Brazil. Mogy das Cruzes, Brazil.				
PRAY WEAN	50 500	789	Mogy das Cruzes, Brazil. Providence, R. I.	840 1	kcs.	356	6.9 m.
WMC WPOR	500	• • • •	Momphia Tann	CHNC	5000		Toronto, Ont.
WTAR	500 500		Portsmonth, Va. Norfolk, Va. Mexico City, D. F.	CKGW	5000		Toronto, Ont.
XEP	1000	• • • •	Mexico City, D. F.	CMC	500		Red Deer, Alta. Havana, Cuba.
	200 300	••••	Alexandria, Earvot.	CPRY F31CD		• • • •	Havana, Cuba. Toronto, Ont. Saigon, Indo China.
• • • • • • • •	16000	788	Cairo, Egypt. Lwow, Poland.	LR LT8	50000	843	London, England.
	50	785	Valparaiso, Chile. Vienna, Austria.	LT8 VUB	350		Rosario, Arg.
700 1				\mathbf{XETH}	100	i	Bombay, India. Puebla, Pue
790 k		37	9.5 m.	$f XETM \ ZBW$	150000 12000	845 .	Matamoros, Tams.
CMHC CMJK	250 300		Tuinucu, Cuba.	2511	12000	010	Hong Kong, China.
JOGK	10000		Camaguey, Cuba. Kumamoto, Japan.	850 1	7.00	252	7
KGO LR1	7500	• • • •	San Francisco, Calif.				2.7 m.
OAX RW37	500 5000	••••	Buenos Aires, Arg. Lima, Peru.	CX6 CX16	1000		Montivideo, Uruguay Montivideo, Uruguay
RW37 SR	1000	792	Moskva, USSR. Falkirk, G. B.	HSPI	2500	001	Bangkok, Siam.
WGY	50000 50000	797	Falkirk, G. B. Schenectady, N. Y.	JOFK KIEV			Hiroshima, Japan. Glendale, Calif.
				KWKH	10000	1	Shreveport, La.
800 k		3/4	4.8 m.	PRAC PRAI	500 10	857 1 857 1	Rio de Janeiro, Brazil. Ribeirao Preto, Brazil.
LU2 WBAP	500	• • • •	Bahia Blanca, Arg.	$\mathbf{w}\mathbf{w}\mathbf{L}$	10000	1	New Orleans, La.
WFAA	50000 50000		Fort Worth, Texas. Dallas, Texas.	$_{2\mathrm{BL}}^{\mathrm{XEFD}}$	2500 5000	855	Fijuana, B. C. Sydney, Australia.
3LO	500		Melbourne, Australia.	2HZ	350	857 1	Kangoon, India.
• • • • • • •	1500	806	Hamburg, Germany.	• • • • • • • •	7000	852	Graz, Austria.

1	INDEX BY FREQUENCIE	S AND DIA	L NUMBERS
860 kcs.	348.6 m.	910 kcs.	329.6 m.
CE86 1000	865 Santiago, Chile.	CFRC 50	915 Kingston, Ont.
EAJ1 8000 LV10 350	Barcelona, Spain.	CKY 5000 LR2 5500	Winnipeg, Man Buenos Aires, Arg.
RW30 3000	869 Dnepropetrovsk, USSR.	PP 50000	914 Paris, France
RW70 10000	Leningrad, USSR.	TICR 50	911 San Jose, C. R.
SPIT 6000	867 Strasburg, France.	XEW 5000 XFF 500	914 Paris, France 911 San Jose, C. R Mexico City, D. F. 915 Chibuahua, Chih.
TIVL 30 WABC 50000	San Jose, C. R. New York, N. Y.	4RK 2000	Rockhampton, Australia.
WHB 500	Kansas City, Mo.		
XFX 500	Barcelons, Spain. Las Heras, Arg. S69 Dnepropetrovsk, USSR. Leningrad, USSR. S67 Strasburg, France. San Jose, C. R. New York, N. Y. Kansas City, Mo. Mexico City, D. F.	920 kcs.	325.9 m.
870 kcs.	344.6 m.	CMBW 150 CMCN 250	925 Havana, Cuba. 925 Havana, Cuba. Port-au-Prince, Haiti.
JOAK-1 10000	m 1 7	HHK 1000	Port-au-Prince, Haiti.
LR6 2100	Buenos Aires, Arg.	JOOK 500 KFEL 500	Niigata, Japan.
OKB 36000	878 Brno. Czech.	KFXF 500	Denver, Colo. Denver, Colo.
WENR 50000	Chicago, Ill Chicago, Ill. 875 Mexico City, D. F.	KOMO 1000	Seattle Wash
WLS 50000 XEAD 250	875 Mexico City, D. F.	KPRC 1000 LV2 500	Houston, rexas.
2113.12	010 11101100 010, 2.11	PRAD 50	Cordoba, Arg.
880 kcs.	340.7 m.	PRAE 1000	921 San Paula Brazil
		WAAF 500	Chicago, Ill.
CE88 100	Valparaiso, Chile.	WBSO 500 WWJ 1000	Babson Park, Mass. Detroit Mich
CJCB 100 CJRM 500	Valparaiso, Chile. Sydney, N. S. Moose Jaw, Sask.	60000	Chicago, Ill Babson Park, Mass Detroit, Mich. 923 Breslau, Germany.
CJCB 100 CJRM 500 CJRW 500 CRCO 500 CT1GL 150	Moose Jaw, Sask. Fleming, Sask.		
CRCO 500	Ottawa, Ont.	930 kcs.	322.4 m.
CT1GL 150	885 Lisbon, Portugal.	CFCH 100	
HJ3ABD 20 KFKA 500	881 Bogota, Colombia. Greeley, Colo.	CFLC 100	Prescott, Ont.
KLX 1000	881 Bogota, Colombia Greeley, Colo Oakland, Calif Denyer, Colo.	CKPC 100	Preston, Ont.
KPOF 500	Denver, Colo. 882 San Jose, C. R.	CKX 500 CMJF 200	Brandon Man
TIC 15 VUL 100	882 San Jose, C. R. 882 Lahore, India.	CMJF 200 CT1BO 150 CX20 2000	Camaguey, Cuba. 936 Lisbon, Portugal. Montivideo, Uruguay.
VUL 100 WCOC 500	Meridian, Miss.	CX20 2000	Montivideo, Uruguay.
WGBI 250	Scranton, Pa.	JUAG 500	Nagasaki, Japan.
WQAN 250 WSUI 500	Scranton, Pa.	KFWI 500 KGBZ 500	Nagasaki, Japan. San Francisco, Calif. York, Neb. Shenandoah, Iowa.
YV2BC 100	Iowa City, Iowa. 882 Caracas, Venezuela.	KMA 500	York, Neb. Shenandoah, Iowa.
6PR 200		KROW 500	Oakland, Calif.
No. 2 15000	887 Brussels, Belgium.	PRAB 500 SBB 10000	937 Rio de Janeiro, Brazil. 932 Goteborg, Sweden.
		WBRC 500	932 Goteborg, Sweden Birmingham, Ala.
890 kcs.	336.9 m.	WDBJ 250	Roanoke, Va.
CFQC 500	Saskatoon Sask	WIBG 25 3UZ 500	Glenside, Pa. Melbourne, Australia.
CHML 50	Hamilton, Ont. Havana, Cuba. Havana, Cuba.		Methodine, Hustrana.
CMCF 250	Havana, Cuba.	940 kcs.	319.0 m.
CMX 750 CX18 250	Havana, Cuba. Montivideo Urumay.		
KARK 250	Montivideo, Uruguay. Little Rock, Ark.	CE94 1000 INA 1500	945 Santiago, Chile. 941 Naples, Italy.
KFNF 500	Shenandoan, lowa.	JONK 500	Nagano, Japan. Portland, Ore.
KSEI 250 KUSD 500	Pocatello, Idaho. Vermilion, S. Dak.	KOIN 1000	Portland, Ore.
VOGY 100	St. John's, Nfld.	WAAT 500 WCSH 100	Jersey City, N. J Portland, Maine.
WGST 250	Atlanta, Ga.	WDAY 1000	Jersey City, N. J. Portland, Maine. Fargo, N. Dak. Hopkinsville, Ky.
WILL 250 WJAR 500	Urbana, III. Providence R I	WFIW 1000	Hopkinsville, Ky.
WMMN 250	Frovidence, R. I. Fairmont, W. Va.	WHA 1000 XEFO 5000	Madison, Wis. Mexico City, D. F.
XETU 100	Pachuca, Hdo.	2500	941 Dresden, Germany.
7HO 50 5500	Hobart, Australia. 896 Cadiz, Spain.	1000	941 Sofia, Bulgaria.
1900	Urbana, III. Providence, R. I. Fairmont, W. Va. Pachuca, Hdo. Hobart, Australia. Gadiz, Spain. Poznan, Poland.	950 kcs.	315.6 m.
000 1			
900 kcs.	333.1 m.	CMHD 250 CT1DH 10	Caibarien, Cuba. 952 Lisbon, Portugal.
CE90 1000	905 Santiago, Chile.	IGE 10000	959 Genoa Italy
IMI 50000	905 Santiago, Chile. 905 Milan, Italy. Keijo, Korea.	KFWB 1000 KGHL 1000	Los Angeles. Cairt.
JODK-2 10000 KGBU 500	Keijo, Kores. Ketchikan Alaska	KGHL 1000 KMBC 1000	Billings, Mont.
KHJ 1000	Ketchikan, Alaska. Los Angeles, Calif.	LR3 7500	Buenos Aires, Arg.
LV9 500	Rosario, Arg.	RW55 1000	959 Engels, USSR.
WBEN 1000 WJAX 1000	Buffalo, N. Y.	WRC 500 XOPP 100	Washington, D. C. 952 Peiping, China.
WKY 1000	Oklahoma City, Okla.	2GB 3000	Sydney, Australia.
WLBL 2500	Stevens Point, Wis.	250	Bremen, Germany.
(7 t T T) 1 t CO	77 . 36 1		959 Cracow, Poland.
Z1LY 1500 2ZP 105	Hoten, Manchuria Wairoa, N. Z.	1500 2500	Marseilles, France.

		IND	DEX BY FREQ	UENC	ES AN	D DI	AL 1	NUMBERS	
960	kcs.	3	12.3 m.	ì	PFBI PH9	2000	0 101	3 Hilversum, Holland.	
CMBD	150				TIGA	040	00 101 00 101	3 Ameterdam Holland	
CMCW	150	968	5 Havana, Cuba.		WHN WIS	25	0	New York, N. Y.	,
CMJL JOOK	. 50 300				WNAD	50 50	0		
OFC	2500		lagabated Kinland		WPAP	25	0		
PRAP RW75	300 10000	967 968	Pernambuco, Brazil.		WQAO WRNY	25 25	0	. New York, N. Y.	
XEAW	10000	965	5 Reynosa, Tams.		XEJ	50		5 Juarez, Chih.	
YV1BC			Caracas, Venezuela.		XEU 3HA	10 20		. Veracruz, Ver.	
5DN	. 1000 1000	968	7 Pernambuco, Brazil. 8 Vinnitza, USSR. 5 Reynosa, Tams. 6 Caraças, Venezuela. 7 Adelaide, Australia. 8 Cardiff, G. B.		. 3111	. 20	0	. namilton, Australia.	
					1020	kcs		293.9 m. 🗔	
970	kcs.	30	09.1 m. 🗔		CE102	10			
CX22	250		36 (1.11 77		KYW	1000	0	. Chicago, Ill.	
JOBG	500		Machashi, Japan		OKK WRAX	260	•	2 Kosice, Czech.	
KJR SCC	5000 500	977	Seattle, Wash. Falun, Sweden.		XEFC	250 1		. Philadelphia, Pa. Merida Yuc	
\mathbf{WCFL}	1500	973	Chicago, Ill.		2UE	100	0 102		
XGOD 3BO	1000 200	973	Hangchow, China.			700	0 1022	2 Limoges, France	
	. 750	977	Bendigo, Australia. Zagreb, Yugo.		1030	kee	,	001 1	
000		•						291.1 m. 🗔	!
980	kcs.	30)3.9 m. 🖂	i	CFEO	500 10000		St. John, N. B.	
CE98	1000		Santiago, Chile.		CFCN CKNC	100			
CMGF	100	987	Matanzan Cuha.		CMHI CMKC	30)	Danta Ciara, Cuba.	
CNO JOXK	25 500	983	Casablanca, Morocco.		LR9	150 5000	1034	Buenos Aires Arg	
KDKA	50000		Tokushima, Japan. Pittsburgh, Pa.		OFH	13200	1031	Viborg, Finland.	
3YA	. 13000	986	Christchurch, N. Z.		XEB YR	10000 500		Mexico City, D. F. Lyons, France.	
	0.50	985						25 ons, 1 mice.	
000		20	• -		1040	kcs.	. 2	88.3 m.	
990 1	KCS.	30	2.8 m.	1	CMGH	15		Matanzas, Cuba.	
JOFG	300	• • • • •	Fukui, Japan.		\mathbf{KRLD}	10000		Dallas Torge	
LR4 NN	20000 50000	995	Buchos Aires, Arg. Manchester, England. San Jose, C. R. Boston, Mass. Springfield. Mass.		KTHS SN	10000 50000		Hot Springs, Ark. Falkirk, G. B. Elmira, N. Y. East Lansing, Mich.	
TlTV	7.5	999	San Jose, C. R.		WESG	1000		Elmira, N. Y.	
WBZ WBZA	25000 1000	• • • •	Boston, Mass. Springfield, Mass.		WKAR 5PI	1000 50	1041	East Lansing, Mich.	
XEK	100	• • • •	Mexico City, D. F.			1000	1041		
	_				• • • • • • • • • • • • • • • • • • • •	800 20	1049 1045	Bournemouth, G. B. Montpellier, France. Valparaiso, Chile.	
1000	kcs.	2	99.8 m. 🗀	!		20	1040	valparaiso, Chile.	
KFVD	250		Los Angeles, Calif.		1050	kcs	2	85.5 m.	1
PRAR WHO		1006	Sao Paula Brazil		CHNS	500			1
WOC			Des Moines, Iowa. Davenport, Iowa.		CMIG	50 50		Halifax, N. S. Camaguey, Cuba.	
WORK XEA	1000		YORK, Pa.		CT1AA	2000	1056	Lighon Postugol	
XEC			Guadalajara, Jal. Toluca, D. F. Nuevo Laredo, Tams.		CTIAA CTIAN CTIBM	10 50	1056 1056	Lisbon, Portugal. Lisbon, Portugal. Lisbon, Portugal. Lisbon, Portugal. Lisbon, Portugal.	
XEFE	100		Nuevo Laredo, Tams.		CTIDS	10	1058	Lisbon, Portugal.	
XEFI XEFJ			Chihuahua, Chib. Monterrey, N. L. Queretaro, Qro. Saltillo, Coah.		CT1EB CX26	50 2000	1056	Lisbon, Portugal. Montivideo, Uruguay.	
XEFS	40		Queretaro, Qro.		KFBI	5000		Abilena Kong	
XEL ZP3			Saltillo, Coah.		KNX XES	25000 250	1055	Hollywood, Calif. Tampico, Tams. Camberra, Australia.	
ZTP	50		Asuncion, Paraguay. Pretoria, S. Africa.		2CA	50		Camberra, Australia.	
4GR	50 350	• • • •	Toowoomba, Australia.		2ZF 2ZO	150 200	• • • •	Palmerston N., N. Z. Palmerston N., N. Z.	
	11000	1004	Hague, Holland. Tallin, Estonia.			500	1058	Berlin, Germany.	
	_				• • • • • • • • • • • • • • • • • • • •	500 500	1058 1058	Innsbruck, Austria.	
1010	kcs.	29	96.9 m. 🗀			500 500	1058	Magdeburg, Germany. Stettin, Germany.	
CHWC	500		Regina, Sask.						
CKCK	100		Vancouver B C		1060 1	kcs.	2	82.8 m. 🗀	
CKCK	100		Regina, Sask. Ottawa, Ont. Wolfville, N. S.		CT1GK	50	1062	Lisbon, Portugal.	
CKIC	50 .	• • • •	Wolfville, N. S.		KWJJ LT9	500		Portland, Ore.	
CKWX	400		Hamilton, Ont. Vancouver, B. C.		LT9 WBAL	100 10000	• • • •	Rosario Ara	
CKWX CMBZ	150		Havana, Cuba.		WJAG .	1000		Baltimore, Md. Norfolk, Neb. Hartford, Conn.	
CX24 KGGF			Montivideo, Uruguay. Coffeyville, Kans.		WTIC.	50000 50		Hartford, Conn.	
KQW	F00		San Jose, Calif.		4MD		1067	Maryborough, Australia. Copenhagen, Denmark.	
								YBon' Tournest V'	

	3	IND	EX BY FREQUENCII	ES ANI) DIA	LN	
1070	kcs.	2	80.2 m.	WDEL	250 250	::::	Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis.
CMBG CMCB	225 150	• • • •	Havana, Cuba. Havana, Cuba.	WISN WTAW	250 500	• • • •	Milwaukee, Wis. College Station, Texas.
KJBS	100		Nan Francisco Calif.	2UW	1500	1125	Sydney, Australia.
OKR	14000	1075	Bratislave, Czech.	2ZW	400	• • • • •	Wellington, N. Z.
WCAZ WDZ	50 100		Bratislave, Czech. Carthage, Ill. Tuscola, Ill.	1120	kcs.	2	65.3 m.
WTAM	50000		Cleveland, Onio			4	
XEG 2KY	500 1500	1075	Mexico City, D. F. Sydney, Australia.	CX30 KSL	250 50000	• • • •	Montivideo, Uruguay. Salt Lake City, Utah.
	_	-		WJJD	20000		Chicago, Ill.
1080	KCS.	1	77.6 m.	WOV XEH	1000 250	1132	Chicago, Ill. New York, N. Y. Monterrey, N. L. Asuncion, Paraguay. Part Asuntan, Paraguay.
JOBK-2	10000	1085	Osaka, Japan. Oslo, Norway.	ZP1	* 1000	1135	Asuncion, Paraguay.
$_{ m LKO}$	60000 250	1083	Oslo, Norway.	6ML	300 1300	1135	Perth, Australia. Lille, France.
WBT	25000		Rosario, Arg. Charlotte, N. Car.		11000	1137	Moravska, Czech.
WCBD WMBI	5000 5000	••••	Zion, Ill.	4440		_	(2.2
3SH	50		Chicago, III. Swan Hill, Australia. Dunedin, N. Z. Dunedin, N. Z.	1140	kcs.	2	63.0 m.
4ZB	20		Dunedin, N. Z.	CMBJ	150		Havana, Cuba.
4ZF 4ZM	10 45		Dunedin, N. Z.	CMCD	250	• • • •	Havana, Cuba.
4ZO	40		Dunedin, N. Z. Dunedin, N. Z.	CW30 KVOO	5000		Tucuarembo, Uruguay. Tulsa, Okla.
4ZW	50 500		Alexandria, Egypt.	LN WAPI	50000	1147	London, G. B. Birmingham, Ala.
	200		Caen, France.	XETA	5000 250		Mexico City, D. F.
	60000 500	1085 1085	Heilsberg, Germany. Konigsberg, Germany.	3YB	25	::::	Melbourne, Australia.
	500		Konigsberg, Germany. Port Said, Egypt.	4BC	600 100	1145 1145	Brisbane, Australia. Santiago, Chile.
1090	lce	2	75.1 m.	4.4-0			
				1150	kcs.	2	60.7 m.
I1TO KMOX	7000 50000	1096	Turin, Italy. St. Louis, Mo.	СМЈН	30		Ciego de Avila, Cuba.
XEAI XGOB	100		St. Louis, Mo. Mexico City, D. F.	LR8 PRAK	3000 500	1153	Buenos Aires, Arg.
IZR	250 80	• • • •	Loyang, China. Auckland, N. Z.	WHAM	25000		Rio de Janeiro, Brazil. Rochester, N. Y.
	250	1091	Angers, France. Poznan, Poland.	XED 2WG	500 50	1155 1155	Guadalajara, Jal. Wagga, Australia.
• • • • • • • • • • • • • • • • • • • •	1500	1098	Poznan, Poland.	2ZJ	75		Gisborne, N. Z.
1100	kcs.	2	72.6 m.	2ZM 10-AT	110 25		Gisborne, N. Z. Gisborne, N. Z. Trail, B. C.
CRCV	500		Vancouver, B. C.		17000	1155 1157	Frankfurt-am-Main, Germany.
KGDM	250		Stockton, Calif.		7500 2000	1153 1157	Kalundborg, Denmark. Trier, Germany.
$\begin{array}{c} \mathbf{WLWL} \\ \mathbf{WPG} \end{array}$	5000 5000		New York, N. Y. Atlantic City, N. J.		20	1153	Valparaiso, Chile.
7LA	300		Launceston, Austrana.	11/0	1	^	
	1300	1103 1105	Rennes, France. Santiago, Chile.	1100	kcs.	· 2	58.5 m.
				SBH	10000	1166	Horby, Sweden. Fort Wayne, Ind. Wheeling, W. Va. Invercargill, N. Z.
1110	kcs.	2	70.1 m.	WOWO WWVA	10000 5000	• • • •	Wheeling W. Va.
CMJO	50		Clego de Avila, Cuba.	4ZI	8		Invercargill, N. Z.
I1BA KSOO	20000 1000	1112	Bari, Italy. Sioux Falls, S. Dak.	4ZP	125	••••	Invercargill, N. Z.
LS 5	5000		Buenos Aires, Arg.	1170	kcs.	2	56.3 m.
PRAZ WRVA	50 5000	• • • •	Franca, Brazil.	CMJE	50	1175	Camaguey, Cuba.
XENT	150000	1115	Richmond, Va. Nuevo Laredo, Tams.	CX32	200		Montivideo, Uruguay.
$2\mathrm{HD}$	200 250	iiiż	Newcastle, Australia. Bremen, Germany.	JOCK-2 MRD	10000 1500	1175 1175	Nagoya, Japan.
	1500	1112	Kaiserslautern, Germany.	WCAU	50000	1175	Toulouse, France. Philadelphia, Pa. Townsville, Australia.
	• • • • • • • • • • • • • • • • • • • •	••••	Thesalonik, Greece.	4TO	100	• • • • •	Townsville, Australia.
1120	kcs.	2	67.7 m.	1180	kcs.	2	54.1 m.
	100		Toronto, Ont.	CMBN	150	1185	Havana, Cuba.
CFCA CFJC	100		Kamloops, B. C.	CMCJ	250	1185	Havana, Cuba.
$\begin{array}{c} { m CHG8} \\ { m CHLP} \end{array}$	100 100	• • • •	Summerside, P. E. I. Montreal, Que.	CE32 HIJK	30 15000	• • • •	Salto, Uruguay. Santo Domingo, D. R.
CMHJ	40	1125	Cienfuegos Cubs	\mathbf{KEX}	5000		Portland Ore
EAJ3 EAJ19	1500 700	$\frac{1121}{1121}$	Valencia, Spain. Ovideo, Spain. Spokane, Wash. Los Angeles, Calif.	KOB	20000 30	••••	Albuquerque N Mex
KFIO	100	1121	Spokane, Wash.	TICR WDGY	1000	• • • •	San Jose, C. R. Minneapolis, Minn. New York, N. Y.
KFSG KRKD	500 500	• • • •	Los Angeles, Calif.	WINS WMAZ	500 500	••••	New York, N. Y.
\mathbf{KRSC}	100		Los Angeles, Calif. Seattle, Wash.	3DB	500		Macon, Ga. Melbourne, Australia.
\mathbf{KTRH}	500		Houston, Texas.		14000	1184	Gleiwitz, Germany.
LV5	500	4	San Juan, Arg.		100	1185	Santiago Chile.

	1	וטא	EX BY PREQUENCIE		DIA	L IN	CIVIBERS
1190	kcs.	2	52.0 m.	KFOR KFPW	100 100		Lincoln, Neb. Fort Smith, Ark.
EAJ15	1000	1193	Barcelona, Spain.	KFVS	100		Cape Girardeau, Mo.
EAJ18	1000	1193	Almeria, Spain.	KFXM KGCR	100 1 0 0		San Bernardino, Calif. Watertown, S. Dak.
LS2	5500	1195	Buenos Aires, Arg.	KGY	100		Olympia, Wash. Eureka, Calif.
VONF WOAI	100 50000	1195	St. John's, Nfld. San Antonio, Texas.	KIEM	100		Eureka, Calif.
WSAZ	500		San Antonio, Texas. Huntington, W. Va. Auckland, N. Z.	KPPC KWEA	50 100	••••	Pasadena, Calif. Shreveport, La.
1ZQ 4MK	25 10 0	••••	Auckland, N. Z. Mackay Australia	ON4FO	100	1219	Brussels, Belgium
410112	250	1193	Maekay, Australia. Trollhattan, Sweden.	ON4RG	400 200	$\frac{1219}{1219}$	Ghent, Belgium. Liege, Belgium.
1200	1-00	2	40 0 m	ON4RW WALR	100		Zanesville, Ohio.
1200		4	49.9 m. 🔃 📗	$f WBAX \ WBBL$	100 100	••••	Wilkes-Barre, Pa.
CHCH	100 100	••••	Montreal, Quc. Kelowna, B. C.	WCBS WCRW	100		Richmond, Va. Springfield, Ill.
CKOV CMGB	30	1205	Matanzas, Cuba.	WCRW	100 100	• • • •	Chicago, Ill.
KBTM	100	• • • •	Paragould, Ark. Bakersfield, Calif.	WEBQ WEBC	100		Harrisburg, Ill. Chicago, Ill.
KERN KFJB	100 100		Marshalltown Iowa.	WFA8	100	••••	Chicago, Ill. White Plains, N. Y. Freeport, N. Y.
\mathbf{KFWF}	100		Marshalltown, Iowa. St. Louis, Mo.	WGBB WGCM	100 100	••••	Gulfrort, Miss.
KFXD	100 100	• • • •	Nampa, Idaho. Grand Junction, Colo.	WGNY	50		Gulfport, Miss. Chester, N. Y.
$f KFXJ \ KGDE$	100		Fergus Falls, Minn.	WHBF	100	• • • •	Rock Island, Ill.
\mathbf{KGEK}	100	• • • •	Yuma, Colo.	$_{\mathbf{WHET}}^{\mathbf{WHBU}}$	100 100		Anderson, Ind. Troy, Ala.
KGFJ KGHI	100 100	••••	Los Angeles, Calif.	WIBU	100		Poynette, Wis. Red Bank, N. J.
KGVO	100		Little Rock, Ark. Missoula, Mont. Monroe, La.	WJBI	100 100	••••	Hed Bank, N. J. Lewishurg Pa
KMLB	100	••••		WJBU WJBY	100		Lewisburg, Pa. Gadsden, Ala.
KVOS KWG	100 100	••••	Stockton, Calif.	WJEJ WJW	100		Hagerstown, Md.
SCI	200	1202	Kalmar, Sweden.	WKFI	100 100		Akron, Ohio. Greenville, Miss.
TFA	1200 100	••••	Reykjavík, Iceland.	WMBG	100		Greenville, Miss. Richmond, Va.
WABI WBBX	100		beningman, wash. Stockton, Calif. Kalmar, Sweden. Reykjavik, Iceland. Bangor, Maine. New Orleans, La. Pones City, Okla. Huntsville, Ala. Parid City, S. Dak	WOCL	50	• • • •	Jamestown, N. Y.
\mathbf{WBBZ}	100		Ponca City, Okla.	WOMT WPAW	100 100		Manitowoc, Wis. Providence, R. I.
WBHS WCAT	100 100	••••	Huntsville, Ala. Rapid City, S. Dak.	WQDX WSBC	100		Thomasville, Ga.
WCAX	100		Rapid City, S. Dak. Burlington, Vt. Janesville, Wis.	WSBC WSEN	100 100	••••	Chicago III
WCLO	100		Janesville, Wis.	WSIX	100		Springfield, Tenn.
WCOD WFAM	100 100	: 	Harrisburg, Pa. South Bend, Ind. Greenville, S. Car.	WSOC	100	• • • •	Columbus, Ohio. Springfield, Tenn. Gastonia, N. C. Springfield, Ill.
WFBC	100		Greenville, S. Car.	XEX	100 500		Mexico City, D. F.
$\begin{array}{c} \mathbf{WFBE} \\ \mathbf{WHBC} \end{array}$	100 10	••••	Cincinnati, Ohio. Canton, Ohio.	2CH	1000		Sydney, Australia.
WHBY	100		Green Bay, Wis. Utica, N. Y.	2ZE	10 100	••••	Eketahuna, N. Z. Hull, Que.
WIBX	100	• • • •	Utica, N. Y.		100	• • • • •	Hun, Que.
$_{ m WJBC}$	100 100		St. Louis, Mo. LaSalle, Ill.	1220	kcs.	2	45.8 m.
WJBL	100		Decatur, Ill.	-			
WJBW WKJC	100 100		New Orleans, La. Lancaster, Pa.	CMHK	15 50	1225	Cruces, Cuba. Salto, Uruguay.
WLAP	100	• • • •	Louisville Kv.	CW34 KFKU	500		Lawrence, Kans.
WNBO	100	• • • •	Washington, Pa. Carbondale, Pa. Worcester, Mass.	KTW	1000		Lawrence, Kans. Seattle, Wash.
WNBW WORC	10 100		Worcester, Mass.	KWSC OFG	1000 600		Pullman, Wash. Abo, Finland.
\mathbf{WPHR}	100		Petersburg, Va. Columbus, Ga. Hammond, Ind. Caracas, Venezuela.	SCB	200		Eskilstuna, Sweden,
$\begin{array}{c} \mathbf{WRBL} \\ \mathbf{WWAE} \end{array}$	100 100	• • • • •	Columbus, Ga. Hammond Ind.	SCL SCP	200 400	••••	Kiruna, Sweden. Saffle, Sweden.
YV3BC	50		Caracas, Venezuela.	SCU	300		Varberg, Sweden.
3ZC	250		Christenurch, N. Z.	WACD	500		Varberg, Sweden. Canton, N. Y.
	000						
5KA	300	• • • •	Adelaide, Australia. Moose Jaw. Sask.	WCAE	1000		Tampa Fla
10-AB 10-AK	300 25 15		Moose Jaw, Sask. Stratford, Ont.	WCAE WDAE WREN	1000 1000 1000		Pittsburgh, Pa. Tampa, Fla. Lawrence, Kans.
10-AB 10-AK	300 25 15 25	::::	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask.	WCAE WDAE WREN 4ZL	1000 1000 1000 1000	····	Lawrence, Kans. Dunedin, N. Z.
10-AB 10-AK 10-BI 10-BP	300 25 15 25 25	 1199	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 100		Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia.
10-AB 10-AK	300 25 15 25 25 15 15	i199	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask.	WCAE WDAE WREN 4ZL	1000 1000 1000 1000	 1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz.
10-AB 10-AK 10-BI 10-BP 10-BQ	300 25 15 25 25 15 15 800	 1199	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 100 100 500 500	1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorhe, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland.
10-AB 10-AK 10-BI 10-BP 10-BQ 10-BU	300 25 15 25 25 15 15 800 500	1199 1205	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 100 100 500 500 	 1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel Germany.
10-AB 10-AK 10-BI 10-BP 10-BQ	300 25 15 25 25 15 15 800 500	1199 1205	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 100 100 500 500 400 250 500	1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel Germany.
10-AB 10-AK 10-BI 10-BP 10-BQ 10-BU	300 25 15 25 25 15 15 800 500 kcs.	1199 1205	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 100 100 500 500 400 250 500	1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel Germany.
10-AB 10-AK 10-BI 10-BP 10-BQ 10-BU 	300 25 15 25 25 15 15 800 500 kcs.	1199 1205 	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont. Fredericton, N. B.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 500 500 400 250 500 100 120	1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basele, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel, Germany. Linz, Austria. Santiago, Chile. Swansea, G. B.
10-AB 10-AK 10-BI 10-BP 10-BU 10-BU 10-BU 1210 CFOO CFNB CJOR	300 25 15 25 25 15 15 800 500 kcs.	1199 1205 	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont. Fredericton, N. B. Vancouver, B. C.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 500 500 400 250 500 100 120	1229	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basele, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel, Germany. Linz, Austria. Santiago, Chile. Swansea, G. B.
10-AB 10-AK 10-BI 10-BP 10-BU 10-BU 10-BU 1210 CFCO CFNB CJOR CKMC CX34	300 25 15 25 25 15 15 800 500 kcs.	1199 1205 	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont. Fredericton, N. B. Vancouver, B. C. Cobalt, Ont. Montivideo, Uruguay.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 500 500 500 250 500 100 120 kcs.	1229 1225 	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel, Germany. Linz, Austria. Santiago, Chile. Swansea, G. B.
10-AB 10-AK 10-BI 10-BP 10-BU 10-BU 10-BU 1210 CFCO CFNB CJOR CKMC CX34	300 25 25 25 25 25 15 800 500 kcs.	1199 1205 2	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont. Fredericton, N. B. Vancouver, B. C. Cobalt, Ont. Montivideo, Uruguay. Trieste Italy.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 100 500 500 500 100 1	1229 1225 	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basle, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel, Germany. Linz, Austria. Santiago, Chile. Swansea, G. B.
10-AB 10-AK 10-BI 10-BP 10-BQ 10-BU 	300 25 15 25 25 15 15 800 500 kcs.	1199 1205 	Moose Jaw, Sask. Stratford, Ont. Prince Albert, Sask. Wingham, Ont. Brantford, Ont. Canora, Sask. Nice, France. Toulon, France. 47.8 m. Chatham, Ont. Fredericton, N. B. Vancouver, B. C. Cobalt, Ont. Montivideo, Uruguay.	WCAE WDAE WREN 4ZL 6KG	1000 1000 1000 1000 500 500 500 250 500 100 120 kcs.	1229 1225 	Lawrence, Kans. Dunedin, N. Z. Kalgoorlie, Australia. Basele, Switz. Berne, Switz. Bloemendaal, Holland. Cartagena, Spain. Cassel, Germany. Linz, Austria. Santiago, Chile. Swansea, G. B.

	I	NDE	X BY FREQUENCI	ES AND	DIAL	, N	ONIDERS
KYA LS8			San Francisco, Calif.	1280	kcs.	23	34.2 m.
LS8		• • • •	Buenos Aires, Arg. Indianapolis, Ind.	KFBB			Great Falls, Mont.
WFBM WNAC	1000 1000		Roston, Mass.	LU7	200		Putna Alta, Arg.
WSBT	500		Boston, Mass. South Bend, Ind.	WCAM			
2YB	100		New Plymouth, N. Z.	WACP	500	• • • •	Asbury Park, N. J.
	1000	$1238 \\ 1236$	Belfast, Ireland. Liege, Belgium.	WDOD WIBA		••••	Asbury Park, N. J. Chattanooga, Tenn. Madison, Wis. Dallas, Texas.
	10	1239	Rancagua, Chile.	WRR	500		Dallas, Texas.
	10	1200	Turney and Transfer	WTNJ	500		Trenton, N. J.
1210	1	3	11 8 m	3TR	50	• • • •	Sale, Australia,
1240	KCS.	2	41.8 m.	4GC	20 2000	1283	Otago, N. Z. Lodz, Poland. Sao Paula, Brazil.
CMAB	20	1249	Pinar del Rio, Cuba.		1000	1284	Sao Paula, Brazil.
CMJN	50 250	• • • •	Pinar del Rio, Cuba. Camaguey, Cuba. Mandan, N. Dak. Minot, N. Dak. Fort Worth, Texas. Twin Falls, Idaho. Stavanger, Norway. Oporto, Portugal. Boden, Sweden. Waco, Texas. San Juan. P. R.				
KGCU KLPM	250 250		Minot. N. Dak.	1290	kcs	2:	32.4 m.
KTAT KTFI	1000		Fort Worth, Texas.				<u> </u>
KTFI	500	1247	Twin Falls, Idaho.	CMHL	20 100		Cienfucgos, Cuba.
LKS PRP1	500 1500	1247 1249	Oporto Portugal.	CX38 KDYL	1000		Montivideo, Uruguay. Salt Lake City, Utah.
SBE	600	1245	Boden, Sweden.	KFUL	500		Galveston, Texas. Blythcville, Ark.
WACO	1000		Waco, Texas.	KLCN	100	• • • •	Blytheville, Ark.
WKAQ WXYZ	1000	••••	San Juan, P. R. Detroit, Mich.	KTSA WEBC	1000 1000	••••	San Antonio, Texas. Superior, Wis.
WXYZ XEFW	1000 70	••••		WIAS	1000		Superior, Wis. Pittsburgh, Pa. Saranac Lake, N. Y.
2NC	2000	1245	Newcastle, Australia. Valparaiso, Chile.	\mathbf{WNBZ}	50		Saranac Lake, N. Y.
	50	1249	Valparaiso, Chile.	XEAC XFB	100	1295	San Luís Potosi, S. L. P.
				XFB 2ZB	500 7.5	• • • •	Jaiapa, ver. Nanier N. Z.
1250	kcs	2	39.9 m.	2ZB 2ZH	65		San Luis Potosi, S. L. P. Jalapa, Ver. Napier, N. Z. Napier, N. Z.
				4BK	200		Brisbane, Australia.
CX36	250 1000		Montivideo, Uruguay. Northfield, Minn.		250 250	$\frac{1292}{1292}$	Kiel, Germany. Noorkoping, Sweden.
KFMX KFOX	1000		Long Beach, Calit.		250	1292	Noorkoping, Sweden.
WAAM	1000		Newark, N. J. Northfield, Minn.	4000	1	2	20 (
WCAL	1000 1000	• • • •	Northfield, Minn. New Orleans, La.	1300	KCS.	Z	30.6 m.
$\begin{array}{c} \mathbf{W}\mathbf{D}\mathbf{S}\mathbf{U} \\ \mathbf{W}\mathbf{G}\mathbf{C}\mathbf{P} \end{array}$	250		Newark, N. J.	CMKJ	20		Guantanamo, Cuba.
WLB	1000		Newark, N. J. St. Paul, Minn.	CE38	30		Salto, Uruguay. Portland, Ore.
WODA	1000		Paterson, N. J. Minneapolis, Minn.	KALE KFAC	500	• • • •	
\mathbf{WRHM} \mathbf{XEFA}	1000 500		Mexico City, D. F.	KFH	1000 1000		Wichita, Kans.
AEFA	1500		Beziers, France. Nimes, France.	KFJR	500		Portland, Ore.
	500		Nimes, France.	SCB	1250	1301	Malamo, Sweden.
	2000	1256	Nurnberg, Germany.	SCO SCQ	250 250	1301 1301	Noorkoping, Sweden. Trollhattan, Sweden. Uddevalla, Sweden.
1010		~	20.0	SCR	50	1301	Uddevalla, Sweden.
1260	KCS.	. 2	38.0 m.	VOKW WBBR	30		St. John's, Nud.
CW36	30		Salto, Uruguay.	WEVD	1000 500		New York, N. Y.
CW36 KOIL KRGV	1000		Salto, Uruguay. Council Bluffs, Iowa.	WFAB	1000		New York, N. Y.
KRGV	500	• • • •	Harlingen, Texas. Fort Smith, Ark.	WHAZ	500		Troy, N. Y.
KUOA	1000 500		Tucson, Ariz.	WIOD	1000	• • • •	Traini, Cita Ma
KVOA KWWG	500		Tucson, Ariz. Brownsville, Texas.	WOQ 3BA	1000 50		Ballarat, Australia.
SCV	200	1265	Orebro, Sweden.	3ZE	45		
WLBW	500 250		Eric, Pa. Springfield, Vt.	3ZR	80	1301	Greymouth, N. Z.
WNBX WTOC 1ZM	500		Springfield, Vt. Savannah, Ga. Auckland, N. Z.	•••••	200 250	1304	Oliveira, Portugal.
1ZM	10		Auckland, N. Z.		20	1305	Santiago, Chile.
3WR	50 3000		Wangaratta, Australia. Bordeaux, France.				
	1000	1265	Nimes, France.	1310	kcs.	2	28.9 m.
	20	1265	Santiago, Chile.		100		Charlettetere D.E.I.
1050	1		26 1 m	CHCK	100		Quebec, Que.
1270	kcs	. 4	236.1 m	KCRJ	100		Jerome, Arız.
CMBC	150		Havana, Cuba. Lisbon, Portugal. Decorah, Iowa. Seattle, Wash. Colorado Springs, Colo.	KFBK	100		Sacramento, Calif.
CT1BP	50	1275	Lisbon, Portugal.	f KFGQ	100 100		Dublin, Texas.
KGCA	100 1000		Seattle Wash.	KFPM	15		Greenville, Texas.
KOL KVOR	1000)	Colorado Springs, Colo.	$\mathbf{K}\mathbf{F}\mathbf{X}\mathbf{R}$	100		Oklahoma City, Okla.
KVOR KWLC	100		Decoran, Iowa.	KFYO KGBX	100 100		Springfield, Mo.
LKK	500	1274	Kristianssand, Norway. Buenos Aires, Arg.	KGCX	100		
LS9 TUA	3500 500		Tunis, Tunisia.	\mathbf{KGEZ}	100		Kalispell, Mont.
WASH	500)	Grand Rapids, Mich.	KGFW	100 100		
WFBR	500)	Baltimore, Md.	KIFH KIT	100		Yakima, Wash.
WJDX	1000 500		Grand Rapids, Mich.	KMED	100		Medford, Ore.
ZP4	150	1278	5 Asuncion, Paraguay. Sydney, Australia.	\mathbf{KRMD}	100		Shreveport, La:
	100		Sydney Australia	KTSM	100		, El Fasu, Lexas.
2SM	100		. Dyuney, musuumu.				

			EX BI FREQUENCIE				
KXRO	100		Aberdeen, Wash.	1350	kcs.	2	22.1 m.
SCS WMAL	200 100		Umea, Sweden. Laurel, Miss.	CPX	1000		LaPaz, Boliva.
WBEO	100		Marquette, Mich.	JRL	7.5		San Pedro Sula, Hond.
WBOW	100	• • • •	Terre Haute, Ind.	KIDO	1000	• • • •	Boise, Idaho.
WBRE WCLS	100 100		Wilkes-Barre, Pa. Joliet, Ill.	KWK LS6	1000	• • • •	St. Louis, Mo.
WDAH	100		El Paso, Texas. Buffalo, N. Y. Royal Oak, Mich.	SCF	1500 150	1355	Buenos Aires, Arg. Hudeiksvall, Sweden.
WEBR	100		Buffalo, N. Y.	WAWZ	250		Zarephath, N. J.
WXL WFBG	50 100		Altoona, Pa.	WBNX	250	• • • •	New York, N. Y. New York, N. Y.
WFDF	100		Flint, Mich.	WCDA WEHC	250 500	••••	New York, N. Y.
WGAT.	100		Lancaster, Pa. Newport News, Va.	WMSG	250		Emory, Va. New York, N. Y.
WGH WHAT	100 100	• • • •	Newport News, Va. Philadelphia, Pa.	3KZ	200		Melbourne, Australia.
WIAS	100		Ottumwa, Iowa,	40/0		•	20.4
WJAC	100		Johnstown, Pa. Laconia, N. H. Joliet, Ill.	1360	KCS.	2	20.4 m. 🗀 🗀
WKAV WKBB	100 100	• • • •	Laconia, N. H.	CMCR	150	1365	Havana, Cuba.
WKBC	100		Hirmingham, Ala.	CMCR CMJP	7.5		Havana, Cuba. Moron, Cuba.
WLBC	50		Muncie, Ind.	KGER KGIR	1000 500	• • • •	Long Beach, Calif.
WMBO	100	• • • •	Muncie, Ind. Auburn, N. Y. New Bedford, Mass.	PRAX	2000	1364	Butte, Mont. Rio de Janeiro, Brazil.
WNBH WOL	100 100	••••	Washington, D. C.	PRAX WCSC	500		Rio de Janeiro, Brazil. Charleston, S. Car. Syracuse, N. Y. Chicago, Ill.
WRAW	100		Reading, Pa.	\mathbf{WFBL}	1000		Syracuse, N. Y.
$\mathbf{W}\mathbf{ROL}$	100		Reading, Pa. Knoxville, Tenn.	WGES WJKS	500 1000	• • • •	Chicago, III.
WSAJ WSJS	100 100	• • • •	Grove City, Pa. Winston-Salem, N. Car.	WQBC	500		Vicksburg, Miss.
WTEL	100		Philadelphia, Pa.	2ZR	50		Gary, Ind. Vicksburg, Miss. Nelson, N. Z.
WTJS	100		Jackson, Tenn.	• • • • • • •	1500	1364	Beziers, France.
WTRC	100		Jackson, Tenn. Elkhart, Ind.	• • • • • • • • • • • • • • • • • • • •	250	1364	St. Etienne, France.
XEFB XEI	100 150	1315	Monterrey, N. L. Morelia, Mich.	1370	kce	2	18.8 m.
5AD	300		Adelaide, Australia.				
	500	1319	Flensburg, Germany.	CMGE CX42	30 500	1375	Cardenas, Cuba. Montivideo, Uruguay.
				HRB	2300	• • • •	Tegucigalpa, Hond.
1320	1200	2	27.1 m.	KCRC KFBL	100		Enid, Ökla.
1340			27.1 111.	KFBL KFJM	50 100	• • • •	Everett, Wash.
CMCY	1000	1325	Havana, Cuba.	KFJZ	100		Fort Worth, Texas.
KGHF KGMB	$\frac{250}{250}$		Pueblo, Colo.	\mathbf{KFLX}	100		Galveston, Texas.
KID	250		Honolulu, Hawaii. ldaho Falls, Idaho.	KGAR	100		Tucson, Ariz.
TGW							
101	250		Guatemala City, Gua.	KGDA KGFG	100 100		Oklahoma City, Okla.
WADC	1000		Guatemala City, Gua. Akron. Ohio.	KGFG KGFL	100 100	::::	Montivideo, Uruguay. Tegucigalpa, Hond. Enid, Ökla. Everett, Wash. Grand Forks, N. Dak. Fort Worth, Texas. Galveston, Texas. Tucson, Ariz. Mitchell, S. Dak. Oklahoma City, Okla. Roswell, N. Mex.
WADC	1000 500 26		Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland. N. Z.	KGFG KGFL	100 100 100		Oklahoma City, Okla. Roswell, N. Mex. San Angelo, Texas.
WADC WSMB 1ZJ 2MO	1000 500 26 50		Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia.	KGFG KGFL KGKL KICA	100 100 100 100		San Angelo, Texas. Clovis, N. Mex.
WADC WSMB 1ZJ	1000 500 26		Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland. N. Z.	KGFG KGFL KGKL KICA KMAC KONO	100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas.
WADC WSMB 1ZJ 2MO	1000 500 26 50		Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia.	KGFG KGFL KGKL KICA KMAC KONO KOOS	100 100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore.
WADC WSMB 1ZJ 2MO	1000 500 26 50 10000	1328	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France.	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE	100 100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs.	1328 2	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France.	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ	100 100 100 100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs.	1328 22 1335	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedab, Australia. Fecamp, France. 25.4 m.	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL	100 100 100 100 100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs.	1328 22 1335	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uraguay. San Diego Calif	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL KWKC	100 100 100 100 100 100 100 100 100 100		San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO	1000 500 26 50 10000 kcs. 45 100 1000 250	1328 22 1335	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uraguay. San Diego Calif	KGFG KGFL KGKL KICA KONO KOOS KRE KSO KUJ KVL KWKC ON4GT WBTM	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ	1000 500 26 50 10000 kcs. 45 100 1000 250 1000	1328 22 1335	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uraguay. San Diego Calif	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL KWKC ON4GT WBTM WCBM	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 75	1328 21335 	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hyrtford Conn	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL KWKC ON4GT WBTM WCBM	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphiia Pa.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI	1000 500 26 50 10000 kcs. 45 1000 1000 250 1000 75 500	1328 22 1335	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hyrtford Conn	KGFG KGFL KGKL KICA KMAC KOOS KRE KSO KUJ KVL KWKC ON4GT WBTM WCBM WCBM WGL	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Seattle, Wash. Seattle, Wash. Seattle, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 75 500 1000	1328 21335 	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hyrtford Conn	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL KVL WBTM WCBT WBTM WCBM WCBM WGL WGLC WHBD	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Obio.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs. 45 100 250 1000 75 500 1000	1328 22 1335 	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cineinnati, Ohio. Eau Claire, Wis. Hastings, N. Z.	KGFG KGKL KICA KMAC KONO KOOS KRE KSO KVL KWKC ON4GT WBTM WCBM WCBM WCBM WGLC WHED WHED	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Obio.
WADC WSMB 1ZJ 2MO 	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 75 500 1000	1328 21335 	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia.	KGFG KGFL KICA KCONO KOOS KRE KSO KUJ KVL CON4GT WBTM WCBM WCBM WDAS WGL WHBD WHBD WHBD	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Obio.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO	1000 500 26 50 10000 kcs. 45 100 250 1000 75 500 1000 1000 1500 250	1328 2. 1335 1333	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cineinnati, Ohio. Eau Claire, Wis. Hastings, N. Z.	KGFG KGFL KICA KMAC KONO KOOS KRE KSO KUJ KVL CON4GT WBTM WCBM WCBM WCBM WGLC WHBD WHDF WHBD WHDF WIBM	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash.
WADC WSMB IZJ 2MO CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO 6CK	1000 500 26 50 10000 kcs. 45 1000 250 1000 75 500 1000 15 250	1328 22. 1335 1333 1337	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland.	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL WGLG WGLG WHBD WHBD WHBD WHBD WHBD WHBD WHBQ WHBD WHBD WHBD WHBD WHBD WHBD WHBD WHBD	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Utilliamsport, Pa.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO	1000 500 26 50 10000 kcs. 45 1000 250 1000 75 500 1000 15 250	1328 22. 1335 1333 1337	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland.	KGFG KGFL KGKL KICA KMAC KONO KOOS KRE KSO KUJ KVL WGLG WGLG WHBD WHBD WHBD WHBD WHBD WHBD WHBQ WHBD WHBD WHBD WHBD WHBD WHBD WHBD WHBD	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Utiliamsport, Pa. Atlanta, Ga.
WADC WSMB IZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 500 1000 15 250 1500 kcs.	1328 22. 1335 1333 1337	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland.	KGFG KGFL KICA KICA KONO KOOS KRE KSO ON4GT WSTM WCBM WCBM WCBM WCBM WGLC WHBQ WHDF WHDF WHDF WHDF WHDF WHDF WHDF WHDF	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg Va.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSGJ TITTR WDRC WSAC WSAC 4RO 6CK 1340 CW40 KFPY	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 75 500 1000 155 250 1500 kcs.	1328 22 1335 1333 1337 22	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland.	KGFG KGFL KGKL KIMAC KONO KOOS KRE KSO KUJ KVUJ KWKC ON4GT WBTM WCBM WCBM WDAS WGL WHED WHED WHED WHED WHED WHED WHED WHED	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg Va.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 15 250 1500 kcs. 30 1000 250	1328 2 1335 1333 1337	Guatemala Civi, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash.	KGFG KGFL KICA KICA KONO KOOS KRE KSO KUJ KVL WGL WGL WGL WGLC WHBD WHDD WHDD WHDF WHDF WHDF WHDF WHDF WHD	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans V.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITTR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY KGNO LOAA	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 15 250 1500 kcs. 30 1000 250 250 250	1328 2 1335 1333 1337 2	Guatemala Civi, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash.	KGFG KGFL KGKL KICAC KONO KOOS KRE KSO KWKC ON4GT WCBM WCBM WCBM WCBM WGLC WHBDQ WHBDQ WHBQ WHBDQ WHBQ WIDW WIEW WILY WIVA WMFB WJEV WIVA	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans V.
WADC WSMB IZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY KGDN LOAA SCG	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 1000 500 1000 15 250 1500 kcs. 30 1000 250 250 1000 250 1000	1328 2 1335 1333 1333 1337 2 1334 1344	Guatemala Civi, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash.	KGFG KGFL KGKL KICA KKMAC KONO KOOS KRE KSO KVI KVL KWKC ON4GT WBTM WCBM WCBM WCBM WCBM WGLC WHBQ WHDF WHDF WHDF WHDF WHDF WLVA WMBR WJFL WLVA WMBR WJFA WASA	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans, Vt. Williamsport, Pa.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITTR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY KGDY KGDY KGDY KGNA SCG WCOA	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 75 590 500 1000 150 250 1500 kcs. 30 1000 250 1000 250 1000 250 1000 250 1000	1328 2 1335 1333 1337 2 1344 1346	Guatemala Civi, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash.	KGFG KGFL KGKL KIMAC KONO KOOS KRE KSO KUJ KVKC ON4GT WBTM WCBM WDAS WHDG WHBQ WHBQ WHBQ WHBQ WHBQ WHBQ WHBQ WHBQ	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans, Vt. Williamsport, Pa.
WADC WSMB IZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY KGNO LOAA SCG	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 1000 500 1000 15 250 1500 kcs. 30 1000 250 250 1000 250 1000	1328 2 1335 1333 13337 2 1334 1346	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash. Huron, S. Dak. Dodge City, Kans. Luxemhurg, Lux. Halsingborg, Sweden. Pensacola, Fla. Portland, Maine. Toledo, Ohio.	KGFG KGFL KGKL KICA KKMAC KONO KOOS KRE KSO KVI KVL KWKC ON4GT WBTM WCBM WCBM WCBM WCBM WGLC WHBQ WHDF WHDF WHDF WHDF WHDF WLVA WMBR WJFL WLVA WMBR WJFA WASA	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkelcy, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans, Vt. Williamsport, Pa.
WADC WSMB 1ZJ 2MO 1330 CMJI CX40 KGB KMO KSCJ TITTR WDRC WSAI WTAQ 2ZII 4RO 6CK 1340 CW40 KFPY KGDY KGNO LOAA SCG WCOA WSPD 2XN	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 15 250 1500 kcs. 30 1000 250 250 1000 250 250 1000 250 1000 250 1000 250 1000 1000 15 250 1000 250 1000 10	1328 2 1335 1333 1337 2 1344 1346	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash. Huron, S. Dak. Dodge City, Kans. Luxemhurg, Lux. Halsingborg, Sweden. Pensacola, Fla. Portland, Maine. Toledo, Ohio.	KGFG KGFL KGKL KIMAC KONO KOOS KRE KSO KSO KWKC ON4GT WBTM WCDAS WHDD WHBQ WHDD WHBQ WHDD WHBQ WHDD WHBQ WHDD WHBQ WIBM WJEQ WJEQ WJIL WLEY WLEY WLEY WLEY WLEY WLEY WLEY WLE	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lexington, Mass. Lynchburg, Va. Tampa, Fla. Hattlesburg, Miss. St. Albans, Vt. Williamsport, Pa.
WADC WSMB 1ZJ 2MO	1000 500 26 50 10000 kcs. 45 100 1000 250 1000 1000 155 250 1500 kcs. 30 0 250 1000 250 1000 250 1000 250 250 1000 250 1000	1328 2 1335 1337 2 1344 1346	Guatemala City, Gua. Akron, Ohio. New Orleans, La. Auckland, N. Z. Gunnedah, Australia. Fecamp, France. 25.4 m. Ciego de Avila, Cuba. Montivideo, Uruguay. San Diego, Calif. Tacoma, Wash. Sioux City, Iowa. San Jose, C. R. Hartford, Conn. Cincinnati, Ohio. Eau Claire, Wis. Hastings, N. Z. Rockhampton, Australia. Cork, Ireland. 23.7 m. Paysandu, Uruguay. Spokane, Wash. Huron, S. Dak. Dodge City, Kans. Luxemhurg, Lux. Halsingborg, Sweden. Pensacola, Fla. Portland, Maine.	KGFG KGFL KICA KICA KONO KOOS KOOS KUJ KVL KWKC KON4GT WBTM WCBM WCBM WCBM WCBC WHBQ WHDF WHDF WIEY WLVA WMBR WPFB WRODO WRJN WRAM WRDO WRJN WRAW	100 100 100 100 100 100 100 100 100 100	1375	San Angelo, Texas. Clovis, N. Mex. San Antonio, Texas. Marshfield, Ore. Berkeley, Calif. Des Moines, Iowa. Walla Walla, Wash. Seattle, Wash. Kansas City, Mo. Brussels, Belgium. Danville Va. Baltimore, Md. Philadelphia, Pa. Fort Wayne, Ind. Hudson Falls, N. Y. Mount Orab, Ohio. Memphis, Tenn. Calumet, Mich. Jackson, Mich. Detroit, Mich. Williamsport, Pa. Atlanta, Ga. Lynchburg, Va. Tampa, Fla. Hattiesburg, Miss. St. Albans, Vt. Williamsport, Pa. Wilmington, N. Car. Augusta, Maine.

	I	NDE	XYBY FREQUENCII	ES AND	DIAL	NU	MBERS
1380	kce	21	7.3 m.	OA4M WAGM	12 100	1428	Lima, Peru. Presque Isle, Maine.
				WAMC			Anniston, Ala.
CMJC	150 500	1382	Camaguey, Cuba.	\mathbf{WAZL}	100		Hazleton, Pa.
KOH KQV	500		Pittsburgh, Pa.	WEHS		• • • •	Cicero, Ill. Battle Creek, Mich.
T.II6	50		Reno, Nev. Pittsburgh, Pa. Mar del Plata, Arg. Chatelineau, Belgium.	${f WELL} \\ {f WENC}$			Americus, Ga.
ON4CE	200	1388	Chatelineau, Belgium.	WHDL	100		Tupper Lake, N. Y.
ON4EX	$\frac{100}{250}$	$\frac{1388}{1382}$	Ottomont, Belgium Karlstad, Sweden. LaCrosse, Wis. Dayton, Ohio.	WHFC	100	• • • •	Cicero, Ill.
SCK WKBH	1000	1002	LaCrosse, Wis.	WILM WJBO	100 100		Wilmington, Del. New Orleans, La.
WSMK	200		Dayton, Ohio.	WJMS			Ironwood Mich
XETB	125		Torreon, Coan.	WKBI	100		Cicero, Ill. Kansas City, Kans. Springfield, Mass.
4BH	600 500	1382	Brisbane, Australia.	WLBF	100		Kansas City, Kans.
•••••	10	1388	Konisgberg, Germany. Rancagua, Chile.	WMAS WMBC	100 100		Detroit Mich.
				WMBH	100		Detroit, Mich. Joplin, Mo.
1390	1200	2	15.7 m.	WPAD	100		
1990				WSPA	100 100	• • • •	Spartanburg, S. Car.
CMBD	40	1395	Havana, Cuba.	WTBO 1ZB	20		Cumberland, Md. Auckland, N. Z.
HIH	15	1395	San Pedro, D. R. Little Rock, Ark.	1ZS	5		Auckland, N. Z. Auckland, N. Z.
KLRA KOY	1000 500		Phoenix Ariz.	3AW	300	1425	Melbourne, Australia. Newcastle, G. B.
LT10	100		Sante Fe, Arg.		1000	• • • •	Newcastle, G. D.
SCE	200	1391	Sante Fe, Arg. Halmstad, Sweden. Cleveland, Ohio.	1420	1	20)9.7 m.
WHK	1000 50		Goulburn, Australia.	1430	KCS.	40	J9.7 III.
2GN	30		Godibara, Mastrasias	CFCT	500		Victoria, B. C.
1 400	1	3	14.2 m	HAC	1200		Budapest, Hungary. Los Angeles, Calif.
1400	KCS.	4	14.2 m. 🔃 📗	KECA	1000 500	• • • •	North Platte, Neb.
CMCH	50	1405	Havana, Cuba.	KGNF LP9	1500		La Plata, Arg.
CMCM	15	1405	Havana, Cuba. Ogden, Utah.	WBAK	1000		La Plata, Arg. Harrisburg, Pa.
KLO	500	• • • •	Ogden, Utah.	WCAH	500		Columbus, Ohio,
KOCW WARD	250 500	• • • • •	Chickasha, Okla. Brooklyn, N. Y.	WFEA	500 500	• • • •	Manchester, N. H. Rochester, N. Y.
WBBA	500		Lafavette Ind.	$_{\mathbf{WHP}}^{\mathbf{WHEC}}$	500 500		Harrisburg, Pa.
WBBC	500		Brooklyn, N. Y. Brooklyn, N. Y. Indianapolis, Ind.	WNBR	500		Memphis, Tenn. Albany, N. Y.
WFOX	500	• • • •	Brooklyn, N. Y.	woko	500		Albany, N. Y.
WKBF	500		Indianapons, Ind.	2WL	50	1435	Woollongong, Australia.
			Brooklyn N. Y.	2112	00	100	
$\begin{array}{c} \mathbf{WLTH} \\ \mathbf{2ZL} \end{array}$	500 20		Brooklyn N. Y.				
2ZL 3GL	20 50		Hastings, N. Z. Geelong, Australia.		kcs.		08.2 m.
2ZL	20		Hastings, N. Z.	1440			08.2 m.
2ZL 3GL 	20 50 1000		Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B.	1440 CMBL CSIRS	kcs.	2	08.2 m.
2ZL 3GL 	20 50		Hastings, N. Z. Geelong, Australia.	1440 CMBL CSIRS KDFN	kcs.	20 1445 1448	08.2 m.
2ZL 3GL 1410	1000 kcs.	 . 2	Hastings, N. Z. Geelong, Australia. Aberdeen, G. B.	1440 CMBL CSIRS KDFN KLS	kcs. 20 1000 500 250	20 1445 1448	08.2 m.
2ZL 3GL 1410	20 50 1000	2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C.	1440 CMBL CS1RS KDFN KLS KXYZ	kcs.	20 1445 1448	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium.
2ZL 3GL 1410 CKFC CKMO CX44	20 50 1000 kcs. 50 100 20	 	Brooklyn, N. Y. Haatings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS	20 1000 500 250 250 100 7.5	1445 1448 1448 1441	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Carteno, C. R.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV	20 50 1000 kcs. 50 100 20 500	 	Brooklyn, N. Y. Haatings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG	20 1000 500 250 250 100 7.5 500	20 1445 1448 1448 1441	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Carteno, C. R.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS	20 50 1000 kcs. 50 100 20 500 1000	. 2	Brooklyn, N. Y. Haatings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA	20 1000 500 250 250 100 7.5 500 250	20 1445 1448 1448 1441 	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa.
2ZL 3GL 	20 50 1000 kcs. 50 1000 20 5000 10000 5000 500	2	Brooklyn, N. Y. Haatings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD	kcs. 20 1000 500 250 250 100 7.5 500 250 500 250	20 1445 1448 1448 1441	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WDAG	20 50 1000 kcs. 50 1000 20 5000 10000 500 1000	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA	20 1000 500 250 250 100 7.5 500 250 500	20 1445 1448 1448 1441 	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa.
2ZL 3GL 	20 50 1000 kcs. 50 100 20 500 1000 500 1000 500	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD	20 1000 500 250 250 100 7.5 500 250 500 250	1445 1448 1448 1441 	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill.
2ZL 3GL 	20 50 1000 kcs. 500 1000 500 500 1000 500 250	. 2	Hooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD	20 1000 500 250 250 100 7.5 500 250 500 250	1445 1448 1448 1441 	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WDAG WHBL WHIS WODX WRBX	20 50 1000 kcs - 500 20 500 1000 500 500 250 500 250	. 2	Brooklyn, N. Y. Haatings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WCBA WTAD	kcs. 20 1000 500 250 100 7.5 500 250 500 250 500 kcs.	20 1445 1448 1448 1441 2	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WBCM WDAG WHBL WHBL WDAG WBX WODX WRBX WSFA	20 50 1000 kcs. 50 100 20 500 500 500 500 500 250 500 250	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Montgomery, Ala.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBA WTAD 1450 CX46 KTBS	20 1000 500 250 250 100 7.5 500 250 500 250	20 1445 1448 1448 1441 2	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WDAG WHBL WHIS WODX WRBX	20 50 1000 kcs - 500 20 500 1000 500 500 250 500 250	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Montgomery, Ala.	CMBL CSIRS KDFN KLS KV7Z ON4RC TIFS WCBA WBIG WCBA WTAD T450 CX46 KTBS ON4CE	kcs. 20 1000 500 250 250 100 7.5 500 250 500 250 8cs.	20 1445 1448 1448 1441 2	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Fexas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium
2ZI. 3GL	20 50 1000 kcs. 50 100 20 500 500 500 250 500 250 500 250 25	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4CE ON4CE	kcs. 20 1000 500 250 250 250 00 250 500 250 500 kcs.	20 1445 1448 1448 1441 2 1455 1455	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium
2ZI. 3GL	20 50 1000 kcs. 50 100 20 500 500 500 500 500 250 500 250	. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Montgomery, Ala.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WCBA WTAD USAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG	kcs. 200 1000 500 250 1000 7.5 500 250 2500 250 600 1000 1000 1000 1000 50	20 1445 1448 1448 1441 2 1455 1455 1455	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WDAG WHBL WHIS WODX WRBX WSFA 2KO	20 50 1000 kcs. 50 1000 20 5000 5000 5000 5000 2505 500 2505 2505 2505 200 kcs.	· · · · · · · · · · · · · · · · · · ·	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4FG ON4EB ON4FG SCA	kcs. 20 1000 500 250 250 250 00 250 500 250 500 kcs.	20 1445 1448 1448 1441 2 1455 1455 1455	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Wontivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WHOAG WHIS WOAG WHIS WODX WRBX WRBX WSFA 2KO 1420 CW44 HAE-2	20 50 1000 kcs. 50 1000 200 5000 5000 5000 5000 2500 25	· · · · · · · · · · · · · · · · · · ·	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary.	CMBL CSIRS KDFN KLS KDFN KLS WSYZ ON4RC TIFS WSBIG WCBA WTAD 1450 CX46 KTBS ON4CE ON4FG SCA TIEP WGAR	kcs. 20 1000 500 250 100 7.5 500 250 500 250 600 1000 7.5 500 250 500 250 500 1000 1000 1000 100	2445 1448 1448 1441 2 2 1455 1455	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, Ia. Verviers, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio.
2ZL 3GL 	20 50 1000 kcs. 500 500 500 500 500 250 500 250 500 250 500 250 500 200 kcs.	1415 1428	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas.	CMBL CSIRS KDFN KLS KXDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM	kcs. 20 1000 500 250 250 250 0 250 500 0 250 500 0 10	20 1445 1448 1448 1441 1441 2 1455 1455 1455	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, Ia. Verviers, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio.
2ZL 3GL	20 50 1000 kcs. 50 1000 20 500 1000 500 500 250 500 250 250 250 250 250	1415	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Toxarkana, Ark.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WCBA WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM WSAR	kcs. 20 1000 500 250 100 7.5 500 250 250 250 600 250 100 7.5 500 1000 7.5 500 250 250 250 250 250 250 250 250 25	20 1445 1448 1448 1441 2 1455 1455 1455	Mayana, Cuba, Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Fexas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Antwerp, Belgium Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass.
2ZL 3GL 1410 CKFC CKMO CX44 KFLV KGRS WAAB WBCM WHBL WHBL WODX WRBX WSFA 2KO 1420 CW44 HAE-2 KABC KBPS KCMC	200 500 1000 200 5000 1000 5000 5000 500	1415	Hooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Marcillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portiand, Ore. Texarkana, Ark. Fond du Lac, Wis.	CMBL CSIRS KDFN KLS KXDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM	kcs. 200 1000 500 250 1000 7.5 500 250 500 250 600 1000 1000 500 1000 500 1000 500 250 500 7.5 500 250 500 7.5	20 1445 1448 1448 1441 1441 2 1455 1455 1455	Mayana, Cuba, Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Fexas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Antwerp, Belgium Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass.
2ZL 3GL	20 50 1000 20 500 500 500 500 500 250 500 250 500 250 500 200 0 kcs	1415. 2	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. 211.1 m. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4FG ON4EB ON4FG SCA TIEP WGAR WHOM WSAR WHOM	kcs. 20 1000 500 250 250 250 250 500 250 500 100 7.5 500 100 250 500 100 100 100 100 100 250 25 500 250 250 250 250 250 250 25	20 1445 1448 1448 1441 2 1455 1455 1455	Mavana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, Ia. Verviers, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio.
2ZI. 3GL	200 500 1000 5000 5000 5000 5000 5000 50	. 22	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. 211.1 m. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portiand, Ore. Toxarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4FG SCA TIEP WGAR WHOM WSAR WHOM WSAR WTFI XEAB 3ZM	kcs. 20 1000 500 250 250 250 500 500 500 250 500 600 100 7.5 500 600 100 100 100 100 100 100 100 100 1	2445 1448 1448 1441 1448 1441 1455 1455 1	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium. Soras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z.
2ZL 3GL	20 50 1000 20 20 500 1000 500 500 250 500 250 500 200 0 0 0 1000 100	1415 1428	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okla. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4FG SCA TIEP WGAR WHOM WSAR WHOM WSAR WTFI XEAB 3ZM	kcs. 20 1000 500 250 250 250 500 500 500 250 500 600 100 7.5 500 600 100 100 100 100 100 100 100 100 1	2445 1448 1448 1441 1448 1441 1455 1455 1	Mayana, Cuba, Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Fexas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Antwerp, Belgium Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass.
2ZI. 3GL 3GL 3GL 410 CKFC CKMO CX44 KFLV KGRS WAAB WBCM WDAG WHBL WODX WRBX WSFA 2KO 1420 CW44 HAE-2 KABPS KCMC KFIZ KGFF KGGC KGIW KGIW KGIX	200 500 1000 5000 5000 5000 200	1415	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WCBA WSAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WHOM WSAR WTFI XEAB 3ZM 1460	kcs. 20 1000 500 250 250 250 250 250 250 250 250	20 1445 1448 1448 1441 22 1455 1455 1455 1455	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. O6.8 m. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z.
2ZL 3GL	200 500 1000 1000 5000 2500 5000 2000 1000 1	. 2 1415 . 2 1428	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Montivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho.	1440 CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM WSAR WTFI XEAB 3ZM 1460 CW46	kcs. 20 1000 500 250 250 250 500 500 500 250 500 600 100 7.5 500 600 100 100 100 100 100 100 100 100 1	20 1445 1448 1448 1441 2 1455 1455 1455 1455 2	Mayana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. O6.8 m. Montivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z.
2ZI. 3GL	200 500 1000 5000 2500 5000 1000 1000 10	1415	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Nontivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Mobile, Als. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. 211.1 m. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho. Red Oak, Iowa. Lamar, Colo. Eugene. Ore.	CMBL CSIRS KDFN KLS KXYZ ON4RC TIFS WBIG WCBA WMBD WSAN WTAD 1450 CX46 KTBS ON4FG SCA TIEP WGAR WHOM WSAR WHOM WSAR WHOM WSAR WTFI XEAB 3ZM 1460 CW46 KSTP SCW	kcs. 20 1000 500 250 250 250 250 500 250 500 250 500 100 7.5 500 250 500 100 100 100 100 100 100 100 100 1	20 1445 1448 1441 1448 1441 20 1455 1455 1455 1455 20 20 20 20 20 20 20 20 20 20 20 20 20	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Catago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. O6.8 m. Montivideo, Uruguay. Shreveport, I.a. Verviers, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium Danpremy, Belgium Corsey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z. O5.4 m. Tucuarembo, Uruguay. St. Paul, Minn. Ornskoeldsvik, Sweden.
2ZL 3GL 3GL 3GL 3GL 3GL 3GL 3GL 3GL 3GL 3G	200 500 1000 1000 5000 2500 5000 2000 1000 1	1415	Brooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. 12.6 m. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Nontivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Boston, Mass. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Als. Roanoke, Va. Mobile, Als. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. 211.1 m. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portland, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho. Red Oak, Iowa. Lamar, Colo. Eugene. Ore.	CMBL CSIRS KDFN KLS KDFN KLS KVYZ ON4RC TIFS WBIG WCBA WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM WSAR WTFI XEAB 3ZM 1460 CW46 KSTP SCW WJSV	kcs. 200 1000 500 250 1000 7.5 500 250 2500 2500 2500 2500 1000 1000	20 1445 1448 1448 1441 1448 1441 1455 1455	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, La. Wontivideo, Uruguay. Shreveport, La. Ceries, Belgium Antwerp, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z. 105.4 m. Tucuarembo, Uruguay. St. Paul, Minn. Ornskoeldsvik, Sweden. Washinton, D. C.
2ZI. 3GL	20 50 1000 1000 20 500 1000 5000 5000 2500 5000 2500 5000 2000 1	1415 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Hooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Nontivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portiand, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho. Red Oak, Iowa. Lamar, Colo. Eugene, Ore. Yuma, Ariz. Codar Rapids, Iowa.	CMBL CSIRS KLS KLS KXYZ ON4RC TIFS WCBA WSAN WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WHOM WSAR WTFI XEAB 3ZM 1460 CW46 KSTP SCW WJSV	kcs. 20 1000 500 250 250 250 250 250 250 250 250	20 1445 1448 1441 1448 1441 1455 1455 1455	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Catago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Wontivideo, Uruguay. Shreveport, La. Verviers, Belgium Antwerp, Belgium Danpremy, Belgium. Boras, Sweden. San Jose, C. R. Cleveland, Ohio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z. 105.4 m. Tucuarembo, Uruguay. St. Paul, Minn. Ornskoeldsvik, Sweden. Washington, D. C.
2ZI. 3GL	200 500 1000 1000 1000 1000 1000 1000 10	1415 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Hooklyn, N. Y. Hastings, N. Z. Geelong, Australia. Aberdeen, G. B. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Vancouver, B. C. Nontivideo, Uruguay. Rockford, Ill. Amarillo, Texas. Bay City, Mich. Amarillo, Texas. Sheboygan, Wis. Bluefield, W. Va. Mobile, Ala. Roanoke, Va. Mobile, Ala. Roanoke, Va. Montgomery, Ala. Newcastle, Australia. Paysandu, Uruguay. Magyarovar, Hungary. San Antonio, Texas. Portiand, Ore. Texarkana, Ark. Fond du Lac, Wis. Shawnee, Okia. San Francisco, Calif. Trinidad, Colo. Las Vegas, Nev. Sand Point, Idaho. Red Oak, Iowa. Lamar, Colo. Eugene, Ore. Yuma, Ariz. Codar Rapids, Iowa.	CMBL CSIRS KDFN KLS KDFN KLS KVYZ ON4RC TIFS WBIG WCBA WTAD 1450 CX46 KTBS ON4CE ON4EB ON4FG SCA TIEP WGAR WHOM WSAR WTFI XEAB 3ZM 1460 CW46 KSTP SCW WJSV	kcs. 200 1000 500 250 1000 7.5 500 250 2500 2500 2500 2500 1000 1000	2445 1448 1448 1448 1441 1455 1455 1455 1	Havana, Cuba. Oporto, Portugal. Casper, Wyo. Oakland, Calif. Houston, Texas. Brussels, Belgium. Cartago, C. R. Greensboro, N. Car. Allentown, Pa. Peoria, Ill. Allentown, Pa. Quincy, Ill. Montivideo, Uruguay. Shreveport, Ia. Verviers, Belgium Antwerp, Belgium Danpremy, Belgium Boras, Sweden. San Jose, C. R. Cleveland, Obio. Jersey City, N. J. Fall River, Mass. Athens, Ga. Nuevo Laredo, Tams. Christchurch, N. Z. 105.4 m. Tucuarembo, Uruguay. St. Paul, Minn. Ornskoeldsvik, Sweden. Washington, D. C. Asuncion, Paraguay.

1470 kcs	s. 204.0 m.	KGIZ KGKB	100 100		Grant City, Mo. Tyler, Texas.
KGA 500	0 Spokane, Wash.	KGKY	100		Scottsbluff, Neb.
		KNOW	100		Austin, Texas.
		KPJM		• • • •	
		KPQ	100	••••	Prescott, Ariz.
WLAC 500	0 Nashville, Tenn.	KRĚG		• • • •	Wenatchee, Wash.
4 400 4				• • • •	Santa Ana, Calif.
1480 kcs	. 202.6 m.	KXO		• • • •	El Centro, Calif.
1100 1100	. 202.0 111.	WFDV			Rome, Ga.
CMBK 1	5 1485 Havana, Cuba,	WHEF			Kosciusko, Miss.
	0 1485 Havana, Cuba.	WKBV	100		Connersville, Ind.
KOMA 500		$\mathbf{W}\mathbf{K}\mathbf{B}\mathbf{Z}$	100		Ludington, Mich.
SCM 25		$\mathbf{W}\mathbf{K}\mathbf{E}\mathbf{U}$	100		LaGrange, Ga.
WKBW 500		WLOE	100		Boston, Mass.
2AY 5		WMBQ	100		Brooklyn, N. Y.
241 3	0 Albury, Australia.	WMIL	100		Brooklyn, N. Y.
1 400 1	201.2	WMPC	100		Lapeer, Mich.
1490 kcs	. 201.2 m.	WNBF	100		Binghamton, N. Y.
		WOPI	100		Bristol, Tenn.
CX48 5		WPEN	100	• • • •	
SCH 25	O Jonkoping, Sweden.	WRDW	100		Philadelphia, Pa.
WCKY 500	O Covington, Ky.	WSYB	100	• • •	Augusta, Ga.
			100		Rutland, Vt.
1500 kcs	100 0	WWRL			Woodside, N. Y.
TOOR WC2	. 199.9 m.	wwsw			Pittsburgh, Pa.
KDB 10	Sonta Barbara Call	XEFZ			Coyoacan, D. F.
KGFI 10		3AK			Melbourne, Australia.
				515	Biarritz, France.
KGFK 10) Moorhead, Minn.		10000 .	. :	Riga, Latvia.

REVISED INDEX OF CANADIAN STATIONS BY CALL LETTERS *Not in official list: evidently to be deleted.

1100 1	omc _E	a net, evidently to be deter	œu.		
CFAC	690	Calgary, Alta.	CHRC	645	Qu
CFBO	1030	St. John, N. B.	\mathbf{CHWC}	1010	Res
CFCA	1120	Toronto, Ont.	CHWK	780	Chi
CFCF	600	Montreal, Que.	CHYC*	730	Mo
CFCH	930	North Bay, Ont.	CJCA	730	Edi
CFCN	1030	Calgary, Alta.	CJCB	880	Syd
CFCO	1210	Chatham, Ont.	CJCJ	690	Cal
CFCT	1430	Victoria, B. C.	CJGX	630	Yor
CFCY	630	Charlottetown, P. E. I.	CJOC	580	Let
CFJC	1120	Kamloops, B. C.	CJOR	1210	Var
CFLC	930	Prescott, Ont.	CJRM	880	Mo
CFNB	1210	Fredericton, N. B.	CJRW	880	Flei
\mathbf{CFQC}	890	Saskatoon, Sask.	CKAC	730	Mo
CFRB	690	Toronto, Ont.	CKCD	1010	Van
CFRC	915	Kingston, Ont.	CKCI*	645	Que
CHCH*	1200	Montreal, Que.	CKCK	1010	Reg
CHCK	1310	Charlottetown, P. E. I.	\mathbf{CKCL}	580	Tor
CHGS	1120	Summerside, P. E. I.	\mathbf{CKCO}	1010	Otts
CHLP	1120	Montreal, Que.	\mathbf{CKCR}	645	Wat
CHLS*	730	Vancouver, B. C.	CKCV	1310	Que
CHMA	580		CKFC	1410	Van
		Edmonton, Alta.	CKGW	840	Tore
CHML	890	Hamilton, Ont.	CKIC	1010	Wol
CHNC*	840	Toronto, Ont.	CKLC*	840	Red
CHNS	1050	Halifax N S	CKLW	540	TE7:-

840 Toronto, Ont. 1050 Halifax, N. S.

CHNS

645	Quebec, Que.	CKMC
1010	Regina, Sask.	CKMO
780	Chilliwack, B. C.	CKNC
730	Montreal, Que.	CKOC
730	Edmonton, Alta.	CKOV
880	Sydney, N. S.	CKPC
690	Calgary, Alta,	CKPR
630	Yorkton, Sask.	CKTB*
580	Lethbridge, Alta.	CKUA
1210	Vancouver, B. C.	CKWX
880	Moose Jaw, Sask.	CKX
880	Fleming, Sask.	CKY
730	Montreal, Que.	CNRH*
1010	Vancouver, B. C.	CPRY*
645	Quebec, Que.	CRCA
1010	Regina, Sask.	CRCO
580	Toronto, Ont.	CRCV
1010	Ottawa, Ont.	10-AB
645	Waterloo, Ont.	10-AK*
1310	Quebee, Que.	10-AT*
1410	Vancouver, B. C.	10-BI*
840	Toronto, Ont.	10-BP*
101 0	Wolfville, N. S.	10-BQ*
840	Red Deer, Alta.	10-BŬ*
540	Windsor-London Ont	

CKMO	1410	vancouver, B. C.
CKNC	1030	Toronto, Ont.
CKOC	1010	Hamilton, Ont.
CKOV	1200	Kelowna, B. C.
CKPC	930	Preston, Ont.
CKPR	780	Ft. William, Ont.
CKTB*	635	St. Catharines, Ont.
CKUA	580	Edmonton, Alta.
CKWX	1010	Vancouver, B. C.
CKX	930	Brandon, Man.
CKY	910	Winnipeg, Man.
CNRH*	815	Halifax, N. S.
CPRY*	840	Toronto, Ont.
CRCA	580	Moneton, N. B.
CRCO	880	Ottawa, Ont.
CRCV	1100	Vancouver, B. C.
10-AB	1200	Moose Jaw, Sask.
10-AK*	1200	Stratford, Ont.
10-AT*	1158	Trail, B. C.
10-BI*	1200	Prince Albert, Sask.
10-BP*	1199	Windle Albert, Sask.
10-BQ*		Wingham, Ont.
10-BQ* 10-BŬ*	1200	Brantford, Ont.
10-BU*	1200	Canora, Sask.
	1210	Hull, Quebec

1210 Cobalt, Ont. 1410 Vancouver, B. C.

TIME CONVERSION TABLE

1010 Wolfville, N. S. 840 Red Deer, Alta. 540 Windsor-London, Ont.

CKLW

Atlantic	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
Eastern	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Central	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
Mountain	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
Pacific	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:0 0	6:00	7:00	8:00

INDEX BY LOCATIONS WITH MAP KEY

Columbia: C. National: Red, R; Blue, B; Both, N.

								_	
ALABAMA	Watts			ζcys.		Watts			Kcys.
Anniston O-21 tr Birmingham O-21	100 5000 500 100	WAMC WAPI WBRC WKBC	Ŋ	1420 1140 930 1310	San Jose J-1 Santa Ana M-3 Santa Barbara M-2 Stockton J-2	500 100 100 250	KQW KREG KDB KGDM	С	1010 1500 1500 1100
Gadsden O-21 Huntsville N-21 c Mobile Q-20	100 100 500	WJBY WBHS WODX	С	1210 1200 1410	COLORADO Colorado Springs K-1	100	KWG	c	1200
Montgomery P-21 Troy P-21 rc	500 100	WSFA WHET	Č	1410 1210	Denver K-11	500 500 1000	KFEL KFXF KLZ	c	920 920 560
ALASKA Anchorage	250	KFQD		1230		12500 500	KOA KPOF	Ň	830 880
Juneau Ketchikan	100 500	KIFH KGBU		1310	Grand Junction K-9 1 Greeley J-11 Lamar L-12 Ic		KFXJ KFKA KIDW		1200 880
ARIZONA					Pueblo L-11	250	KGHF		1420 1320
Jerome M-6 Phoenix N-6	100 500 500	KCRJ KOY KTAR	C	1310 1390 620	Trinidad L-11 Yuma J-12	100 100	KGIW KGEK		142 0 120 0
Prescott M-6 Tucson O-7	100 100	KPJM KGAR		1500 1370	CONNECTICU' Bridgeport H-27	Γ 250	WICC	c	60 0
Yuma O-5 tl	500 100	KVOA KUMA		1260 1420	Hartford H-27	500 50000	WDRC WTIC	CCR	1330 1060
ARKANSAS		•			Storrs H-28	250	WCAC		600
Blytheville M-19 Fayetteville M-16 Fort Smith N-16	100 1000	KLCN KUOA		1290 1260	DELAWARE	250	WDE		
Hot Springs N-17 Little Rock N-17	100 10000 250	KFPW KTHS KARK	N	1210 1040 890	Wilmington J-26	250 100	WDEL WILM		1120 1420
Dietie Rock 14-17	100	KGHI		1200	DISTRICT OF	COLU	MBIA		
Paragould M-18 Texarkana O-17 bl	1000 100 100	KLRA KBTM KCMC		1390 1200 1420	Washington J-26	10000 250 500	WJSV WMAL WRC	C B N	1460 630 950
CALIFORNIA						100	WOL	••	1310
Bakersfield L-2 br	100	KERN		1200	FLORIDA				
Berkeley J-2 Beverly Hills M-3 bl	100 500	KRE KMPC		1370 710	Clearwater R-24 Gainesville Q-24	1000 5000	WFLA WRUF	ХC	620 830
Burbank M-3 El Centro N-4	500 100	KELW KXO		780 1500	Jacksonville Q-24	1000 1000	WJAX WIOD	Z	900 1300
Bureka H-1 tc	100 500	KIEM		1210 580	Miami T-25	1000	WOAM		560
Fresno K-2 Glendale M-3	100	KMJ KIEV	C	850	Orlando R-24 Pensacola Q-21	250 500	WDBO WCOA		580 1340
Hollywood M-3	500 25000	KMTR KNX		570 1050	St. Petersburg S-24	1000 1000	WSUN WDAE	NC	620 1220:
Long Beach M-3	1000 1000	KFOX KGER		1250 1360	Tampa R-24	100	WMBR		1370
Los Angeles M-3	1000 1000	KECA KFAC	N	1430 1300	GEORGIA Americus P-22 c	100	WENC		1420
	50000 500	KFI KFSG	N	640 1120	Athens N-23 bc	500	WTFI	С	1450
	250	KFVD		1000	Atlanta O-22	250 100	WGST WJTL WSB		890 1370
	1000 100	KFWB KGFJ		950 1200	Augusta O-23	5000 100	WSB WRDW	N	740 1500
	1000 500	KHJ KRKD	С	900 1120	Columbus O-22	100	WRBL		1200
	500	KTM		780	LaGrange O-22 1 Macon O-23	100 500	WKEU WMAZ		1500 180
Oakland J-1	250 1000	KLS KLX		1440 880	Rome N-22 Savannah O-24	100 500	WFDV WTOC	С	1500 1260
Pasadena M-3	500 50	KROW KPPC		930 1210	Thomasville Q-22	100	WQDX	•	1210
Sacramento J-2 San Bernardino M-3	100 100	KFBK KFXM		1310 1210	HAWAII				
San Diego N-3	1000 1000	KFSD KGB	N	600 1330	Honolulu	250 1000	KGMB KGU	C	1320 750
San Francisco J-1	1000	KFRC KFWI	č	610 930	IDAHO				
	100 7500	KGGC	N	1420 790	Boise G-5 Idaho Falls G-7	1000 250	KIDO KID		1350 1320
	100	KGO KJBS KPO		1070 l	Nampa G-5 Pocatello H-7	100 250	KFXD KSEI		1200 890
	50000 1000	KTAB	N	680 560	Sand Point E-5 rc	100	KGKX KTFI		1420
	1000	KYA	N	1230	Twin Falls H-6	500	VILI		1240

INDEX BY LOCATIONS WITH MAP KEY

Columbia: C. National: Red, R; Biue, B; Both, N.

ILLINOIS	Watts	Ксуз.	KANSAS	Watts		1	Ксуз.
Carthage J-18	50	WCAZ 1070	Abilene K-15 bl	5000	KFBI		1050
Chicago I-20	10000	KFKX 1020	Coffeyville M-15 tr Dodge City L-13 Kansas City K-16	500 250	KGGF KGNO		1010 1340
	10000 500	WAAF 920	Kansas City K-16	100	WLBF		1420
	25000	WBBM C 770	Lawrence K-16	500	KFKU	_	1220
	1500	WCFL R 970	Monhotton V 15	1000 500	WREN KSAC	В	1220 580
	100 100	WCRW 1210 WEDC 1210	Manhattan K-15 Topeka K-16	1000	WIBW	С	580
	50000	WENR N 870	Wichita L-15	1000	KFH	č	1300
	500 25000	WGES 1360 WGN C 720	KENTUCKY				
•	1000 20000	WIBO 560	Covington K-22	5000	WCKY	N	1490
	50000	WLS N 870	Hopkinsville M-20	1000	WFIW	c	940 820
	5000 5000	WMAQ N 670 WMBI 1080	Louisville L-21	25000 100	WHAS WLAP	C	1200
	500	WPCC 560	Paducah M-19	100	WPAD		1420
	100	WPCC 560 WSBC 1210					
Cicero I-20	100 100	WEHS 1420 WHFC 1420	LOUISIANA				
	100	WKBI 1420	Monroe P-18	100	KMLB		1200
Decatur K-19	100	WJBL 1200	New Orleans R-19	100 1000	WBBX WDSU	С	1200 1250
Harrisburg L-19 Joliet I-19	100 100	WEBQ 1216 WCLS 1310	*	100	WIBO	·	1420
•	100	WKBB 1310		100	WJBW		1200
La Salle J-19 Peoria J-19	100	WJBC 1200 WMBD C 1440	l .	500 10000	WSMB WWL	N	1320 850
Quincy K-18	500 500	WTAD 1440	Shreveport P-17	100	KRMD		1310
Rockford I-19	500	KFLV 1410		1000	KTBS KWEA	N	1450
Rock Island I-18	100 100	WHBF 1210 WCBS 1210		100 10000	KWKH		1210 850
Springfield K-19	100	WTAX 1210	MATNE	20000	-,		
Tuscola K-20	100	WDZ 1070 WILL 890	MAINE				
Urbana J-20 Zion I-20	250 5000	WCBD 1080	Augusta F-28 Bangor F-29	100 100	WRDO WABI		1370 1200
2.01.1-20			Dangor 1-29	500	\mathbf{WLBZ}	С	620
			Portland F-28	1000	WCSH	R	940
INDIANA			Presque Isle D-29 lc	250 100	WLEC WAGM		1340 1420
Anderson J-21	100	WHBU 1210	· · · · -				
Connersville K-21	100 100	WKBV 1500 WTRC 1310	MARYLAND	40000	****	_	
Elkhart I-21 bc Evansville L-20	500	WGBF 630	Baltimore J-26	10000 250	WBAL WCAO	B	1060 600
Fort Wayne J-21	100	WGL C 1370		100	WCBM		1370
Gary I-20	10000 1000	WOWO C 1160 WJKS 1360	Comboniand I 35	500 100	WFBR WTBO	R	1270 1420
Hammond I-20 bc	100	WWAE 1200	Cumberland J-25 Hagerstown J-25 rc	100	WJEJ		1210
Indianapolis J-21	1000 500	WFBM C 1230 WKBF 1400					
Lafavette J-20	500	WBAA 1400	MASSACHUSE				
Lafayette J-20 Muncie J-21	50	WLBC 1310	Babson Park G-28	500	WBSO	_	920
South Bend I-20	100 500	WFAM C 1200 WSBT C 1230	Boston G-28	500 25000	WAAB WBZ	В	1410 990
Terre Haute K-20	100	WBOW 1310		1000	WEEI	Ŕ	590
				1000	WHDH WLOE		830 1500
				100 1000	WNAC	С	1230
IOWA			Fall River H-28	250	WSAR	_	1450
Ames I-17	5000	WO1 640	Lexington G-28	100 100	WLEY WNBH		1370 1310
Boone I-17	100	KFGQ 1310 KWCR B 1420	New Bedford H-28 Springfield H-27	1000	WBZA	В	990
Cedar Rapids 1-18 Council Bluffs J-16	100 1000	KWCR B 1420 KOIL B 1260		100	WMAS WORC		990 1420
Davenport I-18	50000	WOC R 1000	Worcester G-28	100 250	WORC	C R	1200 580
Decorah H-18	100 100	KGCA 1270 KWLC 1270	MICHICAN	200	1.10	•	500
Des Moines I-17	100 50000	KSO B 1370 WHO R 1000	MICHIGAN Battle Creek I-2i	50	WELL		1420
Iowa City I-18	500	WSUI 880	Bay City H-22	500	WBCM	C	1410
Marshalltown I-17	100	KFJB 1200	Bay City H-22 Calumet E-19	100	WHDF		1370
Ottumwa J-17 Red Oak J-16	100 100	WIAS 1310 KICK 1420	Detroit H-22	100 1 0 000	WJBK WJR	в	1370 750
Shenandoah J-16	500	KFNF 890		100	WMBC		1420
-	500	KMA 930 l		1000	WMBC WWJ WXYZ	R	920
Sloux City I-15 Waterloo I-17	1000 500	KSCJ C 1330 WMT C 600	East Lansing H-21	1000 1000	WKAR		1240 1040
	500	0 000		.000			

INDEX BY LOCATIONS WITH MAP KEY

Columbia: C. National: Red, R; Blue, B; Both, N.

	Columbia: C. Hationar.		
	Watta Kcys.	NEVADA Watt	Ксуз.
Flint H-22 Grand Rapids H-21	100 WFDF 1310 500 WASH 1270	Las Vegas L-5 100 Reno I-3 500	KGIX 1420
Ironwood F-18 rc Tackson I-21	100 WJMS 1420 100 WIBM 1370	NEW HAMPSHIRE	
Kalamazoo I-21 tl Lapeer H-22 Ludington H-20 Marquette F-19 Royal Oak H-22	1000 WKZO 590 100 WMPC 1500 100 WKBZ 1500 100 WBEO 1310 50 WEXL 1310	Laconia G-28 lc 100 Manchester G-28 500 Portsmouth G-28 tc 250	WFEA C 1430
MINNESOTA		NEW JERSEY Asbury Park I-27 500	WCAP C 1280
Fergus Falls F-15 Minneapolis G-17	100 KGDE 1200 50000 WCCO C 810 1000 WDGY 1180 1000 WLB 1250 1000 WRHM 1250	Atlantic City J-27 Camden I-26 Jersey City I-27 Newark I-27 S00 500 500 500 1000	WPG C 1100 WCAM 1280 WAAT 940 WHOM 1450 WAAM 1250
Moorhead F-15 Northfield G-17 St. Paul G-17	100 KGFK 1500 1000 KFMX 1250 1000 WCAL 1250 25000 KSTP N 1460	25 500 Paterson I-27 Red Bank I-27 Trenton I-26	0 WOR 710 0 WODA 1250 0 WJBI 1210 0 WTNJ 1280
MISSISSIPPI		Zarephath I-27 25) WAWZ 1350
Greenville O-18 Gulfport Q-19	100 WKFI 1210 100 WGCM 1210 100 WPFB 1370	NEW MEXICO	
Hattiesburg Q-19 Tackson P-19	1000 WJDX N 1270 I	Albuquerque N-7 25 2000	0 KOB 1180
Kosciusko O-19 be Laurel P-19 br Merldian P-20 Vicksburg P-18	100 WHEF 1500 100 WAML 1310 500 WCOC 880 500 WQBC 1360	Clovis O-11 tr 10 Roswell M-10 10	0 KICA 1370 0 KGFL 1370
	500 H Q22	NEW YORK	
MISSOURI Cp., Girardeau L-19 Columbia K-17 Grant City J-16 Jefferson City L-17 Joplin M-16 Kansas City K-16	100 KFVS 1210 500 KFRU 630 100 KGIZ 1500 500 WOS 630 100 WMBH 1420 1000 KMBC C 950 1000 KWKC 1370 1000 WDAF R 610 500 WHB 860	Albany G-27 bl 50 Auburn H-25 10 Binghamton H-26 10 Brooklyn I-27 50 100 50 50 100 100 100 100 100 100 100	0 WMBO 1310 0 WNBF 1500 0 WARD 1400 0 WBBC 1400 0 WBBR 1300 0 WFOX 1400 0 WLTH 1400 0 WMBQ 1500 100 WMIL 1500 0 WBEN R 900
St. Joseph K-16 St. Louis L-18	2500 KFEQ 680 500 KFUO 550 100 KFWF 1200 50000 KMOX C 1990 500 KSD R 550 1000 KWK B 1350 1000 WEW 1200	100 500 500 Canton F-26 5 Chester Elmira H-25 c 100 Freeport I-27 11	00 WEBR 1310 00 WGR C 550 00 WKBW C 1480 00 WSVS 1370 00 WCAD 1220 00 WGNY 1210 00 WESG 1040 00 WGBB 1210
Springfield M-17	100 KGBX 1310	Jamestown H-24	60 WGLC 1370 60 WOCL 1210
MONTANA Billings F-9 Butte F-7 Great Falls E-8 Kalispell D-7 Missoula E-7 Wolf Point E-11	1000 KGHL N 950 500 KGIR N 1360 1000 KFBB 1280 100 KGZ 1310 100 KGVO 1200 100 KGCX 1310	500 2: 500 5 10	50 WBNX 1350 00 WBOQ 860 50 WCDA 1350 00 WEAF R 660 00 WEVD 1300 00 WFAB 1300 00 WINS 1180
NEBRASKA		500	00 WJZ B 760
Clay Center J-14 Kearney J-14 bc Lincoln J-15	1000 KMMJ 740 100 KGFW 1310 5000 KFAB C 770 100 KFOR 1210	2 5	00 WMCA 570 50 WMSG 1350 00 WNYC 810
Norfolk I-15 North Platte J-13 Omaha J-15	500 WCAJ 590 1000 WJAG 1060 500 KGNF 1430 500 WAAW 660 1000 WOW R 590	10 2 5 2 2	00 WOV 1130 50 WPAP 1010 00 WPCH 570 50 WQAO 1010 50 WRNY 1010
Scottsbluff I-11 York J-15	100 KGKY 1500 500 KGBZ 930		00 WHEC C 1430

INDEX BY LOCATIONS WITH MAP KEY

Columbia: C. National: Red, R; Blue, B; Both, N.

				1		
	Watts		Kcys.		Watts	Kcys.
Saranac Lake F-26	50	WNBZ	1290	Portland E-3	500	KALE C 1300
Schenectady G-27	50000	WGY R	<i>7</i> 90		5000	KEX N 1180
Syracuse G-25	1000	WFBL C	1360		100	KBPS 1420
	250	WMAC	570 570		500	KFJR 1300 KGW N 620
- 0.47	250	WSYR B	570 1300		1000 1000	KGW N 620 KOIN C 940
Troy G-27 Tupper Lake F-26	500 100	WHAZ WHDL	1420		500	KWJJ 1060
Utica G-26	100	WIBX	1200		100	KXL 1420
Woodside I-27	100	WWRL	1500			
White Plains H-27 bl	100	WFAS	1210			
				PENNSYLVAN	IΑ	
				Allentown I-26	250	WCBA 1440
NORTH CARO					250	WSAN 1440
Asheville M-23	1000	WWNC N	570	Altoona I-25	100	WFBG 1310
Charlotte M-24	25000	WBT C	1080	Carbondale H-26	10	WNBW 1200
Gastonia M-24	100 500	WSOC WBIG C	1210 1440	Erie H-24 Glenside I-26 rc	500 25	WLBW C 1260 WIBG 930
Greensboro M-24	1000	WPTF N	680	Grove City I-24	100	WSAJ 1310
Raleigh M-25 Wilmington N-26	100	WRAM	1370	Harrisburg I-25	1000	WBAK 1430
Winston-Salem M-24	100	WSJS C	1310		100	WCOD 1200
		-			500	WHP C 1430
				Hazleton I-26 lc	100	WAZL 1420
NORTH DAKO	TΑ			Johnstown J-24	100 100	WJAC 1310 WGAL 1310
Bismarck F-13	1000	KFYR N	550	Lancaster I-26	100	WKJC 1200
Devils Lake E-14	100	KDLR	1210	Lewisburg I-26	100	WKJC 1200 WJBU 1210 WCAU C 1170
Fargo F-15	1000	WDAY N	940	Philadelphia I-26	50000	WCAU C 1170
Grand Forks E-15	100 250	KFJM KGCU	1370 1240	•	100	WDAS 1370
Mandan F-13 Minot E-13	250 250	KLPM	1240		500	WFI R 560
Minot E-13	200	ICDI IVI	1210		100	WHAT 1310 WIP C 610
					500 500	WIP C 610 WLIT R 560
оню					100	WPEN 1500
Akron I-23	1000	WADC C	1320		250	WRAX 1020
	100	wJw	1210		100	WTEL 1310
Canton I-23	10	WHBC	1200	Pittsburgh J-24	50000	KDKA B 980
Cincinnati K-22	100 1000	WFBE WKRC C	1200		500 1000	KQV 1380 WCAB R 1220
	50000	WKRC C	550 700		1000	WJAS C 1290
	500	WSAI R			100	WJAS C 1290 WWSW 1500
Cleveland I-23	500	WGAR B		Reading I-26	1000	WEEU 830
	1000	WHK C	1390	_	100	WRAW 1310
	500	WJAY WTAM R	610	Scranton H-26	250 250	WGBI 880
Columbus J-22	50000 500	WTAM R WAIU	1070 640	Washington J-24	100	WQAN 880 WNBO 1200
Columbus J-22	500	WCAH C	1430	Wilkes-Barre I-26	100	WBAX 1210
	1000	WEAO	570	Wince-Daire 1-20	100	WBRE 1310
	100	WSEN	1210	Williamsport I-25	100	WRAK 1370
Dayton J-22 Mount Orab K-22	200	WSMK	1380		100	WJEQ 1370 WORK 1000
Mount Orab K-22	100 1000	WHBD WSPD C	1370 1340	York J-25 tr	1000	WORK 1000
Toledo I-22 Youngstown I-23	500	WKBN C	570			
Zanesville J-23	100	WALR	1210	PHILIPPINES		
24					500	KZRC 937.5
OKLAHOMA				Cebu Manila	1000	KZKA 1110
•				14141114	50000	KZRM 618.5
Chickasha N-14	250	KOCW	1400			
Elk City N-13	100 100	KASA KCRC	1210 1370	PORTO RICO		
Enid M-14 Norman N-15	500	WNAD	1010	San Juan W-34	1000	WKAQ 1240
Oklahoma N-15	100	KFXR	1310	Jan Jan or		
	100	KGFG	1370			
	5000	KOMA C	1480	RHODE ISLAN	D	
D Cit M 15	1000	WKY N WBBZ	900 1200	Providence H-28	500	WEAN C 780
Ponca City M-15 Shawnee N-15	100 100	KGFF	1420		500	WJAR R 890
Tulsa M-15	5000	KVOO N	1140		100	WPAW 1210 WPRO 1210
14104 111 10					100	WPRO 1210
0000001						
OREGON		***		I SOUTH CARO	LINA	
Corvallis E-2	1000	KOAC	550	SOUTH CAROL		WCSC 1360
Corvallis E-2 Eugene F-2	100	KORE	1420	Charleston O-25	500	WCSC 1360 WIS N 1010
Corvallis E-2 Eugene F-2 Klamath Falls G-3 c		KOAC KORE KFJI KOOS		Charleston 0-25 Columbia N-24 Greenville N-23 to		WIS N 1010 WFBC 1200
Corvallis E-2 Eugene F-2	100 100	KORE KFJI	1420 1210	Charleston O-25	500 500	WIS N 1010

INDEX BY LOCATIONS WITH MAP KEY

Columbia: C. National: Red, R; Blue, B; Both, N.

SOUTH DAKO	ΓAWatts Kcys.	VIRGINIA	Watts Kcys.
Brookings H-15	1000 KFDY 550	Arlington J-25 Danville L-25	1000 NAA 690 100 WBTM 1370
Huron H-14	250 KGDY 1340 100 KGDA 1370	Ernory L-23	500 WEHC 1350
Mitchell H-14	200 KGFX 630	Lynchburg L-25 Newport News L-26	100 WLVA 1370
Pierre G-13 Rapid City H-12	100 WCAT 1200	Newport News L-26	100 WGH 1310 500 WTAR C 780
Sioux Falls H-15	1000 KSOO 1110 500 KUSD 890	Norfolk L-26 Petersburg L-26	100 WPHR 1200
Vermillion I-15 Watertown G-15	500 KUSD 890 100 KGCR 1210	Portsmouth L-26 tc	500 WPOR 780
Yankton I-15	1000 WNAX C 570	Richmond K-26	100 WBBL 1210 100 WMBG C 1210
		ll .	5000 WRVA N 1110
TENNING CEE		Roanoke L-24	250 WDBJ C 930
TENNESSEE	100 111001 1500	1	250 WRBX 1410
Bristol L-23	100 WOPI 1500 1000 WDOD C 1280	WASHINGTON	1
Chattanooga N-21 Jackson M-19 br	100 WTJS 1310	Aberdeen D-2	
Knoxville M-22	1000 WNOX C 560	Bellingham C-3	100 KVOS 1200
	100 WROL 1310 100 WHBQ 1370	Everett C-3	50 KFBL 1370
Memphis N-19	500 WMC N 780	Olympia D-3 tl	100 KGY 1210 1000 KWSC 1220
	500 WNBR 1430	Pullman E-5 Seattle C-3	5000 KIR N 970
	500 WREC C 600 5000 WLAC C 1470	1 5000000	1000 KOL C 1270
Nashville M-21	50000 WSM N 650	1	1000 KOMO N 920 100 KPCB 650
Springfield M-20	100 WSIX 1210	I.	100 KRSC 1120
-		H	1000 KTW 1220
TEXAS		li .	100 KVL 1370 250 KXA 760
	1000 KGRS 1410	Spokane D-5	100 KFIO 1120
Amarillo N-12	1000 WDAG 1410		1000 KFPY C 1340
Austin Q-14	100 KNOW 1500	1	5000 KGA B 1470 1000 KHQ N 590
Beaumont R-17	500 KFDM 560 500 KWWG 1260		250 KMÖ 1330
Brownsville U-15 College Sta. Q-15	500 WTAW 1120	o II.	500 KVI C 570
Corpus Christi S-14	100 KGFI 1500	Walla Walla E-5	100 KUJ 1370 100 KPO 1500
Dallas P-15	10000 KRLD C 1040 50000 WFAA N 800	Wenatchee D-4 Yakima D-4	100 KIT 1310
	500 WRR C 1280) 	
Dublin P-14	100 KFPL 1310	WEST VIRGIN	
El Paso P-9	100 KTSM 1310 100 WDAH 1310	II Dinelielo D-24	250 WHIS 1410 250 WOBU 580
Fort Worth P-15	100 KFJZ 1370		250 WMMN 890
2010	1000 KTAT 1240 50000 WBAP N 800	III	500 WSAZ 1190
Galveston R-16	100 KFLX 1370	Wheeling J-24	5000 WWVA C 1160
Galveston K-10	500 KFUL 1290	WISCONSIN	
Greenville O-15	15 KFPM 1310 500 KRGV 1260		1000 WTAQ C 1330
Harlingen T-14 Houston R-16	1000 KPRC N 920	Fond du Lac H-19	100 KFIZ 1420
Houston K-10	500 KTRH C 1120	Green Bay G-19	100 WHBY 1200
0 12 -	250 KXYZ 144 100 KFYO 131		100 WCLO 1200 1000 WKBH C 1380
Lubbock O-12 tr San Angelo Q-13	100 KGKL 137	Medicon H-19	1000 WHA 940
San Antonio R-14	100 KABC 142	9	500 WIBA N 1280
	100 KMAC 137 100 KONO 137	Manitowoc H-20 Milwaukee H-19	100 WOMT 1210 250 WHAD C 1120
	1000 KTSA C 129	0	250 WISN C 1120
	50000 WOAI N 119	6 II	1000 WTMJ N 620
Tyler P-16 rc	100 KGKB 150 1000 WACO C 124		100 WIBU 1210 100 WRJN 1370
Waco Q-15 Wichita Falls O-14	250 KGKO 57	0 Shehovgen H-20	500 WHBL 1410
		Stevens Point G-19	2500 WLBL 900 1000 WEBC N 1290
UTAH		Superior F-17	1000 H BBC 14 1290
Ogden I-7	500 KLO 140	WYOMING	
Salt Lake City I-7	1000 KDYL N 129	0 Carpon H-10	500 KDFN 1440
	50000 KSL C 113	91	
VERMONT		l CA	NADA
,	100 WCAX 120	ALBERTA	
Burlington F-27 Rutland G-27	100 WSYB 150	O ALBERTA	500 CFAC 690
St. Albana F-27	100 WQDM 137	0 Calgary B-7	10000 CFCN 1030
Springfield G-27 Waterbury F-27 c	250 WNBX 126 500 WDEV 55		500 CJCJ 690
waterbury F-27 C	000 11 DD 1 00	·	

Columbia: C. National: Red, R; Biue, B; Both, N.

				,		
	Watts	Kcys.		Watts		Ксуз.
Edmonton A-8	250 CHMA 500 CJCA	580 730	Quebec D-27	100 100	CHRC CKCI	645 645
Lethbridge C-8	500 CKUA	580	Į.	100	CKCV	1310
Red Deer A-8	100 CJOC 1000 CKLC	580 8 4 0	SASKATCHEV			
BRITISH COL			Canora B-13 tl Fleming C-13	15 500	10-BU CJRW	1200 880
Chilliwack B-3	100 CHWK	7 80	Moose Jaw C-11	500	CJRM	880
Kamloops B-5 Kelowna C-6 tl	100 CFJC 100 CKOV	1120 1200	Prince Albert A-11 re	25 25	10-AB 10-BI	1200 1200
Trail C-6 c	25 10-AT	1155	Regina C-12	500 500	CHWC CKCK	1010 1010
Vancouver B-3	100 CHLS 500 CJOR	730 1210	Saskatoon B-11 Yorkton B-13	500 500	CFOC CJGX	890 630
	100 CKCD 50 CKFC	1010 1410	I			030
	100 CKMO	1410 1010	NEWFO	UNDL 75	VOAS	810
	500 CRCV	1100	St. Johns A-55	100	VOGY	890
Victoria C-3	500 CFCT	1430	l	30 100	VOKW VONF	1300 1195
MANITOBA				500	VOWR	750
Brandon D-14 Winnipeg D-15	500 CKX 5000 CKY	9 3 0 910	CENTRAI COSTA RICA	L AM	ERICA	
NEW BRUNSW Fredericton D-29		1210	Cartago	7.5	TIFS	1441
Moncton D-30	500 CRCA	580	San Jose	30 15	TIGA TIC	1014 882
St. John D-30	500 CFBO	1030		30	TICR	1180
NOVA SCOTIA				7.5 7.5	TIEA TIEP	833 1450
Glace Bay C-32 Halifax E-31	2000 VAS 500 CHNS	685 1050		30 75	TIFB TIGP	714 666
Sydney C-32 Wolfville D-31	100 CICB	880		5 0	TISO TITR	600 1333
Wolfville D-31	50 CKIC	1010		75 7.5	TITV	999
ONTARIO				30 7.5	TIVL	860 614
Brantford H-23 tr Chatham H-22	15 10-BQ 100 CFCO	1200 1210	GUATEMALA			
Cobalt E-23 Ft. William E-19 bl	100 CKMC 100 CKPR	1210 780	Guatemala City	250	TGW	1320
Hamilton H-24	50 CHML	890	HONDURAS		TOT	
Kingston G-25	100 CKOC 50 CFRC	1010 915	San Pedro Sula Tegucigalpa	7.5 2300	JRL HRB	1350 1370
North Bay F-23 c Ottawa F-25	100 CFCH 100 CKCO	930 1010	SALVADOR			
	500 CRCO	880	Salvador CC-19 br	5 00	RUS	664
Prescott F-25 Preston H-23	100 CFLC 100 CKPC	930 930	ME	XICC)	
St. Catherines H-24 tl Stratford H-23 tc	1000 CKTB 15 10-AK	635 1200	AGUASCALIE	NTES		
Toronto G-24	100 CFCA	1120	Aguascalientes W-11	bc 350	XFC	805
	10000 CFRB 5000 CHNC	C 690 840	BAJA CALIFO	RNIA		
	100 CKCL 5000 CKGW	N 840	Mexicali O-4 tc Tiajuana N-3 bc	7.5 2500	XEAO XEFD	560 855
	100 CKNC	1030		2300	ALFD	033
Waterloo G-23	5000 CPRY 100 CKCR	840 645 C 540	CHIHUAHUA Chihuahua R-9	100	XEFI	1000
Windsor I-22 tc Wingham G-23	5000 CKLW 25 10-BP	C 540 1199		250	XFF XEAN	915
_		,,	Juarez P-9	5000 100	XEFV	750 1370
PRINCE EDWA Charlottestown C-31	500 CFCY	630	COAHUILA	500	XEJ	1015
	100 CHCK	1310	Piedras Negras S-12 to	100000	XEPN	585
Summerside C-31	100 CHGS	1120	Saltillo, Coah. U-12 Torreon U-11 tl	10 125	XEPN XEL XETB	1000 1380
QUEBEC	100	,,,,	Villa Acuna R-12 c	75000	XER-XE	
Hull Montreal E-26	100 500 CFCF	N 600	D. F.			
	100 CHCH 100 CHLP	1200 1120	Coyoacan Y-13 Mexico City Y-13	100 250	XEFZ XEAD	1500 875
	5000 CHYC	73 0	Michiel City 1-10	100	XEAI	1090
	5000 CKAC	C 730		10000	XEB	1030

4						
	Watts	1	Ксуз.	Watts		Kcys.
	500	XEFA	1250	50	CMJG	1050
	500 100	XEG XEK	1075 990	300 50	CMJK CMJL	<i>7</i> 90 960
	1000	XEN	711	50	CMJN	1240
	5000	XEFO	940	Cardenas W-24 30	CMGE	1375
	1000 250	XEP XETA	780 1140	Ciego de Avila W-26 30 45	CMJH CMJI	1150 1335
	1000	XETR	610	50	CMJO	1110
	500	XETW	830	Cienfuegos W-25 40	CMHJ	1125
	5000 500	XEW XEX	910 1210	Colon W-24 100	CMHL CMGA	1290 834
	2000	XFG	638	Cruces 15	CMHK	1225
	1000	XFI	818	Guantanamo X-28 tc 20	CMKI	1300
	5000 500	XFO XFX	940 860	Havana W-23 1000 150	CMAF CMAY	680 965
Toluca Y-12	50	XEC	1000	150	CMBC	1270
HIDALGO				150	CMBD	965
Pachuca Y-13 rc	100	XETU	890	225 150	CMBG CMBJ	10 7 0 11 4 0
JALISCO				15	CMBK	1485
Guadalajara, Ja. X-10	100	XEA	1000	20	CMBL	1445
G	500	XED	1155	150 40	CMBN CMBR	1185 1 4 85
MICHOACAN				150	CMBS	780
Morelia, Mich. Y-12	125	XEI	1310	150	CMBW	925
NUEVO LEON				250 150	CMBY CMBZ	1230 1010
,	100	XEFB	1315	500	CMC	840
Monterrey, N. L. U-13	100	XEFJ	1000	150	CMCA	1230
	250	XEH	1132	150 250	CMCB CMCD	1070 11 4 0
DEIEDE A	£00	XET	69 0	250	CMCF	890
PUEBLA		MOTE	0.40	50	CMCH	1405
Puebla Z-13	100	XETH	840	250 15	CMCJ CMCM	1185 1405
OUERETARO				250	CMCN	925
Queretaro X-12 br	40	XEFS	1000	1000 150	CMCQ CMCR	780 1365
SAN LUIS POT	rost			150	CMCU	630
San Luis Potosi W-12 b	nc 100	XEAC	1295	150	CMCW	965
				1000 40	CMCY CMDB	132 5 1395
TAMAULIPAS Matamoros U-14 tr	500000	XEM	660	3150	CMK	73 0
Matamoros U-14 tr	150000	XETM	845	500	CMQ	630
N. Laredo S-13	7.5	XEAB	1450	1400 750	CMŴ CMX	600 890
	100 1 5 0000	XEFE XENT	1000 1115	Matanzas W-24 30	CMGB	1265
		XEAW	965	30 100	CMGC CMGF	820 987
Reynosa, Tams. T-14 Tampico, Tams. W-14	70	XEFW	1240	100	CMGH	1040
MEDA CDPI7	250	XES	1055	Moron 7.5	CMJP	1360
VERA CRUZ	500	XFB	1290	Pinar del Rio W-22 20 Santa Clara W-25 30	CMAB CMHI	1249 1030
Jalapa Y-14 Vera Cruz, Ver. Z-14	500	XETF	630	Santa Clara W-25 30 Santiago X-28 150	CMKC	1034
Vera Cau, ver. 2-11	100	XEU	1010	Tuinucu W-25 rc 250	CMHC	790
YUCATAN				DOMINICAN REPUE	NI IC	
Merida, Yuc. X-19	10	XEFC	1020			1205
	105	XEY	546 .8	San Pedro de Marcoris 15 Santo Domingo 15000	HIH HIJK	1395 1180
WEST	IND	IES		Santo Domingo 1000	HIX	630
	IIID.			HAITI		
CUBA		O) (TTE	050	Port au Prince X-30 1000	HHK	920
Calbarien W-25	250 150	CMHD CMJC	950 1382		26	
Camaguey W-26	50	CMJE	11 <i>7</i> 5	MIQUELON ISLANI		F.50
	200	CMJF	930	St. Pierre 2000	*****	572
				<u> </u>		

Map Key: For locating cities not shown on the RADEX Map of North America, use the small letters following the square in which that city is located thus: ti top left, to top center, tr top right, bl bottom left, be bottom center, br bottom right, I left, c center, r right.

INDEX	BY	COUNTRIES AND	CITIES
1110022	\mathbf{D}	COUNTRIES AND	CILIE

	INDEX	ы	COON	IRIES AND CITI	ES		
SOUTH	AMER]	ICA		,	20		1265
ARGENTINE					20 100	• • • • •	1305 1345
Azul	50 T	T.10		Valparaiso	100	CE88	880
Bahia Blanca	50 L 500 L	.U9 .U2	1470 800		50 20	• • • • •	785 1045
Buenos Aires	1000 L	U2 .P4	670		20		1153
		.P6 .R1	590 790		50		1249
	5500 L	R2	910	COLOMBIA			
	7500 Ll 20000 Ll	R3 R4	950	Bogota	2000	HJN	690
		R5	990 830	D. D. J. G. T. J. T.	20	HJ3ABD	881
	2100 L	R6	870	PARAGUAY			
	1000 L3 3000 L3	R7 R8	750 1150	Asuncion	1000	ZP1	1135
	5000 L	R9	1030		300 150	ZP3 ZP4	1000 1275
	5000 L	S1	710		150	ŽP5	1465
	5500 L3 5000 L3	S2 S5	1190 1110	PERU			
	1500 L	S6	1350	Lima	5000	OAX	<i>7</i> 90
	2000 L3 3500 L3	S8	1230		12	OA4M	1428
	4500 L	S9 U3	1270 630	URUGUAY			
Cordoba	500 L	V2	920	Montivideo	1000	CX6 CX10 CX12 CX14 CX16 CX18	850
LaPlata	350 LV 1500 LI	V3 P9	620 1430		1000	CX10	730 770
Las Heras	350 L	V10	860		500 1000	CX12 CX14	770 810
Mar del Plata	50 LU	U6	1380			CX16	850
Mendoza Punta Alta	170 L 200 L	T4 U7	760 1280		250 2000	CX18 CX20	890 930
Rosario	4500 L	Ū7 T1	780		250	CX22	930 970
		T3 T8	1080		1000	CX24 CX26 CX30	1010
	500 LV		840 900		2000 250	CX26	1050 1130
O V	100 L	T9	1060		200	CX32	1170
San Juan	1500 LV 500 LV	V1 V5	730 1120		500	CX34	1210
Santa Fe	100 L7	T10	1390		250 100	CX36 CX38	1250 1290
Tucuman	200 LV	V7	820		100	CX40	1330
DOL IVI					500	CX42	1370
BOLIVIA					20 100	CX44 CX46	1410 14 5 0
La Paz	1000 CI	PX	1350	D	50 30	CX48	1490
BRAZIL				Paysandu	30 30	CW40 CW44	1340 1420
				Salto	30	CW44 CW32 CW34	1180
Curityba Franca	8 PF 50 PF	RAN RAZ	789 1110		50	CW34	1220
Juiz de Fora	200 PF	RAJ	<i>7</i> 89		30 30	CW36 CW38	1260 1300
Mogy das Cruzes Pelotas	50 PF 50 PF	RAY	789	Tucuarembo		CW30	1140
Pernambuco	300 PF	RAD RAP	920 967		20	CW46	1 46 0
Porto Alegre	3000 PF	RAG	706	VENEZUELA			
Ribeirao Preto Rio de Janeiro	10 PF	RAI RAA	857 750	Caracas	5000 •	YVIBC	960
and de jameno	500 PF	RAB	937		100 50	YV2BC YV3BC	882 1200
	500 PF	RAC RAK	8 57		•	1.020	1200
		RAX	1153 1364				
Sao Paula	1000 PF	RAE	921	EU	ROPE		
		RAR	1006	AUSTRIA			
CUILE	1000	• • •	1284	Graz	7000		0.53
CHILE				Innsbruck	500		852 1058
Rancagua	10	• • •	1239	Klagenfurt	500		662
Santiago	10 1000 CE	E62	1388 625	Linz Salszburg	500 500	• • • • •	1220 1373
-	1000 CE	E62 E70	705	Vienna	15000		581
		E 74 B 78	745 785		• • •		780
	1000 CE	∃82	825	BELGIUM			
	1000 CE	386 390	865	Antwerp	50	ON4EB	1455
	1000 CE		905 945	Brussels	100 100	ON4FO ON4GT	1219 1375
	1000 CE	398	980		3600	ON4RB	589
	250	E102	1025 985		100	ON4RC	1448
,			1105		15000 15000	No. 1 No. 2	590 88 <i>7</i>
	100	• • •	1145	Chatelineau	200	ON4CE	1388
	100 100	• • •	1185 1225	Dampremy Ghent	25 400	ON4FG ON4RG	1453
	200			-	400	UNARG	1219

INDEX BY COUNTRIES AND CITIES

	INDE	хвүс	COUNT	RIES AND CITIE	5		
Liege	200	ON4RW	1219	Freiburg	250		527
Piege			1236	Gleiwitz	14000		1184
Ottomont	100	ON4EX	1388	Hamburg	1500		806
Verviers	100	ON4CE	1455	Hanover	250 60000	• • • • •	530
BULGARIA				Heilsberg Kaiserslautern	1500	• • • • •	1085 536
Sofia	1000		941	Tuiser stateer 11	1500		1112
CZECHOSLOV				Kiel	250 500		1292
				Konigsberg	500		1085
Bratislave	14000 36000	OKR OKB	1075 878	Langenberg	500 60000	• • • • •	1382 635
Brno Kosice	2600	OKK	1022		120000	• • • • •	770
Moravska-Ostrava	11000		1137	Magdeburg	500		1058
Praha	120000	OKP	614	Munich	60000		563
DANZIG				Nurnberg	2000 500	• • • • •	1256
				Stettin Stuttgart	60000		1058 832
Danzig	500	• • • • •	662	Trier	2000		1157
DENMARK							
Copenhagen	750		1067	GREAT BRITA	IIN		
Kalundborg	7500		1153	Aberdeen	1000		1400
	,,,,,			Bournemouth	1000		1040
ESTONIA				Cardiff Falkirk	1000 50000	SN	968 1040
Tallinn	11000		1004	I aikii k	50000	SR	797
Tartu	500		644	London	50000	LN	1147
	2200	• • • • •	735		50000	LR	843
FINLAND				Managhantan	25000 50000	MR NN	752 995
Bjorneborg	500		662	Manchester	50000	NR	625
Helsinki	10000	OFA	815	Newcastle	1000		1420
Jacobstad	2500	OFC	960	Plymouth	200		1373
Pori	500 700	OFD	622 540	Swansea	120		1220
Tammersfors Tampere	1000	OFE	536	CDEECE			
Turku	600	ŎFĞ	1220	GREECE			
Viborg	13200	OFH	1031	Thesalonik			1110
FRANCE				TIOL LAND			
	250		1091	HOLLAND			
Angers Beziers	1500		1250	Amsterdam	6400	PH9	1013
Deziers	1500		1364	Bloemendaal	350	• • • • •	1220 1000
Biarritz	250		1515	Hague Hilversum	20000	PFBI	1013
Bordeaux	13000		986	Tillversuili	20000	IIDI	1015
Caen	3000 200		1265 1080	HUNGARY			
Fecamp	10000		1328	Budapest	1200	HAE2	1430
Grenoble	2000		530	Dudapest	20000	HAL2	545
Juan-les-Pins	800		1205	Magyarovar	3000	HAE2	1428
Lille	1300	• • • • •	1130				
Limoges Lyon	700 3000	YN	1022 644	ICELAND			
Lyon	500	ŶŔ	1030	Reykjavik	500	TFA	1200
Marseilles	2500		950				
Mont-de-Marsan	250		750	IRELAND			
Montpelier	800 500		1049 1250	Athlone	60000		725
Nimes	1000		1265	Belfast	1000		1238
Paris	1000	FPTT	671	Cork	1500 1500	6CK 2RN	1337
	1500	F8GC	825	Dublin	1200	ZECIN	725 725
	1200	ᄔ	810		1200	• • • • • •	720
Radio-Agen	60000 500	PP	914 662	ITALY			
Rennes	1300		1103	Bari	20000	I1BA	1112
Rheims	500		777	Bolzano	1000	I1BZ	815
St. Etienne	250	****	1364	Firenze	20000	IFI	598 959
Strasburg	6000	SPTT	867 1200	Genoa Milan	10000 50000	IGE IMI	905
Toulon Toulouse	500 1500	MRD	1175	Naples	1500	INA	941
Todiouse	8000		779	Palermo	3000	IPA	558
GERMANY				Rome	50000	IIRO	680
	250		E26	Trieste	10000 7000	IITR IITO	1211 1096
Augsburg Berlin	250 1500		536 715	Turin	/000	1110	1030
Del IIII	500		1058	LATVIA			
Bremen	250		950		15000		667
	250		1112	Madonna Riga	15000	YLZ	571
Breslau Cassel	60000 250	• • • • •	923 1220	B	10000		1510
Dresden	2500		941	LUVELOUD			
Flensburg	500		1319	LUXEMBURG			
Frankfurt-am-Main	17000		1157	Luxemburg	10000	LOAA	1344

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INDEX BY COUNTRIES AND CITIES					INDEX BY COUNTRIES AND CITIES							
NORWAY Aalesund Bergen Bodo Fredrikstad	350 LKA 1000 LKB 500 LKD 700 LKF	671 824 662 815	Malmo Norrkoping Orebro Ornskoeldsvik Ostersund	1250 SBC 250 SCO 250 200 SCV 200 SCW 600 SBF	1301 1301 1292 1265 1460 747	Nanking Peiping Tientsin FORMOSA	100 5 00	XGOA XOPP XOTN	681.4 951.8 624.6	MOROCCO Casablanca Rabat	25 CNO 6000	983 721
Hamar Kristianssand	700 LKH 700 500 LKK	820 536 522 1274	Saffle Stockholm Sundsvall Trollhattan	400 SCP 75000 SBA 10000 SBD	1220 689 554 1301	Taihoku INDIA	10000	JFAK	670	TUNISIA Tunis	500 TUA	1275
Notodden Oslo Porsgrund Rjukan Stavanger Tromsoe Trondelag Trondheim	50 LKN 60000 LKO 700 LKP 180 LKR 500 LKS 110 LKM 1200 LKT 1200	671 1083 662 671 1247 662 608 605	Uddevalla Umea Upsala Varberg SWITZERLAN	50 SCR 200 SCS 150 SCT 300 SCU	1193 1301 1310 662 1220	Bombay Calcutta Lahore Madras Rangoon	3000 3000 100 200 350	VUB VUC VUL VUM 2HZ	840 810 882 770 857	UNION OF S Bloemfontaine Cape Town Durban Johannesburg Pretoria	SOUTH AFRICA 750 ZTB 1000 ZTC 1000 ZTD 15000 ZTJ 50 ZTP	588 810 731 667 1000
POLAND	1200	000	Basle Berne	500 500	1229 1220	INDO-CHI Saigon		F31CD	840			
Cracow Katowice	1500 16000	959 734	Beromunster Sottens	60000 25000	653 743	JAPAN				. 00	CEANIA	
Lodz Lwow Poznan Wilno PORTUGAL	2000 16000 1900 1500 16000	1283 788 896 1098 533	U. S. S. R. Alexandrovsk Astrakhan Dnepropetrovsk Engels Gomel	1200 RW38 10000 RW35 3000 RW30 1000 RW55 1000 RW40	580 589 869 959 621	Akita Asahikawa Fukui Fukuoka Hakodate Hamamatsu Hiroshima	300 300 300 500 500 500 10000	JOUK JOCG JOFG JOLK JOVK JODG JOFK	645 655 990 680 680 635 850	AUSTRALIA Adelaide	300 5AD 5000 5CL 1000 5DN 300 5KA 50 2AY	1310 730 960 1200 1480 1300
Lisbon	2000 CT1AA 10 CT1AN 50 CT1BM 150 CT1BO 50 CT1BP 10 CT1DH 10 CT1DS	1056 1056 1056 936 1275 952 1058	Gorki Groznyi Ijevsk Ivanovo-Voznesensk Karaganda Kazan Kharkov	10000 RW42 1200 RW23 4000 RW69 10000 RW31 10000 RW46 1200 RW46 10000 RW17 10000 RW20	598 676 825 625 653 686.5 644 815	Kanazawa Kochi Kokura Kumamoto Kyoto Maebashi Matsuye Nagano	3000 500 1000 10000 300 500 500	JOJK JORK JOSK JOGK JOOK JOBG JOTK JONK	710 720 735 790 960 970 625	Ballarat Bendigo Brisbane	50 3BA 200 3BO 600 4BC 600 4BH 200 4BK 5000 4QG 50 2CA 7500 2CO	1300 970 1145 1380 1290 760 1050 560
Oliveira de Azmeis Oporto Parede	50 CT1EB 50 CT1GK 150 CT1GL 250 1000 CSIRS 1500 PRP1 1500	1056 1062 885 1304 1448 1249 696	Krasnodar Leningrad Magnitogorsk Makhatch-Kala Moskva Moskva Imeni Stalina Mourmansk	1000 RW33 10000 RW70 10000 1200 RW27 120000 1000 RW37	650 860 571 689 563 792.5 707 743	Nagasaki Nagoya Niigata Okayama Osaka Sapporo	500 10000 10000 500 500 10000 10000	JOAG JOCK-1 JOCK-2 JOOK JOKK JOBK-1 JOBK-2 JOIK	930 810 1175 920 700 750 1085 830 770	Corowa Crystal Brook Geelong Goulburn Gunnedah Hamilton Hobart Kalgoorlie	7500 2CO 7500 5CK 50 3GL 50 2GN 50 2MO 200 3HA 50 7HO 3000 7ZL 100 6KG	635 1400 1390 1320 1010 890 580 1220
RUMANIA Bucharest SPAIN Almeria	12000 1000 EAJ18	761 1193	Naltchik Nijni-Novgorod Odessa Oufa Penza Simferopol	1200 RW51 10000 RW13 10000 RW22 1200 RW56 4000 RW52	748.1 598 662 617 640 630.2	Sendai Shizuoka Tainan Tokushima Tokyo	10000 500 1000 500 10000 10000	JOHK JOPK JFBK JOXK JOAK-1 JOAK-2	770 780 720 980 870 590	Laigeorne Launceston Lismore Mackay Maryborough Melbourne	200 7LA 50 2XN 100 4MK 50 4MB 50 3AK 5000 3AR	1100 1340 1190 1060 1500 610
Barcelona Cadiz Cartagena Madrid	8000 EAJ1 1000 EAJ15 5500 400 750 EAJ2 2000 EAJ7 700 EAJ19	860 1193 896 1220 708 707	Smolensk Stalino Syktyvkar Tcheboksary Tcheliabinsk	10000 RW52 2000 RW24 10000 RW26 1200 RW41 1200 RW74 1500 RW68	725 531 779 563 680 824	KOREA Keijo	1000 10000	JODK-1 JODK-2	690 900		300 3AW 500 3DB 200 3KZ 5000 3LO 500 3UZ 25 3YB	1425 1180 1350 800 930 1145
Oviedo Salamanca San Sebastian Seville Valencia	700 EAJ19 1000 EAJ22 600 EAJ8 1500 EAJ5 1500 EAJ3	1121 662 662 815 1121	Tiraspol Tomsk Vinnitza Vladikavkaz Vladivostok	4000 RW57 1200 RW48 10000 RW75 10000 RW64 700 RW28 10000 RW28	838 554 968 752 635 725	MANCHUF Dairen Hoten	500 1000 1500	JOAK JOAK ZILY	645 760 900	Newcastle Perth	200 2HD 200 2KO 2000 2NC 300 6ML 200 6PR 5000 6WF	1110 1415 1245 1135 880 690
SWEDEN Boden	600 SBE	1245	YUGOSLAVIA			SIAM Bangkok	2500	HSPI	857	Port Pirie Rockhampton	50 5PI 2000 4RK	1041 910
Boras Eskilstuna Falun Goteborg Gavle Halmstad	150 SCA 200 SCB 500 SCC 10000 SBB 200 SCE 200 SCE 200 SCG	1450 1220 977 932 1470 1391	Belgrade Ljubljana Zagreb	2800 7000 750	697 522 977	ALGERIA Algiers	AFRICA		. 824	Sale Swan Hill Sydney	250 4RO 50 3TR 50 3SH 5000 2BL 1000 2CH 5000 2FC 3000 2GB	1330 1280 1080 855 1210 665 950
Halsingborg Horby Hudiksvall Jonkoping Kalmar Karlstad	200 10000 SBH 150 SCF 250 SCH 200 SCI 250 SCK	1490 1202 1382	CEYLON Colombo CHINA Canton	1750 1000 CMB	600• 681.4	EGYPT Alexandria Cairo Port Said	200 500 500 300 500		780 1080 710 780 1080	Toowoomba Townsville Ulverstone	1500 2GY 1000 2SM 1000 2SM 1000 2UE 1500 2UW 50 4GR 100 4TO 200 7UV	1070 1270 1025 1125 1000 1170
Kiruna Kristinehamn Malmberget	200 SCL 250 SCM 250 SCN	1480	Hangchow Hong Kong Loyang	1000 XGOD 12000 ZBW 250 XGOB	973.4 845 1090	KENYA Nairobi	1000	VQ7LO	750	Ulverstone Wagga Wangaratta Woollongong	50 2WG 50 3WR 50 2WL	1465 1155 1260 1435

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NEW ZEALAND				Greymouth	110 45	2ZM 3ZE	1150 1300
Auckland	500	1YA	820	Greymouth			
	20	1ZB	1420	TT. Manage	80	3ZR	1300
	26	îZJ	1320	Hamilton	45	1ZH	630
	ĩŏ	îžM	1260	Hastings	15	2ZI	1330
	25	izo	1190		20	2ZL	1400
				Invercargill	8	4ZI	1160
	80	1ZR	1090	_	125	4ZP	1160
	_ 5	1ZS	1420	Napier	7.5	2ZB	1290
Christchurch	500	3YA	980		65	2ZH	1290
	250	3ZC	1200	Nelson	50	2ZR	1360
	100	3ZM	1450	New Plymouth	100	2YB	1230
Dunedin	500	4YA	650	Otago	20	4ZC	
	20	4ZB	1080	Otago			1280
'	10	4ZF	1080		5	4ZR	1340
	100	4ZL	1220	Palmerston North	150	2ZF	1050
	45	4ZM	1080		200	2ZO	1050
	40	4ZO	1080	Wairoa	105	2ZP	900
				Wanganui	120	2ZK	600
T1 . 1	50	4ZW	1080				
Eketahuna	10	2ZE	1210	Wellington	5000	2YA	720
Gisborne	75	2ZJ	1150		400	2ZW	1120

One Hundred Best Short Wave Stations

By Frequencies and Wave Lengths

Submitted by our readers as being most regularly received. Times are given in Eastern Standard. First column gives frequency in megacycles (for kilocycles read the decimal point as a comma) and the second column, wave-lengths in meters.

For complete lists of short-wave stations see the following issues of this magazine:
September: Foreign stations arranged by countries.

November: American stations by states.

December: Canadian stations by provinces and Complete list by call letters.

April: Complete list by frequencies and waves.

Stations marked with an asterisk (*) will not verify.

		cast B. Phone P.	6.140	48.83	W8XK, Pittsburgh, Pa. Relays KDKA
4.174	71.82	British Ships P			4-11 p.m. B
4.174	71.82	German Ships P		48.00	*HJ3ABF, Bogota, Colombia, 8-11 p.m. B
4.283	70.00	Italian Ships P	6.272	47.80	HI1A, Santiago de los Caballeros, S.
4.513	66.43	VPN Nassau, Bahamas, Phones Hialeah P			Domingo, 1:40-4:40 p.m., Sunday B
4.753	63.08	*WOO, Ocean Gate, N. J. Phones Ships P	6,378	47.00	*HJ5ABB, Cali, Colombia B
5.045	59.42	*VRT-ZFA Hamilton, Bermuda. Phones	6.618		PRADO, Riobamba, Ecuador, Thur. 9-11
0.020		WNB-GMBJ nights P	*****		p.m. B
5.766	52.00	XAM Merida, Yucatan, Tests XDA 10	6.618	45.30	WVD, Seattle, Wash. Phones Ketchikan,
0.100	02.00	a.m8 p.m. irreg.	0.020	20.00	night P
5.879	51.00		6.662	45.00	WXH, Ketchikan, Alaska. Phones
0.018	01.00	8 p.m. irreg. P	0.002	10.00	Seattle, night P
5.925	50.60	HJ4ABE, Medellin, Colombia, Mon.,	6.675	44.91	DGK, Nauen, Germany. Heard 9 p.m.
0.020	00.00	Wed., Fri., 7:30 to 10:30 p.m.; Tues.,	0.010	11.01	with WEJ
		Thur., Sat., Sun., 6-8 p.m. B	6.752	44.41	*WOA, Lawrenceville, N. J. Phones Eng-
5.996	50.00	RV59, Moscow, USSR, 3-6 p.m. B	0.102	****	land P
0.880	30.00	HJ1ABB Barranguilla Colombia. 8-10	6.888	43.54	
			0.000	40.04	
4 005	40.02	p.m. B	7 190	49.00	fornia nights P
6.005	49.93	VE9DR, Montreal, Quebec. Daily, 7:30	7.139	42.00	HJ4ABB, Nanizales, Colombia, Sat. 10
	40.00	a.mmid. Sunday, noon-11 p.m. B	7 200	40.74	p.mmid.
6.017	49.83	DJC, Zeesen, Germany B	7.396	40.54	
6.040	49.64	W1XAL, Boston, Mass. Irregular B	7.402	40.50	*HJ3ABD, Bogota, Colombia. 9-11 p.m.,
6.050	49.56	GSA, Daventry, England. To Canada 6-			daily B
		_ op.m B	7.465	40.16	*HJP, Bogota, Colombia. Phones Hialeah
6.057	49.50	W3XAU, Philadelphia, Pa., irreg. B			Р
6.070	49.39	VE9CS, Vancouver, B. C., Fri. 12:30-1:45	7.518	39.89	
		a.m.; noon to mid. B			2 a.m. P
6.090	49.23	VE9BJ, St. John, N. B., 5 p.m. and 11	7.562	39.65	*KWY, Dixon, Calif. Phones Hawaii and
		p.m. B			Manila P
6.092	49.22	VE9GW, Bowmanville, Ont. B	7.605	39.42	*KWX, Dixon, Calif. Phones Hawaii and
		VE9GW, Bowmanville, Ont. 11 a.m3			Manila P
		p.m.; Sun., 7-8 p.m. B	7.685	39.01	TIR, Cartago, Costa Rica. Phones
6.095	49.18	W9XF, Chicago, Ill., 4:30-8 p.m.; 9:30			Hialeah P
0.000	20120	p.m2 a.m. B	7.790	38.49	HBP, Geneva, Switzerland, Sun. 5-5:45
6.096	49.17	W3XAL, Boundbrook, N. J., Sat. 4:30			n m. B
0.000	-01	p.m1 a.m. B	8.103	37.00	HCJB, Quito, Ecuador, 7:30-9:45 p.m. B
6.116	49.02	W2XE, Wayne, N. J., 6-11 p.m. B	0.100	01.00	Except Monday.
	49.00	YV1BC, Caracas, Vens. Relays 960 kcs.	8.328	36.00	German Ships P
0.119	20.00	10:30 a.m1 p.m.; 5:15-10 p.m. B	8.464	35.42	DAF, Norden, Germany. Phones Ships
6.121	48.98		0.202	00.42	DAY, Morden, Germany. Inones onips
0.121	20.50	VE9HX, Halifax, N. S. Sat. and Sun.,	0 500	25.00	*WOO Green Cata N. J. Dhanes China D.
		5:30-10-30 p.m. B	8.562	35.02	*WOO. Ocean Gate, N. J. Phones Ships P

8.566	35.00	Italian Ships P	13.219 13.296	22.68 22.55	British Ships P CGA, Drummondville, Que. 9 a.m2
8.831 9.012	33.95 33.27	British Ships *KEJ, Bolinas, Calif. Tests irregularly P			p.m. P
9.273	32.33	GCB, Rugby, England. Phones Canada nights	13.337	22.48	*YVQ, Maracay, Venezuela. Phones Hia- leah, days P GBB, Rugby, England. Talks Canada
9.290 9.340	$\frac{32.27}{32.10}$	Rabat, Morocco. Sun., 2:30-5 p.m. B CGA, Drummondville, Quebec. Phones	13.500	22.09	daytimes P
9.410	31.86	England, nights P	13.816	21.70	SUZ, Cairo, Egypt. 7 a.m. and 3:30 p.m.
9.480	31.63	PLV, Bandoeng, Java. Irregular P PLW, Bandoeng, Java. Phones Australia 3-8 a.m. irreg P	14.450	20.75	GBW, Rugby, England. 6 a.m. and 6 p.m.
9.500	31.56	YV3BC, Caracas, Venezuela. 4:30-10 p.m.; Sun., 7:30-9:30 p.m. B	14.480	20.70	P.m. P YMA, Managua, Nicaragua. Phones Hialeah, days P
9.503	31.55	VK3ME, Melbourne, Australia. Wed., 5-6:30 a.m.; Sat., 5-7 a.m. B			TIR, Cartago, Costa Rica. Phones Hialeah, days
9.510	31.53	GSB, Daventry, England. To S. Africa 1-5:30 p.m. To Canada 6-8 p.m. B	14.545	20.69	RXF, Panama City, Panama. Phones Hialeah, days
9.520	31.49	OXY, Skamleback, Denmark, 2-6:30 p.m.			TGA, Guatemala City, Guatemala. Phones Hialeah, days P
9.530	31.46	W2XAF, Schenectady, N. Y., 7 to 11 p.m.	14.930	20.08	*HJB, Bogota, Colombia. Phones Hialeah
9.552	31.38	DJA, Zeecen, Germany, 2 p.m6:30 p.m.	14.980	20.01	
9.560	31.36	W1XAZ, Springfield, Mass., 7 a.m1 a.m.	15.055	19.91	*WNC, Hialeah, Florida. Phones Pan- American stations, days P
9.580	31.30	HBL, Geneva, Switzerland, Sun., 5-5:45	15.120 15.140	19.83 19.81	HVJ, Vatican City. 10-10:30 a.m. B GSF, Daventry, England. 4:30-6:30 a.m.
9.585	31.28	p.m. B GSC, Daventry, England, 4:30-6:30 a.m.; 8:30 a.m12:30 p.m.; 1-5:30 p.m.; 6-8	15.190	19.73	DJB, Zeesen, Germany. 8 a.mnoon B
		8:30 a.m12:30 p.m.; 1-5:30 p.m.; 6-8 p.m. B	15.204	19.72	W8XX Pittsburgh, Pa. Relays KDKA 9 a.m. 4 p.m. B
9.585 9.585	31.28 31.28	p.m. B W3XAU, Philadelphia, Pa., irregular B VK2ME, Sydney, Mustralia. Sun., 12-2	15.234 15.258	19.68 19.65	Pontoise, France. 8 a.m11 a.m. B W2XE, Wayne, N. J. 11 a.m1 p.m. B
9.592	31.25	CT1AA Lisbon Portugal TuesFri.	15.320	19.57	p.m.; SatSun., to 4 B.
9.67	31.00	5-7 p.m. B TI4NRH, Heredia, Costa Rica. Daily, 5:30-6:30 p.m. B	15.410	19.46	*KWO, Dixon, Calit. Phones Hawaii 2-7
9.702	30.90	5:30-6:30 p.m. B LQA, Buenos Aires, Argentina. P	15.863	18.90	P. P
9.862 9.895	30.40 30.30	EAQ, Madrid, Spain. 5:30-7 p.m. B LSN, Buenos Aires, Argentina, 6 p.m. and	16.024	18.71	*KKP-KKU, Kahuku, Hawaii. Phones
9.990	30.01	6 a.m. P	17.512	17.12	Dixon, days. P DFB, Nauen, Germany. Phones Vene- suela, mornings P
10.060	29.80	KAZ, Manila, P. I. 3-7 a.m. P *VRT-ZFB, Hamilton, Bermuda. Phones WNB days	17.770	16.90	GSG, Daventry, England. To India 9:30-11:30 a.m. B
10.163	29.50	German Ships P	17.761	16.88	PHI. Huizen, Holland, 5:40-11:40 a.m. B
10.212	29.35	PSH, Rio de Janeiro, Brazil. Tests W2XBJ evenings P	17.772	16.87	DJE, Koenigswusterhausen, Germany B W3XAL, Boundbrook, N. J. 8 a.m. 4 p.m. B
10.246 10.520	29.26 28.50	DIQ, Nauen, Germany B VK2ME, Sydney. Australia. Irreg. P	17.830 18.116	16.82 16.55	PCV, Kootwijk, Holland. 6-9 a.m. P LSY, Buenos Aires, Argentina
10.830	27.68	*KWV, Dixon, Calif. Phones Hawaii and Manila P	18.296	16.39	*YVR, Maracay, Venezuela. Heard about
11.530 11.710	$\frac{26.00}{25.60}$	XAM, Merida, Yucatan P VE9JR, Winnipeg, Manitoba. Tues.,	18.444	16.25	*HJY, Bogota, Colombia. 11 a.m. and
11.710	25.60	6:30-8:30 p.m.; Fri., to 9 B Pontoise, France. 4-7 p.m. B PHOHI, Eindhoven, Holland B	18.611	16.11	4 p.m. P. GAU, Rugby, England. Phones N. Y.,
11.725 11.750	$25.57 \\ 25.51$	GSD, Daventry, England. To Oceania 4:30-6:30 a.m.; 1-5:30 p.m.	18.670	16.06	days *OCI, Lima, Peru. 2 p.m. P
11.753	25.51	DJD, Koenigswusternausen, Germany. 1-	18.820	15.93	PLE, Bandoeng, Java. TuesFri., 5:40- 10:40 a.m. P
11.760	25.50	6 p.m. B *XDA, Mexico City. Tests XAM 1 p.m.	18.856	15.90	ZSS, Capetown, South Africa. Phones Rondon, mornings
11.800	25.40	and 6 p.m. P I2RO, Rome, Italy. 11 a.m12:30 p.m.;	18.958	15.82	LSR, Buenos Aires, Arg. 11 a.m. and 4 p.m.
11.823	25.36	1-6 p.m. B W2XE, Wayne, N. J. 3-5 p.m. B GSE, Daventry, England. To India 8:30	19.282	15.55	FTM St. Assise, France. 10 a.m2 p.m
11.865	25.27	GSE, Daventry, England. To India 8:30 a.m12:30 p.m.	19.678	15.24	*CEC, Santiago, Chile. 11 a.m. and 4 p.m.
11.872	25 .25	W8XK, Pittsburgh, Pa. Relays KDKA 4-10 p.m. B	19.684 19.895	15.23 15.07	EAQ, Madrid, Spain. Phones P LSG, Buenos Aires, Argentins. 10:30
11.898 12.148	25.20 24.68	Pontoise, France. 11:30 a.m2:30 p.m. B GBS, Rugby, England. Phones N. Y.	21.020	14.27	a.m3:30 p.m. P LSN, Buenos Aires, Argentina. 8 a.m.
12.241	24.41	afternoon P GBU, Rugby, England. Phones N. Y.		14.24	and 4 p.m. P *WKA, Lawrenceville, N. J. 8 a.m4 p.m.
12.394	24.19	nights P DAF, Norden, Germany. Phones Ships			P
12.820	23.38	P	21.069 21.400	14.23 14.01	*WKK Lawrenceville, N. J. 8 a.m4 p.m.
		CNR, Rabat, Morocco. Sun., 7:30 a.m 9 a.m. B	21.470	13.96	GSH. Daventry, England B
12.839 13.035	$23.36 \\ 23.00$	WOO, Ocean Gate, N. J. Phones Ships P German Ships P	21.451	13.93	W8XK, Pittsburgh, Pa. 9 a.m2 p.m. B

The Hundred Best S. W. Stations by Calls . . .

British Ships P	GSE Daventry, England B 11.865 25.27 Broadcasts for India	LSN Buenos Aires, Arg. P
13.219 22.68 8.831 33.95 4.174 71.82	8:30 a.m12:30 p.	9.895 30.30 6 p.m6 a.m. 21.020 14.27 8 a.m4 p.m.
4.174 71.82 CEC Santiago, Chile P	GSF Daventry, England B	LSR Buenos Aires, Arg. P 18.958 15.82 11 a.m4 p.m.
19.678 15.24 11 a.m4 p.m	15.140 19.81 4:30-6:30 a.m.; 1-	LSY Buenos Aires, Arg. P
CGA Drummondville, Que. P 13.296 22.55 9 a.m. to 2 p.m.	5:30 p.m.; 6-8	18.116 16.55 *OCI Lima, Peru P
9.340 32.10 Nights	GSG Daventry, England B	18.670 16.06 2 p.m.
CNR Rabat, Morocco P 12.820 23.38	17.770 16.90 Broadcasts for India 9:30-11:30 a.m.	OXY Skamleback, Denmark 9.520 31.49 2-6:30 p.m.
CT1AA Lisbon, Portugal B 9.592 31.25 TuesFri. 5-7 p.m.	GSH Daventry, England B	PCV Kootwijk, Holland P
9.592 31.25 TuesFri. 5-7 p.m. DAF Norden Germany P	21.470 13.96 HBL Geneva, Switzerland B	17.830 16.82 6-9 a.m. PHI Huizen, Holland B
DAF Norden, Germany P 17.260 17.37 Talks to Ships 12.394 24.19	9.580 31.30 Sun. 5-5:45 p.m.	17 781 18 88 Irromlar
12.394 24.19 8.464 35.42	HBP Geneva, Switzerland B 7.790 38.49 Sun. 5-5:45 p.m.	PHOHI Huizen, Holland B
DFB Nauen, Germany P	HCJB Quito, Ecuador B	PLE Bandoeng, Java P
17.512 17.12 Phones YVQ DGK Nauen, Germany P	8.103 37.0 7:30-9:45 p.m.; ex- cept Monday	18.820 15.93 Tues., Fri., 5:40- 10:40 a.m.
6.675 44.91	HIIA Santiago de los Caballeros,	PLV Bandoeng, Java P
DIQ Nauen, Germany B 10.246 29.26	Santo Domingo B 6.272 47.80 1:40-4:40 p.m., Sun.	9.410 31.86 PLW Bandoeng, Java P
DJA Zeesen, Germany B 9.552 31.38 2 p.m6:30	*HJB Bogota, Colombia P	9.480 31.63 Pontoise, France B
9.552 31.38 2 p.m6;30 DJB Zeesen Germany B	14.930 20.08	15.234 19.68 8-11 a.m.
DJB Zeesen, Germany B 15.190 19.73 8 a.mnoon	7.465 40.16	11.898 25.20 11:30 a.m2:30 p.m.
BJC Zeesen, Germany B 6.017 49.83 Irregular	*HJY Bogota, Colombia P 18.444 16.25 11 a.m4 p.m.	11.710 25.60 4-7 p.m. PRADO Riobamba, Ecuador B
DJD Zeesen, Germany B	HJ1ABB Barranquilla, Colombia B	6.618 45.31 Thurs., 9-11 p.m.
11.753 25.51 DJE Zeesen Germany B	5.996 50.0 8-10 p.m. *HJ3ABD Bogota, Colombia B	21.069 14.23 8 a.m.
17.761 16.88	7.402 40.50 9-11:15 p.m.	PSH Rio de Janeiro, Brazil P 10.212 29.35
9.862 30.40 5:30-7 p.m.; Sat. 1-	7.402 40.50 9-11:15 p.m. *HJ3ABF Bogota, Colombia B 6.246 48.00 8-11 p.m.	Rabat, Morocco B
3 p.m. 19.684 15.23 Phones	HJ4ABB Manizales, Colombia B 7.139 42.00 Sat. 10 p.mmid.	9.290 32.27 Sun., 3-5 p.m. RAU Tashkent, USSR. P
FTK Ste. Assise, France P 15.863 18.90 Phones Saigon	HJ4ABE Medellin, Colombia B	15.104 19.85 Phones Moscow
15.863 18.90 Phones Saigon FTM Ste. Assise, France P	5.925 50.60 Mon., Wed., Fri., 7:30-10:30 p.m.;	RV59 Moscow, USSR B
19.282 15.55 10 a.m2 p.m.	Tues., Thurs., Sat.	RAU Tashkent, USSR. 15.104 19.85 Phones Moscow RV59 Moscow, USSR 5.996 50.0 3-7 p.m. *RXF Panama City, Panama P
German Ships P 13.035 23.00	and Sun., 6-8 p.m. HJ5ABB Cali, Colombia B	14.400 20.08
13.035 23.00 10.163 29.50	6.378 47.00	SUZ Cairo. Egypt P 13.816 21.70 7 a.m3:30 p.m.
8.328 36.00 4.174 71.82	HVJ Vatican City B 15.120 19.83 10-10:30 a.m.	TGA Guatemala City, Guatemala P 14.545 20.69
GAU Rugby, England P 18.611 16.11 Phones N. Y., days	I2RO Rome, Italy B	TIR Cartago, Costa Rica P 14.484 20.7
GBB Rugby, England	11.800 25.40 11 a.m12:30 p.m.; 2:30-5:30 p.m.	7.685 39.01
GBB Rugby, England 13.500 22.09 GBS Rugby, England P	Italian Ships P	TIANRH Heredia Costa Rica B
12.148 24.68 Phones N. Y., days	8.566 35.00 4.283 70.00	9.670 31.00 5:30-6:30 p.m. VE9BJ St. John, N. B. B 6.090 49.23 5 p.m11 p.m.
GBU Rugby, England P 12.241 24.41 Phones N. Y., nights	KAY Manila, P. I. P	6.090 49.23 5 p.m11 p.m. VE9CS Vancouver, B. C. B
GBW Rugby, England P 14.450 20.75 6 a.m6 p.m.	14.980 20.01 KAZ Manila, P. I. P	6.070 49.39 Daily 8-10 p.m.
14.450 20.75 6 a.m6 p.m.	0.000 20.01	VE9DR Montreal, Que. B
GCB Rugby, England P 9.273 32.33 Phones Canada	7.518 39.89 9 p.m2 a.m.	6.005 49.93 7:30 a.mmid.; Sun. noon to 11:15 p.m
nights GSA Daventry, England B	*KEJ Bolinas, Calif. P	VE9GW Bowmanville, Ont. B
6.050 49.50 Broadcasts for	9.012 33.27 *KKP Kahuku, Hawaii P	6.092 49.22 11 a.m3 p.m.; Sun., 7-8 p.m.
Canada 6-8 p.m. GSB Daventry England B	16.024 18.71	VE9HX Halifax, Nova Scotia B
GSB Daventry, England B 9.510 31.53 Broadcasts for South	*KWO Dixon, Calif.	6.121 48.98 Sat. and Sun., 5:30
Africa 1:00-3:00 p.m.; West Africa 3:00-5:30 p. m.;	15.410 19.46 2-5 p.m. *KWV Dixon, Calif. P	10:30 p.m. VEQIR Winning Man. B
3:00-5:30 p. m.;	10.830 27.68	VE9JR Winnipeg, Man. B 11.710 25.00 Tues. 6:30-8:30 p.m.
GSC Daventry, England P. R.	*KWX Dixon, Calif. P	Fri. to 9. VK2ME Sydney, Australia B
9.585 31.28 4:30-6:30 a.m.; 8:30	7.605 39.42 *KWY Dixon, Calif. P	19.520 28.50
a.m12:30 p.m.; 1-5:30 p.m.; 6-8	7.562 39.65	9.585 31.28 Sun., 12-2 a.m.; 5-9 a.m.; 11:30 a.m.
p.m.	LQA Buenos Aires, Argentina P	1:30 p.m.
11.750 25.51 Broadcasts for Aus-	9.702 30.90	VK3ME Melbourne, Australia B
tralasia 4:30-6:30 a.m.; 1-5:30 p.m.	LSG Buenos Aires, Arg. P 19.895 15.07 10:30 a.m3:30 p.m.	9.503 31.55 Wed. 5-6:30 a.m.; Sat. 5-7 a.m.
u.m., 2 0.00 p.m.	10101 prant	

VPN Nassau, Bahamas	P	W1XAZ	Spring	field, Mass.	В	W9XF Chicago, III. B
4.508 66.50 Phones WNC	•	9.560	31.36	7:00 a.m1:00	a.m.	6.095 49.18 4:30-8 p.m.; 9:30-2
*VRT-ZFA Hamilton, Bermuda	P	W2XAD		ectady, N. Y.	В	a.m.
	•	15 220	10.57	Dally 1-3 p.m.;		XAM Merida, Yucatan P
5.045 59.42	ъ	13.320	19.57	Sun. to 4.	Dav.,	ALITAL INCLINES, A GOODGES
*VRT-ZFB Hamilton, Bermuda	P				ъ.	
10.060 29.80	_	W2XAF	Schene	ctady, N. Y.	В	11.530 26.00
*WEM Rocky Point, N. Y.	P	9.530	31.46	Daily, 7-11 p.m	1.	*XDA Mexico City P
7.396 40.54	_	W2XE	Wayne,	N. J.	В	5.879 51.00
*WKA Lawrenceville, N. J.	\mathbf{P}	15.258		11 a.m1 p.m.		11.760 25.50
21.054 14.24 8 a.m4 p.m.		11.823		3-5 p.m.		YMA Managua Nicaragua P
*WKK Lawrenceville, N. J.	P	6.116		6-11 p.m.		14.480 20.70
21.400 14.01 8 a.m4 p.m.					В	
*WNC Hlaleah, Florida	P	W3XAL		brook, N. J.		
15.051 19.92 Phones Pan-Ame		6.096		Sat. 4:30 p.m1	a.m.	13.337 22.48
can stations		17.772		8 a.m4 p.m.	_	*YVR Maracay, Venezuela P
*WOO Ocean Gate, N. J.	P	W3XAU	Philad	elphia, Pa.	В	18.296 16.39
		9.585	31.28	Irregular		YV1BC Caracas, Venz. B
12.839 23.36 Phones Ships		6.057	49.50			6.119 49.00 Relays 960 kcs.;
8.561 35.02				rgh. Pa.	В	10:30 a.m1 p.m.;
4.749 63.13	_	W 0AL	40.02	Relays KDKA		5:15-10 p.m
WVD Seattle, Wash.	P	0.140	40.00		4-11	YV3BC Caracas, Venezuela B
6.618 45.30		44.070		p.m.		
WXH Ketchikan, Alaska	P	11.872			_	9.500 31.56 4:30-10 p.m.; Sun.,
6.662 45.00		15.204	19.72	Relays KDKA	9 a.	7:30-9:30 p.m.
W1XAL Boston, Mass.	\mathbf{B}			m4 p.m.		ZSS Capetown South Africa P
6.040 49.64 Irregular		21.451	13.93	9 a.m2 p.m.		18.856 15.90 Phones London
01010 10101 -110B-1111				-		

Stations Caught

(Continued from page 34)

grand superhet. I have stations in 42 states and D. of C. Also 21 in Canada, 8 in Mexico, and 3 in Cuba. I cannot understand why I have not as yet been able to receive stations outside of continental North America. Will some reader with a set like mine comment on their success along this line?"

"Just a note to let RADEX know how DXing is in Schenectady now," comments George B. Holland, Jr., 1340 Baker Ave., Schenectady, N. Y. "Pacific 100-watters are coming in fine. Have KPCB, KJBS, CKWX, KERN, KGFJ, KWG, KFXM, with CKWX, KWG verified, and the others yet to be heard from. My set goes from 540 kcys. to 1725, and the following are my results: 540 to 1500 kcys., 568 with 283 verified; 1500 to 1725 kcys., 8 experimental with 3 verified, 76 amateurs with 13 verified, 18 police with one verified. Where is Z2BA? Heard him calling CQ at 3:37 a. m. EST February 1st. I can't locate anything like it in Call Book. Have had KGU the last two mornings but not good enough for a veri."

ZL2BA is an amateur in Welling-

ton, N. Z. Does anyone know of a Z2BA?

HJN, Please Verify

"During the last ten months I have logged 275 stations on my 9-tube Radiola," remarks George W. Haskell, Box 58. So. Paris, Maine, "and have verifications from 206. I heard the much discussed HJN, Bogota, Colombia, program on the morning of December 17th and have written them two letters without response so far. I don't know as my record is anything remarkable, as I have logged the most of these stations in the evening, or early morning, and have not 'burned the midnight oil' to any great extent. Among my verifications I have WTOC, WIOD, CHNS, KFI, KNX, WDAE, CFCN, KPO, 10-BP, 10-BQ, CMCY, KTM, WEXL, WCOC, KGRS, WKAQ and WGST."

"Nothing exciting happened in the increasing of my log to 583 stations, nine of which have already been deleted," remarks Luther E. Grim, 505 S. Main St., Red Lion, Pa. "KDB, KXL, KLX, XEJ, KREG and KPJM are the only exceptionally good ones logged. I received my verification from VONF. If anyone else who lives more than 1000 miles from St. John's has logged and verified this

station, I'd like to hear from him or her. Doesn't look like the heavy static will help me boost my log to 600 before the end of April."

"My set is a 5-tube Lafayette, with a 100-foot aerial under the roof," advises Delbert C. Thomas, Triangle Fraternity, State College, Pa. "Have been DXing only a few months, having received my set in September, but so far have a b.c. log of 280 stations. including HJN and YV1BC. Have also received 10-BQ and 10-AK, with 10-BQ verified. Have received 11 California stations with four 500watters. By transposing my aerial lead-in to the grid of the first detector tube, I can receive short-wave stations and have a log of 39 police and airport stations and 30 amateur stations. Not a bad log for only a few months."

His First Year

"This is my first year at DXing." says Kenneth Korstian, 2407 Club Blvd., Durham, N. C. "It began about January 1st. As I have done no DXing after about 11:00 p. m., I have only a list of 125 stations on the b. c. band and ten on the beginning of short wave up to 1750 kcys. My best catch was WAAW, a 500-watter, Omaha, Nebr. Another 500-watter that I can get easily is WCOC of Meridian, Miss. I would like to hear from someone on building a shortwave converter and a transmitter. I am using a Colonial 10-tube superhet."

"I am writing to tell you my results at DXing this season," says Charles Leboeuf, Box 222, North Grosvenordale, Conn. "I have been able to log 167 stations, making a total of 473. My best catches are: WKAQ, 10-BQ, VONF, CMJK, KGEK, HIX, HJN, and XEK, a 100watt station in Mexico. All verified. I have also logged YV1BC and Poste Parisien, verifications on the way. Besides these stations I have logged and verified 46 states. North Dakota and Wyoming being the exceptions. I logged all 473 on an 8-tube Majestic Model 91."

"Well, I have boosted my log to 541 and 358 verified. My best verified include: 10-BQ, KGFJ, KERN, KJBS, KFXM, WGCM, CMCU, XEN, CHCK, WIBG, VONF, KDFN, KOB, KGEK, KGKL, KFXR, KGCR and CHLP," reports *Clarence Burnham, 147 East Main St., Gloucester, Mass. "Have requests for verification out to YV1BC, WKAQ, CHCO, KLPM, WSVS, KOH, KGIR, CMJK, and KALE, which I consider good catches. Have also heard HHK, KGFI, KVL, KREG, and VOAS. On my log I have 164 100-watters or less, with 132 verified. Have 28 on the Pacific coast with 14 verified."

"Last night I logged my 800th station, and decided to celebrate by sending a line to RADEX, the thing that started me on this hobby of DXing in January, 1932," declares Ivor Nixon, 265 Pacific Ave., "This total includes Toronto, Ont. 439 shortwave stations (mostly amateurs) and 361 broacast. The latter includes 35 2000-milers, and among them are such stations as CJOR. KGFJ, KFVD, KXL, KVL, KJBS, YV1BC, KERN, KWG and KPPC. This last I consider my best. The receiver is the same old one-peanuttuber."

From an Arizona Airport

"I started in DXing about last December with a Majestic 11-tube pentode 307 model, which is a product of 1933, very new," comments Henry Castano, Yuma Airport, Yuma, Ariz. "This place where the field is located is about six and a half miles from the city of Yuma, which I think is a very good location for getting real distance. Mr. Redondo, who is the proud owner of this radio, is also manager of this field, and myself, his DXer, have received stations from 50 watters to 100,000 watters."

"On November 20, 1930, I bought a 7-tube battery Crosley radio, and to date have tuned in 399 stations, from 6 provinces, 1 from Newfoundland, from all U. S. states, except Mississippi, Nevada and Washington, WKAQ, Porto Rico, 7 Cubans, 6

Mexicans, HJN and YV1BC from South America," reports K. Hildebrand, Doaktown, N. B. "The three provinces that I still need are Saskatchewan, Alberta and British Columbia. During February added 35 new stations to my log. My best catches are WHBC, 10 watts; 10-BQ, 15 watts; 10-BP, 25 watts; WCAZ, KBTM, KCMC, KGFJ, KMLB, KDFN, XEJ, CMCW, HJN and YV1BC."

"I have had my 11-tube Majestic for two months and have had 247 stations in the U. S., 11 in Canada, 3 in Cuba, 7 in Mexico, and KGU, in Hawaii," reports Wm. McDaniel, The Gazette, Charleston, W. Va. "Of the 247 in the U. S., 27 are on the Pacific Coast and are in 42 states. I also have had 3 police stations, and a station announced as W2XAR, New York. These come in above 1500 kcys., as I have some extra space on my dial. W2XAR is on from 5:00 to 6:00 p. m. on weekdays."

"I have been getting the 'good old reliable' for the last two years," declares *Frank Frazier, 225 Menomonee St., Chicago, Ill., "and have had 247 stations verified since, including Porto Rico, Mexico and Canada. My best stations are WOCL, 25 watts; KGCX, WGNY, KRMD, 50 watts; KFPL, KGFF and WJBY, 50 watts. Received verification from WCSC today that they are on from 7:00 a. m. to 2:00 p. m. and 5:00 to 10:00 p. m. CST. I have a Graybar 310."

Gets 24 from Oceania

"Through the DX calendar I have been able to pick up close to 40 new stations since the first of January," admits F. L. Biss, Brittmount, Minn. "The first issue I bought was January, 1933. I have picked up 123 new stations this year, 24 of them are in Australia and New Zealand. KGU, KGMB, YV1BC, HJN, CFBO, and scores of others. This certainly has been an excellent season. I would like to correspond with a DXer in Delaware."

"Since my last report I have received 20 more stations, bringing my total up to 305," remarks L. A. Brodhecker, Box 82, Brownstown, Ind. "In this total are five ship stations at 600 meters, two police calls below the 1500 band, two stations from Mexico City, one from Porto Rico, 24 stations in California. The total also represents 45 states; 15 out of Canada, including 10-AB, 6 stations from Havana, and 7 from Mexico. Am headed now for the 350 mark. My first report was 165 stations."

"I use a little Clarion AC-61 model, 6 tubes, and in less than two years have a log of 529 calls, all at present on the air—deletions don't count with me—only live ones," boasts Stanley A. Schmuch, 94 Otis St., East Cambridge, Mass. "My list includes stations in U. S., Canada, Cuba, Mexico, Porto Rico, Venezula, and France. Among them are 10-BI, CKOV, YV1BC and Poste Parisien. All heard on the regular b.c. band, and a few a little below 200 meters."

"During a period of less than a month I have received 163 stations in the U. S., Canada, Mexico and Cuba," comments C. E. Bryant, Jr., Booneville, Ark. "I have received 40 states in the U. S. I also have received a station on every kilocycle between 540 and 1500 with some long-wave stations, about 520. We have a 10-tube long-wave Clarion which gives excellent service. I have no trouble at all separating stations on different kilocycles."

Completes State Roster

"Since I last wrote you," advises Ralph V. Caldwell, R. D. 1, Clarksville, Pa., "I have received a few new stations. Up to the last day of January, I had 572 stations. I added up to February 25th fourteen stations, or a total of 586. Among the best I heard during February were KPJM, KDB, KECA, KID, and XES. My best in January, KGEK, KGIR, WAGM, and KXO, and, thanks to RADEX, I got the one station that I have been hunting for, KDFN, Casper, Wyo., completing my list of the states."

"DX is exceptionally good here in

Baltimore," reports B. L. Ahman, Jr., 3313 Westerwald Ave., Baltimore, Md. "I just listened to HJN (685 kcys.) Bogota, Colombia, on Sunday morning at 3:45 a.m. Their signals were very loud and clear. I am waiting for a verification. I have just received verifications from CKMO, CJRM, WKAQ, CMBY, KFVD, 10-BQ, WELL and WGNY. Also others to raise my veris to 294 to date, with 470 even logged. I logged for four years before verifying."

"I have only been DXing during the past season," admits Raymond A. Mitchell, 921½ Fourth Ave. So., Nashville, Tenn., "and with a Zenith 7-tuber I have heard 265 stations on the 97 channels of the b.c. band. Have heard a station on 95 of the channels. I have 146 of these verified. My best catches are KFPM, a 15-watter, in Greenville, Texas; 10-BP, a 25-watter in Wingham, Ont.; WKAQ, San Juan, P. R., and YV1BC, Caracas, Venezuela, all four of which are verified."

"My log of stations on the broadcast band, at the present time, contains 641 stations," declares Raleigh A. Biss, 129 W. Lake St., Chisholm, Minn., "including 12 Mexicans, 3 Cubans, and WKAQ, San Juan. A few of the best catches are WRAM, KCMC, WOPI, WDRC, WALZ, WINS, KXO, KABC, WAWZ, WJEJ, WKBC, KGGM, WSIX, XEX, XEE, XEJ, KGAR, KGDM, KWSC, CMBD, CKCI, CJOC and CJOR. I have heard all states with the exception of Vermont, New Hampshire, Delaware and South Carolina."

Some Brief Reports

"I just started DXing three months ago, and now have 137 stations," writes Cameron Greenleaf, Hewlett, L. I., N. Y. "I am a boy of 13 and therefore can't stay up late. Some of my best catches are: WBAP, WFAA, WOAI, KMOX, KWK, WOWO, WHO, WOC, KSL, KDYL, XER, XEAW, KTHS, KVOR, WMAL, KIDO, KFAB, 6 in Canada and 5 in Florida. I have had shortwave stations W1XAU, W1XAZ,

W1XAL, and police stations WRDS and WMP."

"I have a Silvertone 6-tube superheterodyne," remarks *Victor Jason, 25 Greenman Ave., N. Y. Mills, N. Y. "I have had it for about a month. So far I have logged about 143 stations and some of my farthest stations are WKAQ, CMK, CMC, CMAF, CMCY, XEW, XEO, XER, XEPM, XEAW, XENT, KFI, KGO, KSL, KOA and WLBC, a 50-watter from Muncie, Ind."

"My present log stands at 370 with 44 of 100 watts or less," reports Clarence Markel, Jr., 622½ N. 7th St., Quincy, Ill. "A few of the best are WJBK, WEXL, CHML, 10-AB, WBHS, KTFI, WWRL, XET and XES. This list includes 43 states with 20 police calls and 24 s. w. My best police calls are WMP, WPED, WPEH, and KGPL."

"I have had good luck with my DeForest Crosley, 8-tube set," reports Oliver Stevens, 1835 Gerrard St. E., Toronto, Ont., "and have received some excellent catches, such as KGKO, KFSD, WBAC, XEK, XEU, KFVD, WBBZ, WABL, KTFI, XEM, WSMB, WQBC, KGFG, WSFA, and here's a peach, CKWX, 100 watts, Vancouver, B. C. Try and beat that!"

Mrs. L. P. Ayres, 9 Fern Ave., Carbondale, Pa., reports a total log of 626 stations on her RCA-60 with all states except Wyoming and Nevada. She has 25 stations of from 5 to 50 watts in 15 states and Canada and 150 stations 100-watts in 38 states, Canada, Mexico and Cuba.

"I have a two-tube Crosley receiver and have had 360 broadcasting stations, 80 police calls, and 2 Canadian s.w. stations," comments Charles Muffly, RFD No. 3, Grafton, Ohio. "My best DX is KTFI, Twin Falls, Idaho, using 500 watts. My farthest distance is KGA, Spokane, Wash., using 5000 watts."

His Pet "Pestations"

"I have a 5-tube Gloritone receiver," comments Edward Bond, 318

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Power St., Akron, Ohio. "Since May, 1932, I have heard 338 identified stations, including five s.w. heard on the regular b.c. set. My best catch is KFIO. All of these are on the air at the present time or listed in RADEX. I would like to nominate for pestations (pests) such stations as WFIW and WEXL, who are on the air too much of the time."

"I have not written to RADEX for a long time, so here goes," salutes Kazimir Nowotarski, 2484 Thurman Ave., Cleveland, Ohio. "My log has been increased to 611 stations, all of which have been received on my two-tube receiver. My best verified catches are: 2YA, CKMO, KPQ, KXO, KFXM, KPCB, 10-AB, 10-AK, 10-BI, 10-BP, 10-BQ, KGFU, CHGS, WKAQ, KFPM, KFXD and YV1BC. I have 53 stations on the Pacific coast, of which 40 are verified."

"I am only 13 years old and as I go to school I have no time to DX, except on Friday, Saturday and Sunday," comments Don Martinez, 1469 26th Ave., San Francisco, Calif., "but I managed to get around 211 stations in about six months, with 94 verified, which includes 18 Japanese, one Chinese in Nanking; 2CO in Corowa; 2YA in Wellington, KGU in Honolulu, and KGBU, Ketchikan, and a number of Canadians and Mexicans. I am still trying for Europe and South America and hope to get them soon."

"I have 351 stations, but they are darn hard to get now," complains Clarence Wakefield, Wiarton, Ont. "I only DX some Sunday mornings. I usually get to bed about 10:30 and get up a little after two, but some Sundays I roll over and go to sleep again instead."

Well, maybe the Editor can get a little sleep during the next two months. Cheerio, until September.

*Names marked with an asterisk would like to hear from other Radexers, particularly those owning the same kind of set.

Final DX Reports

(Continued from page 30)

kcys. I also logged an hour of 2YA's program on Sunday morning, March 12, from 3:30 to 4:30 CST. This program came in very good through the speaker with very little fading. I have sent for verifications from both of these stations."

"I have been DXing since August, 1932, and in that short time I have heard 319 stations," writes Morton Meehan, 563 Adams Ave.; Elizabeth, N. J. "My best are: HJN (awfully loud), KVI, KTM, CMQ, XES, 10-BP, 10-AK, NAA, KGNO, WHET, WKAQ, CKY, WABZ, KOY, WJBW, KMLB, KTFI, KHQ, CMX, CMC, and a flock of others. About 10:00 p. m. when the weather is good for DXing, I have heard CMC between KOA and CKGW. You have them listed as being on CKGW's channel. I heard

WMMN on a test program one morning, by turning the dial up toward 880 kcys. I heard CMX. You have WMMN and CMX both on 890 kcys. CMX was on 885 or 880 kcys. when I heard them. I would like to hear from DXers from the Southern and New England states."

Little Radex Clubs

"Three of us. all RADEX readers, have started a little gathering," announces R. E. Moran, 1309 Wellington St., Ottawa, Ont., "and we meet every Sunday afternoon at each other's homes and review the weekend activities in DXing. I have a log around 475. Ernest Ball a log of 500 or more, and Fred Wakerell over 600. The three of us heard a station on 1180 keys. on Sunday a. m. March 26, playing band selections. I heard it again on Monday, the 27th, at 4:29 a. m. EST, playing band selections again, but no announcements. I wonder if any other RADEX reader has had similar experience. If so, would he please get in touch with me."

"I think that I can consider myself very fortunate during the past month," boasts Charles Meyer, Jr., 411 Blake St., St. Joseph, Mo. "On March 26 I was very agreeably surprised to hear a voice on 720 kcys., state that my station was 2YA, Wellington, New Zealand. I listened to them from 4:00 until they signed off at 4:25 a.m. The reason I was so amazed was because I am not using an aerial but a Muter aerial eliminator, grounded to a pipe driven about two feet in the ground in the furnace room where the ground is as dry as a bone. Among my better catches in 1933 are: KPCB, KFXM, WJEJ, KGFG, KXL and XEFB (100-watters); WSVS, WGNY, XEFV, WEXL and WGLC (50-watters)."

With a three-tube receiver of his own design, Gilbert Van Vranken, Jr., 2230 N. El Molino Ave., Pasadena, Calif., has achieved some remarkable results. His total log of 299 stations, loud-speaker reception, includes stations in Argentine, Colombia, Venzue-

la, New Zealand, Australia, China, Japan, Porto Rico, Alaska, Hawaii, as well as continental North America. He has verifications from 4BH, 2YA, YV1BC, two Honolulu stations and many others. Gilbert says that 2B1, 4RK, 2YA and 4BH come in exceptionally well quite often but that 5CK with more power is very difficult. The set operates on batteries.

Verifying Locals

"The following will prove a DXer should verify locals," suggests Karl J. Halpern, 495 E. 3rd St., Brooklyn, N. Y. "WPAP, WHN and WRNY are to be under one call, WHN, transmitter 750 watts. WQAO on Sundays only for church programs. WMSG, WBNX, WCDA, all to WYNN. Yes, good old Ed Wynn, owner. Transmitter 500 watts. WAWZ, early mornings 5:00 to 8:00 a. m. and special Sunday services. WYNN on from 8:00 a. m. to 1:00 a. m. What will a local fan do about WPAP, WHN (500 watts), WRNY, WMSG, WBNX and WCDA? How can he prove he heard those stations when he hasn't a veri?"

"The Australian, New Zealand and Japanese stations have been exceptionally good the past month," records E. N. Luken, Crooks, S. Dak. "4BC, 2BL and 2CO seem to be the best and to put on the best programs although the last few mornings 2UE in Sydnev has been real strong. I consider my best catch down that way to be 2GN, Goulburn, Australia, as they claim only 50 watts power though that doesn't seem possible. These stations come in strongest here between 4:00 and 5:00 a. m. CST; however I can usually hold 4BC and 2UE till 6:00 a. m."

"I own a Philco 7-tube set and have a total of 463 stations," informs* Russell McCoy, 432 Madison St., Gary, Ind. "Although a DXer since early radio, have not done so awfully much DXing this winter, due to illness, but my first night at the set this fall brought me my two prize catches since radioing. They were YV1BC

and WKAQ, the latter with plenty of volume. Although I have this list of stations, have yet to hear from six states: Vermont, Maine, Delaware, New Mexico, Nevada and Wyoming, and would appreciate tip on them."

"On Sunday, April 9th, around 9:30 p. m. EST, I tuned my set below the broadcast band, at about 1530 kcys. and heard chimes being played," remarks Tony Lima, 185 St. Patrick St., Toronto, Ont. "There were three different kinds, each lasting about one to one and a half minutes. I heard the announcer say 'W1X' or some other letters which I did not hear on account of the static. I also heard him say 'Boston' which I think is the location. They signed off at 9:40 p. m. Will you please try to identify this station for me."

East Versus West

"I believe that 100-watters on the east coast come in much better than 100-watters on the best coast," thinks Allan E. Knain, Northwood, N. Dak. "I'd like to hear from others in the center line of the U. S. and what they think about it. I would also like to hear from all DX clubs; also Midwest 16-tube owners. My best catch, I believe, is 4BH and 4BC. Also had 2CO, 3AR, 5CK, 6WF, 2YA, 4QG, KGU, YV1BC; CKPR at noon, and 50-watters on both coasts, Canada and Mexico."

"In the April issue of your magazine there was a correspondent from Texas who wanted to know of some Texan who had received a station of some distance," writes Mrs. Oscar Duncan, 531 W. Munson St., Denison, Texas. "On our radio map which my late husband made, I found our farthest stations were CKMO, Vancouver, B. C., 730 kcys., and CNRV, Vancouver, 1030 kcys. From Denison that is a distance over 1600 miles. Hope this will be of interest to the inquirer."

"I've owned two radios and DXing is to me half the pleasure of owning a set," declares Ed Cash, 9915 Yosemite, Detroit, Mich. "On my first ma-

chine, a Brandeis, I logged 118 stations in about a year and a half. With my present radio, a Kennedy, I've logged 210 stations in one year and one month. On the long wave the Kennedy's selectivity is wonderful, at least one station has been logged on every channel. The short wave section has been a disappointment."

Of his Midwest 16-tube set, J. A. Shanks, Box 2, Route 4, Russellville, Tenn., writes: "It has a very low noise level and plenty of power even on the 15-watt Canadians. It is excellent on the short waves also." He reports a grand total of 2309 stations between 14 meters to 200 meters. He has received 606 stations in the broadcast band.

Off Frequency

"It was the night of Saturday, April 8th, at about 9:30," remarks John C. Greenleaf, Jr., Meadowview Ave., Hewlett, N. Y., "I was listening to KOIL, Council Bluffs, when in the background I heard, 'This is station WNBW, Carbondale,' or words to that effect. I turned the dial and it suddenly came louder. That was on 1230 kcys., and WNBW is on 1200 kcys. Then it died away and I haven't heard it since."

"JOAK uses two transmitters, one on 590 kcys. and one on 860 kcys.," advises R. R. Rawstron, 296 Main St., Claremont, N. H. "JOCK now has a wave of 810 kcys. and 1180 kcys. So these calls count as two stations or four stations. Personally I lean to the four-station status, as they are really four transmitters, if my information is correct."

"I tuned in a station on about 690 kcys. at 3:15 a.m. EST, April 16th," reports Russel Hicks, 105 Navarre St., Monroe, Mich. "I heard an orchestra playing a symphony. It lasted until 3:41 a.m. and at 3:41½ I heard three blasts from a trumpet and the station signed off. Could it have been HJN?"

"I wish you would print in one of your issues," urges R. S. Seaward, 4650 Post St., Jacksonville, Fla.,

"that I would like to hear from Atwater Kent Model 480 owners and the results and kinds of aerials they

are using."

"Reception has been very freakish the past week," declares Robert Rosenberger, 17 Janssen Place, Kansas City, Mo. "I have pulled in LR8, LS8 Viborg, Finland, and Poste Parisien, also LR2. LR2 is now on 910 and can be caught before XEW comes on strong in the evening."

"About 4 a.m. this morning I heard KGBU after a couple of years' occasional trying for them," remarks J. A. Ringness, Morris, Minn. "Also XEFV, WDRC, WRDW and WEEU."

Editor's Note: When a name is preceded by an asterick (*) it indicates the writer would like to hear from others, preferably those owning the same kind of set.

Some DX Tips

"I have been DXing since the fall of 1929, and have to date logged 478 stations, using a Radiola 18," reports Sidney R. Steele, 3606 Homewood Ave., Toledo, Ohio, "All states, except Nevada, have been logged and I have nine states and the District of Columbia complete. Some of my best catches are KFXM, KGFK, CKPR, KRMD, the last three using 50 watts; KXA, KID, WAGM and KDFN. But the greatest thrill of all was VONF, St. John's, Nfld., received March 15th at 3:57 a.m. Following is from VONF's verification: 'Regular Broadcast Schedule. Newfoundland time 14 hours later than EST. Daily 12:00 to 2 p.m., except Sunday when the broadcast begins at 12:30 p.m. Daily, except Sunday, 6:00 to 8:00 p.m. continuing some nights until 9:00 p.m. Sunday 8:00 to 9:00 p.m. The latest news concerning Newfoundland's sealing fleet is broadcast daily at 10:00 p.m.'"

"Here is some information on CHGS," advises Stewart Hunter, Box 200. Kensington, P.E.I. "Weekdays 7:30 a.m. to 9:00 a.m. Musical Clock program; 10:30 to 11:30 a.m. Home Hour: 11 to 12:30 Rural Program; 12:30 to 2:00 p.m. other programs; on again at 4:00 p.m. and sign off at 8:00 p.m. They also broadcast all the Canadian Radio Commission programs and hockey matches. Saturday evenings George Wade and his Corn Huskers 9 to 10:00 p.m. Sunday mornings on at 11:00 a.m. church broadcast till 12:00 and recordings until 1:00 p.m. Time and weather reports, sign off. On again at 2:30 p.m. to 8:15 p.m. CFCY, Charlottetown, has a shortwave transmitter on 49 meters. VE9EH has about 250 watts. Am not sure about the power."

Radio Normandie, Fecamp, France, puts on a special DX every night until 10:30 EST, says Robert Rosenberger, 17 Janssen Place, Kansas City, Mo. He has received one of them on 1345 kcs. FQN on 565 kcs. is on until 8:30 EST Wednesday evenings. Robert recently tuned in 6CK, Cork, Irish Free State.

Gustave Solomon, 404 Bon Accord Block, Winnipeg, Man., gives us some interesting information in regard to CKY. He gives their time on the air as follows: Sundays, 11:00 a.m. to 5:30 p.m. and 7:00 to 11:00 p.m. Weekdays on at 8:30 a.m. until 2:00 p.m. and 3:30 to 11:00 p.m.

Rudolph Kuré of Cincinnati, who thinks that "RADEX is getting more helpful every month and that the May issue is a marvel" gives the time on the air of HJN as follows: 12:45 p.m. until 2:00 p.m. and 7:30 p.m. until 10 p.m. We assume that these times are those of Bogota standard.

"Those listeners in the east who have not heard WSAR, Fall River, Mass., can try for him on Monday nights until 9:00 o'clock, when WHOM comes on," suggests Samuel Klink, 844 So. 16th St., Newark, N. J.

In September there will be complete new data from broadcasting stations with their time on the air, a new and enlarged DX Calendar, and a new plan for securing short-wave station information. Watch for it.

The Most Friendly Station

(Continued from page 11)

defects in modulation. But nevertheles, TI4NRH is working every afternoon on 31 meters, in mid-ocean, hi, hi, or between Schenectady and Madrid. Its power is marvellous, as hundred of reports estate to be like local stations anywhere from Canada to Peru.

The wave is very steady, with little fading, and the music, either recordings or spanish talent, distinguished by bugle calls between numbers, known the world thruout.

The Verifications

The station verifies each report, by sending a beautiful certificate printed in five colors, the only and most unique demonstration of its kind, ardently desired by fans.

The station publishes a Magazine in spanish entitled URA, which is sent to Members which also have a beautiful Diploma of Membership and a lapel button in 3 enamel colors. The URA has special stationery and lovely seals to go in accordance with the biggest aim to develop a most friendly Club, already represented in the Madrid last Convention, and having Delegates in all the American Continents. All that, has been the conclusion of pure amateurship in radio, developed with the aim to please in the land of Heredia, a name which was put in the map, by the station TI-4-NRH.

Fading and Other **Troubles**

(Continued from page 10)

spects, and you will obtain every bit of efficiency that it is possible to give. The -80 rectifier need not be replaced with a newer type because it now gives as much amperage and poten-

tial as is necessary to run your set.

Phones on Kolster

How shall I attach headphones to my Kolster K-140 receiver, and where are the speaker wires? The maker advises against the operation of this set with the speaker disconnected as it may ruin the receiver.

Phones are connected to this receiver as shown in Figure 4, of the February issue of RADEX, on page 3. Use two 1.0 mfd. fixed condensers, 500 volt test, and a 50,000 ohm resistor. Two wafer adapters for -47 tubes will be needed.

The manufacturer's caution about operating the set with the speaker disconnected means with the entire speaker cable plug pulled out of its socket. Place your speaker silencing switch in either the green or brown wire leading to the smaller of the dual speakers from the second speaker plug leading to the speaker voice coils. This cuts out the voice coils of both speakers and renders them inoperative, but permits the rest of the speaker field coils and unit to remain in the circuit so as to not damage the power pack of the set. Be careful about your wiring insulation, for the -47 tubes operate on 400 volts, a potential seriously high if carelessly handled.

Using Old Tubes

Can I modernize my Atwater Kent model 40 receiver? I have the original tubes, except the -27, which came in the set in 1930.

You state you are using the original tubes, except the -27. Old tubes pull down the efficiency of the set, and we are sure that if you retube the receiver the results will be greatly satisfactory. Although the tubes may seem to test well, they are too far gone to be useful further. You might try replacing the -27 with a 56. The -71A can be replaced with a -45 if a suitable voltage reducing adapter is used in the socket for more power and volume. Your present -27 is the detector tube. The -26s in the set cannot be replaced with newer types.

If this set is noisy it might be well to test the by-pass condenser located on the right-hand side of the volume control. This condenser by-passes the choke of the speaker, the terminals connecting to one speaker post and to the plate of the -71A tube. Frequently this trouble occurs in the AK 40 receiver. And of course, the condenser plates should be cleaned to remove all traces of dust.

Short-Wave Signals Cut Off

I have a Pilot Super-Wasp battery model k-110. The set was noisy and I took it apart and resoldered every connection. It now cuts off and on rapidly as if a wire still is loose. The regeneration control will not increase the volume even if pulled down until it falls into oscillation. There is no gradual increase in volume. The position where the set oscillates very loud is where the antenna condenser is set around 50 to 65, and the other around 50 to 90. At other points there is no oscillation. What do you think is wrong?

It is hardly ever possible to state definitely the cause of signal cut-off. In most cases this has been found due to some defect in a filter or by-pass condenser which shorts for a time and then heals automatically for a short time. Sometimes connections to condensers will open for a time due to some expansion or contraction of the material of which the condenser is made.

Critical performance of the regeneration control is usually due to excessive detector plate potential, too large a plate coil, too large a throttle condenser, too large a choke coil in the detector plate circuit, or failure properly to by-pass the detector plate supply lead. It must be realized that trouble may develop from any combination of these factors. The remedy usually applied to such circuits is to provide a resistance-capacity filter at the detector plate input. This consists of a 1.0 mfd. condenser consists of

nected between the plate input lead and the ground or cathode, and a 50,000 to 100,000 ohm resistor in series with the plate lead. Sometimes a ¼ to ½ megohm resistor across the primary or secondary of the first audio transformer will correct the trouble.

Wiring Up AK Model 20

My Atwater Kent model 20 battery set is now being used after a long period of rest. Having lost the wiring hook-up diagram I wish to verify the wiring to the batteries, for the set only brings in nearby stations of great power.

The red wire of the battery cable connects to the positive A and negative B battery terminals; the black wire to negative A: the blue wire to the 4½ volt C battery, negative terminal; the yellow wire to the 221/2 volt B battery; the white wire to the 661/2 volt B battery: and the brown wire to the 90-volt B and also one side of the loud speaker. Your tubes should be tested and replaced if weak. Clean the set carefully to free it of all dust, especially between the variable condenser leaves. If it persists being weak test the transformers for burned-out primaries, or open fixed condensers or broken wires in the r.f. coils.

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See our February issue for full details for using phones with adapters.

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