

NSE

FEBRUARY 1939

RADIO INDEX

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No. 126

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FEBRUARY 1, 1939



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FIFTEENTH YEAR

NUMBER 126

PAGE TAYLOR

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FOR SALE AT YOUR NEWSSTAND

CLASSIFIED INDEX TO CHAIN PROGRAMS

WC indicates West Coast programs. Time is given in Eastern Standard, all P.M. unless otherwise stated.

Comedy

- Sun, 5:30 pm, Lew Lehr, CBS
6:30 pm, Billy House, CBS
7:00, Jack Benny, Red
11 pm, Lew Lehr, CBS (WC)
- Mon, 7:30, Eddie Cantor, CBS
8:00, Henry Youngman, CBS
10:30, Eddie Cantor, CBS (WC)
- Tues, 8:30, Parkyakarus, CBS
10:00, Bob Hope, Red
10:00, Jerry Colonna, Red
12:00, Parkyakarkus, CBS (WC)
- Wed, 9:00, Fred Allen, Red
- Thur, 7:30, Joe Penner, CBS
8:30, Joe Penner, CBS
9:00, Frank Morgan, Fannie Brice, Red
10:00, Bob Burns, Red
- Fri, 7:30, Jack Haley, CBS
- Sat, 7:30, Joe E. Brown, CBS
8:00, Col. Stoopnagle, Red
11:00, Joe E. Brown, CBS (WC)

Concerts

- Sun, 12:30 pm, Radio City Music Hall, Blue
3:00, N. Y. Philharmonic, CBS
5:00, Metropolitan Opera Auditions, Blue.
9:00, Ford Sunday Evening Hour, CBS
- Mon, 8:30, Alfred Wallenstein, Red
- Wed, 9:00, Everybody's Music, CBS
- Fri, 8:00, Frank Black, Red

Dance Bands

- Sun, 5:30 pm, Ben Bernie, CBS
6:30, Carl Hohengarten, CBS
7:00, Harry Salter, Red
7:00, Phil Harris, Red
7:30, Oscar Bradley, CBS
8:00, Robert Armbruster, Red
9:00, Don Donie, Red
9:30, Gus Haenschen, Red
10:00, Horace Heidt, Red
11:00, Ben Bernie, CBS (WC)
11:30, Harry Salter, Red (WC)
- Mon, 8:00, Richard Himber, CBS
8:00, Carl Hoff, Red
8:30, Benny Krueger, CBS
9:00, Phil Spitalny, Red
9:30, Eddie Duchin, Red
10:00, Guy Lombardo, CBS
10:30, Carl Hoff, Red (WC)
11:30, Benny Krueger, CBS (WC)
- Tues, 8:00, Russ Morgan, Red
8:30, Lud Gluskin, CBS
8:30, Peter Van Steeden, Red
9:30, Benny Goodman, CBS
10:00, Skinnay Ennis, Red
12:00, Lud Gluskin, CBS (WC)
- Wed, 8:30, Paul Whiteman, CBS
8:30, Tommy Dorsey, Red
8:30, Harvey Salter, Blue
9:00, Peter Van Steeden, Red
9:30, David Broekman, CBS
10:00, Kay Kyser, Red
10:30, Frankie Masters, CBS

- Thur, 7:30, Ben Pollack, CBS
8:00, Jack Miller, CBS
8:00, Rudy Vallee, Red
8:30, Ben Pollack, CBS
9:00, Meredith Willson, Red
10:00, Johnny Trotter, Red
11:30, Jack Miller, CBS (WC)
- Fri, 7:30, Ted Fio Rito, CBS
8:30, Ray Noble, CBS
9:00, Victor Young, CBS
9:00, Abe Lyman, Red
10:00, Guy Lombardo, Red
11:30, Ray Noble, CBS (WC)
- Sat, 7:00, Saturday Night Swing Club, CBS
7:30, Harry Sosnik, CBS
8:00, Russ Morgan, CBS
8:30, Fred Waring, Red
9:00, America Dances, Red
9:30, Gus Haenschen, CBS
10:00, Hit Parade, CBS
11:00, Harry Sosnik, CBS (WC)

Dialog

- Sun, 8:00 pm, Edgar Bergen, Charlie McCarthy, Red
- Mon, 7:00, Amos 'n' Andy, Red
7:15, Lum and Abner, CBS
8:30, Pick and Pat, CBS
11:00, Amos 'n' Andy, Red (WC)
11:15, Lum and Abner, CBS (WC)
11:30, Pick and Pat, CBS (WC)
- Tues, 7:00, Easy Aces, Blue
7:00, Amos 'n' Andy, Red
9:30, Fibber McGee and Molly, Red
11:00, Amos n Andy, Red (WC)
- Wed, 7:00, Amos 'n' Andy, Red
7:00, Easy Aces, Blue
7:15, Lum and Abner, CBS
11:00, Amos 'n' Andy, Red (WC)
11:15, Lum and Abner, CBS (WC)
- Thur, 7:00, Amos 'n' Andy, Red
7:00, Easy Aces, Blue
11:00, Amos 'n' Andy, Red (WC)
- Fri, 7:00, Amos 'n' Andy, Red
7:15, Lum and Abner, CBS
8:30, Burns and Allen, CBS
11:00, Amos 'n' Andy, Red (WC)
11:15, Lum and Abner, CBS (WC)
11:30, Burns and Allen, CBS (WC)
- Sat, 8:00, Tommy Riggs and Betty Lou, Red

Drama

- Sun, 6:00 pm, Silver Theater, CBS
6:30, Tale of Today, Red
8:00, Orson Welles, CBS
9:45, Irene Rich, Blue
11:15, Irene Rich, Blue (WC)
- Mon, 9:00, Lux Radio Theater, CBS
- Tues, 7:30, Helen Menken, Red
8:00, Edward Robinson, Claire Trevor, CBS
10:00, Jean Hersholt, CBS
11:30, Edward Robinson, Claire Trevor, CBS (WC)

Wed, 8:00, Gang Buster (Phil Lord), CBS
 8:00, One Man's Family, Red
 Thur, 10:00, Columbia Workshop, CBS
 Fri, 8:00, First Nighter, CBS
 9:00, Hollywood Hotel, CBS
 9:30, Death Valley Days, Red
 10:00, Grand Central Station, CBS
 12:00, First Nighter, CBS (WC)
 8:00, Warden Lawes, Blue

News

Sun, 11:00 pm, Press Radio, Red and Blue
 Fri, 9:30, March of Time, Blue
 Daily except Sunday, 6:00, Press Radio, CBS
 6:25, Press Radio, Red
 Daily except Saturday and Sunday, 6:45, Lowell
 Thomas, Blue

Popular Programs

Sun, 11:30 am, Major Bowes Family, CBS
 12:30 pm, Salt Lake Tabernacle, CBS
 1:00, Church of the Air, CBS
 2:00, RCA Magic Key, Blue
 4:30, Court of Human Relations, MBS
 5:00, Spelling Bee, Red
 6:30, The Laugh Liner, CBS
 7:30, Passing Parade, CBS
 8:00, Chase and Sanborn Program, Red
 9:00, Manhattan Merry-Go-Round, Red
 9:30, Album of Familiar Music, Red
 10:00, Horace Heidt's Brigadiers, Red
 Mon, 6:45, Sophie Tucker Show, CBS
 8:00, Monday Night Show, CBS
 8:00, Al Pearce and Gang, Red
 8:30, Voice of Firestone, Red
 9:00, Hour of Charm, Red
 9:30, Pall Mall Program, Red
 10:00, Contented Program, Red
 10:00, True or False, Blue
 10:30, Al Pearce and Gang, Red (WC)
 11:30, Voice of Firestone, Red (WC)
 12:30, Vox Pop, Red (WC)
 Tues, 8:00, Johnny Presents, Red
 8:30, For Men Only, Red
 9:00, We, The People, CBS
 9:00, Vox Pop, Red (WC)
 10:45, Uncle Ezra, Red
 Wed, 6:45, Sophie Tucker Show, CBS
 7:30, Ask-It Basket, CBS
 8:00, Town Hall Tonight, Red
 8:30, Hobby Lobby, Blue
 9:30, For Men Only, Red
 10:30, It Can Be Done, CBS
 10:30, NBC Minstrel Show, Blue
 Thur, 9:00, Major Bowes' Amateurs, CBS

9:00, Major Bowes' Amateurs, CB^f
 9:00, Good News of 1939, Red
 10:00, Kraft Music Hall, Red
 Fri, 6:45, Sophie Tucker Show, CBS
 8:00, Cities Serice Concert, Red
 8:00, Warden Lawes, Blue
 9:00, Waltz Time, Red
 9:00, Hollywood Hotel, CBS
 9:30, Death Valley Days, Red
 9:30, March of Time, Blue
 8:00, Johnny Presents, CBS
 8:30, Professor Quiz, CBS
 9:00, National Barn Dance, Blue
 10:45, Uncle Ezra, Red
 11:00, National Barn Dance, Blue (WC)

Singers

Sun, 4:00 pm, Benay Venuta, MBS
 5:30, Manny Prager, CBS
 6:30, Jack Fulton, CBS
 7:00, Kenny Baker, Red
 8:00, Nelson Eddy, Red
 8:00, Dorothy Lamour, Red
 9:00, Rachel Carlay, Red
 9:00, Pierre Le Kreun, Red
 9:30, Frank Munn, Red
 9:30, Jean Dickenson, Red
 9:30, Elizabeth Lennox, Red
 Mon, 8:30, Edward Roecker, CBS
 8:30, Margaret Speaks, Red
 10:00, The Lullaby Lady, Red
 Tues, 8:30, Al Jolson, CBS
 8:30, Martha Raye, CBS
 9:30, Donald Novis, Red
 12:00, Al Jolson, CBS (WC)
 12:00, Martha Raye, CBS (WC)
 Wed, 9:30, Jane Froman, CBS
 9:30, Kenny Baker, CBS
 10:00, Virginia Sims, Red
 10:30, Marion Francis, CBS
 Thur, 8:00, Kate Smith, CBS
 10:00, Bing Crosby, Red
 11:30, Kate Smith, CBS (WC)
 Fri, 7:30, Jack Haley, CBS
 7:30, Virginia Verrill, CBS
 8:00, Lucille Manners, Red
 8:30, Tony Martin, CBS
 9:00, Frances Langford, CBS
 9:00, Jean Sablon, CBS
 9:00, Frank Munn, Red
 11:30, Tony Martin, CBS (WC)
 Sat, 9:00, Henry Burr, Blue
 9:30, Mary Eastman, CBS
 10:00, Fredda Gibson, Buddy Clark, CBS
 11:00, Henry Burr, Blue (WC)

Talks

Sun, 9:30, Walter Winchell, Blue
 11:00, Walter Winchell, Blue (WC)
 Mon, 7:15, Edwin C. Hill, Red
 11:15, Edwin C. Hill, Red
 Tues, 9:00, Gabriel Heatter, CBS
 10:30, Jimmy Fidler, Red
 Wed, 10:30, Edgar A. Guest, CBS
 Fri, 7:15, Jimmy Fidler, Red
 10:30, Jimmy Fidler, Red (WC)

Dxers' Picture Gallery



Many of the country's best known DXers are shown in this group photo, taken at a gathering of the National Radio Club at Kittanning, Pa. From left to right are Bob Botzum, Reading; an unidentified DXer; Dan Yapp, Kit-

tanning; Warren Routzahn, York; Dick Cooper, Kittanning; Mr. Button, Kittanning; Frank Schmidt, Pittsburgh; Max Demuling, Erie; Ed Feichtner, Erie; Bill Stone, Toronto, Ont.; Harold Wagner, Erie; Harry Gordon, Erie.



NICOLA CANNATA

NICOLA CANNATA

A DXer who should enjoy remarkable success in the identification of foreign stations, is Nicola Cannata, whose favorite pursuit is copying press in Morse, in English, French, Spanish and Italian. Nicola was a telegraph operator in Italy, but is now a full-fledged American DXer. Using two receivers, an RCA Victor 816-K, and a Scott 30 Philharmonic, he has enjoyed good DX, especially from Europe. He is a member of The Radex Club (R486), the WWDC, IDA, QRC, RSSL, SWL, NRC, and NNRC.



Radio "El Mundo" operates on shortwaves (10050 kcs) and the broadcast band (1400 kcs). This card is printed in black, and the call letters and illustration are in gold. (Courtesy of J. E. Gardner).

NOTICE TO RADEX READERS

Should your newsdealer at any time be unable to supply you with a copy of **RADEX** you may obtain the issue you want by using the order form on page 96 of your last copy.

DX Is Where You Find It

. . . by Carleton Lord

As listeners build up logs of stations on the broadcast band, invariably they find that the process grows more complex with the passing months. During the early days of their DX careers, a helter-skelter, hit-or-miss brand of dialing usually sufficed, and the listener was able to log practically everything he heard. But when the log continued to grow, the DXer found that eventually he must systematize his tuning.

With three or four hundred stations on the credit side of his log, a casual session at the dials no longer brought in many new catches. In fact, nights might pass without a single new station being heard, and the listener would begin to wonder how long this would go on.

Gradually he would begin to realize that the days of stations on a silver platter were over, and that he would have to work for any future additions to his log. And then would begin the process of installing a little system in his tuning activities.

If he was smart, he would probably classify the stations still to be heard into groups. One group undoubtedly would include all stations scheduled during the monthly frequency checks and, during the second week of every month, he would concentrate on these broadcasters. A second group would include early-bird transmitters, which sign on in the morning before their channels get crowded and while distant reception is still possible. A third group would cover the late signers-off, the stations which are still on the air after their frequencies have cleared up after midnight. A fourth

group consists of an indeterminate number of broadcasters who are best heard at dusk. And a fifth and final group would include all stations which didn't fall into one of the first four classifications.

The average DXer should really strike pay dirt in the first group, for conditions during the monitoring tests are nearly perfect. Each month a total of 360 of the smaller stations broadcast for a 15-minute period, and in most of the cases, they enjoy a clear channel for at least a part of their transmission.

A better conception of the importance of these broadcasts may be had when it is realized that 268 of the 360 stations involved are concentrated on the six graveyard channels. At latest count, there are 322 active stations on these six frequencies, and 268 of these—better than 83 per cent—are on the monthly monitoring schedule. Truly this is a gold mine for the DX fraternity.

Stations in the second and third groups may be classified and segregated by considering their operating schedule. Those which sign on before 7 a. m., local time, may be placed in the second group, while those which sign off after midnight or 1 a. m., local time, will fall in the third group.

Determination of these stations is possible by consulting the schedules shown in the January and February issues of RADEX. When available, the listing of the hours of operation will show whether the individual stations may best be heard early in the morning or late at night—and thus

desired broadcasters may be divided into the second or third groups. On many frequencies, the schedules will show when stations likely to cause interference will be silent.

When schedules are not complete and the actual hours of operation are unknown, the listener can try his hand at before-breakfast and after-midnight listening. It is comparatively easy to identify the stations within range which can be heard at most any hour of the day or night on regular schedules.

Occasionally listeners compile lists of stations which sign on early and are well heard in their vicinity. Such lists have appeared in previous issues of RADEX, and at hand there is a new list submitted recently by Peter A. Clarius of Port Richmond, N. Y. According to his information, CHSJ signs on every morning at 4:55 a.m., EST, while WHIS follows at 5 o'clock. At 5:30 WJR signs on. At 6 o'clock, WNAC, WEAN, WICC, WBLK, WAWZ, WTAM, KWTO, KMA, WQDM, WSAZ, WTIC, WBZ, WRC, WMAL, WELI, WHAI and WSNJ take the air. At 6:15 WSYR comes on, with WOR following at 6:25, and WEAJ, WJZ, WABC, WINS, WBBR, WGR and WBAL starting up at 6:30. WAAT opens its day at 6:45.

Add to this the information submitted by other listeners and taken from the RADEX schedules, and it will be possible to distribute quite a number of stations in the second and third groups.

The fourth group consists of stations best heard at dusk and is a fertile field for many DXers. Best results are usually obtained by dialing

stations to the East of the listener, since interference from stations to the West has not as yet begun. Many daytime stations, signing off at local sunset, can be logged during the last fifteen minutes of their programs, so it is simply a case of picking a station and tuning for it at the right time.

Frequently it is amazing how many stations can be heard between 4:30 and 6 p.m., local time. Signals from transmitters of relatively low power have little difficulty in covering a thousand miles or more. Reception at this time is occasionally a trifle spotty, but the vagaries of fading often leave a desired station in the clear when, by all rights, it should be swamped by nearby transmitters.

Too many listeners have paid too little attention to the hour before supper, and many of them will be surprised by the number of stations in group 4 which can be logged at that time.

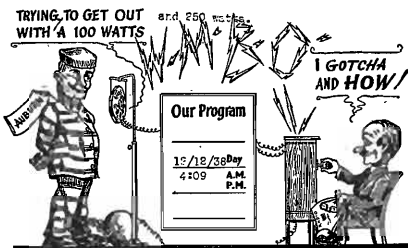
Group 5, of necessity, must include all of the stations which cannot be heard under the conditions specified for the first four groups. In it will be found the broadcasters which do not have monthly frequency checks, those which sign on too late or off too early to be heard in the early morning or late at night, and those which can't quite make the grade at dusk. In it, too, are the stations which do have a monthly monitoring period, but whose signals are lost behind an interfering station or are too weak to reach the listener. This group is admittedly a tough nut for DXers to crack, but most listeners will agree its very toughness adds much to DX interest. Veries from stations in this group are indeed prizes worth having.

For the most part, listeners must rely on special, after-midnight programs for stations in group 5. Courtesy Programs Committees of the various radio clubs usually concentrate on these hard-to-get broadcasters, and generally are able to line up an attractive array of DX programs during a winter season. Occasionally, stations in this group broadcast short test programs for commercial monitors. Whenever available, information regarding these broadcasts appears in RADEX, and individual listeners may get additional details by writing direct to a desired station.

Hide and Seek

Regardless of where a listener resides, there will always be a few elusive stations in group 5 which manage to escape his straining ears. Frequently he will have reason to decide that these stations deliberately arrange their schedules so they will *not* be heard in his particular locality.

Such is the case of Rud Anderson, Ambrose, N. Dak., who is gunning for 20 stations Down East. "I have heard 705 active U.S. stations," he writes, "and am short on 89. Most of these are little birds that no one gets except by accident. Near as I know, with the exception of KOAC, all Western stations go on in the clear sometime, but you have 20 stations over East who do not go on in the morning until after a Midwest station goes on first. I am sure they hide from listeners. From pictures, WMCA is an up-to-date station, but they must be queer, for why build a station that spreads its stuff only to Boston or New York? I guess they must be old fogies.



While those who reside in the Auburn Prison may have difficulty getting out, station WMBO in that city has no difficulty whatsoever. WMBO's signals have been captured in every part of the country, and successful captors receive this card as a reward. (Courtesy of Carl Horton).

"I can show you 20 Midwest stations that come on before their time. Guess they do that to keep others from being heard in their territory. For example, WEEI is supposed to come on at 6:45 in the morning, so what does WOW do? It comes on at 6:45 or earlier! Never at seven! Then WTAG comes on five minutes too late to be heard, and WMCA hides behind WNAX. WCAO and WLBZ could come through, only they don't get up early enough. Maybe Cornell will win a football game sometime and stir up WESG, I'm sure I can't. And the others are just the same.

"I am sure I can take any station in the United States, if they would only come out of hiding. But as far as I am concerned, they can hide—if it doesn't hurt them, it doesn't hurt me."

Sectional Problems

Listeners have found that the section of the country in which they live plays an important part in their DX

activities. Disregarding apparent physical advantages insofar as actual reception of signals is concerned, it is evident that the various time belts are a vital factor in DXing.

When it comes to hearing the greatest number of stations, listeners in the Eastern time belt undoubtedly have a very real advantage over their contemporaries to the West. They are able to hear as high a percentage of stations in their own time zone as the average DXer in any other belt, but they also have the added advantage of being able to hear stations to the West under the most favorable circumstances. Between midnight and 1 a.m., for example, most of their nearby stations have signed off and they are free to tune in the Midwestern stations with a minimum of interference. And as sign-off time travels West to stations in the Central and Mountain time belts, they are able to reach out for the far Western stations. By 3 a.m., EST, they have an almost unobstructed path to stations on the Pacific Coast.

West Coast DXers, on the other hand, find local channels full until midnight their time. When interference from nearby stations clears up, it is then after 3 a.m., EST, and most of the Eastern and Midwestern stations have gone to bed. They do have a shot at the early signers-on back East, but by the time most of the desired stations have come on the air, daylight has hit the Atlantic Seaboard and reception stops—just like that!

Between these two extremes—Eastern and Pacific—DXers in the Central and Mountain time belts listen under varying conditions. Their listening activities may be considered average

for the whole country—not as good as the Eastern DXers and not as bad as the Pacific listeners.

But wherever the night owl resides, he is always beset by local problems. While the West Coast DXer would like to have a crack at the Eastern stations, the listener along the Atlantic Seaboard would give a lot for a shot at the Aussies, Zedders and Japs which grace the logs of the Pacific Coast lads.

Perhaps the best way for all DXers is to make the most of his own particular problems, systematize his dialing to fit his own needs, and see how many stations he can hear from his own locality.

News of DX World

For those who go dialing on frosty winter mornings, there are many stations waiting to be heard. New transmitters have come on the air and are conducting test programs. Old and still-to-be-heard stations are putting on special broadcasts. Foreign stations to the South are coming through in better shape than ever before. TA's and TP's are being heard during their proper seasons. There are catches for all DXers, no matter where they live, and all they have to do is tune them in.

From the United States, many recently-authorized stations have completed their transmitters, started equipments tests, and even gone on the air with regular programs. On December 5th, for example, WJHL, the new 100-watter on 1200, at Johnson City, Tenn., came on the air for the first time. December 10th found two other newies opening up—WMRO, 1250 kcys, 250 watts, Aurora, Ill., and KSAM, 1500 kcys,

100 watts, Huntsville, Tex. KOME, 1310 kcys, 100 watts, Tulsa, Okla., aired its first broadcast on December 16th, while on the same date KBND, Bend, Ore., a 100-watter on 1310. was scheduled to commence transmissions. WSTP, 1500 kcys, 100 watts, Salisbury, N.C., was due to open on January 1st, but beat the gun and came on some time earlier. WFMJ, 1420 kcys, 100 watts, Youngstown, Ohio, is on the books for a mid-January opening. Additional power is on tap for a couple of older stations—WCHS, Charleston, W. Va., testing its new 1-KW rig early in December, and WHBF, Rock Island, Ill., due to move from 1210 to 1240 with a power jump to 1000 watts around the first of January.

Up in Canada, the new CKRN at Rouyn, Que., a 100-watter on 1370, was due to open around Christmas, but is as yet unreported by Radexers. According to word from the manager, CKCA, Kenora, Ont., 1420 kcys, 100 watts, was scheduled to open early in December, but it, too, is still unreported. A clean-up of congestion on 960 kcys is brought about by CHNC, the 1000-watter at New Carlisle, Que., moving to 610, and CBY, the old CRCY at Toronto, boosting its power from 100 to 500 watts. CJRC, 630 kcys, Winnipeg, Man., is now using its new 1-KW transmitter and is reporting much better coverage.

Dope on Stations

"Here are some more Canadian notes," offers William Cunningham, Pasadena, Calif. "CHGB, Ste. Anne de la Pocatiere, P.Q., operates on 1200 kcys with 100 watts, and is a member of the CBC French Net.

CBK, the Corporation Prairie Station at Watrous, Sask. (about 40 miles East of Saskatoon), will use 50 KW on 540 kcys. CBA, the CBC's Maritimes station at Sackville, N.B., will use 1050 kcys with 50 KW power. CBM, Montreal, is supposed to use 960 temporarily (now listed on 1050—Ed.) until the Havana Agreement goes into effect, when a new frequency will be assigned to it. CKOV is now installing its new 1000 watt transmitter."

"WGAR in Cleveland has been using its new transmitter with 5000 watts daytime and 1000 watts night," reminds Herbert Patterson, Durham, N. C. "KXOK, St. Louis, is now on the air and has been heard here."

"WCOU, the 100-watt station at Lewiston, Me., officially went on the air at 4 p. m. August 21st," reports George W. Haskell, So. Paris, Me. They operate from 6 a.m. to midnight, EST, and carry CBS and MBC programs."

"WHLS, Port Huron, Mich., came on the air August 7th with 250 watts on 1370 kcys," advises Carl Sylvester, Columbiaville, Mich. "They operate from 6 a.m. to 7:30 p.m. weekdays and 8 a.m. to 7:30 p.m. on Sundays. They are using RCA equipment and an antenna tower 204 feet high. The station manager is Angus Pfaff, formerly of WWJ, WLW and others."

"TIXD and its short wave sister station, TI2XD, broadcast simultaneously from 11 a.m. to 1:30 p.m. and from 5 to 11 p.m., EST," writes Joseph Lippincott, Tufts College, Mass. "TIXD uses 1000 watts on 800 kcys, while TI2XD is on 11.92 megs. They are very good about verifying reports, which can be ad-

dressed to the manager, Carlos E. Rodriguez M., at Box 1729, San Jose, C. R. Other Costa Rican stations heard in these parts are TIGH, 725 kcys, 600 watts; TILJ, 775 kcys, 500 watts; TILS, 880 kcys, 1000 watts; TIRS, 915 kcys, 250 watts; TIRH, 950 kcys, 1000 watts; and TIGPH2, 1225 kcys, 2000 watts."

"A new medium wave transmitter is on tap for Iceland," notes D. H. Dussek, Alton, Hants., England. "It will be located at Eidar. So far, Iceland has no medium-wave transmitter, although there is a long-wave station on 208 kcys and a short-wave transmitter on 12.23 meg."

Tips on Specials

Reception during the past month has found many new stations coming through for American DXers. Conditions seem to have been exceptionally good and many worthwhile catches have been logged.

Broadcasters in South America have been particularly active and listeners have had little trouble in getting their quota of SA's. LRA, the 10-KW Buenos Aires station on 750 kcys, was heard several times during December, broadcasting test programs for the International Broadcasters Union between 2:30 and 5 a.m., EST, on Wednesday and Saturdays. Another Buenos Aires station, LS6, 6KW on 1350, tested between 3:30 and 4:30 a.m. on several Tuesday mornings. LS11, La Plata, Arg., 1310 kcys, 10 KW, was scheduled for a number of January tests between 2:30 and 3:30 a.m., EST. LR3, Buenos Aires, 950 kcys, 31 KW, is frequently heard around 1 a.m., EST, Sundays.

Several Colombian stations have been reported during the early eve-

ning hours. HJ3ABD at Bogota, 1104, is a cinch most nights, and its signal belies its reported 50 watts of power. HJ1ABN is a new Colombian on 1190 kcys, heard several times, but as yet not located definitely. HJ7ABD, Bucaramanga, Colombia, has been active on 1130, although its power is unknown.

OAX4A, 954 kcys, Lima, Peru, has been showing good strength during the evening hours. A new Venezuelan on 1317 is also reported by listeners, but its call and location have not been ascertained.

Among the Costa Ricans, two San Jose stations, TIX on 605 and TIPG on 625, have been regular visitors. TIPG usually signs off around 9 p.m., EST, and shows very good strength until that time, while TIX boasts of a strong signal until its sign-off between 9 and 10:30 p.m.

The recent Cuban shake-up has caused a lot of confusion among DXers, but there has been no apparent effect on the strength with which the stations come through. Most frequently reported are CMBF on 1560, CMRT (without the "9") on 1580, CMQ on 1010 and CMCY on 590.

Mexico continues to provide its share of signals on the broadcast spectrum. XEQ, Tijuana, B. Cfa., 710 kcys, shows a potent wallop until 3 a.m., EST, daily. XEAF, Nogales, Son., 985 kcys, offers one of the strongest signals on the band. XERB, Rosarito Beach, B. Cfa., seems to be settled on 1090 and is well heard after KMOX signs off. Two other Tijuana stations, XELO on 670 and XEAC on 980, are among those most frequently reported. XEDA, Gral. Anaya, D.F., 1220 kcys, is heard

every Sunday until 2:30 or 3 a.m., EST.

In the United States, a number of commercial monitoring broadcasts are affording added opportunities for DXers to hear many a desired station. Among these are: WCOU, Lewiston, Me., 1210 kcys, 1:30 to 1:45 a.m., EST, on the 7th of each month; KWOS, Jefferson City, Mo., 1310 kcys, 2 to 2:30 a.m., EST, on the first Wednesday; KVG B, Great Bend, Kans., 1370 kcys, 3 to 3:30 a.m., EST, also on the first Wednesday; WPAY, Portsmouth, Ohio, 1370 kcys, 4 to 4:30 a.m., EST, on the 1st of each month; WGRC, New Albany, Ind., 1370 kcys, 3:30 to 4 a.m., EST, on the 1st of each month; KTRI, Sioux City, Ia., 1420 kcys, 2 to 2:30 a.m., EST, on the first Thursday; KDFN, Casper, Wyo., 1440 kcys, 3 to 3:15 a.m., EST, the first Friday; and WPEN, Philadelphia, 920 kcys, 2:10 to 2:30 a.m., EST, the first Wednesday.

As the latest additions to the monthly FCC frequency checks have been included in the schedule included elsewhere in this issue, no comment on these broadcasts is necessary.

Additional notes on reception of United States stations include a few tips on when a few good catches may be heard. KVOE, Santa Ana, Calif., 1500 kcys, has been heard on a clear channel just prior to its 3 a.m., EST, sign-off during the week of the frequency checks. This station is also reported to have a commercial monitoring broadcast from 3:00 to 3:30 a.m., EST, on the first Thursday.

KSAN, San Francisco, Calif., 1420 kcys, is another station reported in

the clear during the second week monitoring tests. In this case, the station was heard on December 8th at 3 a.m., EST, just after WBNO signed off. So that hour on the second Thursday of February may enable DXers to add KSAN to their list.

A number of readers report that KOAM, Pittsburg, Kans., 790 kcys, may be heard when it signs on at 8:30 a.m., EST, daily. WGAU, Athens, Ga., 1310 kcys, is reported to be in the clear at its 7 a.m., EST, sign-on Sundays. Dawn and dusk DXers may have a crack at WPIC, Sharon, Pa., 780 kcys, and WKST, New Castle, Pa., 1250 kcys, as both stations sign on at 6:30 a.m., EST, and off at 5 p.m., daily.

Of particular interest to all DXers is the news that the new WHMA, Anniston, Ala., 1420 kcys, has been assigned the 5:20-5:35 a.m., EST, period on the second Saturday of each month. According to Engineer J. G. Cobble, long opposed to DXers and veries, the station will verify reports only for the first three frequency checks—December, January and February. After that, WHMA will revert to a non-verifying policy.

Station CHWK, Chilliwack, B.C., 780 kcys, broadcasts a regular test program from 3:45 to 4:15 a.m., EST, the second Wednesday of every month.

Two special programs of note are scheduled for February from XEFV, Juarez, Chih., 1210 kcys, and XEBO, Irapuato, Guan., 1310 kcys. Arranged for the NNRC, XEFV will be on from 4 to 5 a.m., EST, on February 8th, while XEBO will broadcast from 3 to 4 a.m., EST, on February 11th. XEBO will be on again

at the same time on March 11th, and as noted in the last issue, YSS, San Salvador, 638 kcys, will DX for the IDA from 1 to 2 a.m., EST, on March 22nd.

Other Notes (all time is EST): Bordeaux on 1366 and Radio Normandie on 1411 have been particularly good between 1:30 and 2:30 a.m.

. . . WIL now signs off at 4:30 a.m. on 1200, while 3 a.m. ends the day for KORE on 1420, KERN on 1370 and XEAC on 980 . . . Sunday morning Costa Ricans are TGQ, 1450 kcys, and TGI, 1310 kcys, both heard until 2 a.m. . . . KTFI reported on 1240 until 2 a.m. Saturdays after WXYZ closes . . . 560 channel well occupied by WIND, with KWTO coming on at 6 a.m. . . . WIBW opens on 580 at 5 a.m. . . . WIP, 610, now 24 hours a day, except for 1 to 7 a.m. silent Monday . . . 710 used by KIRO until 5 a.m. . . . XEPN signs on at 5:30 a.m. on 730

. . . WJR starts up at 5:30 a.m. on 750 . . . XERA on 840 and XEAW on 960 open up at 5 a.m. . . . XENT, 910, on all night . . . Ditto KFVD on 1000 . . . KWJJ uses 1040 until 6 a.m. . . . KJBS on all night on 1070 . . . 1120 occupied by KRSC and KFSG until 5 a.m., when KRSC signs off . . . KGFJ still going strong all night on 1200 . . . Likewise WNEW on 1250 . . . KLS on 1280 and KFAC on 1300 open all night . . . KRE on 1370 off at 3 a.m. now . . . CKMO on 1410 open most nights . . . KXL on 1420 now off at 3:15 a.m., except Saturday night . . . KORE strong on 1420 until 3 a.m., after which KSAN is heard . . . WJBK still blocking 1500 all night.

The Stations Report

On page 26 of the November RADEX, J. W. Brauner reported that he had not received a verification from KPAB, Laredo, Texas. Fred Hammond, Chief Engineer of KPAB, read this item and then wrote the following letter to Mr. Brauner, forwarding a copy to RADEX:

We note in the November 1938 issue of RADEX your statement to the effect that you reported reception of KPAB in July, but to date had received no reply. This does not tally with our file on DX reports and verifications, since we have a letter of report from you dated October 10th, covering our October 10th frequency check program, to which we replied with our usual full page letter of verification under date of October 14th.

We are wondering if you did not receive our verification. We are anxious to receive reports on checks, and have made a special effort to verify all reports as soon as received, in order to keep the reports coming in.

We shall be glad to hear from you again, and would like to consider you among our regular listeners.

Commenting further on the incident, Mr. Brauner writes: "A new report to KPAB brought a reply in six days—a four page letter signed by Chief Engineer Fred Hammond. This letter is one of the finest verifications in my collection of over 1200. Any DXer who hasn't this verie should tune in KPAB and report, for the beautiful front page of this verie makes an outstanding addition to any DXer's collection."

It is felt that a salute to Engineer Fred Hammond and KPAB is in order from the entire DX fraternity, not only for its evident desire to cooperate with the army of night owls, but for its policy of verifying all reports promptly. It is hoped that

DXers will reciprocate this friendly feeling by reporting regularly to KPAB on its various test programs.

"We wish to acquaint you with the new KGFW here at Kearney, Neb.," informs William E. Baker, Manager. "On August 2nd we went on the air with increased power, new equipment throughout, and new, modern studios in Grand Island and in Kearney. New Collins and RCA equipment was installed, together with a 187½ foot vertical antenna, the only one of its kind now in use. The antenna is triangular, 12 inches on a side from the bottom to within five feet of the top, where it turns to a point. The three legs are of one-half inch steel, 1½ inches wide, bound together with one-half inch bars. It is floated into a concrete base and guyed with 18 wires. The antenna is grounded with 90 radions, each 185 feet long, buried six inches under ground. The 90 laterals connect with an open ground of 650 feet of steel mesh blanket, tied into the concrete base with 18 wires. The power line is shunted in at 42 feet."

Thomas Carberry, Jr., Buffalo, N. Y., forwards a copy of a letter from A. F. Schultz, Chief Engineer of KHBG, Okmulgee, Okla., which describes its transmitting equipment. The station uses a high fidelity RCA 100G transmitter, a 204-foot shunt excited vertical radiator, Western Electric speech input with Western Electric Salt Shaker and RCA Velocity microphones.

Daytime Reception

The recent attention to daytime DXing appears to have caught the fancy of not a few listeners. First reference to its possibilities appeared

in the November issue, and this was followed by a more lengthy discourse in January.

"I see where some of the boys have tried out the broadcast band during the daytime and had some good results," observes Ray B. Edge, Buffalo, N. Y., "so I decided to give it a whirl. Using a 19-tube Scott Phantom receiver, I started to listen at 12:15 p.m. and by 3:45 I had logged 61 different stations—WGR, WSYR, CKCL, WMT, WCLE, WHJB, CFCO, WHKC, WSM, WEAF, WMAQ, CFRB, WLW, WOR, WGN, CFPL, WSB, WJR, WJZ,



The veri card used by KWYO in Sheridan, Wyo. is a striking photograph of their vertical aerial, with their call letters written in the clouds. (Courtesy of Peter Clarius.)

WBBM, WPIC, WGY, WCCO, WHAS, CBL, WESG, WABC, WENR, WQAN, WBEN, WWJ, CKPC, WICA, CRCY, KDKA, CHML, WKY, CKLW, WTIC, WTAM, WBT, CKOC, WJJD, WHAM, WWVA, WCAU, CKTB, WJTN, WCAE, WKST, WHIO, WJAS, WEBR, WSPD, WFBL, WBNY, WHDL, WLEU, WHEC, WGAR and WKBW. The only station heard which could not be copied was WKST on 1250, which was marred by some interference from WBNY. Best catch of the lot, I think, was WMT, for its 1000 watts covered some distance before it reached Buffalo."

Another Buffalo listener, George Burnett, was able to log 63 stations, exclusive of locals, between 9 a. m. and noon, EST. They were WSYR, WCLE, WHJB, WEAJ, WLW, WOR, WGN, WJR, WJZ, WPIC, WESG, WABC, WENR, WHDL, WWJ, WICA, WTAM, WHAM, WHAM, WWVA, WCAU, WKBN, WINS, WCAE, WHEC, WRVA, WTIC, WBAL, WBT, WLEU, WHAS, WBBM, WSM, WGY, WMAQ, WSB, WOW, WCFL, WMT, WCCO, WJJD, WBZ, WHKC, CKCL, CFCO, CBM, CFRB, CFPL, CBL, CHML, CKLW, CKOC, CKTB, CFCF, CKPC, CRCY, KYW, KDKA, KMOX, KMBC, KVOO and KWTO.

Walter V. Scholz, 2nd, Webster Groves, Mo., offers a list of 61 stations which he compiled during the daytime: KSD, KFUE, KWTO, WIND, WNAX, KSAC, WIBW, WILL, WOW, WMT, WREC, WDAF, WTMJ, KFRU, WGBF, WOI, WSM, WAAW, WMAQ,

KFEQ, WLW, WGN, WJR, WEW, WBBM, WMC, KOAM, WHAS, KOA, WHB, WENR-WLS, WSUI, KFNF, WTAD, WAAF, KMA, WAVE, KMBC, WCFL, WHO, WDZ, KTHS, WCAZ, KMOX, WJJD, KVOO, WIL, WTAX, KXOK, KWOS, KWK, WDWS, WCBS, WMBD, WTMV and KITE. "During the winter months," he adds, "I can hear WOR, CBL, XERA, WFAA and WBAP. The others can be heard day after day, throughout the entire year, and not under extraordinary conditions."

Question Department

Morton Raff, Highland Park, Ill., would like information as to the identity of Spanish-speaking stations on 1060, 1080, 1190 and 1470 kcys.

"I would like to ask the aid of Radexers in identifying a Japanese station on 870 kcys," queries Arthur Child, San Francisco, Calif. "It is heard every morning lately, broadcasting news in English and Japanese, from 5 to 5:45 a.m., PST. It has a pretty good signal, but fades out around 6 a.m."

It is believed that this is JOAK-2, which has been reported on 870 by many Pacific Coast Radexers.

"At about 4 a.m. this morning (December 8th)," postcards Leon Grossman, Rochester, N. Y., "a station on approximately 1340 kcys announced ' . . . in Grand Island, Neb., operating on the assigned frequency of 13— (static and fading made it impossible to get the rest of the frequency) kilocycles, authorized by the Federal Communications Commission. Good morning.' I can find no trace

of any station operating in Grand Island. Can you help me?"

Earlier in this section, Manager William E. Baker of KGFW, advised that his station maintained studios in Grand Island as well as Kearney, Neb. While KGFW is on 1370, not 1340, it is possible that an error was made in noting the frequency and that KGFW was the unknown station.

In a recent NNRC bulletin, a member reported hearing what may be a new outlaw station. The station was operating on 1510 kcys, announced its call as WJN, and gave a Passaic, N. J., telephone number. Calling that number, the NNRCer was informed that the station was located in Brooklyn, that it had been granted a license some time before, but was not yet on a regular schedule. Have any other Radexers heard WJN? And are there any more outlaws operating today?

That Cricket Game

Certainly the most important sporting event in the history of DXing was the series of cricket matches played between the British and Australian teams during December, 1932 and January, 1933. Broadcast around the world for the benefit of cricket enthusiasts, it made the globe just a little smaller for the DX fraternity.

As recalled on page 4 of the November RADEX, an account of the matches, broadcast by an unknown station on or near 910 kcys, caused considerable commotion among the midnight marauders of the day. A few listeners were sure that the play-by-play description was coming from the familiar 4RK at Rockhampton,

Australia. Because of commercial announcement for an English firm of importers, other listeners claimed that the station was Poste Parisien. The time of the broadcast—1 to 3 a.m., EST—lent credence to the latter theory, the while discounting 4RK.

Finally, when countless DXers began to receive verifications from Poste Parisien, listeners began to agree that the broadcast had indeed come from the French station. Even the skeptics, who had previously insisted that some American or Canadian station had rebroadcast the matches, conceded that this was the first instance of mass listening to a European station. And such was the reference in the November, 1938 issue of RADEX, serving as it did as an introduction to a treatise on trans-Atlantic reception.

"I notice that the famous cricket matches of 1932-33 are up again for discussion," observes Whitney Smith, Walled Lake, Mich., "and after these years of silence, I am finally going to take part. On January 13, 1933, my wife and I heard, early in the morning, on 910 kcys, a play-by-play account of a cricket match, broadcast by a station which we identified as 4RK, Rockhampton, Australia. I wrote to the station, giving necessary particulars. Under date of March 1, 1933, they wrote as follows: 'We are in receipt of your letter reporting reception from Station 4RK. Reference to our log confirms your reception and we congratulate you.'"

"Make of that what you will," challenges Mr. Smith, and we hardly know what to say. A verification is a verification, and this seems to indicate that (1 the cricket match was broad-

cast by 4RK and 2) that 4RK was heard by Mr. Smith.

However, to count out Poste Parisien would be impossible. In the first place, the French station wrote Reader Earl Roberts as follows: "We have the honor to notify you of the reception of your letter of December 6th, for which we thank you very much. These are our broadcasts which you have heard. The game to which you make allusion is the cricket matches played in Australia."

Secondly, the sponsor of the broadcast from Poste Parisien, Fleming & Whitelaw of London, wrote: "The station to which you were listening was not 4RK, Rockhampton, Australia, but Poste Parisien, Paris. Cables were dispatched every minute by a commentator in Australia, and these in turn were read by Mr. Alan Fairfax from the Poste Parisien Studio. The broadcast was sponsored by Mr. A. E. Whitelaw, the well-known Australian importer of Preservene Soap into Great Britain."

And so it would seem that the matches were broadcast by both 4RK and Poste Parisien. However, these stations could not have been heard in this country at the same time. Poste Parisien undoubtedly was the station heard between 1 and 3 a.m., EST, at which time it would have been impossible to hear 4RK. The latter station probably was heard just before dawn, carrying the later account of the match, and at a time when Poste Parisien could not have been heard in this country.

And so it seems logical to conclude that American DXers heard both of these stations during the course of the matches, but under no circumstances

could they have heard more than one of them at a time.

Mass TA Reception

Another reference to the cricket matches comes from Carl Forestieri, 2224 Adams Place, Bronx, N.Y., who writes:

"In your November article, you state that on December 2, 1932, DX history was made when scores of listeners heard the station on 914 kcys which later proved to be Poste Parisien. I have the great pleasure to possess a verification from Trieste, Italy, for a program heard by me here in New York City on November 28, 1932.

"I reported my logging of Trieste to several radio clubs, but all were of the opinion that I was crazy. One club put my report in the waste basket, because it was absurd that I should hear a station in Italy at 2 a.m. here, when it was 8 a.m. over there. Well, time proved that I was right."

Many other DXers who reported foreign stations, have been looked on with suspicion by their fellow listeners. Usually, it was a case of "I haven't heard them, so it can't be done." At least, that was the situation until the mass reception of Poste Parisien proved that little was impossible in DXing.

The first instance of trans-Atlantic reception on the broadcast band has not been recorded in any history of DXing that we have seen. It probably took place during the middle 20's, for in 1926-27, the famous international tests took place and there must have been some precedent to make the sponsors believe that such a project would be worthwhile.

(Please turn to page 75)

COIL PROBLEMS Solved by Turner DIAL

●●● by B. FRANCIS DASHIELL

TURNER DIAL, returning from an errand to the newspaper office with an advertisement, entered Hi-grade Radio Sales and Service. A light snow was falling, and the cold January afternoon was dark and gloomy. But Turner could see there was warmth indoors, more than normally came from the over-worked oil burner in the basement. It was a customer who was radiating heat. At least that was what Dial judged from the man's actions and words. Bill Wood was listening, but Turner had a suspicion that Bill's usual impetuous statements had got him in trouble.

"I don't care what you say," shouted the customer. "That trouble can't be in the tubes. I had 'em tested!"

Turner, after shaking the snow from his shoes and throwing down his overcoat, walked toward the counter where the two were conversing. "What's up, Bill?" he asked of his young assistant in the store and shop.

"This gentleman is having trouble with his radio set," answered Wood with a subdued look. "You talk to him!"

The man looked at Dial. "Are you the service manager?" he asked. Turner nodded. "I have a fine big radio with 12 tubes, and I know they are all good. But this young fellow says my trouble must be one of the tubes. He's way off!"

Turner was used to meeting this sort of customer most every day. He had talked to many people who felt they knew just what was wrong, yet they came in looking for help. They were like those patients, coming to



their doctor for aid, who always give the physician a diagnosis and tell what kind of medicine they need. "Maybe you are wrong," Turner remarked to Wood. Then, turning toward his customer, he asked: "What's your idea of the trouble in the set?"

"My name is Jones," said the customer. "My radio is like the one you sold the Whites. His daughter Mary said you were the best radio expert in town!"

Turner reddened slightly. "Thanks," he said. "It's nice to be so well recommended. Now, about the radio?"

"This set," began Jones, "has all ways worked nicely. It brings in foreign stations almost like locals. Last night it stopped playing without warning."

"I see," said Turner. "And what did you do then?"

"I walked over quickly from where I was reading," answered Jones. "The dial lights were on, but the tuning eye was faint and did not have a wide ring of green illumination as it should. The

speaker was dead, but when I set it to the 'distance' switch, music was heard although it was weak and badly distorted."

"Well," commented Turner, "it's reasonable on first thought to think it might be a tube, but I've known other things to happen that are not so simple or inexpensive."

"That's what I told him," ventured Bill Wood. "But he says the tubes all lighted and seemed alive. That's what happened, too, in Mr. White's set, but it was a tube after all."

"I remember," said Turner. "When can I see the set? I think we better bring it in and save a trip."

"Any time," answered Jones. He gave Turner his address, and left the store.

Bill Wood grinned at his boss. "People get stirred up everytime I say the trouble is a bad tube. You came in at the right time."

"Perhaps you say it too confidently, for, as long as a tube lights up, most people will think it's all right." Another customer had entered the store. "Bill," added Dial, "run out and get that set and the speaker. Handle it carefully!" He walked toward the customer but immediately recognized him as an old DX fan around town. "Hello!" greeted Turner. "Come back and sit a while 'till Bill gets back from his errand."

The young man, a radio listener with an enviable DX record, sat down. "I've got a problem that's been worrying me," he began. "Maybe you can help me out."

"Shoot!" grinned Turner Dial. "Let's have it. Hope it's not too big."

"It's about my receiver," said the young man. "You know I do a great

deal of DXing every winter, but so far it seems there is a lot of congestion on the short waves. I'd like to sharpen up the tuning and get more selectivity. How about it?"

Turner frowned thoughtfully as he gazed at the floor. "Well, that's a good set you have. Nine tubes. The good tone on all bands makes it a bit broad. Can't help that. Everybody cries for high fidelity and perfect reproduction of tone throughout the audio range. 'Course a communications receiver would be sharper, but you don't want to buy another receiver. Maybe a little careful aligning might help."

"You adjusted and cleaned it last Fall. Remember?" replied the visitor. "Tell you what! I've been reading about these band-expanding coils or 'Say!" exclaimed Turner with sudden interest. "Now you've started something! You know those band-expanding intermediate transformers really go places when used in the right sets. The transformer can tune razor sharp for code or CW and crowded amateur bands where tone quality is not essential to you. Then the selectivity can be made medium sharp for average short-wave reception, and broad enough so you can sit down and enjoy a good broadcast program like you do now."

"But how can the three degrees of sharpness or tuning selectivity be controlled?" asked the young DX fan.

"Easy," commented Turner Dial. "All you need is a three-position switch."

The young man showed great interest. "Gee!" he said excitedly "That would help things a lot. Sounds as if I might get more DX stations on all bands. If I could only get enough

selectivity so as to separate the crowded bands to single-signal reception it would be fine! Do you really think it would work and that you could fix up my set?"

"Any receiver could be made more selective if the public did not demand the best reproduction possible. That's why good 'communications' receivers pull in more stations than standard all-wave sets. The amateur and professional radio operator needs selectivity to cut through interference, and high-fidelity tone does not matter so much." And Turner stopped talking and swung around toward his book shelf in search of a certain bulletin. "You see," he continued, "it's not possible to use these transformers in a set that has too many i-f transformers. Let's take a look at your circuit." Dial was silent for a few minutes as he glanced through the loose-leaf binder of circuit bulletins. "Here it is," he announced.

The radio fan glanced over Turner's shoulder. "Seems o. k!" said Turner. He, too, was getting somewhat excited over the idea of making an experiment. "Band-expanding transformers may be substituted only for the usual *input* i-f transformer in any receiver that has normal qualifications. That means a single i-f stage or tube, and an intermediate frequency between 440 and 470 kilocycles. This should cover many of the average all-wave receivers now in use. I believe that when a set has two i-f tubes or stages it is possible for the manufacturer to design a second special interstage transformer for this service. It's more expensive."

"But my set has only one i-f tube and stage," said the young man. "Does that mean you can fix it up?"

"I think so," deliberated Turner.

"All of the models made by your manufacturer last year had intermediate-frequencies of 456 kilocycles. That's good, for the makers of the band-expanding transformers also peak them at the factory at 456 kilocycles. The installation should be very simple by replacing your present first i-f transformer." Turner leaned back in his chair and gazed out at the steadily falling snow. "Things will be slow tonight," he added. "Want to bring your set in? It's a table model and easy to move. Then we'll look it over."

The young customer rose to his feet. "Sure thing!" he exclaimed. "That alteration might give me a lot more stations this winter!" And Turner nodded agreement.

A stamping of feet at the door announced the return of Bill Wood. He deposited the chassis and speaker on the service bench with a thud, and pulled off his snow-covered overcoat. "Hey!" shouted Turner. "Never jar a good radio like that. Handle it with the respect that is due a hundred fragile parts in each of its 12 tubes! And when you carry an exposed chassis around in the damp or wet or snowy weather see that it is covered or wrapped up well!" Bill Wood, silently letting the rebuke sink in, shook off more snow and leaned against the warm radiator.

"Might as well take a look at this set right now," said Turner. "I think we'll have still another set to experiment with tonight while this snow keeps the customers home."

The two men connected the set, but no sound came forth. Bill Wood tested the tubes, and to his amazement every one was perfect. Turner Dial

looked on. "Say," he ventured. "You know, I'm a little surprised too, for this trouble sounded like a tube. I guess its something real, after all."

Checking through the circuits for open connections and defective condensers and resistors Turner soon discovered that trouble existed between the first and second detector stages of the circuit. That would mean a defect somewhere in the intermediate-frequency stage. Since all the other units were good, it would be necessary to test the first and second intermediate-frequency transformers or coils. Taking the shop ohmmeter, which was used for testing the resistance of circuits, he applied a pair of test probes to one pair of terminals. The meter showed low resistance. This was right, for the resistance of i-f coils is low. However, they are higher than those of radio-frequency coils or transformers; but much less than the resistances found in audio transformers which are wound with thousands of turns of very fine wire. But, as soon as Turner touched the probes to the secondary terminals of the second transformer, the meter did not register. This was a high resistance due to an open-circuit or broken wire. "There's your trouble," said Turner to Bill Wood. "There you are; take it out!"

Bill quickly removed the offending transformer. Turner picked it up and peered into the open end of the shield can. He saw a tiny greenish spot inside. "Humph!" he muttered. "Moisture collected on this coil and the copper wire turned green from corrosion. I wonder if it could have been due to using acid solder instead of rosin. But, then, no good radio maker will use acid in his soldering work." With that comment Dial began to tear away the

shield can so as to see better within.

"Don't do that!" yelled Bill. "You'll ruin it. Can't we cut off a bit of wire and make the connection again, or how about rewinding the coil?"

"Oh, I guess we could," answered Turner as he continued his destruction of the transformer. "But we won't! These transformers usually aren't very critical in the length of wire, for the trimmer condenser will take care of any small irregularities of inductance. Certainly, rewinding is too difficult. Its universal-wound anyway. We can't do that. When either an r-f or a-f transformer goes bad, throw it away and get a new one! They don't cost so much. So, Bill, put in a new one!"

Later, when Bill Wood had made the replacement, he called Turner to make the inspection. "Seems all right now," said Dial. "We'll have to give this set a tuning up tomorrow morning, then you can take it back. I'm going to dinner now, but I'll be back soon."

Turner Dial reached for his overcoat and hat. "Now you can see, Bill" he remarked, "why I got after you for not covering up the chassis when you carried it through the snow. Dampness often gives a lot of trouble. Sometimes it throws a set off its tuning by changing the values of the radio and intermediate-frequency transformers. The only remedy, if the coils are good, is to remove them and dry 'em out in a warm oven for a long period of time. Then a good coat of some high grade coil 'dope' will prevent the loss of efficiency, and give the coils a high 'Q' rating."

"Sorry!" repented Bill, as he put his feet upon the chair Turner had just vacated, and opened the evening paper to his favorite comics.

HAM HOUNDING . . .

●●● By HUGH HUNTEM

All Time Mentioned is EST

● GREETINGS again, Brother Ham Hounders, and many thanks for all your cards and letters requesting that this column continue to put in its monthly appearance in RADEX. The very least that we can say is that we sincerely trust that we may aid each and every one of you to fatten your logs of countries heard.

QRA Bureau

We are sorry that it is impossible to list the address of every amateur mentioned in this column, but two of our readers have volunteered to furnish QRA's from the Call Book. Anyone desiring the QRA of a ham station can drop a double postal card to either address given below, and the station's address will be sent promptly on the return part of the card.

Elmer Wokaty, West 217th St., Fairview Village, Ohio.

Robert Blanchard, 206 Prospect Park West, Brooklyn, N. Y.

Forecast

February should offer some very choice DX on 14 megs. Asiatic stations should continue to come through in the early mornings; South Americans will be heard throughout the evenings; and North Americans should be heard during the entire 24 hours of the day. South African signals, we are sorry to say, will gradually become more scarce. They will rarely be heard during the afternoons but a few fair signals will occasionally be logged at around 11:00 pm.

We are happy to say, however, that Australian, European and North African signals will show a great improvement. The Australians will be best received between 1:00 and 4:00 am and between 6:00 and 8:00 am. The European and North Africans should be best during the afternoons and early evenings, with many signals also coming through between 1:00 and 3:30 am.

Europeans

As in last month's column, we shall concentrate on countries which have no shortwave broadcast stations. We shall also list a few stations in countries such

as Denmark and Sweden whose broadcasters do not issue positive verifications of reception, and from others, such as Norway, whose stations do not "get out" any too well.

European stations are numerous and it will be noticed that English, French, Dutch and Belgian phones far outnumber the rest. As a tip, we advise those desirous of securing cards from any of these countries to report to those stations which have the weakest signals, as those who "get out" in good style receive more reports than they can possibly find time to answer. G5ML is a glaring example of this. We wonder if anyone has his card!

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ESTONIA, Janna 8, TAPA.

ES5D

Radio *Wa Sa* Date 19. II 58 RST _____
Frequency _____ mc. TX CO.-FD-PA, 50 WATTS

Per QSL Trz 14 73' K. KALLEMAA. much for the card dr 8-5! Thx all time!

From Tapa, Estonia, comes this black and red amateur station verification. (Courtesy of Jack Siringer).

ALBANIA—Several readers have reported a ZA1CC operating on various frequencies but as amateurs are not permitted to operate in Albania, we suspect this of being a pirate call. As no QRA is known, we advise our readers to save their logs on this station, in hopes that the true identity of the station may someday be known.

AZORES—Although several stations are reported as operating, only one, CT2AB, is well received in the States. He normally operates on a frequency of 14.32 megs.

CHANNEL ISLANDS—G8MF is the only station received consistently. However, he receives so many reports that he answers only the better ones, so we advise our readers to send him a long

and very complete report. His QRA is Tom de Putron, Isle of Guernsey.

DANZIG—Again we call to your attention the station mentioned last month, YM4AA, who is operating on the low frequency side of the band. Very few DXers in North America have this country verified.

DENMARK—There are many amateurs in this country and they all QSL, according to reports. We recently received a card from OZ5CN who states that his XYL is also licensed to operate. She uses the call OZ1YL. Both Ops use the same xmitter and their frequency is 14.27 megs. OZ1YL, incidently, was the first lady in Denmark to obtain a license.

ESTONIA—Two stations ES5C and ES5D were frequently received last year at this time. The latter QSL'd in less than a month. His QRA is K. Kallamaa, Jaama, 8, Tapa. We deem it advisable, at this point, to inform you that these stations are heard best around 1:00 am before the Western Europeans have started to come in. This, of course, applies to all central European signals.

FINLAND—Elmer Wokaty reports a new station operating around 14:18 with the call OH2OI. His signal is very good but the U.S. stations cause him a great deal of QRM.

FRIDTJOF NANSEN LAND (USSR)—According to reports, the Soviet Government Expedition has a rig employing the calls UX1CN-UX1CP at the base camp. This station has been heard on 14.14 megs with fair signals in Eastern Nova Scotia.

GREECE—To our knowledge, there are but three stations in this country, SV1CA, SV1KE, and SV1NK. All are in the habit of operating on various frequencies. SV1KE is the best received and is most frequently heard on 14 megs. He QSL's only the very best reports, using a beautiful card. All SV reports should be sent to 17A, Bucharest St., Athens.

IRELAND—Ireland has many stations and they are heard with good signal



One of the most interesting and widely-heard of all expedition radio stations was OX2QY, later W1OXAB, stationed at Etah, in Greenland. While this station is now off the air and this QSL card is no longer obtainable, the picture is reproduced here for the benefit of those who may have failed to request a verification. (Courtesy of Carl Horton).

strength in this country. A few of the many who QSL are EI3J, EI4L, EI8J and EI9J. We hope that none of you make the mistake of reporting EI2L, as he rarely verifies.

ISLE OF MAN—G6IA is the only phone reported that we know of on the isle. He operates on the low side of the band and QSL's all correct reports. His QRA is T. H. Colebourn, Ardchalligan, Selborne Drive, Douglas.

LATVIA—20 meter phones are rarely heard from this country. The best bet is YL2CD who operates on 14.04 megs.

LITHUANIA—This is another rarely heard country. The standout stations are LY1AA, and LY1KK. The latter has QSL'd for many listeners. Look for him on the low end of the band.

LUXEMBOURG—LX1SI and LX1TW are the most frequently reported from the Principality. Both have several crystals and both are known to QSL. The latter usually operates close to 14.40 megs.

MALTA—Several stations have been reported in the States. ZB1L is heard most frequently on 14.14. Others are ZB1R and ZB1E.

NORTHERN IRELAND—The three best signals are those of G12CC, G15QX and G18UW. All have QSL'd our reports. We understand, however, that G12CC will not QSL unless two Reply Coupons, or the equivalent, are sent.

NORWAY—This nation has quite a few stations which are widely heard. LA1G gets out well but do not report his signals as he does not QSL. Two stations which do QSL are LA1F, 14.27 and LA8C, 14.08, operated by father and son, respectively.

POLAND—The government shortwave broadcasters do OK, but one might try tuning for SP1DC and SP2HH who operates all over the amateur band. The former QSL's but SP2HH does not.

RUMANIA—Numerous stations were heard last season; of those heard, YR5AA was the best but very few received his QSL. YR5CF and YR5PB have many reports. Although the QRA's are listed in the Call Book, do not mention the word "RADIO" on an envelope sent to a station.

SCOTLAND—This is an easily heard country. Stations which have QSL'd for us are GM2UU, GM5ST, GM6SR, GM8MN, and GM8RJ. Two stations to which reports should not be sent are GM6RG and GM8CN.

SWEDEN—This country, likewise, is easily heard. We have received QSL's from SM2VP, SM5SD, SM5SV and SM6WL. SM7YA was reported but he never sent his card. As many complain about this station, we advise not reporting him.

WALES—Although easily heard, Welsh stations are few in number. A few of the outstanding stations are GW3KY, GW5TJ, GW5KJ, GW6JW and GW8HI. All of these stations have QSL'd and all operate on the low end of the band.

YUGOSLAVIA—YU7AY, 14.30 and YU7KP, 14.01 are the best stations in this country. All reports should be sent under cover and, as in the case of the Rumanians, the word "Radio" should not be mentioned.

North Africans

Fortunately there are numerous stations in this part of the continent and one can easily add to his VAC by a little comprehensive tuning.

ALGERIA—The best stations are FA3HC, 14.12 and 14.27 megs., and FA3QV, 14.30 megs. Both QSL rapidly for an IRC. Rene Plieber, op of FA3HC, an ex-SWL, is always anxious to receive reports. FA8BC, who operates on the high end of the band also QSL's but requires more time than do the other two.

CANARY ISLANDS—Stations reported include EA8AE, EA8AF and EA8AS. The first two QSL according to reports, but EA8AS does not. We picked him up on 7 megs. once and if he won't verify on this harder-to-hear frequency, it is doubtful whether he will confirm a 14 meg. report.

EGYPT—Although rather difficult to hear, Egyptian phones are numerous, so one has a pretty fair chance to hear this country. Do not report SU1CH or SU1GP as these stations do not QSL. SU1SG, 14:30 and SU1RD, 14.08 both QSL'd our reports in good time. Other SU's who are often heard include SU1MW, SU1KG, SU1RK and SU1RO.

FRENCH MOROCCO—20 meter phones are numerous in this country but many of the ops refuse to QSL, such as CN8MA. Two reliable stations are CN8AJ and CN8AM, as both confirmed for us in a month's time. They operate around 14.09 megs.

SPANISH MOROCCO—EA9AH is still very active on the very low edge of the band. From recent reports, we gather that he is a bit reluctant about confirming reports. We suggest that all who need this country had better get him verified while the possibility of the getting is still good.

TANGIERS—This station is still verifying all reports of reception and again we say, get him verified before it's too late. He may either change his policy or leave the band, as was stated in last month's column.

TUNIS—This is, indeed, a rarely heard country as amateur stations are very

scarce. The most frequently reported stations are FT4AN, 14.01; FT4AR, 14.18; FT4AU, 14.35.

Australians

Regarding the VK's, we don't consider them DX, because they are certainly numerous and downright easy to hear. The VK 2nd, 3rd, 4th, and 5th districts are often heard with R9 plus signals. VK6, on the other hand, is not nearly as consistently received. When they do come in, they are quite good. VK6MW has often been heard with an R8 signal.

One must be on the lookout for VK4HN as he is not just as ordinary VK. He is located in Papua which is considered a separate country. VK9's also are counted as being in a country all of their own. The 9th district is British New Guinea which shares the same island along with Papua and Dutch New Guinea.

Speaking of New Guinea, brings to mind, PK6XX. We're still trying to figure a way to get him verified. A reply card didn't help, and ideas from our readers would be appreciated.

Tasmania, the VK7 district, has been claimed by many as a separate country. Actually it is not a country as it is a state of the Commonwealth of Australia with the same government set up as New South Wales, Victoria, etc. However, for DX purposes, we could consider it a country, because of its geographic position. If all listeners count it a country we will, at least, all have a basis on which to compare logs of countries heard or verified.

The two most frequently reported VK's are VK7CL and VK7YL, who actually is a YL. Both have been heard on the low end of the band and both are quite generous with their QSL cards.

New Zealand stations should also start to break through. These are difficult to log because they are compelled to operate in the American 'phone band (14.15 to 14.25 megs.) The most often reported stations include ZL2BE, ZL2BI, ZL2JQ and ZL3KZ. All have confirmed our reports, but we understand that ZL2BI does not intend to continue issuing his card. If you chance to log him, be sure and send him a most accurate report.

Bouquets

To Gerry Sayre of OX2QY, Andrew Young of VR6AY and Bill Hungerford of VP3THE, we present three large bouquets. Certainly each and every one of our readers agree with us when we say that these gentlemen have earned the undying gratitude of the DX fraternity. To Tommy Cunningham of VO6D and Stan Gunston of VO6J, the boys from the Frozen North, go similar bouquets. It certainly was kind and unselfish of all of them to so splendidly cooperate with us. We sincerely hope that some of our readers dropped them a few words of thanks.

Adios

Once again, we are sorry to say, it is time to say goodbye. We would like to continue indefinitely but ye Editor says that there isn't enough space so we'll have to take his word for it. So until next month vy 73 and may all of you harvest a bumper DX crop in the meantime.

NEW PREFIXES

New Prefixes for the territorial and insular possessions of the United States have been announced.

K4	Puerto Rico
KB4	Virgin Islands
K5	Canal Zone
K6	Hawaii
KB6	Guam
KC6	Wake
KD6	Midway
KE6	Johnston Island
KF6	Baker, Howland and Phenix Islands
KG6	Jarvis and Palmyra Islands
KH6	Samoa
K7	Alaska, and Pribilof Island

—C. J. Fern, Jr.

Amateur Calls Heard

The names and addresses of persons reporting stations shown in this list are indicated by small letters following the call signs. Key to the small letters is given at the end of the column.

Ten Meters

CN1AF (heard by f). All other ten meter stations reported by D).

F8DW GM6RG GW5KJ G2IS G2NM G2VG
G5HK G5SA G6BW G6CU G6GS. G6LK

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\$1.25

G6WT G8MX G8SA G8SA G8TD HI7G LU4BH
ON4ZA TG9BA VK2GU VO1Y VP3AA ZS2AF
ZS2BJ ZS6DW.

Twenty Meters

CE1AG (b); CE1BC (b); CE2BX (b);
CE3AC (g); CE3AH (b); CE3BK (gb);
CE3DW (dk); CN1AF (gikl); CN8AV (a);
CN8BA (i); CN8MU (il); CO2EG (b); CO2GL
(e); CO2GO (b); CO2GY (i); CO2HS (b);
CO2HV (i); CO2HY (bi); CO2IK (b); CO2JJ
(bbi); CO2JZ (b); CO2MA (gi); CO2RA (b);
GO2RG (a); CO2RH (g); CO2RO (gi);
CO2RQ (g); CO2RR (egbi); CO2RX (g);
CO2RZ (g); CO2SV (gb); CO2VD (b);
CO2WM (b); CO2WW (bb); CO2WZ (b);
CO7AB (e); CO7AS (g); CO7CX (gbi); CO7VP
(g); CO8RQ (g); CR7AK (b); CR7AU (b);
CT1AY (l); CT1OX (l); CX1AA (b); CX2AK
(d); CX2AW (i); CX2CO (b).

EA8TD (a); EA9AH (b); EI6G (l); FI8AC
(bg); F3CP (il); F300 (e); F8LY (l); G15QX
(e); G18UW (e); GM6WD (l); G2AK (k);
G2AV (il); G2DV (il); G2PU (g); G2TR
(e); G2UT (e); G3BM (iel); G3CP (e);
G3DO (b); G5BJ (ebikl); G5JO (k); G5ML
(aikl); G5NI (bl); G5QI (l); G5ZG (i);
G6GA (l); G6JQ (e); G6ML (l); G6OS (e);
G6PY (l); G6UX (e); G6VX (l); G6WT (l);
G6WY (e); G8CL (e); G8NY (a); G8OG (l);
G8SB (b); G8VJ (l); HC1PZ (b); HC2BO
(b); HC2CC (bk); HC2HP (k); HH2B
(abgkl); HH2PB (l); HH4AF (g); HH4AS
(bkl); HH5PA (gikl); HI3N (agkl); HI5X
(gkl); HI7G (bl); HI7I (bk); HK1AA (g);
HK1AB (e); HK1AG (k); HK3AX (g);
HK3BG (g); HK3CG (kl); HK3CL (bk);
HK3CO (k); HK3CP (b); HK3JA (e); HK3LC
(b); HK3VP (b); HK4DF (kl); HK5EE (gk);
HP1A (l); HR5C (kl); J2MI (b); KA1BH
(b); KA1JM (b); KA1ME (g); KA2OV (b);
KA7EF (bb); KA8ENT (dgbk); KA9VC (b);
K4EZ (g); K4FAY (l); K4FKC (k);
K4FKP (b); K4UG (l); K5AF (adl); K5AH
(gkkl); K5AS (g); K6BAO (b); K6BNR (k);
K6CMC (b); K6DIT (g); K6FKN (g); K6GAS
(b); K6ILW (b); K6KMB (k); K6LKN (b);
K6MTC (b); K6MTH (b); K6MZK (b);

K6OJI (bk); K6OQC (b); K7AOC (gk); K7LZ
(bb); LA4U (g); LU1DA (k); LU1DJ (k);
LU1HI (b); LU1JC (b); LU2DR (b); LU2EC
(b); LU4AM (g); LU4AW (k); LU4BC (bek);
LU4CO (g) LU4CZ (k); LU5AN (gk); LU5CO
(g); LU5CZ (bl); LU6AI (g); LU6AM (g);
LU7BK (b); LU8AB (gkl); LU8AC (gk);
LU8AE (g); LU8AW (b); NY2AE (b).

OA4AF (g); OA4AW (g); ON4DG (eg);
ON4MW (l); ON4PJ (e); ON4VK (b);
ON4ZA (a); PAOMZ (i); PK2WL (b);
PK3WI (b); PK4KX (g); PK6XX (bg);
PY1FR (b); PY2AK (bk); PY4CT (j); PY7AI
(l); SU1RD (l); TG9AA (gkl); TG9BA
(bgkl); TG9FN (k); TI2AV (gkk); TI2EV
(g); TI2FG (bgk); TI2LR (b); TI2RC (ghjkl);
TI3AV (g); VK2ABD (b); VK2ACL (b);
VK2ADE (b); VK2AEZ (b); VK2AGU (b);
VK2CP (b); VK2NS (g); VK2NY (g);
VK2OQ (b); VK2PO (b); VK2TI (b); VK2TO
(b); VK2UF (b); VK2YL (b); VK3AM (b);
VK3AO (b); VK3BZ (bb); VK3EH (b);
VK3ES (b); VK3HB (g); VK3HW (b);
VK3IG (b); VK3IW (b); VK3KX (b);
VK3OA (b); VK3XP (b); VK3ZL (b);
VK4AB (b); VK4AG (b); VK4JP (b); VK4JU
(b); VK4PF (b); VK4RJ (b); VK4SA (b);
VK4TY (b); VK4VB (b); VK4VD (b);
VK4WS (b); VK4WH (b); VK5BF (g);
VK5FW (b); VK5TR (b); VK7AB (d);
VK7CL (b); VK7LG (b); VK9XX (bg);
VO1Y (gik); VO6J (ek).

VP1BA (bgkl); VP1JP (b); VP3AA (dbk);
VP5BR (kl); VP6FO (bbik); VP6MR (l);
VP6TR (l); VP7NC (gik); VP7NS (agbik);
VP7NW (k); VP9L (gk); VP9R (g); VO2HC
(b); VQ4KTB (b); VR6AY (b); XE1AK (b);
XE1BL (b); XE1C (b); XE1CQ (bgbl);
XE1CR (g); XE1FF (b); XE1GF (g); XE1LK
(g); XE1Q (bgb); XE2FC (b); XE2GM
(b); XE2IK (bb); XE2IY (ehl); XE2LK (g);
XE3AR (b); XE3AX (bl); XZ2DY (l);
YV1AA (k); YV1AK (b); YV1AQ (b);
YV4AB (b); YV4AE (begbi); YV4AF (gkl);
YV4AN (kl); YV4AX (kl); YV5ABA (b);
YV5ABF (gk); YV5ABQ (gikl); YV5ABY
(kl); YV5AE (i); YV5AG (i); ZE1JK (b);
ZS1AH (g); ZS1AX (dl); ZS2AZ (b); ZS2I



A Maori hut and a map of New Zealand are shown on this pretty card from ZL2BI, a Wellington, New Zealand amateur station. The colors are black and yellow.

(g); ZS2N (g); ZS2X (l); ZS3F (bgl); ZS3W (g); ZS4H (c); ZS4S (b); ZS5AB (b); ZS5AD (b); ZS5AW (b); ZS5BA (g); ZS5BE (b); ZS5BK (b); ZS5BZ (b); ZS5CL (b); ZS5CO (b); ZS5DW (c); ZS5EL (g); ZS5J (bc); ZS5M (b); ZS5T (b); ZS5TA (g); ZS6A (cg); ZS6AJ (b); ZS6CZ (b); ZS6DG (b); ZS6DG (b); ZS6DJ (b); ZS6DW (bgl); ZS6DY (gl); ZS6EY (bg).

The Reporters

- (a) Robert L. Blanchard, Brooklyn, N. Y.
- (b) C. J. Fern, Jr., Lihue, Hawaii.
- (c) Ralph B. Hanford, Jr., Chicago, Ill.
- (d) Arthur Hankins, Latrobe, Pa.
- (e) Lewis R. Hill, Maywood, Ill.
- (f) Carl L. Horton, Athol, Mass.
- (g) E. A. Knoff, Canton, Ohio.
- (h) John Macrae, Winnipeg, Man., Canada.
- (i) S. Schmuch, E. Cambridge, Mass.
- (j) Carl Sylvester, Columbiaville, Mich.
- (k) Winship Taylor, Baltimore, Md.
- (l) Walter E. Welch, Lynn, Mass.

Reallocation in Europe

The preparation of a plan for the redistribution of wavelengths among Europe's broadcasting organizations was among the technical matters that provided the main items of a conference of the International Broadcasting Union (U.I.R.) held recently in Brussels.

The preparation of the wave plan—which was initiated at the International Radio Communications Conference at Cairo last spring—was undertaken by the Union's Technical Commission. The plan, after submission to the Council of the U.I.R., will be passed to the various European Governments for consideration, and will finally be discussed and adopted at the European Broadcasting Conference to be held in Switzerland early in 1939.

New Stations

A construction permit has been issued for a new station in Williamson, W. Va. It will use 1370 kcs. with 100 watts, daytime.

Two new Canadians have been licensed. They are CJHC in Halifax and CHNB in North Battleford, Sask. CJHC will be on 1290 kcs. with 1000 watts power. CHNB will be a 100 watt.



HH2S Calls Jamaica

THE West Indian Broadcasting Company was founded by Gerard Bourke-Denis for the purpose of presenting a nightly program in English intended for the Island of Jamaica, which does not possess a commercial station. Offices are maintained, in Haiti, at Station HH2S, Port-au-Prince, and in Jamaica, at 71 Harbour St., Kingston. Mrs. Esther Chapman, Editor of the West Indian Review, is the representative for the British West Indies.

Station HH2S has been on the air since 1934, but not until this year when the West Indian Broadcasting Company was formed were its programs available to all English speaking listeners in the West Indies. Musical programs from this station consist mostly of light classical number.

On Mondays and Saturdays at 9 pm, local time, and on Wednesdays at 9:30 pm, special "Dance Time" programs are radiated. On Tuesdays and Thursdays at 9 pm, and on Sundays at 7, the programs consist of classical music, comprising entire symphonies, sonatas, quintets, or selections from opera.

The regular broadcasting schedule of HH2S starts at 8:30 pm on weekdays, and at 7 pm on Sundays, EST. The frequency is 5915 kilocycles.

A verification card from HH2S is illustrated. Either cards or letters of verification are sent in response to all correct reports. The postal address is P. O. Box 146-B, Port-au-Prince, Haiti.

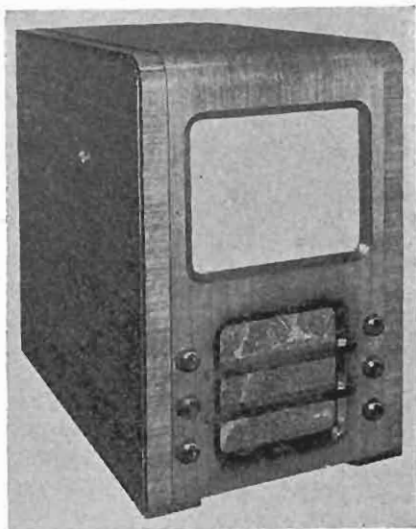
LIVING-ROOM TELEVISION

As simple in operation as any radio set, fully capable of entertaining a dozen or more persons at a time with a combined sight-and-sound program, costing little more than a high-quality broadcast set and asking for just a small space on a table or stand, the latest television receiver now available marks the advent of video broadcasting in the living room. Television thus leaves the laboratory and haywire days behind for good, and emerges as a genuine entertainment means.

For months past, the Allen B. DuMont Labs., Inc., Passaic, N. J., have been in production on huge cathode-ray tubes and television receivers for home use. Over a hundred such sets have already been sold in the New York metropolitan area alone. Leading radio, department and other stores are displaying these sets now. And with the promise of regular sight-and-sound programs early this coming year, production is now being geared up to take care of a heavy and growing demand.

The foundation for any television receiver is obviously the cathode-ray tube. Likewise, the size of this tube determines the entertainment capacity of the set. While a small-diameter tube, can show pictures, such pictures are too small to be enjoyed by the average household. Accordingly, the DuMont organization months ago completed its development of a practical 14-inch diameter cathode-ray tube or teletron which is now in regular production.

The present popular DuMont sight-and-sound receiver is a table model not much larger than a really good table model radio. Pictures are viewed on the rounded end of the cathode-ray tube, while the synchronized sound of the program issues from the loud-speaker grille below. A dozen persons can comfortably follow the visual program, and another dozen sitters can be squeezed in. The black-and-white screen image measures a full 8 x 10 inches, and is quite comparable in brilliancy, detail and absence of flicker with typical home movies.



The set includes 21 tubes in all, counting the huge electro-statically-controlled cathode-ray tube.

The DuMont set is built to handle television reception in accordance with present R.M.A. standards. It handles either single side band or double side band modulation. There are six operating controls in all, arranged in two rows on either side of the speaker grille. Four of these controls have to do primarily with the video functions, including the *tuning control* which is actually tuned to the synchronized sound and thereby automatically tunes in the video signal to maximum degree; the *intensity control*, which increases or decreases total brilliancy of the image; the *contrast control*, which accentuates or reduces the black to white range; and the *focusing control*, which insures sharpest pictorial detail. The remaining two controls provide a *power switch* and a *volume control* for sound.

NEWSSTAND BUYERS

If your newsdealer is unable to supply you with your copy of RADEX you may obtain the issue you want by using the order form on page 96 of your last copy.



The Radex Club map has grown a little in the last thirty days. The map which heads this column shows, in solid black, the states in which we have at least five members enrolled, and since last month we have blanketed the states of Delaware, Rhode Island, Alabama, West Virginia and the District of Columbia. We now have members in all the states except Nevada, all the territories and possessions, all of Canada's provinces except Prince Edward Island, and the following countries: Cuba, Mexico, England, Guatemala, Honduras, Haiti, New Zealand, Bahrain, South Africa and Venezuela.

Membership in The Radex Club is available to anyone who is interested in DXing. There is no charge and no obligation. Whether you are a subscriber or a newsstand reader, you can become a member of this club simply by making application on a postal card.

VAC Awards

In the October issue of RADEX we announced our Verified All Continents Club, and described the conditions under which such awards would be made, but since the conditions seemed to many of our members to be too strict, we have made several revisions.

The new awards are different from any VAC citations we have ever seen. We have avoided the usual "diploma" which is generally employed, and designed a series of six different "plaques," suitable to hang on the wall of the radio den. There is a different plaque for each of the six continents. Each award is printed in two colors, but no

two plaques of the series are alike in color or design. Just to be different, the designs do not pertain to radio at all, but are illustrations of animals peculiar to each of the several continents. They are well printed, on heavy pasteboard, and while any one award makes an attractive ornament, the six lined up together produce a colorful and interesting effect.

It is not hard to get these awards. Any DXer who has average success in tuning can qualify. They are available whether one tunes the broadcast band, the amateur bands, or the shortwave broadcast bands. And the nominal charge of ten cents each covers the cost of producing the plaques, mailing them to members, and returning the verifications which are submitted as required.

Before sending verifications or applying for the Verified All Continents plaques, please read very carefully the instructions which follow.

The Three Classes

There are three classes, and members may obtain their awards in any class they choose. They are the Broadcast Band (540 to 1600 kcs), the Amateur Bands, or the Shortwave Broadcasting Bands.

I. The Broadcast Band.

To get the award for the continent on which you reside, send THREE verifications, each one from a different country on your continent.

To get the award for any continent other than the one on which you reside, send ONE verification from that continent.

II. The Amateur Band.

The Amateur Band requirements are the same as for the Broadcast Band.

III. The Shortwave Bands.

The Shortwave requirements are the same as for the Broadcast Band.

The Continents

The NORTH AMERICAN Continent includes the countries of Canada, Newfoundland, Greenland, The United States, the Territory of Alaska and all the Aleutian Islands, the countries of Central America, Bermuda, all the countries of the West

TWELVE YEARS AGO



Many of our old-timers will recall that back in 1926 our local stations closed down at 10 o'clock on certain nights to allow the European stations to come through, and that the tests were successful is attested by this card from EAJ7, Madrid, Spain, dated June 15, 1926. It was heard by Jerry Habn, with headphones, at about 4 o'clock one morning, on a 4-tube, battery operated, "unpedigreed" receiver.

If any of our readers have cards which are older than this one, we shall be glad to print them in this section.

Indies, i. e., the Bahamas, the Greater Antilles, the Lesser Antilles, the French West Indies, the British West Indies, *but not the Netherland Antilles*. In the Pacific Ocean, the Cocos and Clipperton Islands are included in the continent. Through the Bering Sea to the North Pole the continental boundary follows the International Date Line.

The Continent of SOUTH AMERICA includes the entire mainland, of course, and the Netherland Antilles to the north. In the Atlantic Ocean, the several islands belonging to Brazil are included, as are the Falkland Islands. In the Pacific Ocean, the Galapagos, and the several islands belonging to Chile are included.

The Continent of EUROPE includes, to the north, Novaya Zembla, Spitzbergen and Iceland. In the Atlantic Ocean, the Azores are included with Europe. In the Mediterranean Sea, the following islands are considered as European: Sardinia, Balearics, Corsica, Malta, and Crete. The eastern boundary of Europe starts in Kara Bay, continues southward through the Obdorsk Mountains, the Ural Mountains and the Ural River, to the Caspian Sea, then through the Caucasus Mountains to the Black Sea.

The AFRICAN Continent includes none

of the Mediterranean islands. In the Atlantic Ocean, it includes the Madeias, the Canaries, the Cape Verdes, Ascension, and St. Helena. In the Indian Ocean, Madagascar, the Seychelles, Reunion, Mauritius, and Rodriguez. Africa's western boundary goes through the Suez Canal, the Red Sea and the Gulf of Aden.

The western boundary of ASIA is the same as the eastern boundaries of Europe and Africa. All the islands in the Arabian Sea are included with Asia, as well as those in the Bay of Bengal. Asia's eastern frontier includes all of Japan, the island of Taiwan, and Hong Kong island. From Taiwan, the boundary passes through the South China Sea to Singapore, then through the Malacca Straits to the Bay of Bengal.

The sixth Continent, OCEANIA, includes Australia and New Zealand, and the so-called Islands of the Pacific, extending as far north as the Hawaiian Islands, which are included. The Philippine Islands, and all the Netherland East Indies, are considered as part of Oceania.

Members may apply for their awards one at a time, if they wish, or they may procure all six at one time. A record will be kept of all the plaques issued, and mem-

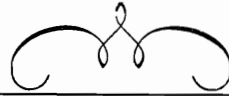
(Continued on page 75)

HIGH FREQUENCY GLOBE TROTTING

● ● ● By RAY LA ROCQUE

It is no secret that the European nations in general and Germany in particular realized the importance of directing signals to the Spanish speaking people to the south of these United States of ours much sooner than we did. Only in recent months did the U. S. shortwave broadcasters begin to announce in Spanish and still more recently they began transmitting entire programs in the language of our southern neighbors.

Now, with the National Broadcasting Company leading the way, we (the United States) are about to make an even greater step forward in broadcasting to Latin America. The latest release by NBC reveals the news that W3XAL and W3XL will soon have new shortwave antennas that will swing radio beams over South America like rays of a powerful searchlight, at the mere touch of a button. When completed, the antennas will enable the NBC International Division to extend its service to Latin America to sixteen hours without diminishing the service to Europe. Heretofore NBC's daytime programs in French, German, Italian, and English designed for European listeners and broadcast on a frequency of 17780 kcs. have not been available on a South American beam. Beginning in January or February, these programs will be heard in South America on a frequency of 21630 kcs. at the same time they are broadcast to Europe. Two of the new antennas are being built at Boundbrook, New Jersey for use with the new frequencies recently assigned to the NBC by the FCC.



Report-O-Meter

Robert Skyten	100%
Anton Jansen	52
Jack Wells	52
Robert Parks	43
D. H. Dussek	34
George Jacobs	34



As will be noted, our young friend Bob Skyten of East Brookfield, Mass. hit the 100 mark again this month, but the others in the select group this month are all new-comers save Jack Wells, who hit second place this month to tie with Anton Jansen.

Each month the "Report-o-Meter" records the first five highest scores among the RADEX shortwave reporters. The top scorer receives a rating on 100%, and the percentages of the others is computed on his score.

We're especially appreciative for the wealth of information supplied by the six (there was a tie for last place) gentlemen occupying a berth in the select group, but we want to thank everyone else who didn't make the meter register for them. To them we say better luck next month. See last month's RADEX for information on how to crash into the select group. You'll be glad to know that we are counting reports for ULTRA HIGH as well as reports for SHORTWAVES IN REVIEW.

MEGACYCLE BREVITIES

Bob Parks wants us to hand orchids to CQCQ. "They are," says Bob, "one of the few Latin American stations who take time out to pronounce each letter of the call and who do not string it together so that it sounds like some crazy word! . . . The Republic of Haiti, a French-speaking country in the West Indies has been on the air via HH2S since 1934 and now the newly formed West Indian Broadcasting Co. has widened the facilities of the station so that they now include a nightly program in English for Jamaica. . . . Our "Brevities" would not be complete without a few mystery stations. We'd like some help in identifying two stations. One on 9525 kcs. and the other on 6140 kcs., both heard from 3-5:30 p.m. . . . Anton Jansen pens from Holland that since Germany's annexation of Austria he has been hearing OER-3 on the 49 meter band. They announce now as "Reichssender Wien" the new name for the station. They relay the medium wave (broadcast band) station at Vienna. . . . While browsing through a copy of the "Radio Engineer" a little publication of the Commercial Radio Equipment Company of Kansas City (owners of W9XA) we learned a few of the reasons for W9XA's existence and a few facts about ultra-high frequency broadcasting. . . . W9XA is operating mainly to determine the future possibilities of using the 25-27 megacycle band for general broadcast and entertainment service both to local and possibly even long distance listeners. Experiments at W9XA will be centered around radiation problems for the first months of operation. The station

does not have its antenna located several feet above ground as do the majority of ultra high frequency stations. The reason for the low antenna height is to investigate and determine just what service can be expected of the ultra high frequency station using a modest antenna system and intended to serve smaller communities where tall buildings and high hills are not available for antenna erection. From this investigation may grow a new class of "local" station similar in service to our present day 100 watters on the standard broadcast band. . . . Data is also being compiled on the possibility of using these channels for long distance reception. Much thought will have to be given to this feature before any permanent distribution of channels can be effected. As it is now, some station in a distant city operating on the same channel as a local may have its sky wave descending directly upon the local and ruin its programs, or vice-versa. It is evident that much experimenting is necessary before any definite arrangements can be made on these bands and we are sure that the experiments conducted by W9XA will have much bearing on the future of ultra high frequency broadcasting—or broadcasting on the bands of tomorrow!

QUOTE AND UNQUOTE

W. C. Post, Saint Paul, Minnesota:
 "I'd like to know if some of the emergency stations verify. I hear these stations on 2726 kcs. Some of

NOTICE TO RADEX READERS

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them are WAMC, KIPQ, KIPR, KIDT, etc." (It is our opinion that some of these stations do verify, but Chet Roman of Chicago may be able to give us more definite facts as to the verification policy of these stations which operate on his pet bands—RL.)

E. H. Manning, Edmonton, Alberta: "I was very amused when I read that little article in the November issue of RADEX concerning the identity of the Russian station or as you say a mystery station. I received a veri from this station in the latter part of October. One reason why people cannot identify this station is because they do not make it a practice to broadcast in English. The call letters and address of this station is as follows: RV-96, Radio Central, Moscow, U.S.S.R."

Anton Jansen, Boskoop, Netherlands: "Could you give me any information on W8XLY? In the spring of this year I heard this station on the 9 meter band but they were often quite weak, reception being erratic. From announcements I did learn that the station was a CBS outlet in Ohio, but besides a weak signal there was QRM from another CBS station—a W9! . . . I have not tried for it for some time, but I wonder if W1XAO on 8.42 meters at Boston, a police station, is still operating. This used to be one of the regularly heard stations over here. They had an R8 signal."

Robert Skyten, East Brookfield, Mass.: "A station is heard mornings on about 9520 kcs. (right below ZBW) coming in with strong signals. Lady occasionally does the announc-

ing. I have not been able to identify, but my guess is that it is a Russian."



This QSL card from PCJ, the "Happy Station" in The Netherlands, shows the famous, new rotating aerial they employ. The entire aerial can be rotated to any point of the compass. Their versatile announcer, Edward Startz, speaks fluently in English, Dutch, German, French, Spanish, Portuguese and Malay. (Courtesy of D. H. Dussek).

Chester Roman, Chicago, Illinois: "Some unusual stations which I heard and would like some information about are BU4 of Indianapolis and planes EC2, EC6, and EC9 on 3450 kcs. between 9 and 11 p.m. On 6474 kcs. I'd like some information about Army Plane JJ6 at Seymour, Indiana contacting WYB—Bowling Field on 6760 kcs. KK1 at Havana, Ill. on 6260 kcs. to WYJ on 365 kcs. and lastly QZ7 of Barksdale Field, Shreveport, La. heard on 3210 kcs. calling W5GSB of Randolph Field, Texas. I have also heard 160 commercial aviation stations and 252 Police stations of which I will tell you more later."

Joseph T. Lippincott, Vassalboro, Maine: "Who is the station on about 12100 kcs. early mornings? France seems to be pounding through on 11880 kcs. so loudly that I cannot make out the station on 12100 kcs. I'd like to know who is on with Oriental music on 15290 kcs. at 7 a.m."

ULTRA HIGH

W1XOJ on 43000 kcs. of the Yankee Network will operate with 100 watts from atop Asnebumskit Hill in Paxton, Mass. (RX)

W1XPW on 43400 kcs. now for test purposes. The station, owned by WDRC, will use a power output of 1000 watts.

W2XQO on 26550 kcs. at Flushing, New York, is a new construction permit granted the Knickerbocker Broadcasting Co. for a high frequency broadcast station using 100 watts on experimental basis.

W3XIR on 41000 kcs. has no definite schedule but is heard relaying WCAU. Their address: 1622 Chestnut St., Philadelphia, Pa. They are usually heard after 10 p.m. (Jordan-Penna.)

W4XA on either 31600, 35600, or 38600 kcs. in Nashville, Tenn. are the call letters assigned to the new station of the National Life and Accident Insurance Co.

W8XNU on 25950 kcs. in Cincinnati, Ohio is operating with a power of 1000 watts and verifies by letter. The schedule of the station is from 7 a.m. weekdays and from 8 a.m. to 1 a.m. on Sunday. Reports should be addressed to the Crosley Corp., Cincinnati. (R174, Mont. 1)

W8XWJ on 41000 kcs. with 500 watts in Detroit, broadcasts a program of short wave information for the

Auto City Chapter of the IDA every Wednesday night at 10:30 p.m. Thus far the audience for the program was entirely local, but they are interested in whether the signals are reaching out any distance after darkness. Reports will be appreciated and address is: "IDA program, W8XWJ, 45th floor, Penobscot Bldg., Detroit. (Sekach-Michigan)

W9XA on 26450 kcs. at Kansas City, Mo. operates daily from 10:30 a.m. to 1 p.m. and from 4-7:30 p.m. Other programs are conducted irregularly, especially after dark, for test purposes. W9XA has been reported well heard on both coasts of this little country and on ships in the Pacific and off Salvador as well as in England, Holland, Dominican Republic, Kirkland Lake, Ont., Mexico, and many other points. (RX) W9XA relays the programs of KITE in Kansas City and requests reports along with a stamp for return postage. They are heard as early as 7:30 a.m. on the west coast. (R592-Calif.) W9XA on 26450 kcs. broadcasts a DX tips program Saturdays at 1:30 p.m. They request reports. (Barker-Me.)

W9XJL on 25100 using a power of 250 watts now. Reports should be sent c/o WEBC, Telegram Bldg., Superior, Wis. (R174, Mont. 1)

W9XTC on 26050 kcs. with 150 watts, verified by card. They are on the air from 9 a.m. to 9 p.m. Reports should be sent to W9XTC, c/o WTCN Minneapolis, Minn. (R174, Mont. 1)

W9XUP on 26150 kcs. has been granted a modification of their license, authorizing use of the frequency 26150 kcs. instead of 25950 kcs.

VERIE NEWS AND NEW VERIES

W4XB in Miami verifies by card now. (C. D. Jordan-Penna.)

W9XJL sent their card to Anton Jansen in Boskoop, Netherlands, but it took a lot of patience (We're still waiting for ours—RL)

NIROM writes from Batavia to Anton Jansen in Holland that they cannot begin to attempt to verify any reports that do not include an IRC for reply.

PCJ and Philips Radio, according to Jansen, have to reply to a great amount of letters so that sometimes it is months before a reply is received. Even in Holland, the fans have to wait quite a long time for their veries. Their new card shows a picture of the new wheel antenna system used by the station.

JZK's new card shows a picture of Old Japan and one of a new building. Verifies on reverse side. (R453-N. Y.)

VK9MI verified with a nice black and gray card picturing the ship on which the transmitter is located. (Wells-Ala.)

PMH on 6720 kcs. has a good signal starting at 5 a.m. and lasting till about 8 a.m. Their schedule is 4:30-11 a.m. The program is invariably recent popular American recordings. Announcements are in Dutch. They relay the NIROM network of stations that includes PLP, PMN, YDB, YDC, etc. Peak reception is at 7 a.m. (Wells-Ala.)

Radio Centre refused to verify the report of Jack Wells on RV96 on 15180 kcs. They contend that transmissions in languages other than English are not verified. The possibility, they say, of incorrect verification is

too high on bands where many foreign stations are heard. They add that Radio Centre desires its listeners to know what is being said on broadcasts, and therefore has especially designed English transmissions. Jack says that, "While their letter was very gracious and courteous, I'm afraid that I do not agree with them. My report contained enumerated musical selections, etc. and was complete. But I'll just have to skip the incident, I suppose."

SHORTWAVES IN REVIEW**Angola**

CR6AA on 1300 kcs. on now Wednesday and Saturday 2:45-4:30 p.m. and on 7177 kcs. at the same time. QRA is P. O. Box 103, Lobito, Angola, Portuguese West Africa. (Barker-Me.)

Argentina

LSY on 18115 kcs. has been heard relaying the Pan-American conference from Lima, Peru to the U.S.A. networks.

Australia

VK9MI on 6010 kcs. is heard from 6:45-7:30 a.m. with a surprisingly good signal for its 50 watts. Announcements are by Eileen Foley, Announceress-in-charge. 9MI, you know, is on the M. V. Kanimbla sailing between New Zealand and Australia. Lately VK9MI is being QRM'd badly at 7 a.m. when CJCX comes on the air for the day. (Wells-Ala.)

VLR-3 on 11880 kcs. is heard after 2 a.m. with an R4 signal almost daily. (Scholz-Mo.) VLR on 11880 kcs. is heard till 3 a.m. and on 9580 kcs. after midnight. Reception for a mere kilowatt of VLR on 9580 kcs. is excellent—the signal being superior even to W8XK! (Parks-B. C.)

VK3ME on 9510 kcs. is also very well received from 1 a.m. onward. (Parks-B. C.)

Belgium

ORK on 10330 kcs. is being heard around 2:15 p.m. with an R7 signal and a rapid fade. It is occasionally QRM'd by cw signals. (R453-N. Y.) ORK reports should not be addressed to the National Radio Institute (NIR) at Belgium, though the institute is responsible for the programs via ORK. Reports should be sent to: Belgrado, Ruysselede, Belgium. (Jansen-Holland)

Bulgaria

LZA on 14970 kcs. informs by letter that "Radio Sofia" has discontinued operations on shortwaves. The shortwaves, in the future, will be used only for radiotelegraphy. The reason is believed to be that the broadcast station now has 100 kilowatts and they no longer need a shortwave station to cover the country. (Jansen-Holland)

Canada

CFVP on 6030 kcs. heard at 12:30 a.m. with a variable signal. (Scholz-Mo.) CFVP is the new call for VE9CA of the "Voice of the Prairies, Ltd." The station relays broadcast CFCN. (R592-Calif.)

CKFX on 6080 kcs., the peanut station at Vancouver has changed its call from VE9CS. The station is on the air in the evenings and daily 'till 11 a.m. (Parks-B. C.)

CZ2P on 4500 kcs. in contact with CZ9U of St. Felicien, Quebec on 4500 kcs. CZ5B or P of Lac Du Bonnet, Manitoba on 4825 kcs. (R451-III.)

Canary Islands

EAJ-43 on 7490 kcs. is heard daily

from 8-9 p.m. and on 11010 kcs. Saturday afternoons about 4 o'clock. (R9-Mo. 1)

China

XGRV on 11540 kcs., according to a letter veri from Hollington K. Tong, Chairman of the China Information Committee, is the new Chinese broadcaster at Chungking (the wartime capital of China). Previously, many listeners reported the station as XTJ. "XTP", Mr. Tong informs, "is not on the air and is now being moved into the interior of China." XGRV is replacing XTJ and carries the "Voice of China" transmission formerly heard over XTJ. Schedule of XGRV is 1-1:35 a.m. with news in Japanese and Chinese, and 8-8:35 a.m. with news in French and English. (RX via Wells-Ala.)

XGSA on 7000 kcs. at Kwiyang, Kweichow Province, is heard daily with a very strong signal from 5 a.m. to 8:15 a.m. The station may be identified by lady announcer in Chinese and English at intervals and news in English at 8 a.m. by lady announcer. Also most of the music is of Chinese with occasional American numbers. (R592-Calif.)

Cuba

COBZ on 9030 kcs. "Radio Salas" at Havana broadcasts daily from 7:45 a.m. to 1 a.m. Their interval signal is four chimes. The opening and closing theme: Popular melodies by nightingales and canaries. Letters to them should be addressed to P.O. Box 866, Havana. (RX)

COCQ on 8810 kcs. (approximately) now relaying CMQ (Skyten-Mass.)

COCQ on 8820 kcs. now from 7

a.m. to 1 a.m. and on Sundays from 6:55 a.m. to 12:30 a.m. (Barker-Me.)

Denmark

OZF on 9520 kcs. in Copenhagen is to be addressed as follows: Heibergsgade 7, Kobenhavn K., Denmark. They also broadcast on 15165 kcs. They have been heard on Sundays from noon to 1 p.m. and on 9520 kcs. they broadcast for USA and Canada from 9:30-11 p.m. Announcements are in English and they ask for reports from listeners. The afternoon programs from 5-6 p.m. are broadcast for Greenland and Iceland. (R256-Alta. 4)

Dominican Republic

HI-1L on 6485 kcs. at Santiago de los Caballeros has been heard signing off at 9:45 p.m. nightly. (Schmuck-Mass.)

Finland

OII on 21550 kcs. is the new call and frequency assigned to Lahti, Finland. (Jacobs-Ohio)

OFD on 9500 kcs. has the following official schedule: 12:15-5 p.m.

OFE on 11780 kcs. operates from 1:05 a.m. to 12:05 p.m.

OIE on 15190 kcs. (not OFB) from 1:05 a.m. to 4 a.m. and from 9 a.m. to 5 p.m.

OIH on 17800 kcs. from 4 a.m. to 9 a.m.

OII on 21550 kcs. (no schedule given—probably not operating yet). (RX via Skyten-Mass.)

The following Finnish stations have been logged here: OFD, OFE, OIE, and OIH. (Skyten-Mass.)

France

TPA-3 on 11885 kcs. and TPB-11 on 9550 kcs. are both received very well at 2:15 p.m. when they sign on simultaneously with the Marseillaise, although TPB-11 fades rather soon

afterwards. (Parks-B. C.)

Germany

DJB on 15200 kcs. has replaced DJR on 15340 kcs. on Germany's morning transmission (8-9 a.m.) to North America. (Skyten-Mass.)

DJG on 17185 kcs. is a new German station signing off daily at 11:15 a. m. with announcements in English and German. (Jacobs-Ohio)

DJH on 17845 kcs. was logged at noon broadcasting the German program to Africa. (Skyten-Mass.)

DJM on 6079 kcs. is being used at present on the evening transmission to North America. (Skyten-Mass.) There is a special program for English listeners at 10:30 p.m. (Long-Ga.)

Guadeloupe

Station with unknown call on 7500 kcs. at Puerto de Pitre, in this French West Indies island heard near 6:30 p.m. with French records. No English is spoken. (Caribbean Radio Listening Post-P. R.)

Guatemala

TG-2 on 6190 kcs. and TG-1 on 1310 kcs. are transmitting daily from 7:30 until 10 a.m. and from 6 until 11 p.m. Saturdays they broadcast from 6 to Sunday morning at 3 a.m. Another transmission on Sundays is from 3-8 p.m. A special DX program on Sunday morning from 1-2 a.m. with English announcements. It is not necessary to include return postage on any report to these stations. (RX via Parfitt-Ohio)

TG2X on 5945 kcs. at Guatemala city using the slogan "Voice of the Police National" operates 9-11:30 p.m. daily and Saturday 10 p.m. to 1 a.m., and Sunday 1-5 p.m.

TGS on 5713 kcs. "Radioemisora

de la Casa Presidencial" operates on an irregular schedule.

TG-25A and TG-25B on 5790 kcs., portables at Presidential House, Guatamala City operate irregularly.

TGB on 5732 kcs. is the Aviation National station at Guatamala City. (R150-Guatamala 1)

Haiti

HH2S on 5915 kcs. at Port-au-Prince starts broadcasting every evening at 8:30 and on Sundays at 7 p.m. On Mondays and Saturdays at 9 p.m. and on Wednesdays at 9:30 p.m. the station presents a special "Dance Time" program. On Tuesday and Thursday at 9 p.m., and on Sunday at 7 p.m. a program of Classical music is presented. The music used comprises entire symphonies, sonatas, concertos, quintets, or selections from well known operas. The general run of programs are of light classical music. Letters or verification cards will be mailed to listeners who send comments on reception of these programs. All letters should be addressed to the West Indian Broadcasting Co., Station HH2S, P. O. Box 146-B, Port-au-Prince, Haiti. (RX)

Hungary

HAT-4 on 9125 kcs. is heard late Sunday afternoons with a rather weak signal. (Parks-B. C.)

India

VUC-2 on 4880 kcs. at Calcutta heard coming on at 7:30 a.m. with R8-9 signal. (Skyten-Mass.)

VUD-2 on 4995 kcs. and VUD-3 on 9590 kcs. comes on at 7:30 a.m. Programs opens with chimes and the clock striking the hour followed by opening announcement and news bulletins in English which lasts for about five minutes when programs in Hindustani are heard. Lately a lady an-

nouncer has been heard during the opening announcement and news. (Skyten-Mass.)

VUD-3 on 9590 kcs. is heard excellently in the mornings with reception reaching its peak between 10 a.m. to 12:30 p.m. The English news given from 11-11:20 a.m. is so loud and clear, it could easily be mistaken for Daventry. Talks are often heard after the news broadcast. The station announces as "All India Radio, Delhi." VUD-3 on 15160 kcs. is heard daily in the early evenings from 8:30 to around 11 p.m., but not nearly as well as in the mornings on 9590 kcs. with English news at the end of the transmission. (Parks-B. C.)

VUD-2 on 9590 kcs. is used for transmissions I and II and 5995 kcs. is used by the same station for transmission III. VUC-2 on 9530 kcs. is used on I and II and 5905 kcs. is used for III. VUM-2 on 5880 kcs. is used for one transmission daily corresponding to III. VUD-3 on 15160 kcs. is used for transmissions I and II and 9590 kcs. for III. All but VUD-3 use 10 kw. The latter uses but 5 kw. All these stations are heard very well in New Zealand. (RA-New Zealand)

VUD-2 on 9590 kcs. is heard well as they come on the air at 7:30 a.m. also heard at 8:30 p.m. (Barker-Me.)

Japan

JDY on 9920 kcs. is heard 7-8 a.m. with an R7 signal that compares with the powerful transmitters of Nazaki, Japan. Location of JDY is Dairen, Manchoukuo. They broadcast news in Japanese and Chinese and transmit Japanese music till 7:45 a.m. when the carrier is silent for a few minutes.

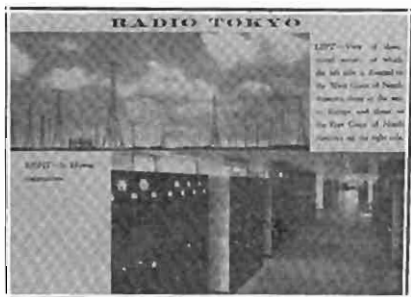
Then after a series of beat notes are sounded the news is read in English. JDY, however, does not adhere carefully to its schedule and often fails to have an English period. (Wells-Ala.)

JFAK on 9636 kcs. at Taihoku and JIB on approximately 10500 kcs. are still heard fairly well on the north-west coast in the mornings. The evening transmission for the west coast of North America has now been shifted to the winter frequency of JZJ—11800 kcs. from 12:30-1:30 a.m. (Parks-B. C.)

JIB on 10535 kcs. at Taihoku, Taiwan operates from 9:05-10 a.m. (Jacobs-Ohio, and Bartholomew, N. Y.)

Lithuania

A shortwave station is planned for this country, but plans will not be advanced till later in the year. (R118-Eng. 1)



The new verification card used by the Japanese shortwave station is shown above. At the top are shown the aerials which direct the signals in the direction of Europe and North America. Below is shown the 50 kilowatt transmitter. (Courtesy of Bertram Podall).

Martinique

"Radio Martinique" on 9700 kcs. at Fort-de-France broadcasts daily from 11:15 a.m. to 12:45 p.m. and from 5:30-8:30 p.m. The station has no call letters but merely announces as "Radio Martinique—La Voix de la France aux Antilles." Address is P. O. Box 138, Fort de France, Martinique, and they send verification cards to everyone sending a correct report. (Seidler-La.)

Netherlands

PHI in Huizen heard occasionally with a good signal. PCJ on 9590 kcs. heard very well but badly QRM'd by a South American and VUD occasionally, as well as from GSC next door! (Parks-B. C.)

New Caledonia

FK8AA at Noumea, on 6122 kcs. is being heard in New Zealand from Tuesday through Saturday from 2:30-3:30 a.m. Programs open and close with the Marseillaise and the station is announced as "Ici Noumea." (RA-New Zealand)

Panama

HOA on 2340 kcs. at Panama City is a new station heard broadcasting nightly simultaneously with HP5G, "Ron Dalley" on 11780 kcs. (Skyten-Mass.)

Poland

SP-48 on 6140 kcs. and SP-31 on 9520 kcs. are two new stations at Warsaw. The stations carry the same programs as the Warsaw local stations and sign off at 5:30 p.m. During the program announcements are made in Polish only, but at the end of the transmission, they make a station announcement in French mentioning SP-48 and SP-31 with the frequencies as mentioned above. No mention is made of the other shortwave channels

used. A report to SP-48 was verified by a personal postcard which stated that QSL card would be sent in the near future. None has been received yet. The volume of SP48 is not as good as it was about a month ago. Both stations use 5 kilowatts. (Janzen-Holland, and R118-Eng. 1)

Salvador

YSD on 7894 kcs. is back on the air again. It is heard with an R7 signal. (R453-N. Y.)

Spain

"Radio Nacional" on 10370 kcs. has been heard lately from about 7:30 p.m. to sign off at approximately 9 p.m. The same program can occasionally be heard on the 20 meter band.

EAQ on 9860 kcs. is heard fairly well from 7-9 p.m. although it is usually quite badly QRM'd by CW. Spanish rebel stations have not been heard on the northwest coast for some time. (Parks-B. C.)

FET-5 on 7350 kcs. at Burgos, Spain is often heard as late as 7:30 p.m. (Jacobs-Ohio)

St. Kitts

ZIZ on 6380 kcs. at Basseterre on this island of the Leeward group is heard nightly at 4 p.m. (Caribbean Radio Listening Post-P. R.)

Strait Settlements

ZHP on 9690 kcs. now is announced as "P for Province" at 10:10 a.m. and judging from the signal (in New Zealand) it has increased its power. (RA-New Zealand)

Switzerland

Overseas transmissions of the Swiss Broadcasting Society through the Prangui transmitters began in November. Details are as follows:

HBJ on 14530 kcs. for the Orient on the first Saturday of each month at 7:45 a.m. and for Africa on the first Saturday of each month at 11:45 a.m.

HBL on 9340 kcs. for North America every Monday at 6:45 p.m.

HBP on 7790 kcs. for South America every Monday at 6:45 p.m.

Turkey

TAP on 9465 kcs. is heard quite well on the transmission lasting from 11:30 a.m. to 5 p.m. Power is 20 kilowatts. Announcements are made in various languages, including French and English. The station's programs are delightfully varied with all types of American music intermingled with a few Turkish or Mohammedan selections. This station is reported heard on the 19 meter band immediately preceding that mentioned above. (Parks-B. C.)

TAQ is on 15200 kcs. now. The station did use 15180 kcs. for a short time, but has now settled on 15200 kcs. (R118-Eng. 1)

Union of South Africa

ZRK on 9606 kcs. is heard very well about 11:45 p.m. daily with news and setting up exercises. Their address is South African Broadcasting Corp., P. O. Box 4559, Johannesburg, South Africa. (R453-N. Y., and R37-Ont. 1)

U.S.A.

KIPQ on 2786 kcs. at Beatrice, Nebr. heard along with KIPR of Red Oak and KIPT of Truro, Iowa. Army station MT5 on 4475 kcs. heard calling Army plane 6307 heard on the same frequency.

The U.S. Immigration Border Patrol now operates on the following radio stations on the Northern Border:

WWMD Derby Line, Vt. on 2770, 4617, and 8790 kcs.

WWMH Highgate Springs, Vt. on 2775 kcs.

WWMR Richford, Vermont on 2770 kcs.

WWMB Buffalo, N. Y. on 2822, 4617, and 8790 kcs.

WWME Chateaugay, N. Y. on 2770 kcs.

WWMO Ogdensburg, N. Y. on 2770 and 4617 kcs.

WWMP Rouses Point, N. Y. on 2770 kcs. and 4617 kcs.

WWMA Detroit, Mich. on 2710, 4617, and 8790 kcs.

WWMC Marine City, Mich. on 2710 kcs.

KYZM Lynden, Washington on 2710 and 4617 kcs.

(U.S. Dept. of Labor, via R451-Ill.)

U.S.S.R.

RNE on 12000 kcs. is heard till 11 a.m. daily and comes on again at 10:15 p.m. until (?). RAN is heard from 7 p.m. to 9:15 p.m. with English programs and from then till (?) with French programs. A new Soviet station is heard on 9520 kcs. (on west coast) with an excellent signal all day until 7 p.m. with various broadcasts in foreign languages. The Kremlin chimes and clock striking the hour of midnight are heard clearly at 4 p.m. ending one transmission. (Parks-B. C.)

RV-56 at Moscow is heard in the afternoon until 4 p.m. when they sign off with the Internationale. (Skyten-Mass.)

Vatican City

HVJ is heard on 6185 kcs. if not on 6030 kcs. at 3 p.m. (RL—Mass.)

Yugo Slavia

YUA on 6100 kcs. is heard quite well of late around 1 a.m. They come on the air about 12:45 a.m. with a man announcing. Then, shortly after one o'clock, a program of recorded classical music is played. English announcements come just prior to the beginning of the musical program. "Radio Beograd," is the name of the station used in announcements. (Wells, Ala.)

The Reporters

RA: A. I. Breen, Dunedin, New Zealand.

RG: Harry Gordon, Erie, Pa.

RX: Official.

R7, Pa. 1: A. M. Hanins, Latrobe, Pa.

R9, Mo. 1: Walter V. Scholz, Webster Groves, Mo.

R21, Pa. 3: Edward Lang, Philadelphia, Pa.

R23, Ill. 4: Richard Wright, Chicago, Ill.

R24, Ill. 5: William J. Wood, Oak Park, Ill.

R36: Carl Sylvester, Columbiaville, Mich.

R37, Ont. 1: J. F. Moris, Toronto, Ont., Canada.

R118, England 1: D. H. Dussek, Alton, Hants.

R149: Chester Brown, Bradford, Pa.

R150, Guatemala 1: Luis Diez A., Retalheleu.

R168: J. T. Lippincott, E. Vassalboro, Maine.

R174, Mont. 1: John Picard, Butte, Mont.

R184: Carl Eder, Willmar, Minn.

R185: Anne Eder, Willmar, Minn.

R211, Hawaii 1: C. J. Fern, Jr., Lihue, T. H.

R220: Albert Pickering, W. Medway, Mass.

R256, Alta. 4: Dick Anderson, Calgary, Alta.

R274: A. C. Tarr, Seattle, Wash.

R281: Edward Hirsch, Jamaica, N. Y.

R450: Howard W. Seiger, Pittsburgh, Pa.

R451: Chester Roman, Chicago, Ill.

R453: Jack Kennealley, St. Albans, N. Y.

R580, Neb. 3: Al Bettinger, Omaha, Nebr.

R592: Bob Sawada, Isleton, Calif.

R622, La. 3: A. V. Deterly, Baton Rouge, La.

Elvyn Barker, Portland, Maine.

Al Bartholomew, Bradford, N. Y.

Isaac T. Davis, Elkhart, Texas

Enrique Hidalgo, Cienfuegos, Cuba

Carl Horton, Athol, Mass.

R. E. Lee Hunt, Danville, Ill.

C. D. Jordan, Philadelphia, Pa.

John D. Long, Dalton, Ga.

Arthur Parfitt, Cleveland, Ohio.

Joseph A. Piechuta, Meriden, Conn.

S. Schmuck, Cambridge, Mass.

Herbert H. Seidler, New Orleans, La.

Frank Sekatch, Detroit, Mich.

Jack Wells, Phoenix City, Ala.

NOTE: Please be sure always to sign your Radex Club indicia to every letter or report you write.

For Scoop-Box Reports, see page 51

Twenty Stentors

Listed below are the twenty shortwave stations which possessed the loudest voices in each of the Time Zones last month. Arranged according to the number of reports received, this chart can be used by new listeners as a guide to the stations which they are most apt to receive in their own localities. Beginners should not attempt to tune for difficult catches until they become familiar enough with their receivers to bring in these easy-to-get stations regularly.

Best in EST	Best in CST	Best in MST	Best in PST	Best in World*
Tokyo	Paris	London	London	London
VUD2	Rome	Praha	Berlin	Berlin
Paris	Praha	COCM	Tokyo	W3XAL
Praha	VUD3	Paris	ZRK	HBO
London	London	Berlin	VUD3	RV96
TAP	Tokyo	Rome	VLR	VUD2
Rome	Berlin	CSW3	VK2BE	TAQ
Berlin	Huizen	Martinique	JFAK	W2XAF
VUD3	HP5G	HBO	PMH	Rome
VLR	SPW	CD1190	PLP	SPW
RKI	RKI	VLR	CFVP	TGWA
HH2S	VUD2	HH2S	PMN	Martinique
VK3ME	TG2X	VUD3	TAQ	SP48
SPW	HP5A	YDB	EAR	SP31
RV96	ZRK	XEWW	VK3ME	TAP
ORK	RV96	HCJB	HCJB	ZRK
HVJ	CSW3	TGWA	JIB	Tokyo
HCJB	TGWA	COCQ	TAP	Paris
HAT4	HJ3ABD	VK3ME	Paris	Huizen
RAN	HJ1ABP	TAP	Huizen	Praha

*Exclusive of the USA and Canada.

Time is Eastern Standard. Subtract 1 hour for Central, 2 hours for Mountain and 3 hours for Pacific.

Belgrade: Emetteur a Ondes Courtes, Beograd, Yugoslavia. Announces in Serbian, Italian, English, German, Turkish, Hungarian, Albanian, Greek.

YUA, 6100 kcs, 1 kw, 12:45 am-5:30 pm.

Berlin. Deutscher Kurzwellensender, Haus des Rundfunks, Berlin, Charlottenburg 9. Transmitters are at Zeesen. Can be identified by a tune on a music box which precedes each transmission. These stations verify by card for an IRC.

The directions in which the programs are radiated are shown in parentheses: A, Asia; Af, Africa; CA, Central America; NA, North America; SA, South America.

DJA, 9560, 12:05-11 am (A); 4:50-10:50 pm (CA).

DJB, 15200 kcs, 8-9 am (CA); 4:50-10:50 pm (NA); Sunday only 11:10 am-12:25 pm (NA).

DJC, 6020, 1-4:25 pm (Af).

DJD, 11770, 11:30 am-4:25 pm (Af); 4:50-10:50 pm (NA).

DJE, 17760, 12:05-5:50 am (A); 6-7:50 am (SA).

DJL, 15110, 12:05-2 am (Af); 8-9 am (NA); 10:35 am-4:25 pm (Af).

DJN, 9540, 12:05-11 am (A); 4:50-10:50 pm (SA).

DJQ, 15280, 12:05-11 am (A); 4:50-10:50 pm (SA). Sunday only, 11:10 am-12:25 pm (SA).

DJR, 15340, 12:05-11 am.

DJX, 9675, 11:30 am-4:25 pm (Af).

DJZ, 11801, 4:50-10:50 pm (NA).

Eindhoven: N. V. Philips' Radio, Eindhoven, Netherlands. Philips' Holland-India Broadcasting Station (PHOHI).

PCJ, 9590, Sun, 2-3 pm; 7:15-8:15 pm; 8:25-10:25 pm; Tues, 1:45-3:40 pm; 7:15-10:30 pm; Wed, 7:15-8:50 pm; Fri, 8-9 pm.

PCJ2, 15220, Tues, 2:-3:30 am;
Wed, 9:30-11:30 am.

PHI, 11730, Mon through Fri, 6:15-
6:45 pm; Sat, 7:15-7:45 pm.

PHI2, 17770, Mon through Fri
7:40-8:55 am; Sun, 6:25-9:40 am.

London: British Broadcasting Corp., Lon-
don, W1, England. Big Ben strikes the
hours. Reports are acknowledged but not
positively verified. Transmitters are at
Daventry.

GSA, 6050, 12:20-4 pm; 4:15-6 pm.

GSB, 9510, 1:30-4 pm; 4:15-8:30
pm; 9:20-11:20 pm.

GSC, 9580, 4:15-8:30 pm; 9:20-
11:25 pm.

GSD, 11750, 3-5:15 am; 10:45 am-
noon; 12:20-4 pm; 4:15-8:30 pm;
9:20-11:25 pm.

GSE, 11860, 3:5:15 am; 5:45-8:30
am; 9 am-noon.

GSF, 15140, 3-5 am; 5:45-8:50
am; 9 am-noon.

GSG, 17790, 5:45-8:50 am; 9 am-
noon; 12:20-4 pm.

GSH, 21470, 5:45-8:50 am; 9 am-
noon.

GSI, 15260, 3-5:15 am; 1:30-4 pm.

GSI, 21530, 5:45-8:50 am; 9-10:30
am.

GSJ, 6110, 6-8:30 pm; 9:20-11:25
pm.

GSK, 15180, 3-5:30 am; 9-11 am;
4:15-8:30 pm.

GSP, 15310, 1:45-4 pm.

Martinique: "Radio Martinique," Fort
de France, Martinique, 9700 kcs. Sign
off with Marseillaise. Address, Poste
Seri, Boite 136, 1:15-2:45 pm; 7:30-
10:30 pm.

Paris: "Paris Mondial," Ministry of
Posts, Telegraphs & Telephones, 107 rue
de Grenelle, Paris VII, France. Pro-
grams open and close with the Marseil-
laise."

TPA2, 15243, 6-11 pm.

TPA3, 11885, 2-5 am; 11:15 am-6
pm.

TPA4, 11718, 7-9:15 pm; 9:30 pm-
midnight.

TPB3, 17810, 9:30-11 am.

TPB6, 11718, 7-9:15 pm.

TPB7, 11885, 9:30 pm-midn't.

TPB11, 9550, 11:15 am-6 pm.

TPB11, 15130, 2-5 am.

Praha: The Czechoslovak Shortwave
Station, Fochova Tr. 16.

OLR2A, 6010, 1:55-4:50 pm.

OLR4A, 11840, 4:50-6:30 pm;
7:55-10:50 pm; Sundays, 8:25-10:20
am.

OLR4B, 11760, daily except Sunday
8:25-10:20 am.

OLR5A, 15230, Sunday, 5:55-8:10
am; daily except Sunday, 4:50-8 am.

Rome: E.I.A.R., 5 Via Montello, Rome,
Italy.

ICC, 6355, 3-3:30 pm.

IQY, 11676, 12:10-1 pm; 1-19-1:36
pm; 3-3:30 pm; 4:15-4:55 pm; 6-9
pm.

IRF, 9830, 12:40-1 pm; 3-4:55 pm.

2RO, 11810, 4:40-8:45 am; 10 am-
2:55 pm; 3:50-4:05 pm; 5:30-5:55
pm; 7-9 pm.

Tokyo: Broadcasting Corp. of Japan,
Hibiya Park, Tokyo.

JVP, 7510, 8-9:30 am.

JZI, 9535, 2:30-4 pm; 4:30-5:30
pm.

JZJ, 11800, 7-7:30 am; 8-9:30 am;
2:30-4 pm; 4:30-5:30 pm; 8-8:30 pm.

CFVP, Calgary, Alta., "The Voice of
the Prairies," 6030 kcs.

COBC, Havana, Cuba, "El Progreso
Cubano," Apartado 132. 9960 kcs (re-
ported on 9990). Daily, 6:55 am-
midn't.

COCM, 9833, Havana, Cuba. Trans-
radio Columbia, 23 No. 1113, Vedado.
8 am to 10:30 pm.

COCO, 6010, Havana, Cuba. Relays
CMCK. Luis Casas R., Aptdo 98. 8 am-
10 pm.

COCQ, 9670, Havana, Cuba, "de la
RCA Victor," Calle 25 No. 225. Noon-
10 pm.

CSW, 9940, Lisbon, Portugal, 1-8 pm.

EAR, Madrid, Spain, "The Voice of
Republican Spain." Apartado 951.
9860 kcs. At 5:30, 8:30 and 9:40 pm.

HAT4, 9125, Budapest, Hungary, Sun,
Wed, 7-8 pm; Sat, 6-7 pm.

HBO, Geneva, Switzerland, "Radio
Nations." 11402 kcs. Sun, 1:45-2:30
pm.

- HCJB**, 4107, Quito, Ecuador, 7-8:15 am; 11:30 am-2:30 pm; 4:45-10:15 pm.
- HCJB**, 12450, Quito, Ecuador, 4:30-7:15 pm.
- HJ1ABP**, 9618, Cartagena, Colombia, Aptdo. 37, 6-10 pm.
- HJ3ABD**, 4840, Bogota, Colombia, Aptdo. 509, 9 am-2 pm; 6 pm-midn't.
- HP5A**, 11700, Panama City, Panama. Radio-Tatro Estrella de Panama, Aptdo. 054. Weekdays 6-10 pm.
- HP5G**, 11780, Janana City, Panama. "Ron Dalley," Box 1121. Daily 6-10 pm.
- JDY**, 9925, Dairen, Kwangtung. Relays IQAK. Daily 7-8 am.
- JFAK** or **JFO**, Itabushi, Taiwan. 9636 kcs. 6-8:30 am.
- JIB**, Taihoku, Taiwan, Relays JFAK. 10535 kcs. 9-10:30 am.
- LRX**, 9660, Buenos Aires, Argentina. "Radio El Mundo" Calle Maipu 555. Daily 10:30 am-12:30 am.
- OFB**, 15190, Lahti, Finland. Weekdays, 5-6:30 am; 10 am-5 pm.
- OFC**, 11780, Lahti, Finland, see OFB.
- OFD**, 9500, Lahti, Finland, see OFB.
- ORK**, Brussels, Belgium. 10330 kcs. 1:30-3 pm.
- OZF**, 9520, Copenhagen, Denmark, 2-6 pm; 10-11 pm.
- PLP**, 11000, Bandoeng, Java, N.E.I. Weekdays, 4:30-10 am.
- PMH**, Bandoeng, Java, N.E.I. 6710 kcs.
- PMN**, Bandoeng, Java, N.E.I. 10260 kcs. 5:30-11 am.
- RAN**, 9595, Moscow, U.S.S.R. Radio Centre, Soliakka 12. Daily 7-9:15 pm.
- RKI**, 7520, Moscow, U.S.R. Radio Centre, Soliakka 12. Daily 7-9:15 pm.
- RNE**, Moscow, U.S.S.R. 12000 kcs. Signs off with the "Internationale." Daily 7-9:15 pm.
- RW96** or **RV96**, Moscow, U.S.S.R. 15180 kcs.
- SPD**, 11535, Warsaw, Poland, 6-9 pm.
- SPW**, 13635, Warsaw, Poland, 6-9 pm.
- SP31**, Warsaw, Poland. 9520 kcs. 3-5:30 pm.
- SP48**, Warsaw, Poland. 6140 kcs. 3-5:30 pm.
- TAP**, Ankara, Turkey. 9460 kcs. Tests
- TAQ**, Ankara, Turkey. 15180 kcs. Tests.
- TGQA**, 6420, Quezaltenango, Guatemala. Sat, 10 pm-1 am Sun; Sun, 1-3 pm; other days, 9-11 pm.
- TGWA**, 9685, Guatemala City, Guat. Radiodifusora Nacional. Verifies free Sun, 7-10:45 pm. Weekdays, 10-11:30 pm.
- TGWA**, 15170, Guatemala City, Guat. Same as above.
- TG2X**, Guatemala City, Guat. Same as above.
- TI4NRH**, 9694, Heredia, Costa Rica. Aptdo. 40. Tues, Thur, Sat, 9-10 pm.
- VK2ME**, 9690, Sydney, Australia. Am? algamated Wireless, 47 York St. Sun, 1-3 am; 5-11 am.
- VK3ME**, 9510, Melbourne, Australia. Amalgamated Wireless, 167 King St. Weekdays 4-7 am.
- VK6ME**, 9590, Perth, Australia. Amalgamated Wireless. Weekdays 4-6 am.
- VLR**, 9580, Melbourne, Australia. 3-9:45 am.
- VLR**, Melbourne, Vic., Australia. 11880 kcs. 1-3 am.
- VPD2**, 9530, Suva, Fiji, 5:30-7 am.
- VP3BG**, Georgetown, Brit. Guiana. Crystal Broadcasting Co. 6130 kcs.
- VUB2**, 5905, Bombay, India, 7 am-12:30 pm.
- VUB2**, 9550, Bombay, India, 1-3:30 am; 9:30-11:30 pm.
- VUC2**, 5880, Calcutta, India, 6:30 am-noon.
- VUC2**, 9530, Calcutta, India, 2-4 am.
- VUD2**, 5995, Delhi, India, 7:30 am-12:30 pm.
- VUD2**, 9590, Delhi, India, 1:30-3:30 am; 8:30-11:30 pm.
- VUD3**, 15160, Delhi, India, 7:30 am-12:30 pm.
- VUM2**, 5880, Madras, India, 7 am-12:30 pm.
- W2XE**, New York, N. Y. Columbia Broadcasting Sys., 485 Madison Ave. 6120 kcs: 11:30 pm to 12:30 am. 11830 kcs: Sat and Sun, 6:30-11 pm; Mon through Fri, 6-11 pm. 6120 kcs: Sat and Sun, 8 am to 1 pm; Mon through Fri 7:30 am.
- W3XAL**, New York, N. Y. (Bound Brook, N. J.). National Broadcasting Co., Rockefeller Plaza.

6100 kcs: 9 pm to 1 am.

17780 kcs: 9 am to 9 pm.

W3XAU, Philadelphia, Pa. 1622 Chestnut St.

6060 kcs: Tues, Fri, Sun, 1 pm to midnight; Wed, 1-10 pm.

9590 kcs: Mon, Thur, Sat, 1 pm to 1 am.; Tues, Fri, Sun, midnight to 1 am; Wed, 10 pm to 1 am.

XETA, 11760, Monterrey, N. J., Mexico. Aptdo. 203. Daily 1:30-3:30 pm.

XEWI, 11900, Mexico City, D. F. 9 pm to midnight.

XEWV, 15160, Mexico City, D. F. Aptdo. 2516. 8 pm to 12:30 am.

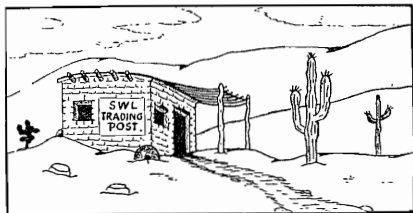
XGSA, Kweiyang, China. 7000 kcs. 8-11:15 am.

ZBW3, 9525, Hong Kong, Box 200. Sun midnight to 1 am; 3-9:30 am. Weekdays 4-10 am.

ZGE, 6200, Kuala Lumpur, Fed. Malay States. Sun, Tues, Fri, 6:40-8:40 am.

ZIZ, Basseterre, St. Kitts. 6380 kcs.

ZRK, 9606, Cape Town, U. of South Africa. P. O. Box 4559, Johannesburg. Sun, 3:30-4:30 am; 8-11:40 am. Weekdays, 11:45 pm to 12:45 am.



James W. Newman, 45 Sixth St., New Toronto, Ont. (SWL Cards).

James Arp, Williamsport, Pa. (SWL Cards).

William Anderman, Jr., 5913 N. Camac St., Philadelphia, Pa. (SWL Cards).

G. M. Kosolapoff, 461 Allwen Drive, Dayton, Ohio (Correspond with DXers in Dayton).

David C. Hill, 1516 Varnum St., N. W., Washington, D. C. (SWL Cards).

Bob Sawada, Isleton, Calif. (SWL Cards).

Walton Knight, Belinda, Acco County, Va. (SWL Cards).

O. Ingmar Oleson, Ambrose, N. Dak. (Correspond with Scott, Masterpiece and Midwest users).

John L. Tate, 612 Halifax St., Petersburg, Va. (Cards).

Jack Kenneally, St. Albans, L.I., N. Y. (SWL Cards).

Charles E. Baxa, 2678 N. Halsted St., Chicago, Ill. (SWL cards).

Merton M. Hiatt, Dryden, Wash. (SWL cards).

Vincent C. Stasen, 5347 Priscilla St., Philadelphia, Pa. (SWL cards).

Peter A. Clarius, 11 Marianne St., Port Richmond, S.I., N. Y. (Correspondence).

Caribbean, Listening Post, General Delivery, San Juan, Puerto Rico (SWL Cards).

Richard A. Craig, 8 Rod Road, Waterville, Maine (Correspondence with DXers 2000 miles away).

Elmer Wokaty, W. 217th St., Fairview Village, Ohio (Swap foreign SWL cards, and correspondence with YL's).

G. R., East St. Louis, Ill. Can you tell me how to change my electric "Scott" receiver over for batteries?

Answer. This is a difficult task, and only one for a good service man. The details are too long to be given here, for it will be necessary to remove much of the power unit and filter parts. It will be necessary to supply the same voltage to the power circuit, including the voltage divider, as is now given by the secondary of the power transformer and the rectifier tube. All this means that the battery drain will be considerable. Switching over to 2-volt battery tubes will call for many other changes in circuit impedances, and we do not feel that the change is practicable.

NEWSSTAND BUYERS

If your newsdealer is unable to supply you with your copy of RADEX you may obtain the issue you want by using the order form on page 96 of your last copy.



The Universal DX Club, formerly of Oradell, N. J., has been combined with the Newark News Radio Club. Members of the former club will receive the bulletins of the NNRC until expiration of their regular subscription term.

A new club, known as the World DX Alliance, has been formed at Perth Amboy, N. J. The officers are announced as follows: Nick Woytan, president; Leon Grossman, broadcast band editor; George Eder, amateur editor; Lewis Hill, assistant amateur editor; Ralph R. Olsen, CPC chairman; Erick R. Johnson, secretary and treasurer. Further information can be obtained from Mr. Johnson at Box 422, Perth Amboy, N. J.

Vincent Stasen of Philadelphia informs this column that the Jackson Short Wave League now numbers over one hundred members. The president is Roy E. Chisholm, 616 Fourth St., Jackson, Mich.

The International Listeners Association of Dryden, Wash., advises us that the first prize to be awarded in their recently announced contest will be the Chandler Code Course.

NNRC Absorbs UDXC

At a meeting in Brooklyn, N. Y., on November 23rd, the Executive Committee of the Universal DX Club, composed of Alfred J. Stansfield, Arthur B. Johnson, William Wheatley and John DeRosa, and a committee from the Newark News Radio Club, composed of Irving R.

Potts, Peter J. McKenna and Harry J. Varrelman, it was voted that the NNRC absorb and take over the membership and affairs of the UDXC.

Believing that various radio and DX clubs, with many of their activities over-lapping, have been finding the going increasingly difficult, Messrs. Stansfield, Johnson, Wheatley and DeRosa believed that the best solution could be reached through a merger of the UDXC with another club. After due deliberation of what the various other clubs could offer the UDXC membership, the committee approached the NNRC, with the result being the aforementioned action.

This action was ratified by the Board of Directors of the Newark News Radio Club at its December 10th meeting, with the result that all members of the UDXC were admitted to membership in the NNRC for the duration of their membership.

With the ranks of radio clubs thus reduced, a check-up was made on some of the other clubs which appeared to have been more or less inactive during recent months. The GCDXC is reported to have issued but one bulletin so far this season. It was dated in September, but not mailed out until the last week in October.

More of a mystery is the Canadian DX Relay, which has not issued a bulletin since August 5th. A personal letter to Charles Hesterman, inquiring about the status of the CDXR, failed to bring a reply.

Charles C. Norton advises that the URDXC is enjoying its best season in the five years of its existence, that its

(Please turn to page 75)

Stations 'Round the World

FOLLOWING is a selected list of the powerful radio stations of the world. Every station shown in this list has actually been heard in the United States. The power is given in the third column, in kilowatts. For complete lists of broadcasting stations, readers are referred to the following issues of RADEX: Asia, February, 1938; Oceania, September, 1938; South America, October, 1938.

519	....	50.	Baranowicz, Poland. Testing.	780	JOPK	.5	Shizuoka, Japan.
540	RW54	10.	Khabarovsh, U.S.S.R.	780	LT1	5.	Rosario, Argentina.
546	....	120.	Budapest, Hungary	785	....	120.	Leipzig, Germany.
550	2CR	10.	Cumnock, NSW, Australia.	790	JOGK	10.	Kumamoto, Japan.
556	....	100.	Beromunster, Switzerland.	790	LR10	11.	Buenos Aires, Argentina
560	MTCY	10.	Shinkyō, Manchuria.	790	4YA	10.	Dunedin, New Zealand.
560	6WA	10.	Minding, W.A., Australia.	795	....	50.	Lwow, Poland.
565	....	100.	Athlone, Eire.	800	4QG	2.5	Brisbane, Qsld., Australia.
570	CB57	5.	Santiago, Chile.	804	....	70.	Cardiff, Gt. Britain (Wale- Regional).
570	2YA	60.	Wellington, New Zealand.	810	JOIK	10.	Sapporo, Japan.
574	....	100.	Stuttgart, Germany.	830	LR5	29.	Buenos Aires, Argentina.
580	3WA	10.	Horsham, Vic., Australia.	830	3GI	7.	Longfield, Vic., Australia.
583	....	20.	Alpes-Grenoble, France.	840	PRH9	5.	Sao Paulo, Brazil.
583	....	50.	Madona, Latvia.	840	2YC	5.	Wellington, New Zealand
590	JOAK1	150.	Tokyo, Japan.	841	....	100.	Berlin, Germany.
590	LS10	6.	Buenos Aires, Argentina	850	JBCK	10.	Seishin, Korea.
582	....	120.	Vienna, Germany.	850	OAX4A	10.	Lima, Peru.
600	PRH2	25.	Porto Alegre, Brazil.	850	....	100.	Sofia, Bulgaria.
601	....	25.	Rabat, Morocco.	859	....	100.	Strasbourg, France.
610	CX4	1.	Montevideo, Uruguay.	860	PRA3	2.5	Rio de Janeiro, Brazil.
610	TFC	3.5	Sydney, NSW, Australia.	870	JOBK2	10.	Tokyo, Japan.
610	....	20.	Florence, Italy.	870	LR6	26.	Buenos Aires, Argentina.
620	3AR	4.5	Melbourne, Vic., Australia.	870	2GB	1.	Sydney, NSW, Australia.
620	....	15.	Brussels I, Belgium.	877	....	70.	London, Gt. Britain (London Regional).
620	....	20.	Cairo No. 1, 7gypt.	880	PR13	22.	Bello Horizonte, Brazil.
625	TIPG	2.	San Jose, Costa Rica.	882	YV5RQ	....	Caracas, Venezuela.
630	LS3	5.	Buenos Aires, Argentina.	900	PRB7	5.	Rio de Janeiro, Brazil.
630	4QN	7.	Clevedon, Qsld., Australia.	904	....	100.	Hamburg, Germany.
638	....	120.	Praha No. 1, Czechoslovakia.	910	JOLK	.5	Fukuoka, Japan.
640	5CK	7.5	Crystal Brook, S.A., Australia	910	LR2	12.	Buenos Aires, Argentina.
648	....	100.	Lyon la Doua, France.	910	4RK	20.	Rochampton, Qsld. Australia
650	1YA	10.	Auckland, New Zealand.	913	....	60.	Toulouse, France.
658	....	100.	Cologne, Germany.	920	JOQK	.5	Niigata, Japan.
668	....	70.	Manchester, England (North Regional).	922	....	32.	Brno, Czechoslovakia.
670	LS4	7.	Buenos Aires, Argentina.	932	....	15.	Brussels, Belgium.
670	PRC5	2.	Belem, Brazil.	940	JOBK2	10.	Osaka, Japan.
670	2CO	7.5	Corowa, NSW, Australia.	940	PRF4	10.	Rio de Janeiro, Brazil.
677	....	100.	Sotten, Switzerland.	941	....	12.	Algiers, Algeria.
680	HJN	1.	Bogota, Colombia.	950	LR3	31.	Buenos Aires, Argentina.
.80	PRC2	5.	Porto Alegre, Brazil.	950	2UE	1.	Sydney, NSW, Australia.
686	....	20.	Belgrade, Jugoslavia.	959	....	60.	Paris, France, "Poste Paris ien".
690	JOBK1	10.	Osaka, Japan.	960	PRF3	5.	Sao Paulo, Brazil.
695	....	120.	Paris, France.	960	YV5RA	5.	Caracas, Venezuela.
700	2NR	7.	Grafton, NSW, Australia	977	....	100.	Belfast, Gt. Britain.
704	....	55.	Stockholm, Sweden.	980	PRE8	20.	Rio de Janeiro, Brazil.
710	LS1	5.	Buenos Aires, Argentina.	980	YV1RB	1.	San Cristobal, Venezuela.
710	7NT	7.	Kelso, Tas., Australia.	986	....	50.	Bologna, Italy.
713	....	120.	Rome No. 1, Italy.	990	JOCK2	10.	Nagoya, Japan.
720	PRA8	25.	Pernambuco, Brazil.	990	LR4	16.	Buenos Aires, Argentina.
720	3YA	10.	Christchurch, New Zealand.	990	2GZ	2.	Orange, NSW, Australia.
730	JOCK1	10	Nagoya, Japan.	995	....	60.	Hilversum II, Netherlands
730	5CL	4	Adelaide, S.O., Australia.	1000	HJ3ABH	2.	Bogota, Colombia.
731	....	38.	Turi, Estonia.	1000	PRB9	10.	Sao Paulo, Brazil.
740	PRA4	10.	San Salvador, Brazil.	1004	....	13.5	Bratislava, Czechoslovakia.
740	2BL	3.	Sydney, NSW, Australia.	1005	YV5RG	....	Caracas, Venezuela.
740	....	100.	Munich, Germany.	1013	....	70.	Daventry, Gt. Britain (Mid land Regional).
749	....	100.	Marseille, France.	1020	2KY	1.	Sydney, NSW, Australia.
750	LRA	10.	Buenos Aires, Argentina.	1030	LR9	5.	Buenos Aires, Argentina.
758	....	12.	Katowice, Poland.	1031	....	100.	Konigsberg, Germany.
760	CB76	10.	Valparaiso, Chile.	1040	CP4	10.	La Paz, Bolivia.
760	PRA6	10.	Sao Paulo, Brazil.	1040	PRG2	10.	Sao Paulo, Brazil.
767	....	70.	Falkirk, Gt. Britain (Scottish Regional).	1040	5PI	2.	Crystal Brook, S.A., Australia
770	JOHK	10.	Sendai, Japan.	1040	....	120.	Rennes-Bretagne, France.
770	3LO	3.5	Melbourne, Vic., Australia.				
776	....	120.	Toulouse, France.				

1050 JOJG	.5	Kagoshima, Japan.	1190 2CH	1.	Sydney, NSW, Australia.
1050	50.	Falkirk, Gt. Britain. (Scottish National).	1195	25.	Frankfort-am-Main, Germany.
1059	20.	Bari, Italy.	1213	60.	Lille, France.
1060 CB106	5.	Santiago, Chile.	1220 PRA9	25.	Rio de Janeiro, Brazil.
1060 JOIG	.5	Toyama, Japan.	1220 4AK	2.	Oakey Qsld., Australia.
1060 PRD2	5.	Rio de Janeiro, Brazil.	1222	60.	Rome, Italy.
1070 LRI	50.	Buenos Aires, Argentina.	1230 LS8	15.	Buenos Aires, Argentina.
1077	60.	Bordeaux, France.	1230 2NC	2.	Newcastle, NSW Australia.
1080 LT3	4.5	Rosario, Argentina.	1260 URA5	5.	Sao Paulo, Brazil.
1100 PRG9	20.	Sao Paulo, Brazil.	1260 3SR	2.	Shepparton, Vic., Australia.
1104	50.	Kuldiga, Latvia.	1270 LS9	6.	Buenos Aires, Argentina.
1110 LS5	5.	Buenos Aires, Argentina.	1270 2SM	1.	Sydney, NSW, Australia.
1113	100.	Praha II, Czechoslovakia.	1280 URG3	25.	Rio de Janeiro, Brazil.
1120 LV5	5.	San Juan, Argentina.	1300 TMT	2.	Tamworth, NSW, Australia.
1120 PRH8	5.	Rio de Janeiro, Brazil.	1310 LS11	10.	La Plata, Argentina.
1120 YV1RF	1.	Maracaibo, Venezuela.	1340 PRE4	5.	Sao Paulo, Brazil.
1120 4BC	1.	Brisbane, Qsld., Australia.	1350 LS6	6.	Buenos Aires, Argentina.
1131	100.	Horby, Sweden.	1360 PRC8	5.	Rio de Janeiro, Brazil.
1150 LR8	7.	Buenos Aires, Argentina.	1393	25.	Lyons, France.
1158	10.	Kosice, Czechoslovakia.	1400 PRD5	5.	Rio de Janeiro, Brazil.
1160 PRH3	5.	Sao Paulo, Brazil.	1410 2KO	5.3	Newcastle, NSW, Australia.
1167	15.	Monte Ceneri, Switzerland.	1411	15.	Fecamp, France (Radio ..or-mandie).
1170 2NZ	2.	Inverell, NSW, Australia.	1430 PRE2	4.	Rio de Janeiro, Brazil.
1185	60.	Nice-Cote d'Azur, France.	1440 LS7	10.	Buenos Aires, Argentina.
1190 LS2	30.	Buenos Aires, Argentina.	1500 CB150	10.	Santiago, Chile.

KANS Special

A special program from KANS, Wichita, Kans., has been tentatively arranged for the morning of February 4, from 3 to 4, or from 4 to 5 am, EST. This program, arranged by T. R. Grosvenor of Wichita, will also be announced and verified by him. Reports must be in letter form (no postal cards, except double cards) and return postage must be furnished.

Prizes will be offered to distant listeners, and Radex Club members will be given an opportunity to win one of the prizes. Members are urged to give their membership number when reporting. The program will consist of some "live talent," and the few recordings to be used will be pipe organ or Hawaiian music.

KANS transmits on 1210 kcs, with 100 watts power.

JOHN B. VASSALLO

A consistent DXer for seventeen years, is John B. Vassallo of San Francisco, California. Back in 1921 he started his long tuning record, using crystal receivers at first, and later building his own sets, up until the time that "all-electric" sets were offered for sale.



JOHN B. VASSALLO

Special After-Midnight Frequency Monitoring Schedules

(OTHER THAN F.C.C. FREQUENCY CHECKS)

<i>Station</i>	<i>Frequency</i>	<i>City and State</i>	<i>Date</i>	<i>Time (E.S.T.)</i>
KTSA	550 K.C.	San Antonio, Texas	1st Monday of Month	1:00 to 1:15 AM
KFGQ	1370 K.C.	Boone, Iowa	1st Monday of Month	2:30 to 3:00 AM
WBBZ	1200 K.C.	Ponca City, Okla.	1st Monday of Month	6:00 to 6:30 AM
KLAH	1210 K.C.	Carlsbad, New Mexico	1st Tuesday of Month	5:00 to 5:30 AM
KAND	1310 K.C.	Corsicana, Texas	1st Tuesday of Month	5:15 to 5:45 AM
KWOS	1310 K.C.	Jefferson City, Mo.	1st Wednesday of Month	2:00 to 2:30 AM
WSAU	1370 K.C.	Wausau, Wisconsin	1st Wednesday of Month	2:30 to 2:45 AM
KPAB	1500 K.C.	Laredo, Texas.	1st Wednesday of Month	2:30 to 3:00 AM
WAVE	940 K.C.	Louisville, Ky.	1st Thursday of Month	1:30 to 1:45 AM
KNOW	1500 K.C.	Austin, Texas.	1st Thursday of Month	1:45 to 2:15 AM
KTRI	1420 K.C.	Sioux City, Iowa.	1st Thursday of Month	2:00 to 2:30 AM
WGRC	1370 K.C.	New Albany, Indiana.	1st Thursday of Month	2:30 to 3:00 AM
WACO	1420 K.C.	Waco, Texas.	1st Friday of Month	1:45 to 2:15 AM
KGFI	1500 K.C.	Brownsville, Texas	1st Friday of Month	2:00 to 2:30 AM
KIUN	1420 K.C.	Pecos, Texas.	1st Friday of Month	2:30 to 3:00 AM
KEUB	1420 K.C.	Price, Utah.	1st Saturday of Month	2:00 to 2:30 AM
KSAL	1500 K.C.	Salina, Kansas.	1st Saturday of Month	2:30 to 3:00 AM
KWOC	1310 K.C.	Poplar Bluff, Mo.	On Sunday Morning pre- ceding 2nd Tuesday of every Month.	2:00 to 2:30 AM
WPAY	1370 K.C.	Portsmouth, Ohio	On 1st Day of Month	4:00 to 4:30 AM
KTEM	1370 K.C.	Temple, Texas.	On 5th Day of Month	3:00 to 3:30 AM
KVGB	1370 K.C.	Great Bend, Kansas	On 7th Day of Month	3:00 to 3:20 AM
WPAD	1420 K.C.	Paducah, Kentucky.	On 7th Day of Month.	3:00 to 3:30 AM
WTAQ	1330 K.C.	Green Bay, Wis.	2nd Tuesday of Month	4:15 to 4:30 AM
WCAZ	1070 K.C.	Carthage, Illinois.	2nd Saturday of Month	3:30 to 4:00 AM
KWBG	1420 K.C.	Hutchinson, Kansas.	1st and 3rd Wednesday	6:30 to 7:00 AM
KGFW	1310 K.C.	Kearney, Nebraska.	On 15th and 29th of Mo.	2:00 to 2:30 AM
KBIX	1500 K.C.	Muskogee, Oklahoma.	4th Saturday of Month.	5:00 to 5:15 AM
WLAP	1420 K.C.	Lexington, Kentucky.	On last Friday of Month.	2:00 to 2:30 AM
WSUI	880 K.C.	Iowa City, Iowa.	On Wed. Morning pre- ceding 1st Saturday of every Month.	

The Monthly Frequency Checks

FOR the purpose of checking the frequencies of small stations which cannot be heard satisfactorily on their regular daily transmissions, the Federal Communications Commission requires monthly monitoring broadcasts from a selected group of stations. Following is the latest available schedule of the test transmissions. All time is am., Eastern Standard.

The Second Monday

3:00-3:15	WABY	1370	Albany, N. Y.
	WBRK	1310	Pittsfield, Mass.
3:05-3:20	WMAS	1420	Springfield, Mass.
3:10-3:25	WCAX	1200	Burlington, Vt.
3:15-3:30	WRDO	1370	Augusta, Maine
3:20-3:35	WAGM	1420	Presque Isle, Maine
3:25-3:40	WHAI	1210	Greenfield, Mass.
3:30-3:45	WQDM	1390	St. Albans, Vt.
3:35-3:50	WMFF	1310	Plattsburg, N. Y.
3:45-4:00	WCAD	1220	Canton, Ohio
3:50-4:05	WLNH	1310	Laconia, N. H.
3:55-4:10	WIBX	1200	Utica, N. Y.
4:00-4:15	WWRL	1500	Woodside, N. Y.
	KVRS	1370	Rock Springs, Wyo.
4:05-4:20	WMBO	1310	Auburn, N. Y.
4:10-4:25	KDNT	1420	Denton, Texas
	WBRB	1210	Red Bank, N. J.
4:15-4:30	KPAB	1500	Laredo, Texas
4:20-4:35	KVOX	1310	Moorhead, Minn.
4:25-4:40	KFPW	1210	Fort Smith, Ark.
4:30-4:45	WMIN	1370	St. Paul, Minn.
4:35-4:50	KNET	1420	Palestine, Tex.
4:40-4:55	WBBZ	1200	Ponca City, Okla.
4:45-5:00	KFGQ	1370	Boone, Iowa
4:50-5:05	KREB	1420	Abilene, Tex.
4:55-5:10	KGHI	1200	Little Rock, Ark.
5:00-5:15	KTEM	1370	Temple, Tex.
5:05-5:20	KABR	1390	Aberdeen, S. Dak.
5:10-5:25	KGEK	1200	Sterling, Colo.
5:15-5:30	KFIJZ	1370	Fort Worth, Tex.
5:20-5:35	WMBH	1420	Joplin, Mo.
5:25-5:40	WIL	1200	St. Louis, Mo.
5:30-5:45	WOC	1370	Davenport, Iowa
5:35-5:50	KABC	1420	San Antonio, Tex.
5:40-5:55	KADA	1200	Ada, Okla.
5:45-6:00	KLUF	1370	Galveston, Tex.
5:55-6:10	KHBC	1400	Hilo, T. H.
6:00-6:15	KRE	1370	Berkeley, Calif.
6:05-6:20	KXO	1500	El Centre, Calif.
6:10-6:25	KWG	1200	Stockton, Calif.
6:15-6:30	KERN	1370	Bakersfield, Calif.
6:20-6:35	KUMA	1420	Yuma, Ariz.
6:25-6:40	KVCV	1200	Redding, Calif.
6:30-6:45	KLS	1280	Oakland, Calif.
6:35-6:50	KYOS	1040	Merced, Calif.
6:40-6:55	KSUN	1200	Lowell, Ariz.
6:45-7:00	KGDM	1100	Stockton, Calif.
6:50-7:05	KIEM	1450	Eureka, Calif.
6:55-7:10	KVEC	1200	San Luis Obispo, Cal.
7:00-7:15	KARM	1310	Fresno, Calif.
7:05-7:20	KGLU	1420	Safford, Ariz.

The Second Tuesday

3:00-3:15	WSJS	1310	Winston-Salem, N. C.
3:05-3:20	WMFJ	1420	Daytona Beach, Fla.
3:10-3:25	WAIM	1200	Anderson, S. C.
3:15-3:30	WMFD	1370	Wilmington, N. C.
3:20-3:35	WEED	1420	Rocky Mt., N. C.

3:25-3:40	WJNC	1200	West Palm Beach, Fla.
3:30-3:45	WRDW	1500	Augusta, Ga.
3:35-3:50	WICA	940	Ashtabula, Ohio
	WIOD	610	Miami, Fla.
3:40-3:55	WAYX	1200	Waycross, Ga.
	WBLY	1210	Lima, Ohio
3:45-4:00	WDNC	1500	Durham, N. C.
	WPAY	1370	Portsmouth, Ohio
3:50-4:05	WAIR	1250	Winston-Salem, N. C.
	WMCB	1420	Detroit, Mich.
3:55-4:10	KWOC	1310	Poplar Bluff, Mo.
	WALR	1210	Zanesville, Ohio
	WMFR	1200	High Point, N. C.
4:00-4:15	WHBB	1500	Selma, Ala.
	WKRC	550	Cincinnati, Ohio
4:05-4:20	KFAM	1420	St. Cloud, Minn.
	WCLE	610	Cleveland, Ohio
4:10-4:25	KALB	1210	Alexandria, La.
	WLBC	1310	Muncie, Ind.
4:15-4:30	KELD	1370	El Dorado, Ark.
	WOPI	1500	Bristol, Tenn.
	WTAQ	1350	Green Bay, Wis.
	WWAE	1200	Hammond, Ind.
4:20-4:35	WACO	1420	Waco, Tex.
	WBCM	1410	Bay City, Mich.
4:25-4:40	KXYZ	1440	Houston, Tex.
	WCMI	1310	Ashland, Ky.
	WSIX	1210	Nashville, Tenn.
4:30-4:45	KGKL	1370	San Angelo, Tex.
	WHBY	1200	Green Bay, Wisc.
	WHBF	1500	Kosciusko, Miss.
4:35-4:50	KCMC	1420	Texasarkana, Tex.
	WHK	1390	Cleveland, Ohio
	WSGN	1310	Birmingham, Ala.
4:40-4:55	KRGV	1260	Weslaco, Tex.
	WADC	1320	Akron, Ohio
4:45-5:00	KTKO	1370	Oklahoma City, Okla.
	WJBK	1500	Detroit, Mich.
4:50-5:05	KGFF	1420	Shawnee, Okla.
4:55-5:10	KFVS	1210	Cape Girardeau, Mo.
5:00-5:15	KMAC	1370	San Antonio, Tex.
	WDAN	1500	Danville, Ill.
5:05-5:20	KAND	1310	Corsicana, Tex.
5:10-5:25	KLAH	1210	Carlsbad, N. Mex.
5:15-5:30	KIUP	1370	Durango, Colo.
5:20-5:35	KOCY	1310	Okla. City, Okla.
5:25-5:40	KDLR	1210	Devils Lake, N. Dak.
5:30-5:45	KICA	1370	Clovis, N. Mex.
5:35-5:50	KGMB	1320	Honolulu, T. H.
5:40-5:55	KBTM	1200	Jonesboro, Ark.
5:45-6:00	KRMC	1370	Jamestown, N. Dak.
6:05-6:20	KORE	1420	Eugene, Ore.
6:10-6:25	KOOS	1200	Marshfield, Ore.
6:15-6:30	KAST	1370	Astoria, Ore.
6:20-6:35	KPO	1500	Wentachee, Wash.
6:25-6:40	KFXD	1200	Nampa, Idaho
6:30-6:45	KUJ	1370	Walla Walla, Wash.
6:35-6:50	KRNR	1500	Roseburg, Ore.
6:40-6:45	KVOS	1200	Bellingham, Wash.
6:45-7:00	KEEN	1370	Seattle, Wash.
6:50-7:05	KMED	1410	Medford, Ore.
6:55-7:10	KWLK	780	Longview, Wash.
7:00-7:15	RRKO	1370	Everett, Wash.

The Second Wednesday

3:00-3:15	WTEL	1310	Philadelphia, Pa.
3:05-3:20	WNBV	1500	Binghamton, N. Y.
3:10-3:25	WLVA	1200	Lynchburg, Va.
3:15-3:30	WSAJ	1310	Grove City, Pa.
3:20-3:35	WWSW	1500	Pittsburgh, Pa.
3:25-3:40	WBAX	1210	Wilkes-Barre, Pa.
3:30-3:45	WHAT	1310	Philadelphia, Pa.
3:35-3:50	WRID	1500	Richmond, Va.
3:40-3:55	WBBL	1210	Richmond, Va.

3:45-4:00	WBNY	1370	Buffalo, N. Y.	WMPS	1430	Memphis, Tenn.	
3:50-4:05	KWEW	1500	Hobbs, N. Mex.	WTMV	1500	E. St. Louis, Ills.	
	WHIS	1410	Bluefield, W. Va.	4:40-4:55	KGCV	1240	Mandan, N. Dak.
3:55-4:10	WKOK	1210	Sunbury, Pa.		KQV	1380	Pittsburgh, Pa.
4:00-4:15	WFBG	1310	Altoona, Pa.		WBHP	1200	Huntsville, Ala.
4:05-4:20	KRIC	1420	Beaumont, Tex.	4:45-5:00	KWOS	1310	Jefferson City, Mo.
	WGIL	1500	Galesburg, Ill.		WCOC	880	Meridan, Miss.
	WQAN	880	Scranton, Pa.		WGRC	1370	New Albany, Ind.
4:10-4:25	KWNO	1200	Winona, Minn.	4:50-5:05	KOTN	1500	Pine Bluff, Ark.
	WHDL	1400	Olean, N. Y.	4:55-5:10	WEW	760	St. Louis, Mo.
4:15-4:30	KRIS	1330	Corpus Christi, Tex.		WJMS	1420	Ironwood, Mich.
	WEBR	1310	Buffalo, N. Y.	5:00-5:15	KGHF	1320	Pueblo, Colo.
	WIBM	1370	Jackson, Mich.		WHDF	1370	Calumet, Mich.
4:20-4:35	KBST	1500	Big Spring, Tex.	5:05-5:20	KGFI	1500	Brownsville, Tex.
	WPAR	1420	Parkersburg, W. Va.		WTRC	1310	Elkhart, Ind.
4:25-4:40	KSO	1430	Des Moines, Iowa	5:10-5:25	KHBB	1210	Okmulgee, Okla.
	WCLO	1200	Janesville, Wis.	5:15-5:30	KONO	1370	San Antonio, Tex.
4:30-4:45	KROC	1310	Rochester, Minn.	5:20-5:35	KGKB	1500	Tyler, Tex.
	WEOA	1370	Evansville, Ind.	5:25-5:40	KASA	1200	Elk City, Okla.
4:35-4:50	KDAL	1500	Duluth, Minn.	5:30-5:45	KFRO	1370	Longview, Tex.
	WELL	1420	Battle Creek, Mich.	5:35-5:50	KNOW	1500	Austin, Tex.
4:40-4:55	WHBC	1200	Canton, Ohio	5:40-5:55	WMFG	1210	Hibbing, Minn.
	WTAW	1120	College Sta., Tex.	5:45-6:00	KRLH	1420	Midland, Tex.
4:45-5:00	KRMD	1310	Shreveport, La.	5:50-6:06	KCRJ	1310	Jerome, Ariz.
	WSAU	1370	Wausau, Wis.	5:55-6:10	KIUL	1210	Garden City, Kans.
4:50-5:05	KNEL	1500	Brady, Tex.		KVOA	1260	Tucson, Ariz.
	WLAP	1420	Lexington, Ky.	6:06-6:20	KHUB	1310	Watsonville, Calif.
4:55-5:10	KFDM	560	Beaumont, Tex.	6:10-6:25	KSAN	1420	San Francisco, Calif.
	WFAM	1200	South Bend, Ind.	6:15-6:30	KGAR	1370	Tucson, Ariz.
5:00-5:15	KPDN	1310	Pampa, Tex.	6:20-6:35	KSRO	1310	Santa Rosa, Calif.
	WHLS	1370	Port Huron, Mich.	6:25-6:40	KTRB	740	Modesto, Calif.
5:05-5:20	KPLT	1500	Paris, Tex.	6:30-6:45	KJBS	1070	San Francisco, Calif.
5:05-5:20	WCBS	1420	Springfield, Ill.	6:35-6:50	KSUB	1310	Cedar City, Utah
5:10-5:25	KGKO	570	Forth Worth, Tex.	6:40-6:55	KDON	1210	Monterey, Calif.
5:15-5:30	KFPL	1310	Dublin, Tex.	6:45-7:00	KGU	750	Honolulu, T. H.
	WDWS	1370	Champaign, Ill.	6:50-7:05	KHSL	1260	Chico, Calif.
5:20-5:35	KAWM	1500	Gallup, New Mex.	6:55-7:10	KROY	1210	Sacramento, Calif.
	WPAD	1420	Paducah, Ky.				
5:25-5:40	KGLO	1210	Mason City, Iowa				
	JRBC	1200	Bloomington, Ills.				
5:30-5:45	KRRV	1310	Sherman, Tex.				
	WGL	1370	Fort Wayne, Ind.				
5:35-5:50	KGKY	1500	Scottsbluff, Neb.	3:00-3:15	WSVS	1370	Buffalo, N. Y.
5:40-5:55	WIBU	1210	Poynette, Wis.	3:05-3:20	WJAC	1310	Johnstown, Pa.
5:45-6:00	KRBA	1310	Lufkin, Tex.	3:10-3:25	WJTN	1210	Jamestown, N. Y.
				3:15-3:30	WBLK	1370	Clarksburg, W. Va.
				3:20-3:35	WLEU	1420	Erie, Pa.
				3:25-3:40	WCAP	1280	Asbury Park, N. J.
					WSAY	1210	Rochester, N. Y.
					WDEV	550	Wabernbury, Vt.
				3:30-3:45	WGH	1310	Newport News, Va.
					WCNW	1500	Brooklyn, N. Y.
				3:35-3:50	WMBB	1420	Uniontown, Pa.
					WFAS	1210	White Plains, N. Y.
				3:40-3:55	WMBG	1350	Richmond, Va.
					WOKO	1430	Albany, N. Y.
				3:45-4:00	WRAW	1310	Reading, Pa.
					WDAS	1370	Philadelphia, Pa.
				3:50-4:05	WSYB	1500	Rutland, Vt.
					KWJB	1210	Globe, Ariz.
				3:55-4:10	WNBZ	1290	Saranac Lake, N. Y.
					WSYR	570	Syracuse, N. Y.
				4:00-4:15	WBRE	1310	Wilkes-Barre, Pa.
				4:05-4:20	WBTM	1370	Danville, Va.
					WNLC	1500	New London, Conn.
				4:10-4:25	WGBB	1210	Freeport, N. Y.
					WHCC	1430	Rochester, N. Y.
				4:15-4:30	WAZL	1420	Hazleton, Pa.
					WTHI	1200	Hartford, Conn.
				4:20-4:35	WRAK	1370	Williamsport, Pa.
				4:25-4:40	WBOW	1310	Terre Haute, Ind.
					WGNV	1210	Newburgh, N. Y.
				4:30-4:45	WJBL	1200	Decatur, Ills.
				4:35-4:50	KATE	1420	Albert Lea, Minn.
					WKBB	1500	Dubuque, Iowa
				4:40-4:55	KARK	890	Little Rock, Ark.

The Second Friday

The Second Thursday

3:00-3:15	WKAT	1500	Miami Beach, Fla.
3:05-5:20	WJRD	1200	Tuscaloosa, Ala.
3:10-3:25	WSOC	1210	Charlotte, N. C.
3:15-3:30	WAML	1310	Laurel, Miss.
3:20-3:35	WPRA	1370	Mayaguez, P. R.
3:25-3:40	WPAX	1370	Thomasville, Ga.
3:30-3:45	WQAM	560	Miami, Fla.
3:35-3:50	WPRP	1420	Ponce, P. R.
3:40-3:55	WFTC	1200	Kinston, N. C.
3:45-4:00	WKAQ	1240	San Juan, P. R.
3:50-4:05	WBIG	1440	Greensboro, N. C.
3:55-4:10	WFOY	1210	St. Augustine, Fla.
4:00-4:15	WAGF	1370	Dothan, Ala.
4:05-4:20	KPLC	1500	Lake Charles, La.
	WFDF	1310	Flint, Mich.
4:10-4:25	WGRM	1210	Grenada, Miss.
	WSPD	1340	Toledo, Ohio
4:15-4:30	WCPO	1200	Cincinnati, Ohio
	WMFO	1370	Decatur, Ala.
4:20-4:35	KFIZ	1420	Fond du Lac, Wis.
	WKUW	1500	Griffin, Ga.
4:25-4:40	WGBF	630	Evansville, Ind.
	WGCM	1210	Miss. City, Miss.
4:30-4:45	KFYO	1310	Lubbock, Tex.
	WAVE	940	Louisville, Ky.
	WFOR	1370	Hattiesburg, Miss.
4:35-4:50	KFJM	1410	Grand Forks, N. Dak.

	WJIM	1210	Lansing, Mich.
4:45-5:00	WEXL	1310	Royal Oak, Mich.
	WHLB	1370	Virginia, Minn.
4:50-5:05	KIUN	1420	Pecos, Tex.
	WOMI	1500	Owensboro, Ky.
4:55-5:10	KFJB	1200	Marshalltown, Iowa
5:00-5:15	KGGM	1740	Albuquerque, N. Mex
	WBEO	1310	Marquette, Mich.
5:05-5:20	KGIW	1420	Alamosa, Colo.
	WKBV	1500	Richmond, Ind.
5:10-5:25	KGDE	1200	Fergus Falls, Minn.
	WHBF	1210	Rock Island, Ills.
5:15-5:30	KGFL	1370	Roswell, N. Mex.
	WEMP	1310	Milwaukee, Wis.
5:20-5:35	KEUB	1420	Price, Utah
5:25-5:40	WCAT	1200	Rapid City, S. Dak.
	WEBQ	1210	Harrisburg, Ills.
5:30-5:45	KWYO	1370	Sheridan, Wyo.
5:35-5:50	KIDW	1420	Lamar, Colo.
5:40-5:55	KFXJ	1200	Grand Junction, Colo.
5:45-6:00	KGBX	1230	Springfield, Mo.
5:50-6:05	KRQA	1310	Santa Fe, N. Mex.
5:55-5:30	KTSM	1310	El Paso, Texas
5:55-6:10	KOKO	1370	La Junta, Colo.

The Second Saturday

3:30-3:45	WTOL	1200	Toledo, Ohio
3:35-3:50	WKBB	1500	Muskegon, Mich.
3:40-3:55	WJW	1210	Akron, Ohio
3:45-4:00	WBNS	1430	Columbus, Ohio
3:50-4:05	WGAR	1450	Cleveland, Ohio
	WOLS	1200	Florence, S. C.
3:55-4:10	WCOL	1210	Columbus, Ohio
	WLAk	1310	Lakeland, Fla.
4:00-4:15	WCAZ	1070	Carthage, Ills.
	WQBC	1360	Vicksburg, Miss.
4:05-4:20	WJBO	1120	Baton Rouge, La.
	WSMK	1380	Dayton, Ohio
4:10-4:25	KUTA	1500	Salt Lake City, U.
	WOMT	1210	Manitowoc, Wis.
	WTAL	1310	Tallahassee, Fla.
4:15-4:33	WNEL	1290	Sun Juan, P. R.
	WOSU	570	Columbus, Ohio
4:20-4:35	WDZ	1020	Tuscola, Ills.
	WMSD	1420	Muscle Shoals, Ala.
4:25-4:40	KYSM	1500	Mankato, Minn.
4:30-4:45	KCMO	1370	Kansas City, Mo.
	WJBW	1200	New Orleans, La.
	WKBN	570	Youngstown, Ohio
5:35-4:50	WGPC	1420	Albany, Ga.
	WHBU	1210	Anderson, Ind.
	WGTM	1310	Wilson, N.C.
	WNAD	1010	Norman, Okla.
	WXYZ	1240	Detroit, Mich.
4:40-4:55	KOVC	1500	Valley City, N. Dak.
	WTAX	1210	Springfield, Ills.
	WTJS	1310	Jackson, Tenn.
4:45-5:00	KLCN	1290	Blytheville, Ark.
	WMBR	1370	Jacksonville, Fla.
	WMPC	1200	Lapeer, Mich.
4:50-5:05	KGCA	1270	Decorah, Iowa.
	WSLI	1420	Jackson, Miss.
4:55-5:10	KOCA	1210	Kilgore, Tex.
	KVOL	1310	Lafayette, La.
5:00-5:15	KBIX	1500	Muskogee, Okla.
	WBNO	1200	New Orleans, La.
5:05-5:20	KPAC	1260	Port Arthur, Texas
	WHBQ	1370	Memphis, Tenn.
5:10-5:25	KANS	1210	Wichita, Kans.
	WROL	1310	Knoxville, Tenn.
5:15-5:30	KMLB	1200	Montoe, La.
	KTRH	1290	Houston, Texas
5:20-5:35	KLPM	1360	Minot, N. D.

	WHMA	1420	Anniston, Ala.
5:25-5:40	KVSO	1210	Ardmore, Okla.
5:30-5:45	KWLC	1270	Decorah, Iowa
5:35-5:50	KTSM	1310	El Paso, Texas
5:45-6:00	WLB	760	Minneapolis, Minn.
5:55-6:10	KPFA	1210	Helena, Mont.
6:00-6:15	KIT	1250	Yakima, Wash.
6:05-6:20	KGBU	900	Ketchikan, Alaska
6:10-6:25	KFJI	1210	Klamath Falls, Ore.
6:15-6:30	KGEZ	1310	Kalispell, Mont.
6:25-6:40	KGY	1210	Olympia, Wash.
6:30-6:45	KXRO	1310	Aberdeen, Wash.
6:35-6:50	KGCX	1450	Wolf Point, Mont.
6:40-6:55	KFIO	1120	Spokane, Wash.
6:45-7:00	KINY	1430	Juneau, Alaska
6:50-7:05	KFQD	780	Anchorage, Alaska
6:55-7:10	KRLC	1390	Lewistown, Idaho

SHORTWAVE SCOOP BOX

SPW on 13635 kcs. will have a special program dedicated to the members of the RSSL on February 11, 1939 from 7-7:30 p.m. Reports are requested from all RADEX readers and will be QSL'd 100%. (R519—George Jacobs, Ohio)

W2XQO on 26550 kcs. located at College Point, Long Island is now broadcasting! They were heard in the evening asking for reports. They relay programs of WMCA! (M. F. Williams, Newark, N. J.)

W9XTA on 26500 kcs. broadcasts on the following schedule irregularly and are desirous of obtaining reports from RADEX readers: 2-4 p.m. daily. Reports are particularly desirable showing signal strength, fading, tone quality, interference and noise levels at your particular location. (RX)

W5XD on 31600 kcs. at Dallas, Texas is another new ultra-high frequency station. They operate from Monday to Friday from 11:30 a.m. to 1:30 p.m. They relay the programs of WFAA and are heard with good signal. (Gilbert Harris—Northampton, Mass.)

FE8AA on 7450 kcs. at Pointe a Pitre, Guadeloupe, French West Indies operates daily from 6-7 p.m.

Schedules and frequency vary greatly. Address is "Radio Guadeloupe" P. O. Box 125, Pointe a Pitre, Guadeloupe. Call is seldom used. (Bartholomew, N. Y., and Harris, Mass.)

Summer Reception

"I'd like to know who said you couldn't DX in the summer," challenges Geo. B. Holland, Jr., of Schenectady, New York. "The August frequency checks brought me 51 new catches, with the best ones being KDAL and KFIZ. September brought 21 new stations, including KWOS, KOTN, KONO and KATE. In October, there were 27 new catches, of which the best were KAND, KOCY, KICA, KBTM, KWNO, KROC, KPLT, KPND, KFPL, KRRV, LGFL, KWYO and KGLO. In between, I managed to log KVRS, KJBS, KWJJ and KIRO. I haven't been active in DXing for about four years, but am going full force again. Verified log now stands at 455, with about 50 still on the fire. As far as I know, I'm the only DX bug in our capital district. Can anybody from Albany, Troy or Schenectady change that?"

"I started DXing the first part of October," admits John Martin, Springfield, Ohio, "and I enjoy it very much. I have a 1933 five-tube Grunow, Model 500, and to date I have logged 140 stations, including KFI, KNX, KFBK, KPO, KOA, WIOD, WJBO, WBRK, KRLD, WBAP, WOAI, CMCD, CMCF, CMCK, TGW, XEW, XEAW, XEPN, KTAT and KTBS.

I have verified only seven of these, but when my ship comes in, I can promise you that I will verify all I can."

Applications to the FCC

(Only applications which are set for hearing are shown in this list)

- KAND, Corsicana, CP 100 (.25) unlt'd. (Com).
 KCMC, Texarkana, CP 1340 kcs, 500 (1) unlt'd. (C).
 KECA, Los Angeles, CP move to San Diego (E).
 KEEN, Seattle, CP 1420 kcs, 100 (.25) unlt'd (E).
 KERN, Bakersfield, CP 1380 kcs, 1 kw. (C).
 KEX, Portland, CP 1160 kcs, unlt'd. (E).
 KFEL, Denver, CP 1 kw. (C).
 KFEQ, St. Joseph, CP 500 w. nights, 2500 w. to ss at San Francisco (C).
 KFJZ, Fort Worth, CP 930 kcs, 500 w. unlt'd, D9 night (E).
 KFSD, San Diego, CP 5 kw. (C).
 KGCI, Coeur d'Alene, mod. of CP for 1200 kcs, 100 w. days (C).
 KGFK, Sterling, CP move to Denver. (C).
 KGNO, Dodge City, CP 500 w. unlt'd. (C).
 KLS, Oakland, CP 1280 kcs, 500 w. unlt'd (C).
 KMED, Medford, CP 1 kw unlt'd. (C).
 KMJ, Fresno, CP 1000 (5). (C).
 KOY, Phoenix, mod. of lic. for 550 kcs. (C).
 KPAC, Ft. Arthur, CR 1220 kcs, 500 w. unlt'd DA night (E).
 KRKO, Everett, CP 100 (.25) unlt'd. (E).
 KRRV, Sherman, CP 880 kcs, 1 kw unlt'd, DA. (E).
 KRSC, Seattle, CP 1 kw. (E).
 KTAT, Ft. Worth, CP 1000 (5), and move to Wichita Falls. (E).
 KTEM, Temple, mod. of lic. 100 (.25) unlt'd. (E).
 KTKC, Visalia, CP 890 kcs, 1 kw unlt'd, DA nite (C).
 KVOID, Denver, CP 630 kcs, 1 kw. (C).
 WALA, Mobile, CP 1 kw unlt'd. (C).
 WAZL, Hazelton, mod. lic. 1320 kcs, 100 w. unlt'd. (E).
 WBAX, Wilkes Barre, renewal of lic. set for hearing (C).
 WBNW, New York, CP 5 kw, move trans. to Carlstadt, N. J. (C).
 WCBS, Springfield, Ill., CP 1290 kcs, 1 kw. (C).
 WDEL, Wilmington, mod. of CP for 1 kw. (E).
 WDGX, Minneapolis, mod. of lic. for unlt'd. (C).
 WEDC, Chicago, CP 100 (.25) specified hrs. (C).
 WFIL, Philadelphia, CP 1000 (5) unlt'd. (E).
 WFMD, Frederick, CP 500 w. unlt'd, DA nite (C).
 WGRC, New Albany, CP 880 kcs, 250 w. unlt'd, DA nite (E).
 WGTM, Wilson, CP 1240 kcs, 500 w. (E).
 WHAI, Greenfield, mod. of lic. 100 (.25) unlt'd. (E).

(E) indicates the application is set for hearing before an Examiner. (C) indicates it is set for hearing before the Commission. freq (frequency); mod (modification); lic (license); pwr (power); ltd (limited time); unlt'd (unlimited time); CP (construction permit); hrs (hours); trans (transmitter); exp (experimental); ss (sunset); LS (local sunset); DA (directional aerial).



Changing tubes in a big transmitter is no easy task. Here we see an engineer at Daventry (England) wheeling a 112 pound water-cooled tube into place. Owing to their enormous size, these tubes are always moved on the small trolley, which has a special device for fitting them into position in the transmitter. (Courtesy of the British Broadcasting Corp.).

- WRAW, Reading, CP250 w. (C).
 WRBL, Columbus, CP 1330 kcs, 1 kw. (C).
 WRR, Dallas, CP 1 kw (E).
 WSFA, Montgomery, CP 1410 kcs, 1 kw unlt'd. (E).
 WSJS, Winston Salem, CP 100 (.25) (E).
 WSNJ, Bridgeton, CP 100 (.25) unlt'd (C).
 WTAQ, Green Bay, Wis. CP 1000 (5). (C).
 WTEL, Philadelphia, mod. of lic. to share with WHAT (E).
 WTHT, Hartford, CP 100 (.5). (C).
 WTMV, E. St. Louis, mod. of lic. 250 w. (E).
 WTOL, Toledo, mod. of lic. unlt'd. (E).
- Applications For New Stations**
- Akron, Ohio, Summit Radio Corp., 1530 kcs, 1 kw unlt'd. (E).
 Ashland, Wis., WJMS, Inc., 1370 kcs, 100 w. unlt'd. (C).
 Asheville, N. C., Asheville Daily News, 1370 kcs, 100 w. unlt'd. (C).
 Asheville, N. C., Publix Bamford Theaters, 1430 kcs, 500 (1). (E).
 Birmingham, Ala., Birm. News Co., 590 kcs, 1 kw. (C).
 Bowling Green, Ky., B. G. Brdcastg. Co., 1310 kcs, 100 (.25). (C).
 Cleveland, Ohio, Cuyahoga Valley Brdcastg. Co., 1500 kcs, 100 w. days. (E).
 Dalhart, Texas, Dalhart Brdcastg. Co., 1500 kcs, 100 (.25) (C).
 Elfin, Ill., Elgin Brdcastg. Ass'n., 1170 kcs, 100 w. days (E).
 Elizabeth City, N. C., 1370 kcs, 100 (.25) (E).
 Ely, Wyo., Eastern Nev. Brdcastg. Co., 1500 kcs, 100 w. days (E).
 Erie, Pa., Presque Isle Brdcastg. Co., 1500 kcs, 100 (.25) (E).
 Evanston, Ill., Northwestern Brdcastg. Assn., 1310 kcs, 100w. (E).
 Everett, Wash., Cascade Brdcastg. Co., 1420 kcs, 100 (.25) (E).
 Florence, S. C., Pee Dee Brdcastg. Co., 1200 kcs, 100 (.25) (requests facilities of WOLS) (E).
 Fremont, Nebr., Nebr. Brdcastg. Corp., 1370 kcs, 100 (.25) (E).
 Goldsboro, N. C., 1370 kcs, 100 w. (C).
 Hastings, Nebr., South Nebr. Brdcastg. Co., 920 kcs, 1000 (5) (E).
 Kingston, N. Y., Kingston Brdcastg. Corp., 1500 kcs, 100 w. days.
 Louisville, Ky., Gateway Brdcastg. Co., 880 kcs, 500 w. (C).
 Louisville, Ky., Ky. Brdcastg. Corp., 1210 kcs, 100 (.25) (C).
 Mansfield, Ohio, Richland, Inc., 1370 kcs, 250 w. days (E).
 Marinette, Wis., M & M Brdcastg. Co., 570 kcs, 250 w. days (C).
 Martinsville, Va., Mart'le Brdcastg. Co., 1420 kcs, 100 (.25) (C).
 Marysville, Calif., Yuba-Sutter Broadcasters, 1320 kcs, 250 w. (C).
 McComb, Miss., McComb Brdcastg. Corp., 1200 kcs, 100 w. days (E).
 Metuchen, N. J., Bernard Goldsmith, 1420 kcs, 100 w. days (E).
 Modesto, Calif., Thomas McTammany, 1340 kcs, 500 w. (C).
 Modesto, Calif., Wm. H. Bates, 740 kcs, 250 w. days (facilities of KTRB) (E).
- WHLs, Port Huron, mod. of lic. 100 (.25) unlt'd. (C).
 WIP, Philadelphia, CP 5 kw, move trans. to Brooklawn, N. J., DA (E).
 WIRE, Indianapolis, mod. of CP for 5 kw. (E).
 WIS, Columbia, spec. exp. authority for new satellite station at Sumter, S. C., 560 kcs, 10 to 100 w. from LS to sunrise (E).
 WJAC, Johnstown, mod. of lic. 1370 kcs, 100 (.25) unlt'd (E).
 WJBW, New Orleans, mod. of lic. unlt'd. (C).
 WJRD, Tuscaloosa, mod. of lic. for 100 (.25) unlt'd. (C).
 WKOK, Sunbury, mod. of lic. unlt'd. (C).
 WLAC, Nashville, CP 50kw. (E).
 WLAW, CP DA nite, 1 kw to ss at San Francisco (C).
 WMBC, Detroit, CP 600 kcs, 250 w. unlt'd. (E).
 WMBR, Jacksonville, CP 1120 kcs, 500 (1). (E).
 WMPF, Plattsburg, CP 1240 kcs, DA, 1 kw. (E).
 WPG, Atlantic City, CP unlt'd, move studio to New York, trans. to Kearney, N. J., requesting facilities of WBIL and WOV. CP change owner to Greater N. Y. Brdcastg. Corp. (E).
 WPRA, Mayaguez, CP 780 kcs, 1000 (2.5) unlt'd. (C).

Montebello, Calif., Bureau of Education, 1420 kcs, 100 w. days (contingent upon KECA's move to San Diego). (C).

Niagara Falls, N. Y., 1260 kcs, 1 kw. (C).

Norfolk, Va., Colonial Brdcastg. Corp., 1370 kcs, 100 (.25) (C).

North Sacramento, Calif., 1420 kcs, 100 w. days (C).

Ocala, Fla., John Alsop, 1500 kcs., 100 w. (E).

Ogdensburg, N. Y., St. Lawrence Br. Corp., 1310 kcs, 100 (.25) (C).

Olney, Ill., Olney Br. Co., 1210 kcs, 100 (.25) (E).

Phoenix, Ariz., M. C. Reese, 1200 kcs, 100 (.25) (E).

Pontiac, Mich., King-Trendle Brdc. Corp., 1440 kcs, 250 w. (C).

Pontiac, Mich., Pontiac Br. Co., 1100 kcs, 1 kw days. (C).

Pontiac, Mich., Geo. B. Storer, 600 kcs, 500 (1). (C).

Rockville, Md., Monocacy Br. Co., 1140 kcs, 250 w. days (C).

Saginaw, Mich., Saginaw Br. Co. Co., 950 kcs. (C).

Sandusky, Mich., Thumb Br. Co., 880 kcs, 1 kw days. (E).

San Francisco, Calif., Larry Rhine, 1420 kcs, 100 w. (facilities of KSAN) (E).

San Juan, P. R., United Theaters, Inc., 580 kcs, 1000 w. (C).

San Juan, P. R., E. R. Sanfeliz, 580 kcs., 1 kw. (C).

Sedalia, Mo., Drohlich Bros., 1500 kcs, 100 (.25) (E).

Springfield, Ohio, S. Br. Corp., 1310 kcs, 100 w. (E).

Suffolk, Va., S. Br. Corp., 1420 kcs, 100 (.25) (C).

Sumter, S. C., J. Samuel Brody, 1310 kcs, 100 Sweetwater, Tex., 1210 kcs, 250 w. days (E). (.25) (E).

Tacoma, Tacoma Br. Co., 1420 kcs, 100 (.25) (E).

Tacoma, Michael J. Mingo, 1400 kcs, 250 w. (E).

Tupelo, Miss., Julius H. Dixon, 1500 kcs, 100 (.25) Facilities of WHEF. (C).

Vincennes, Ind., Vin. Newspapers, Inc., 1420 kcs., 100 w. (C).

Washington, D. C., Lawrence J. Heller, 1310 kcs, 100 (.25) (Facilities of WOL) (C).

Washington, D. C., Lawrence J. Heller, synchronous station on 1310 kcs, 10 to 100 w. unitd, to be used with above station if application is granted (C).

Worcester, Mass., Central Br. Corp., 1500 kcs, 100 (.25) (C).

The Month's Changes in Station Data

New

880 KVAN Vancouver, Wash.
1370 CKRN Rouyn, P. Q., Canada
1370 KTSW Emporia, Kans.
1420 KWAL Wallace, Idaho
1500 KFDA Amarillo, Texas

Frequency

1370 KIUN Pecos, Texas, from 1420

Power

600 WCAO Baltimore, Md., 500 from 1000 (Termination of Special Authorization).

920 WWJ Detroit, Mich., 1000 from 5000 (Termination of Special Authorization).

1260 WNBX Springfield, Vt., 1000 from 500

1380 KQV Pittsburgh, Pa., 500 (1) from 1000.

1420 KATE Albert Lea, Minn., 100 (.25) from 250.

Network

1010 CMQ Havana, Cuba, new NBC

Owner

560 KFDM Beaumont Brdcastg. Corp.
700 WLW Crosley Corp.
900 WLBL Board of Regents, Univ. of Wis.
1200 WAYX Jack Williams
1210 WBLV Fort Industry Co.
2110 WJIM WJIM, Inc.
1330 WSAI Crosley Corp.
1420 WLEU WLEU Brdcastg. Corp.

Delete

950 WHAL Saginaw, Mich.
1300 WFAB New York, N. Y.

Permit to Change Frequency

770 KFAB Lincoln, Nebr., to 1080
1190 WATR Waterbury, Conn., to 1290
1370 KAST Astoria, Ore., to 1200
1370 KSLM Salem, Ore., to 1360

Permit to Change Power

580 WILL Urbana, Ill., to 5000
590 WKZO Kalamazoo, Mich., to 250 (1)
760 KXA Seattle, Wash., to 1000
770 KFAB Lincoln, Nebr., to 50,000
850 WKAR E. Lansing, Mich., to 5000
850 WWL New Orleans, La. to 50000
880 CMW Havana, Cuba, to 5000
880 WRNL Richmond, Va., to 1000
890 KFNF Shenandoah, Va., to 1000 (5)
890 WMMN Fairmont, W. Va., to 1000 (5)
900 KGBU Ketchikan, Alaska, to 1000
1040 KRID Dallas, Texas, to 50,000
1110 WRVA Richmond, Va., to 50,000
1190 WATR Waterbury, Conn., to 250
1250 KIT Yakima, Wash., to 500 (1)
1350 KWK St. Louis, Mo., to 5000
1370 KAST Astoria, Ore., to 100 (.25)
1370 KSLM Salem, Ore., to 500.
1400 KLO Ogden, Utah, to 1000 (5)
1430 WHP Harrisburg, Pa., to 1000 (5)
1490 WCKY Covington, Ky., to 50,000

**THE IMPROVED RADEX
WILL HELP YOUR FRIENDS TOO!
WILL YOU PLEASE HELP BY
TELLING THEM ABOUT IT?—The Editor**

**NORTH AMERICAN B. C. STATIONS BY FREQUENCIES
WITH SATURDAY'S TIME ON THE AIR**

KEY TO SYMBOLS

As shown in the Index by Frequencies

Frequencies are given in kilocycles per second, and wavelengths in meters. Night power is shown in watts in third column. Daytime power is shown in parentheses in fourth column, in kilowatts. Thus: (.25) indicates 250 watts. Exact frequencies, when not multiples of ten, are shown in the fourth column.

- Second Column Symbols**
 a Verifies for return postage.
 b Verifies only occasionally.
 c Does not verify.
 d Verifies—no postage required.
 e Verifies for International Reply Coupon
 f Verifies for 10 cents.
 g Card for postage; veri stamp for 10c.
 z No information available.

- Fourth Column Symbols**
 A Status in doubt—in Court.
 B National "Blue" Network.
 C Columbia Network.
 D Daytime only.
 F Canadian Network.

- G Assigned this frequency but using another under Special Authorization.
 H Assigned another frequency—using this one under Special Authorization.
 J Assigned lower power but using this power under Special Authorization.
 K Licensed for facsimile.
 L Limited time.
 M Mutual Network.
 N National "Red" and "Blue" Networks.
 P Has Construction Permit only.

- Q Station not in use.
 R National "Red" Network.
 S Sundays only.
 Sy Synchronized.
 X Has Permit to change power.
 Y Has Permit to change location.
 Z Has Permit to change frequency.
 a-b-c Small letters show stations using same transmitter.
 1-2-3 Figures denote stations sharing time.
 ... No information.

LS means Local Sunset, and always refers to sunset at the transmitter.

540 kcs. (555.2 m.)

CBK	z	5000	P	Saskatoon, Sask.			
CJRM	a	1000	F	Regina, Sask.	9:30-1 am.	(6:30 am-10 pm)	
ZNS	d	400	....	Nassau, Bahamas			

550 kcs. (545.1 m.)

CFNB	a	500	F(1)	Fredericton, N. B.			
CMBD	z	200	....	Havana, Cuba			
KFUO	a	500	2(1)	St. Louis, Mo.	8-9 am; 10:30-10:45 am; 1:15-1:45 pm; 4-4:45 pm.	5-6 am; 7:30-7:45 am; 10:15-10:45 am; 1-1:45 pm.	
KFYR	a	1000	N(5)	Bismarck, N. Dak.	8 am-1 am.	(5 am-10 pm)	
KOAC	a	1000	....	Corvallis, Ore.	noon-midnight.	(9 am-9 pm)	
KSD	a	1000	2R(5)	St. Louis, Mo.			
KTSA	a	1000	C(5)	San Antonio, Tex.			
WDEV	a	500	D	Waterbury, Vt.	7 am-LS.	(4 am-LS)	
WGR	a	1000	C(5)	Buffalo, N. Y.			
WKRC	a	1000	C(5)	Cincinnati, Ohio	6:30 am-2 am.	(3:30 am-11 pm)	
WSVA	a	500	D	Harrisonburg, Va.	6:30 am-5 pm.	(3:30 am-2 pm)	

560 kcs. (535.4 m.)

KFDM	a	500	N(1)	Beaumont, Texas	8 am-2 am.	(5 am-11 pm)	
KLZ	a	1000	C(5)	Denver, Colo.	9:10 am-3 am.	(6:10 am-midnight)	
KSFO	a	1000	C(5)	San Francisco, Calif.			
KWTO	a	5000	D	Springfield, Mo.			
WFIL	a	1000	BMJ	Philadelphia, Pa.	7 am-12:30 am.	(4 am-9:30 pm)	
WIND	a	1000	(5)	Gary, Ind.	7 am-5 am.	(4 am-2 am)	
WIS	a	1000	N(5)	Columbia, S. C.	6:45 am-midnight.	(3:45 am-9 pm)	
WQAM	a	1000	C	Miami, Fla.	6:30 am-midnight.	(3:30 am-9 pm)	

570 kcs. (526 m.)

CMCY	a	15000	....	Havana, Cuba			
KGKO	a	1000	B(5)	Ft. Worth, Texas			
KMTR	a	1000	....	Los Angeles, Calif.	8 am-2 am.	(5 am-11 pm)	
KVI	a	1000	C(5)	Tacoma, Wash.	9 am-3 am.	(6 am-midnight)	
WKBN	a	500	1C	Youngstown, Ohio			
WMCA	a	1000	....	New York, N. Y.			
WNAX	a	1000	C(5)	Yankton, S. Dak.			
WOSU	a	750	1(1)	Columbus, Ohio	1 pm-midnight.	(10 am-9 pm)	
WSYR	a	1000	Ba	Syracuse, N. Y.	6 am-1 am.	(3 am-10 pm)	
WSYU	a	1000	Qa	Syracuse, N. Y.			
WWNC	a	1000	N	Asheville, N. C.			

SATURDAY TIME

Eastern Standard (Pacific Standard)

580 kcs. (516.9 m.)

CFPR	a	50	....	Prince Rupert, B. C.		
CHRC	a	100	..	Quebec, P. Q.	7:30 am-midnight.	(4:30 am-9 pm)
CKCL	a	100	F	Toronto, Ont.	7:30 am-12:30 am.	(4:30 am-9:30 pm)
CKPR	a	1000	....	Fort William, Ont.	8 am-11:30 pm.	(5 am-8:30 pm)
CKUA	c	500	....	Edmonton, Alta.	Silent.	(Silent)
KMJ	a	1000	KN	Fresno, Calif.	9:30 am-3 am.	(6:30 am-midnight)
KSAC	a	500	2(1)	Manhattan, Kans.	10:30-11:30 am; 1:30-3:30 pm.	(7:30-8:30am; 10:30 am-12:30 pm)
WCHS	a	500	C(1)	Charleston, W. Va.	6 am-1 am.	(3 am-10 pm)
WDBO	a	1000	C(5)	Orlando, Fla.	7 am-12:05 am.	(4 am-9:05 pm)
WIBW	a	1000	C2(5)	Topeka, Kans.	5:30-10:30am; 11:30 am-1:30 pm; 3:30 pm-1 am.	(2:30-7:30 am; 8:30- 10:30 am; 12:30-10 pm)
WILL	a	1000	DX	Urbana, Ill.	8:30 am-LS.	(5:30 am-LS)
WTAG	a	1000	R	Worcester, Mass.	7:30 am-midnight.	(4:30 am-9 pm)
XEMU	z	250	....	Piedras Negras, Coah.		

590 kcs. (508.2 m.)

KHQ	a	1000	R(5)	Spokane, Wash.	9:45 am-3 am.	(6:45 am-midnight)
WEEL	a	1000	C(5)	Boston, Mass.	6:30 am-1 am.	(3:30 am-10 pm)
WKZO	a	1000	BDX	Kalamazoo, Mich.	7 am-5:15 pm.	(4 am-2:15 pm)
WOW	a	1000	R(5)	Omaha, Nebr.	6:45 am-2 am.	(3:45 am-11 pm)

600 kcs. (499.7 m.)

CFCF	a	500	BF	Montreal, P. Q.	7:45 am-1 am.	(4:45 am-11 pm)
CJOR	a	500	....	Vancouver, B. C.	10 am-3 am.	(7 am-midnight)
FQN	a	250	609	St. Pierre, Miquelon		
KFSD	a	1000	B	San Diego, Calif.	10 am-3 am.	(7 am-midnight)
WCAO	a	500	C(1)	Baltimore, Md.	7 am-1:30 am.	(4 am-10:30 pm)
WICC	f	500	BM(1)	Bridgeport, Conn.	6 am-2 am.	(3 am-11 pm)
WMT	a	1000	BM(5)	Cedar Rapids, Iowa		
WREC	a	1000	C(5)	Memphis, Tenn.		

610 kcs. (491.5 m.)

CHNC	a	1000	F	New Carlisle, P. Q.	7 am-midnight.	(4 am-9 pm)
KFAR	z	1000	P	Fairbanks, Alaska		
KFRC	b	1000	M(5)	San Francisco, Calif.		
WCLE	a	500	DM	Cleveland, Ohio	6:45 am-LS.	(3:45 am-LS)
WDAF	a	1000	R(5)	Kansas City, Mo.	7 am-1 am.	(4 am-10 pm)
WIOD	a	1000	Na	Miami, Fla.	6:45 am-midnight.	(3:45 am-9 pm)
WIP	a	1000	....	Philadelphia, Pa.		
WMBF	a	1000	Qa	Miami, Fla.		

620 kcs. (483.6 m.)

KGW	a	1000	R(5)	Portland, Ore.		
KTAR	a	1000	N	Phoenix, Ariz.		
KWFT	z	250	(1)P	Wichita Falls, Tex.		
IPG	z	2000	625	San Jose, Costa Rica		
WFLA	a	1000	Na(5)	Tampa, Fla.	Silent.	(Silent)
WHJB	a	250	CD	Greensburg, Pa.		
WLBZ	a	500	MN(1)	Bangor, Maine		
WSUN	a	1000	Na(5)	St. Petersburg, Fla.	7:55 am-1 am.	(4:55 am-10 pm)
WTMJ	a	1000	N(5)	Milwaukee, Wis.		

630 kcs. (475.9 m.)

CFCO	a	100	F	Chatham, Ont.	7:30 am-1:30 pm; 4:30-10:30 pm.	(4:30-10:30 am; 1:30-7:30 pm)
CFCY	a	1000	F	Charlottetown, P.E.I.		
CJRC	a	1000	F	Winnipeg, Man.	8:30 am-3 am.	(5:30 am-midnight)
CKOV	a	100	F	Kelowna, B. C.	10 am-2 am.	(7 am-11 pm)
CMCD	a	15000	....	Havana, Cuba		
KFRU	a	500	1(1)	Columbia, Mo.	7 am-9 pm.	(4 am-6 pm)
KGFX	a	200	D	Pierre, S. Dak.		

SATURDAY TIME

WGBF	a	500	N(1)	Evansville, Ind.
WMAL	a	250	B(.5)	Washington, D. C.
WPRO	a	500	C(1)	Providence, R. I
XEZ	a	500	....	Merida, Yuc.

Eastern Standard (Pacific Standard)

7:30 am-8 pm; 9 pm	(4:30 am-5 pm; 6-10 pm)
-1 am.	
6 am-1 am.	(3 am-10 pm)
11 am-2:30 pm; 7:15	(8-11:30 am; 4:15-8 pm)
-11 pm.	

640 kcs. (468.5 m.)

KFI	f	50000	R	Los Angeles, Calif.
WGAN	a	500	D	Portland, Me.
WHKC	a	500	ML	Columbus, Ohio
WOI	a	5000	D	Ames, Iowa
XEBX	z	250	....	Sabinas, Coah.
YSS	a	500	....	San Salvador, E. S.

10 am-3 am.	(7 am-midnight)
7 am-3 hrs after LS.	(4 am-3 hrs after LS)
6:30 am-8:30 pm.	(3:30 am-5:30 pm)
7:30 am-LS.	(4:30 am-LS)

650 kcs. (461.3 m.)

TIX	z	1000	....	San Jose, Costa Rica
WSM	a	50000	KMN	Nashville, Tenn.

660 kcs. (454.3 m.)

CMCR	z	150	....	Havana, Cuba
WAAW	a	500	D	Omaha, Nebr.
WEAF	a	50000	R	New York, N. Y.
XEAL	z	1000	....	Mexico City, D. F.
XEAO	a	250	....	Mexicali, B. Cfa.

7 am-6 pm.	(4 am-3 pm)
6:30 am-1 am.	(3:30 am-10 pm)

670 kcs. (447.5 m.)

WMAQ	c	50000	R	Chicago, Ill.
XELO	a	10000	Tijuana, B. Cfa.

8 am-2 am.	(5 am-11 pm)
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680 kcs. (440.9 m.)

CMHW	f	200	Santa Clara, Cuba
KFEQ	a	2500	D	St. Joseph, Mo.
KPO	a	50000	R	San Francisco, Calif.
VAS	f	2000	685	Glace Bay, N. S.
VOWR	c	500	681	St. John's, Nfld.
WLAW	a	1000	D	Lawrence, Mass.
WPTF	a	5000	N	Raleigh, N. C.

8 am-noon; 3-11 pm.	(5-9 am; noon-8pm)
noon and 11 pm.	(9 am and 8 pm)
7 am-LS.	(4 am-LS)
6:30 am-11 pm.	(3:30 am-8 pm)

690 kcs. (434.5 m.)

CMBG	a	200	....	Havana, Cuba
CFRB	a	10000	C	Toronto, Ont.
CJ CJ	a	100	F	Calgary, Alta.
XET	a	5000	....	Monterrey, N. L.

7:30 am-midnight.	(4:30 am-9 pm)
9 am-1 am.	(6 am-10 pm)

700 kcs. (428.3 m.)

WLW	a	500000	JKMN	Cincinnati, Ohio
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5:45 am-2 am.	(2:45 am-11 pm)
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710 kcs. (422.3 m.)

CMKS	a	200	Guantanamo, Cuba.
KIRO	a	1000	CHJ	Seattle, Wash.
KMPC	a	500	L	Beverly Hills, Calif.
WOR	a	50000	KM	Newark, N. J.
XEQ	a	50000	....	Mexico City, D. F.

9 am-11 pm.	(6 am-8 pm)
6:25 am-1:30 am.	(3:25 am-10:30 pm)

720 kcs. (416.4 m.)

CMK	a	250	....	Havana, Cuba
TIGH	z	600	725	San Jose, Costa Rica
WGN	a	50000	KM	Chicago, Ill.
XEH	a	250	....	Monterrey, N. L.

730 kcs. (410.7 m.)

CFPL	a	100	F	London, Ont.
CJCA	a	1000	F	Edmonton, Alta.

8:30 am-4 am.	(5:30 am-1 am)
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SATURDAY TIME

Eastern Standard (Pacific Standard)

CKAC	a	5000	C	Montreal, P. Q.
CKPR	a	100	F	Fort William, Ont.
XEPN	a	100000	....	Piedras Negras, Coah.

740 kcs. (405.2 m.)

CMJX	z	200	....	Camaguey, Cuba	
KMMJ	a	1000	D	Clay Center, Nebr.	
KTRB	a	250	D	Modesto, Calif.	
WHEB	a	250	D	Portsmouth, N. H.	7 am-LS at Atlanta (4 am-LS at Atlanta)
WSB	a	50000	R	Atlanta, Ga.	

750 kcs. (399.8 m.)

CMBL	a	500	....	Havana, Cuba	
CMKW	z	200	....	Santiago, Cuba.	
KGU	a	2500	LN	Honolulu, Hawaii	11:30 am-4:30 am. (8:30 am-1:30 am)
WJR	a	50000	C	Detroit, Mich.	
XEAA	a	200	....	Mexicali, B. Cfa.	
XBAM	z	25	....	Matamoros, Tams.	

760 kcs. (394.5 m.)

KXA	a	250	(.5)X	Seattle, Wash.	
WBAL	a	2500	BMSy	Baltimore, Md.	
WCAL	a	1000	2(5)	Northfield, Minn.	7:30-11:30 am; 1:30-2:30 pm. (4:30-8:30 am; 10:30-11:30 am)
WEW	a	1000	D	St. Louis, Mo.	7 am-LS. (4 am-LS)
WJZ	a	50000	BSy	New York, N. Y.	6:30 am-1 am. (3:30 am-10 pm)
WLB	a	1000	2(5)	Minneapolis, Minn.	11:30 am-1:30 pm; 2:30-5 pm. (8:30-10:30 am; 11:30 am-3 pm)

770 kcs. (389.4 m.)

KFAB	a	10000	CSyXZ	Lincoln, Nebr.
TILJ	z	500	775	San Jose, Costa Rica
WBBM	a	50000	CSv	Chicago, Ill.

780 kcs. (384.4 m.)

CHWK	f	100	F	Chilliwack, B. C.	11 am-midnight. (8 am-9 pm)
CKSO	a	1000	F	Sudbury, Ont.	7:45 am-1:30 pm; 4:30 pm-midnight. (4:45-10:30 am; 1:30-9 pm)
CMCU	a	150	....	Havana, Cuba	
KEHE	a	1000	(5)	Los Angeles, Calif.	
KFDY	a	1000	D	Brookings, S. Dak.	
KFQD	c	250	....	Anchorage, Alaska	
KGHL	a	1000	N(5)	Billings, Mont.	
KWLK	a	250	D	Longview, Wash.	10 am-LS. (7 am-LS)
WEAN	a	1000	BM(5)	Providence, R. I.	
WMC	a	1000	R(5)	Memphis, Tenn.	7 am-2 am. (4 am-11 pm)
WPIC	a	250	D	Sharon, Pa.	6:30 am-LS. (3:30 am-LS)
WTAR	g	1000	N	Norfolk, Va.	6:30 am-1 am. (3:30 am-10 pm)
XEN	a	1000	....	Mexico City, D. F.	

790 kcs. (379.5 m.)

CMGH	a	200	....	Matanzas, Cuba	
KGO	a	7500	B	San Francisco, Calif.	
KOAM	a	1000	DN	Pittsburg, Kans.	7 am-LS. (4 am-LS)
WGY	a	50000	R	Schenectady, N. Y.	6:45 am-1 am. (3:45 am-10 pm)

800 kcs. (374.8 m.)

HIX	a	800	....	Ciudad Trujillo, D. R.	
TIXD	z	1000	....	San Jose, Costa Rica	
WBAP	a	50000	Na	Fort Worth, Tex.	6:45-8 am; 9:30-11:30 am; 1:30-4 pm; 6:30-7:30 pm; 8-11 pm. (3:45-5 am; 8:30 am; 10:30 am-1 pm; 3:30-4:30 pm; 5-8 pm)

SATURDAY TIME

Eastern Standard (Pacific Standard)

WFAA	a	50000	Na	Dallas, Texas	8-9:30 am; 11:30 am-1:30 pm; 4-6:30 pm; 7:30-8 pm.	(5-6:30 am; 8:30-10:30 am; 1-3:30 pm; 4:30-5 pm)	
WTBO	a	250	D	Cumberland, Md.	7:30 am-6:30 pm.	(4:30 am-3:30 pm)	
310 kcs. (370.2 m.)							
CMCF	a	5000		Havana, Cuba	8 am-midnight.	(5 am-9 pm)	
WCCO	g	50000	C	Minneapolis, Minn.	7 am-2 am.	(4 am-11 pm)	
WNYC	a	1000	D	New York, N. Y.			
XEBZ	a	100	....	Mexico City, D. F.		
XEDF	a	100	....	Nuevo Laredo, Tams.		
320 kcs. (365.6 m.)							
WHAS	a	50000	C	Louisville, Ky.			
XEBG	z	1000	....	Tijuana, B. Cfa.		
330 kcs. (361.2 m.)							
KOÅ	a	50000	R	Denver, Colo.			
WEEU	a	1000	DR	Reading, Pa.			
WHDH	a	1000	L	Boston, Mass.			
WRUF	a	5000	L	Gainesville, Fla.			
340 kcs. (356.9 m.)							
CBL	a	50000	F	Toronto, Ont.	7:45 am-12:30 am.	(4:45 am-9:30 pm)	
CFQC	a	1000	F	Saskatoon, Sask.			
VOGY	a	400	....	St. Johns, Nfld.		
XERA	a	250000	....	Villa Acuna, Coah.		
350 kcs. (352.7 m.)							
CMCM	a	250	..	Havana, Cuba			
KIEV	a	250	D	Glendale, Calif.			
WESG	a	1000	CDH	Elmira, N. Y.	7:30 am-1S at New Orleans.	(4:30 am-LS at New Orleans)	
WKAR	a	1000	DX	E. Lansing, Mich.	7 am-5 pm.	(4 am-2 pm)	
WWL	a	10000	CX	New Orleans, La.			
360 kcs. (348.6 m.)							
CMJA	a	250	....	Camaguay, Cuba.		
WABC	a	50000	Ca	New York, N. Y.			
WBOQ	a	50000	Qa	New York, N. Y.			
WHB	a	1000	DM	Kansas City, Mo.			
XEMO	a	5000	....	Tijuana, B. Cfa.		
370 kcs. (344.6 m.)							
WENR	c	50000	Ba	Chicago, Ill.		(1-4:30 pm)	
WLS	a	50000	Ba	Chicago, Ill.			
XEFB	a	200	....	Monterrey, N. L.		
XERC	z	500	....	Mexico City, D. F.		
380 kcs. (340.7 m.)							
CRO	a	1000	F	Ottawa, Ont.	7 am-midnight.	(4 am-9 pm)	
CFJC	a	1000	F	Kamloops, B. C.	7:30-9:15 am; 11 am-4:30 pm; 6:30-8:30 pm; 10:30 pm-2 am.	(4:30-6:15 am; 8 am-1:30 pm; 3:30-5:30 pm; 7:30-11 pm)	
CMW	e	1400	X	Havana, Cuba			
KFKA	a	500	2M(1)	Greeley, Colo.			
KLX	a	1000	....	Oakland, Calif.		
KPOF	a	1000	2	Denver, Colo.	9:15-10:45 am; 4:30-6:30 pm; 8:30-10:30 pm.	(6:15-7:45 am; 1:30-3:30 pm; 5:30-7:30 pm)	
KVAN	z	250	DP	Vancouver, Wash.			
TILS	z	1000	....	San Jose, Costa Rica		

SATURDAY TIME

WCOC	a	1000	C	Meridian, Miss.
WGBI	f	500	C1(1)	Scranton, Pa.
WQAN	a	500	1(1)	Scranton, Pa.
WRNL	a	500	DX	Richmond, Va.
WSUI	a	500	(1)	Iowa City, Iowa

Eastern Standard (Pacific Standard)

7 am-1 am.	(4 am-10 pm)
6 am-LS.	(3 am-LS)
9 am-1:30 pm; 6:45-8 pm.	(6-10:30 am; 3:45-5 pm)

890 kcs. (336.9 m.)

KARK	a	500	N(1)	Little Rock, Ark.
KPNF	a	500	2X(1)	Shenandoah, Iowa
KFPY	a	1000	C(5)	Spokane, Wash.
KUSD	a	500	2	Vermillion, S. Dak.
WBAA	a	500	(1)	W. Lafayette, Ind.
WGST	a	1000	C(5)	Atlanta, Ga.
WJAR	a	1000	R(5)	Providence, R. I.
WMMN	a	500	CX(1)	Fairmont, W. Va.
XEW	a	100000	....	Mexico City, D. F.

6:30 am-11 pm.	(3:30 am-8 pm)
Silent.	(Silent)
Noon-5 pm.	(9 am-2 pm)
6:30 am-1:00 am.	(3:30 am-10 pm)

900 kcs. (333.1 m.)

KGBU	a	500	X	Ketchikan, Alaska
KHJ	a	1000	M(5)	Los Angeles, Calif.
KSEI	a	250	N(1)	Pocatello, Idaho
WBEN	a	1000	R(5)	Buffalo, N. Y.
WELI	a	500	D	New Haven, Conn.
WFMD	a	500	D	Frederick, Md.
WJAX	a	1000	N(5)	Jacksonville, Fla.
WKY	a	1000	N(5)	Oklahoma City, Okla.
WLBL	a	5000	D	Stevens Point, Wis.
WTAD	a	1000	D	Quincy, Ill.

9 am-4 am.	(6 am-1 am)
(6:30 am-LS.	(3:30 am-LS)
6:45 am-1 am.	(3:45 am-10 pm)
9 am-5:15 pm.	(6 am-2:15 pm)

910 kcs. (329.6 m.)

CBF	a	50000	FN	Montreal, P. Q.
CIAT	a	1000	F	Trail, B. C.
CKY	a	15000	F	Winnipeg, Man.
CMKD	a	1000	....	Havana, Cuba
CMOA	z	250	....	Havana, Cuba
XENT	a	150000	....	Nuevo Laredo, Tams.

8:30 am-1:30 am.	(5:30 am-10:30 pm)
7 pm-8:15 am.	(4 pm-5:15 am)

920 kcs. (325.9.)

CMHT	z	200	....	Trinidad, Cuba.
KFEL	a	500	Ma	Denver, Colo.
KOMO	a	1000	R(5)	Seattle, Wash.
KPRC	a	1000	R(5)	Houston, Texas
KVOD	a	500	Ba	Denver, Colo.

10 am-3 am.	(7 am-midnight)
7 am-1 am.	(4 am-10 pm)
10:30 am-12:30 pm; 7:30-9:30 am; 11:30-2:30-5 pm; 6:30-8 am-2 pm; 3:30-5 pm; 9:30 pm-2:30 pm; 6:30-11:30 pm am.	

WAAF	a	1000	D	Chicago, Ill.
WORL	a	500	D	Boston, Mass.
WPEN	a	1000	....	Philadelphia, Pa.
WRAX	a	1000	Q	Philadelphia, Pa.
WSPA	a	1000	D	Spartanburg, S. C.
WWJ	a	1000	R(5)	Detroit, Mich.

7 am-LS.	(4 am-LS)
6 am-LS.	(3 am-LS)

930 kcs. (322.4 m.)

CFAC	a	1000	F	Calgary, Alta.
CFCH	a	100	F	North Bay, Ont.
CFLC	a	100	....	Prescott, Ont.
CHNS	a	1000	F	Halifax, N. S.
CKPC	a	100	F	Brantford, Ont.
CMJF	z	200	....	Camaguey, Cuba
KMA	a	1000	B(5)	Shenandoah, Iowa
KROW	a	1000	....	Oakland, Calif.
WBRC	a	1000	R(5)	Birmingham, Ala.
WDBJ	a	1000	C(5)	Roanoke, Va.
XEBH	a	500	....	Hermosillo, Son.

9 am-11 pm.	(6 am-8 pm)
10 am-4 am.	(7 am-1 am)
7:15 am-1 am.	(4:15 am-10 pm)
7 am-midnight.	(4 am-9 pm)

940 kcs. (319 m.)

CMBZ	a	200	....	Havana, Cuba		
KOIN	a	1000	C(5)	Portland, Ore.		
WAAT	a	500	D	Jersey City, N. J.		
WAVE	a	1000	N	Louisville, Ky.	7 am-2 am.	(4 am-11 pm)
WCSH	a	1000	R(2.5)	Portland, Me.	8 am-midnight.	(5 am-9 pm)
WDAY	a	1000	N(5)	Fargo, N. Dak.		
WHA	a	5000	D	Madison, Wis.	9 am-1S.	(6 am-1S)
WICA	a	250	D	Ashtabula, Ohio	7 am-1S.	(4 am-1S)
XEFO	a	5000	....	Mexico City, D. F.		

950 kcs. (315.6 m.)

CBV	a	1000	F	Quebec, P. Q.	Noon-midnight.	(9 am-9 pm)
CJOC	a	100	F	Lethbridge, Alta.	8 am-1 am.	(5 am-10 pm)
CMKL	z	200	....	Bayamo, Cuba		
KFWB	a	1000	(5)	Los Angeles, Calif.	9 am-3 am.	(6 am-midnight)
KMBC	a	1000	C(5)	Kansas City, Mo		
WRC	a	1000	R(5)	Washington, D. C.		
WTRY	z	1000	DP	Troy, N. Y.		

960 kcs. (312.3 m.)

CBY	a	500	F	Toronto, Ont.	Noon-midnight.	(9 am-9 pm)
CFRN	a	100	F	Edmonton, Alta.	8:30 am-midnight.	(5:30 am-9 pm)
CRCY	a	100	F	Toronto, Ont.		
XEAW	a	100000	....	Reynosa, Tams.	5-7:15 am; 7 pm-12:30 am.	(2-4:15 am; 4-9:30 pm)
XECL	z	1000	....	Mexicali, B. Cfa.		

970 kcs. (309.1 m.)

CMCK	a	5000	....	Havana, Cuba		
KJR	a	5000	B	Seattle, Wash.	10 am-3 am.	(7 am-midnight)
WCFL	a	5000	N	Chicago, Ill.		
WIBG	a	100	D	Glenside, Pa.	7:30 am-1S.	(4:30 am-1S)

980 kcs. (306 m.)

KDKA	b	50000	B	Pittsburgh, Pa.		
XEAC	a	1000	....	Tijuana, B. Cfa.	8 am-1 am.	(5 am-10 pm)
XEFE	z	250	....	Nuevo Laredo, Tams.		

990 kcs. (302.8 m.)

WBZ	a	50000	BSy	Boston, Mass.	6 am-1 am.	(3 am-10 pm)
WBZA	a	1000	BSy	Springfield, Mass.	6 am-1 am.	(3 am-10 pm)
XEFE	z	250	....	Nogales, Son.		
XEK	a	100	....	Mexico City, D. F.		
XES	a	250	....	Tampico, Tams.		

1000 kcs. (299.8 m.)

KFVD	a	1000	L	Los Angeles, Calif.		
VOCM	z	200	1006	St. John's Nfld.		
WHO	a	50000	KR	Des Moines, Iowa	7 am-1 am.	(4 am-10 pm)
XEBI	a	25	....	Aguascalientes, Ags.		

1010 kcs. (296.9 m.)

CHML	a	100	F	Hamilton, Ont.	7 am-11:30 pm.	(4 am-8:30 pm)
CKCD	a	100	1	Vancouver, B. C.	10:30 am-2:30 am.	(7:30 am-11:30 pm)
CKCK	a	1000	F	Regina, Sask.	9 am-2 am.	(6 am-11 pm)
CKCO	a	100	F	Ottawa, Ont.		
CKIC	a	50	....	Wolfville, N. S.		
CKWX	a	100	1	Vancouver, B. C.	9:30 am-10:30 pm;	(6:30 am-7:30 pm;
					2:30-4:30 am.	11:30 pm-1:30 am)
CMQ	a	25000	N	Havana, Cuba		
KGGF	a	1000	2M	Coffeyville, Kans.	8 am-11:30 pm.	(5 am-8:30 pm)
KQW	a	1000	M	San Jose, Calif.	9:15 am-3 am.	(6:15 am-midnight)

SATURDAY TIME

WHN a 1000 (5)
 WNAD a 1000 2
 WNOX a 1000 C(5)
 XEFQ a 50
 XEU a 250

New York, N. Y.
 Norman, Okla.
 Knoxville, Tenn.
 Cananea, Son.
 Veracruz, Ver.

Eastern Standard (Pacific Standard)

7 am-1 am. (4 am-10 pm)
 Silent. (Silent)
 6:30 am-2 am. (3:30 am-11 pm)

1020 kcs. (293.9 m.)

KYW c 10000 R
 WDJ a 250 D
 XEJ a 1000

Philadelphia, Pa.
 Tuscola, Ill.
 Juarez, Chih.

6 am-1:15 am. (3 am-10:15 pm)

1030 kcs. (291.1 m.)

CFCN a 10000
 CJBR z 1000 F
 CKLW a 5000 FM
 XEB a 10000

Calgary, Alta.
 Rimouski, P. Q.
 Windsor, Ont.
 Mexico City, D. F.

1040 kcs. (288.3 m.)

KRLD a 10000 CX
 KWJJ a 500 H

Dallas, Texas
 Portland, Ore.

9 am-LS; midnight- (6 am-LS; 9 pm-3
 6 am. am)
 9 am-LS. (6 am-LS)
 6 am-1 am. (3 am-10 pm)

KYOS a 250 D
 WTIC a 50000 R

Merced, Calif.
 Hartford, Conn.

1050 kcs. (285.5 m.)

CBA z 50000 P
 CBM a 5000 FR
 CMCP z 200
 HIT z 50
 KFBI a 5000 L
 KNX c 50000 C
 WEAU a 1000 D
 WIBC a 1000 D

Sackville, N. B.
 Montreal, P. Q.
 Havana, Cuba
 Ciudad Trujillo, D. R.
 Abilene, Kans.
 Los Angeles, Calif.
 Eau Claire, Wis.
 Indianapolis, Ind.

7 am-LS. (4 am-LS)
 9 am-4 am. (6 am-1 am)
 7 am-LS. (4 am-LS)

1060 kcs. (282.8 m.)

CMHI z 250
 KTHS a 10000 HN
 VOAC z 40 1065
 WBAL a 10000 BHM
 WJAG a 1000 DH
 W3XJ z 100 P

Santa Clara, Cuba
 Hot Springs, Ark.
 St. John's, Nfld.
 Baltimore, Md.
 Norfolk, Nebr.
 College Park, Md.

7 am-LS; 9 pm-1 am. (4 am-LS; 6-10 pm)
 7:15 am-LS. (4:15 am-LS)

1070 kcs. (280.2 m.)

CMJW z 200
 KJBS a 500 L
 WCAZ a 100 D
 WTAM a 50000 R

Camaguey, Cuba
 San Francisco, Calif.
 Carthage, Ill.
 Cleveland, Ohio

1:30 am-LS. (10:30 pm-LS)
 8 am-5 pm. (5 am-2 pm)

1080 kcs. (277.6 m.)

CMBX a 150
 CMKM a 100
 WBT a 50000 C
 WCBD a 5000 1L
 WMBI g 5000 1L
 XEBA z 20
 XEBK a 100
 XEDP a 500

Havana, Cuba
 Manzanillo, Cuba
 Charlotte, N. C.
 Chicago, Ill.
 Chicago, Ill.

8-8:30 am; 11:30 am (5-5:30 am; 8:30-11
 -2 pm; 4-5:30 pm. am; 1-2:30 pm)

Guzman, Jal.
 Nuevo Laredo, Tams.
 Mexico City, D. F.

1090 kcs. (275.1 m.)

CMHA z 200
 HIN a 740
 KMOX z 50000 C
 XERB a 100000

Sagua la Grande, Cuba
 Ciudad Trujillo, D. R.
 St. Louis, Mo.
 Rosarito Beach, B. Cfa.

SUNDAY TIME

Eastern Standard

(Pacific Standard)

1100 kcs. (272.6 m.)

CBR	a	5000	F	Vancouver, B. C.		
CMHP	z	200	....	Placetas, Cuba		
KGDM	f	1000	DM	Stockton, Calif.	9 am-LS.	(6 am-LS)
KWKH	a	10000	CH	Shreveport, La.		
WBIL	a	5000	1	New York, N. Y.		
WPG	a	5000	C1	Atlantic City, N. J.	8 am-6 pm; 8 pm-	(5 am-3 pm! 5-9 pm)

1110 kcs. (270.1 m.)

CMCJ	a	200	....	Havana, Cuba		
KSOO	a	5000	LN	Sioux Falls, S. Dak.	7 am-LS.	(4 am-LS)
WRVA	a	50000	CM	Richmond, Va.	7 am-midnight.	(4 am-9 pm)

1120 kcs. (267.7 m.)

CBJ	a	100	F	Chicoutimi, P. Q.	3:15-11:15 pm.	(12:15-8:15 pm)
CHLP	a	100	F	Montreal, P. Q.	8 am-11 pm.	(5 am-8 pm)
CHSJ	a	100	F	St. John, N. B.	7 am, and 8:30 am-1:15 am.	(4 am, and 5:30 am-10:15 pm)
CKOC	a	500	F(1)	Hamilton, Ont.		
CKX	a	1000	F	Brandon, Man.	9 am-12:30 am.	(6 am-9:30 pm)
CMGF	a	200	....	Matanzas, Cuba		
KFIO	a	100	D	Spokane, Wash.		
KFSG	a	500	a(2.5)	Los Angeles, Calif.		
KRKD	a	500	a(2.5)	Los Angeles, Calif.		
KRSC	a	250	....	Seattle, Wash.	9 am-4:30 am.	(6 am-1:30 am)
KTBC	z	1000	DP	Austin, Texas		
WCOP	a	500	D	Boston, Mass.	7 am-LS.	(4 am-LS)
WDEL	a	250	R(.5)	Wilmington, Del.		
WISN	a	250	C(1)	Milwaukee, Wis.	7 am-2 am.	(4 am-11 pm)
WJBO	a	500	B	Baton Rouge, La.		
WTAW	a	500	L	College Station, Tex.		

1130 kcs. (265.3 m.)

CMJI	a	200	....	Ciego de Avila, Cuba		
KSL	a	50000	C	Salt Lake City, Utah		
WJJD	a	20000	L	Chicago, Ill.	7 am-LS at Salt Lake.	(4 am-LS at Salt Lake)
WOV	a	1000	D	New York, N. Y.		
XEJP	z	100	....	Mexico City, D. F.		

1140 kcs. (263 m.)

CMBC	a	150	....	Havana, Cuba		
KVOO	a	25000	N	Tulsa, Okla.		
WAPI	a	5000	C	Birmingham, Ala.	7 am-1 am.	(4 am-10 pm)
WSPR	a	500	DM	Springfield, Mass.	7 am-6:30 pm.	(4 am-3:30 pm)

1150 kcs. (260.7 m.)

CMKG	z	100	....	Santiago, Cuba		
WHAM	a	50000	B	Rochester, N. Y.	6:30 am-1 am.	(3:30 am-10 pm)
XEBP	z	250	....	Durango, Dgo.		
XEC	a	100	....	Tijuana, B. Cfa.		
XEDW	z	20	....	Minatitlan, Ver.		
XEL	z	250	....	Mexico City, D. F.		

1160 kcs. (253.5 m.)

CMHJ	a	100	....	Cienfuegos, Cuba		
WOWO	a	10000	1B	Fort Wayne, Ind.		
WWVA	a	5000	1C	Wheeling, W. Va.		
XEAS	a	100	....	Saltillo Coah.		
XED	e	2500	....	Guadalajara, Jal.	noon-midnight.	(9 am-9 pm)
XEP	a	500	....	Juarez, Chih		

1170 kcs. (256.3 m.)

CMBS	a	150	....	Havana, Cuba		
WCAU	a	50000	C	Philadelphia, Pa.	6:30 am-2 am.	(3:30 am-11 pm)
XEXX	z	1000	....	Mexico City, D. F.		

SATURDAY TIME

Eastern Standard (Pacific Standard)

1180 kcs. (254.1 m.)



KEX	a	5000	2B	Portland, Ore.
KOB	a	10000	2N	Albuquerque, N. Mex
WDGY	a	1000	....	Minneapolis, Min.
WINS	a	1000	....	New York, N. Y.
WMAZ	a	1000	C(5)	Macon, Ga.

9:30 am-3 am.	(6:30 am-midnight)
9 am-1 am.	(6 am-10 pm)
7:00 am-7:30 pm.	(4 am-4:30 pm)

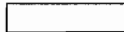
1190 kcs. (252 m.)



CMKX	z	75	....	Santiago, Cuba
KTKC	f	250	DM	Visalia, Calif.
VONF	a	500	1195	St. John's Nfld.
WATR	a	100	DXZ	Waterbury, Conn.
WOAI	a	50000	N	San Antonio, Tex.
WSAZ	a	1000	L	Huntington, W Va

9 am-LS.	(6 am-LS)
7:30 am-12:30 am.	(4:30 am-9:30 pm)
6 am-7:30 pm.	(3 am-4:30 pm)

1200 kcs. (249.9 m.)



CFGP	a	100	....	Grande Prairie, Alta.
CHAB	a	100	F(.25)	Moose Jaw, Sask.
CHGB	z	100	FP	St. Anne de Pocatiere, P.Q.
CKNX	b	100	....	Wingham, Ont.

9:45 am-4:30 pm; 7- midnight.	(6:45 am - 1:30 pm; 4-9 pm)
9 am-1 am.	(6 am-10 pm)
10:30 am-1:30 pm; 5:30-9 pm.	(7:30-10:30 am; 2-30 -6 pm)

CKTB	a	100	F	St. Catharines, Ont.
CMCO	a	150	....	Havana, Cuba
KADA	a	100	M	Ada, Okla.
KBTM	a	100	D	Jonesboro, Ark.
KDNC	z	100	(.25)P	Lewistown, Mont.
KELO	a	100	N	Sioux Falls, S. Dak.
KFJB	a	100	(.25)	Marshalltown, Iowa
KFXD	a	100	(.25)	Nampa, Idaho
KFXJ	a	100	(.25)	Grand Junction, Colo.
KGCI	z	100	DP	Coeur d'Alene, Idaho
KGDE	b	100	(.25)	Fergus Falls, Minn.
KGK	f	100	L	Sterling, Colo.
KGJ	a	100	....	Los Angeles, Calif.
KGHI	a	100	(.25)	Little Rock, Ark.
KGVL	z	100	DP	Greenville, Tex.
KMLB	a	100	(.25)	Monroe, La.
KOOS	a	100	(.25)	Marshfield, Ore.
KSUN	a	100	(.25)	Lowell, Ariz.
KVCV	a	100	....	Redding, Calif.
KVEC	a	100	(.25)	San Luis Obispo, Calif.
KVNU	z	100	P	Logan, Utah
KVOS	b	100	M	Bellingham, Wash.
KWG	a	100	N	Stockton, Calif.
KWNO	a	250	D	Winona, Minn.
WABI	a	100	(.25)	Bangor, Maine
WAIM	a	100	C	Anderson, S. C.
WAYX	a	100	(.25)	Waycross, Ga.
WBBZ	a	100	M(.25)	Ponca City, Okla
WBHP	a	100	....	Huntsville, Alta.
WCAT	a	100	D	Rapid City, S. Dak.
WCAX	a	100	(.25)	Burlington, Vt.
WCLO	a	100	(.25)	Janesville, Wis.
WCPO	a	100	(.25)	Cincinnati, Ohio
WDSM	z	100	P	Superior, Wis.
WENY	z	250	DP	Elmira, N. Y.
WEST	a	100	3(.25)	Easton, Pa.
WFAM	a	100	4	South Bend, Ind.
WFTC	a	100	(.25)	Kinston, N. C.
WHBC	a	100	(.25)	Canton, Ohio
WHBY	a	100	(.25)	Green Bay, Wis.
WIBX	a	100	C(.25)	Utica, N. Y.
WIL	a	100	(.25)	St. Louis, Mo.
WJBC	a	100	5(.25)	Bloomington, Ill.
WJBL	a	100	5	Decatur, Ill.

9:30 am-midnight.	(6:30 am-9 pm)
9:30 am-3 am.	(6:30 am-midnight)
7 am-9 pm.	(4 am-6 pm)
1-3 pm.	(10 am-noon)
7:30 am-9 pm.	(4:30 am-6 pm)
8 am-10 pm.	(5 am-7 pm)
6:30 am-3 am.	(3:30 am-midnight)
9 am-10:30 pm.	(6 am-7:30 pm)
7-10 am; 1:30-4 pm; 8:30 pm-1 am.	(4-7 am! 10:30 am- 1 pm; 5:30-10 pm)
2 am-1 pm; 6-9 pm; midnight-1 am.	(3-6 pm; 9-10 pm; 11 pm-10 am)

WJBW	a	100	....	New Orleans, La.
WJHL	z	100	(.25)	Johnson City, Tenn.

SATURDAY TIME

WJNO	a	100	C(.25)	W. Palm Beach, Fla.
WJRD	a	250	D	Tuscaloosa, Ala.
WKBO	a	100	3(.25)	Harrisburg, Pa.
WLVA	a	100	(.25)	Lynchburg, Va.
WMFR	a	100	D	High Point, N. C.
WMPC	a	100	(.25)	Lapeer, Mich.
WOLS	a	100	D	Florence, S. C.
WRBL	a	100	(.25)	Columbus, Ga.
WSAL	z	250	D	Salisbury, Md.
WTHT	a	100	M	Hartford, Conn.
WTOL	a	100	D	Toledo, Ohio
WWAE	a	100	4	Hammond, Ind.

Eastern Standard (Pacific Standard)

7 am-2 am.	(4 am-11 pm)
7 am-noon; 3-6 pm; 8-11 pm.	(4-9 am; noon-3 pm; 5-8 pm)
6:30 am-10:15 pm.	(3:30 am-7:15 pm)
7 am-LS.	(4 am-LS)
8 am-midnight.	(5 am-9 pm)

1210 kcs. (247.8 m.)

CHLT	z	100	....	Sherbrooke, P. Q.
CJCS	a	50	....	Stratford, Ont.
CJCU	z	50	....	Aklavik, N. W. T.
CKBI	a	100	F	Prince Albert, Sask.
CKCH	a	100	F	Hull, P. Q.
CKMC	a	50	....	Cobalt, Ont.
CMHK	z	250	....	Cruces, Cuba
KALB	a	100	(.25)	Alexandria, La.
KANS	a	100	N	Wichita, Kans.
KASA	b	100	M	Elk City, Okla.
KDLR	a	100	(.25)	Devils Lake, N. Dak.
KDON	a	100	M	Monterey, Calif.
KFJI	a	100	....	Klamath Falls, Ore.
KFOR	a	100	CM(.25)	Lincoln, Nebr.
KFPW	a	100	....	Fort Smith, Ark.
KFVS	a	100	5(.25)	Cape Girardeau, Mo.
KFXM	a	100	2M	San Bernardino, Calif.
KGLO	a	100	C(.25)	Mason City, Iowa
KGY	a	100	M	Olympia, Wash.
KHBG	a	100	D	Okmulgee, Okla.
KIUL	a	100	....	Garden City, Kans.
KLAH	a	100	(.25)	Carlsbad, N. Mex.
KOCA	a	100	(.25)	Kilgore, Texas
KPFA	a	100	N(.25)	Helena, Mont.
KPPC	a	100	2	Pasadena, Calif.
KROY	a	100	CD	Sacramento, Calif.
KVSO	a	100	M(.25)	Ardmore, Okla.
KWJB	a	100	(.25)	Globe, Ariz.
KWTN	z	100	A	Watertown, S. Dak.
WALR	a	100	....	Zanesville, Ohio
WBAX	a	100	M	Wilkes-Barre, Pa.
WBBL	a	100	S	Richmond, Va.
WBLE	a	100	D	Lima, Ohio
WBRB	a	100	3	Red Bank, N. J.
WCOL	a	100	N	Columbus, Ohio
WCOU	a	100	....	Lewiston, Maine
WCOV	z	100	DP	Montgomery, Ala.
WCRW	a	100	4	Chicago, Ill.
WEBQ	a	100	5(.25)	Harrisburg, Ill.
WEDC	a	100	4	Chicago, Ill.
WFAS	a	100	3	White Plains, N. Y.
WFOY	a	100	(.25)	St. Augustine, Fla.
WGBB	a	100	3	Freeport, N. Y.
WGCM	a	100	(.25)	Gulfport, Miss.
WGNY	a	100	3	Newburgh, N. Y.
WGRM	a	100	....	Grenada, Miss.
WHAI	a	250	D	Greenfield, Mass.
WHBF	a	100	(.25)	Rock Island, Ill.
WHBU	a	100	(.25)	Anderson, Ind.
WIBU	a	100	(.25)	Poynette, Wis.
WJBY	a	100	(.25)	Gadsden, Ala.
WJEJ	a	100	....	Hagerstown, Md.

7:30 am-7:45 pm.	(4:30 am-4:45 pm)
7:30 am-11 pm.	(4:30 am-8 pm)
9 am-3 am.	(6 am-midnight)
7 am-3 am.	(4 am-midnight)
10 am-2 am.	(7 am-11 pm)
8 am-9 pm.	(5 am-6 pm)
8:30 am-11 pm.	(5:30 am-8 pm)
10:15 am-midnight.	(7:15 am-9 pm)
9:30 am-8 pm.	(6:30 am-5 pm)
8 am-midnight.	(5 am-9 pm)
10 am-midnight.	(7 am-9 pm)
7 am-midnight.	(4 am-9 pm)
4-7 pm.	(1-4 pm)
7 am-1 am.	(4 am-10 pm)
6 am-midnight.	(3 am-9 pm)
noon-3 pm; 6-8 pm.	(9 am-non; 3-5 pm)
7-10 am; 1-5 pm;	(4-7 am; 10 am-1
8:30-10 pm.	pm; 5:30-7 pm)
10-11 am; 5-6 pm;	(7-8 am; 2-3 pm;
11 pm-midnight.	8-9 pm)
7:30 am-midnight.	(4:30 am-9 pm)
7 am-LS.	(4 am-LS)
7:30 am-11 pm.	(4:30 am-8 pm)
7 am-11:30 pm.	(4 am-8:30 pm)

SATURDAY TIME

WJIM	z	100	B(.25)	Lansing, Mich.
WJLS	z	100	(.25)P	Beckley, W. Va.
WJMC	z	250	DP	Rice Lake, Wis.
WJTN	a	100	B(.25)	Jamestown, N. Y.
WJW	a	100	(.25)	Akron, Ohio
WKOK	a	100	L	Sunbury, Pa.
WMFG	a	100	(.25)	Hibbing, Minn.
WOCB	z	100	(.25)P	Barnstable, Mass.
WOMT	a	100	....	Manitowoc, Wis.
WPAX	a	100	(.25)	Thomasville, Ga.
WPIV	z	100	(.25)P	Petersburg, Va.
WRAL	z	100	(.25)P	Raleigh, N. C.
WSAY	z	100	(.25)	Rochester, N. Y.
WSBC	a	100	4(.25)	Chicago, Ill.
WSIX	a	100	(.25)	Nashville, Tenn.
WSNJ	a	100	D	Bridgeton, N. J.
WSOC	a	100	N(.25)	Charlotte, N. C.
WTAX	a	100	....	Springfield, Ill
WTMA	z	100	(.25)P	Charleston, S. C.
XEAT	a	250	....	Parral. Chih
XEE	a	50	....	Durango, Dgo.
XEFV	a	50	....	Juarez, Chih.
XETH	a	100	....	Puebla, Pue.

Eastern Standard (Pacific Standard)

8 am-10:30 pm.	(5 am-7:30 pm)
noon-6 pm.	(9 am-3 pm)
6:30 am-7:30 pm.	(3:30 am-4:30 pm)
7 am-1S.	(4 am-1S)
6:30 am-midnight.	(3:30 am-9 pm)

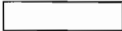
1220 kcs. (245.8 m.)



KFKU	a	1000	a(5)	Lawrence, Kans.
KTMS	z	500	B	Santa Barbara, Calif.
KTW	a	1000	2S	Seattle, Wash.
KWSC	a	1000	2(5)	Pullman, Wash.
WCAD	a	500	D	Canton, N. Y.
WCAE	a	1000	MR(5)	Pittsburgh, Pa.
WDAE	a	1000	C(5)	Tampa, Fla.
WREN	a	1000	Ba(5)	Lawrence, Kans.
XEBL	a	50	....	Mazatlan, Sin.
XEDA	z	200	....	Gral. Anaya, D. F.
XETF	a	12	....	Veracruz, Ver.

9:45-11 am; 2 pm-1	(6:45-8 am; 11 am-10 pm)
12:30-1:30 pm; 3-4	(9:30 - 10:30 am; noon-1 pm)
7 am-1:30 am.	(4 am-10:30 pm)
7 am-midnight.	(4 am-9 pm)

1230 kcs. (243.8 m.)



CMCB	a	150	....	Havana, Cuba
KGBX	a	500	N	Springfield, Mo.
KGGM	a	100	....	Albuquerque, N. Mex.
KYA	a	1000	(5)	San Francisco, Calif.
WFBM	a	1000	C(5)	Indianapolis, Ind.
WNAC	a	1000	R(5)	Boston, Mass.
WOL	a	1000	M	Washington, D.C.
XECA	z	250	....	Tampico, Tamps
XEG	z	250	....	Monterrey, N. L.

9 am-1 am.	(6 am-10 pm)
9:30 am-3 am.	(6:30 am-midnight)
6 am-2 am.	(3 am-11 pm)

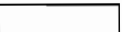
1240 kcs. (241.8 m.)



CJCB	a	1000	F	Sydney, N. S.
CMAB	z	200	....	Pinar del Rio, Cuba
CMHB	z	200	....	Sancti Spiritus, Cuba
KGCU	a	250	....	Mandan, N. Dak.
KTAT	a	1000	M	Fort Worth, Tex.
KTFI	a	1000	N	Twin Falls, Idaho
WKAQ	a	1000	....	San Juan, P. R.
WXYZ	a	1000	B	Detroit, Mich.
XEBU	z	50	....	Chihuahua, Chih.
XEKL	z	500	....	Leon, Gto.
XEME	z	50	....	Merida, Yuc.

7 am-1 am.	(4 am-10 pm)
11 am-midnight.	(8 am-9 pm)
7:30 am-midnight.	(4:30 am-9 pm)
8 am-1 am.	(5 am-10 pm)

1250 kcs. (239.9 m.)



CMKC	a	150	....	Santiago, Cuba
HRN	c	50	....	Tegucigalpa, Hond.

SATURDAY TIME

Eastern Standard (Pacific Standard)

KFOX	a	1000	....	Long Beach, Calif		
KIT	a	250	MX(.5)	Yakima, Wash.	9:30 am-3 am.	(6:30 am-midnight)
KXOK	z	1000	....	St. Louis, Mo.		
WAIR	a	250	D	Winston-Salem, N. C	6 am-LS.	(3 am-LS)
WDUS	a	1000	B	New Orleans, La.		
WHBI	a	1000	(2.5)	Newark, N. J.		
WKST	z	250	D	New Castle, Pa.	7 am-LS.	(4 am-LS)
WMRO	z	250	D	Aurora, Ill.		
WNEW	a	1000	(2.5)	New York, N. Y.		
WTCN	a	1000	B(5)	Minneapolis, Minn.	7 am-1 am.	(4 am-10 pm)
XEAI	z	500	....	Mexico City, D. F.		

1260 kcs. (238 m.)



CMJO	a	200	....	Ciego de Avila, Cuba		
CMX	e	200	....	Havana, Cuba	8 am-1 am.	(5 am-10 pm)
KGVO	a	1000	C(5)	Missoula, Mont.	9 am-1 am.	(6 am-10 pm)
KHSL	a	250	....	Chico, Calif.		
KOIL	a	1000	BM(5)	Omaha, Nebr.		
KPAC	a	500	D	Port Arthur, Tex	7 am-LS.	(4 am-LS)
KRGV	a	1000	MN	Weslaco, Texas	7:30 am-midnight.	(4:30 am-9 pm)
KUOA	a	5000	D	Siloam Springs, Ark	7 am-LS.	(4 am-LS)
KVOA	a	1000	....	Tucson, Ariz.	8 am-11:30 pm.	(5 am-8:30 pm)
WHIO	a	1000	C(5)	Dayton, Ohio		
WNBX	a	1000	CM	Springfield, Vt.	7 am-midnight.	(4 am-9 pm)
WTOC	a	1000	C	Savannah, Ga.	6 am-midnight.	(3 am-9 pm)

1270 kcs. (236.1 m.)



CMHD	b	250	....	Caibarien, Cuba		
KGCA	a	100	2D	Decorah, Iowa		
KOL	a	1000	M(5)	Seattle, Wash.		
KVOR	a	1000	C	Colorado Springs, C.	8:45 am-2 am.	(5:45 am-11 pm)
KWLC	a	100	2D	Decorah, Iowa	7:30-9:30 am; 10:45 -11:45 am! 12:30- 1:30 pm.	(4:30-6:30 am; 7:45 -8:45 am-9:30-11:30 am)
WASH	a	500	DNA	Grand Rapids, Mich		
WFBR	a	500	R(1)	Baltimore, Md.	6:30 am-1:30 am.	(3:30 am-10:30 pm)
WJDX	a	1000	R(5)	Jackson, Miss.		
WOOD	a	500	Na	Grand Rapids, Mich		
XEXB	a	250	....	Ialapa, Ver		
XEXE	z	17	....	Texcoco, Mex.		

1280 kcs. (234.2 m.)



CMKO	z	200	....	Holguin, Cuba		
KFBB	a	1000	C(5)	Great Falls, Mont.	10 am-1 am.	(7 am-10 pm)
KLS	a	250	....	Oakland, Calif.		
WCAM	a	500	1	Camden, N. J.	Silent.	(Silent)
WCAP	a	500	1	Asbury Park, N. J.	10:30 am-4 pm; 8 pm-midnight.	(7:30 am-1 pm; 5- 9 pm)
WDOD	c	1000	C(5)	Chattanooga, Tenn.	7 am-midnight.	(4 am-9 pm)
WIBA	a	1000	N(5)	Madison, Wis.	8 am-1 am.	(5 am-10 pm)
WORC	a	500	C	Worcester, Mass.	8 am-midnight.	(5 am-9 pm)
WRR	a	500	M	Dallas, Texas	8 am-1 am.	(5 am-10 pm)
WTNJ	a	500	1	Trenton, N. J.		
XEMX	z	100	....	Mexico City, D. F.		

1290 kcs. (232.4 m.)



CMCG	a	150	....	Havana, Cuba		
CMJK	a	200	....	Camaguey, Cuba		
KDYL	a	1000	R(5)	Salt Lake City, Utah		
KLCN	a	100	D	Blitheville, Ark		
KTRH	a	1000	C(5)	Houston, Texas	7:30 am-3:30 am.	(4:30 am-12:30 am)
WEBC	a	1000	N(5)	Duluth, Minn.	7:30 am-1 am.	(4:30 am-10 pm)
WJAS	a	1000	C(5)	Pittsburgh, Pa.		
WJHP	z	250	P	Jacksonville, Fla.		

SATURDAY TIME

Eastern Standard (Pacific Standard)

WNBZ	a	100	D	Saranac Lake, N. Y.	8 am-LS.	(5 am-LS)
WNEI	a	1000	(2.5)	San Juan, P. R.	5:30 am-11 pm.	(2:30 am-8 pm)
1300 kcs. (230.6 m.)						
KALE	a	1000	M	Portland, Ore.	9:30 am-3 am.	(6:30 am-midnight)
KFAC	a	1000	....	Los Angeles, Calif.	24 hours daily.	(24 hours daily)
KFH	a	1000	C(5)	Wichita, Kans.	7 am-1 am.	(4 am-10 pm)
WBBR	a	1000	1	Brooklyn, N. Y.	Silent.	(Silent)
WEVD	a	1000	1	New York, N. Y.		
WFBC	a	1000	N(5)	Greenville, S. C.	6:45 am-midnight.	(3:45 am-9 pm)
WHAZ	a	1000	1	Troy, N. Y.		
WHBL	a	250	....	Sheboygan, Wis.	8 am-midnight.	(5 am-9 pm)
1310 kcs. 228.9 m.)						
CHCK	a	50	....	Charlottetown, P.E.I.		
CJKL	a	100	F	North Bay, Ont.		
CJLS	a	100	F	Yarmouth, N. S.		
CKCV	a	100	F	Quebec, P. Q.	7:45 am-11:45 pm.	(4:45 am-8:45 pm)
KAND	z	100	DM	Corsicana, Tex.		
KARM	a	100	C	Fresno, Calif.	9 am-3 am.	(6 am-midnight)
KBND	z	100	(.25)	Bend, Ore.		
KCKN	a	100		Kansas City, Kans.	7 am-1 am.	(4 am-10 pm)
KCRJ	a	100	(.25)	Jerome, Ariz.		
KFPL	f	100	(.25)	Dublin, Texas		
KFYO	a	100	M(.25)	Kalispell, Texas	7 am-midnight.	(4 am-9 pm)
KGEZ	a	100	....	Kalispell, Mont.		
KGFW	a	100	(.25)	Kearney, Nebr.	7 am-11:30 pm.	(4 am-8:30 pm)
KHUB	a	250	D	Watsonville, Calif.	9 am-LS.	(6 am-LS)
KOCY	a	100	D	Tulsa, Okla.		
KOME	z	250	DP	Tulsa, Okla.		
KPDN	a	100	D	Pampa, Texas		
KRBA	a	100	D	Lufkin, Texas	7 am-6:15 pm.	(4 am-3:15 pm)
KRMD	a	100	(.25)	Shreveport, La.	7:30 am-1 am.	(4:30 am-10 pm)
KROC	a	100	(.25)	Rochester, Minn.	7 am-1 am.	(4 am-10 pm)
KRQA	a	100	....	Santa Fe, N. Mex.	9 am-4 pm; 6:30-11:30 pm.	(6 am-1 pm; 3:30-8:30 pm)
KRRV	a	250	DM	Sherman, Texas		
KSRO	a	100	(.25)	Santa Rosa, Calif.	10 am-2 am.	(7 am-11 pm)
KSUB	a	100	....	Cedar City, Utah		
KTSM	a	100	N(.25)	El Paso, Texas	8:30 am-2 am.	(5:30 am-11 pm)
KVOL	a	100	(.25)	Lafayette, La.	8 am-2 pm; 5-11 pm.	(5-11 am; 2-8 pm)
KVOX	a	100	(.25)	Moorhead, Minn.	7 am-10 pm.	(4 am-7 pm)
KWOC	a	100	D	Poplar Bluff, Mo.	7:30 am-LS.	(4:30 am-LS)
KWOS	a	100	(.25)	Jefferson City, Mo.	7 am-11 pm.	(4 am-8 pm)
KXRO	a	100	M(.25)	Aberdeen, Wash.		
TG1	d	....	....	Guatemala C., Guat.		
WAML	a	100	(.25)	Laurel, Miss.		
WBEO	a	100	DX	Marquette, Mich.		
WBOW	a	100	N(.25)	Terre Haute, Ind.		
WBRE	a	100	N(.25)	Wilkes-Barre, Pa.		
WBRK	z	100	C(.25)	Pittsfield, Mass.		
WCLS	a	100	L	Joliet, Ill.		
WCMI	a	100	(.25)	Ashland, Ky.		
WDAH	a	100	S(.25)	El Paso, Tex.		
WEBR	a	100	B(.25)	Buffalo, N. Y.	7 am-midnight.	(4 am-9 pm)
WEMP	a	100	....	Milwaukee, Wis.		
WEXL	a	50	....	Royal Oak, Mich.	8 am-4 am.	(5 am-1 am)
WFBG	a	100	3	Altoona, Pa.		
WFDF	a	100	B	Flint, Mich.	6 am-midnight.	(3 am-9 pm)
WGAI	a	100	(.25)	Athens, Ga.	7 am-midnight.	(4 am-9 pm)
WGH	a	100	(.25)	Newport News, Va.		
WGTM	a	100	D	Wilson, N. C.		
WHAT	a	100	4	Philadelphia, Pa.		
WJAC	a	100	3(.25)	Johnstown, Pa.	8:30-10:30 am; 4:30-6:30 pm; 9:30 pm-midnight.	(5:30-7:30 am; 1:30-3:30 pm; 6:30-9 pm)
WLAK	z	100	N	Lakeland, Fla.		
WLBC	a	100	(.25)	Muncie, Ind.	6:30 am-12:30 am.	(3:30 am-9:30 pm)
WLNH	a	100	M	Laconia, N. H.	7 am-midnight.	(4 am-9 pm)
WMBO	a	100	....	Auburn, N. Y.		

SATURDAY TIME

Eastern Standard (Pacific Standard)

WMFF	a	100	B(.25)	Plattsburgh, N. Y.	7:45 am-midnight.	(4:45 am-9 pm)
WNBH	a	100	M(.25)	New Bedford, Mass.		
WRAW	a	100	....	Reading, Pa.		
WROL	a	100	N(.25)	Knoxville, Tenn.		
WSAJ	a	100	....	Grove City, Pa.	Silent.	(Silent)
WSAV	z	100	P	Savannah, Ga.		
WSGN	a	100	B(.25)	Birmingham, Ala.	7 am-midnight.	(4 am-9 pm)
WSJS	a	100	C	Winston-Salem, N. C.	6:30 am-midnight.	(3:30 am-9 pm)
WTAL	a	100	(.25)	Tallahassee, Fla.		
WTEL	a	100	4	Philadelphia, Pa.		
WTJS	a	100	(.25)	Jackson, Tenn.	7 am-11 pm.	(4 am-8 pm)
WTRC	a	100	(.25)	Elkhart, Ind.	7:30 am-10:30 pm.	(4:30 am-7:30 pm)
XEAG	z	10	....	Cordoba, Ver.		
XEBO	z	25	....	Irapuato, Gto.		
XEPW	a	300	....	Tampico, Tams		
XETB	a	500	....	Torreón, Coah.		
XEX	a	125	....	Monterrey, N. L.		

1320 kcs. (227.1 m.)

CMBQ	z	5000		Havana, Cuba		
KGHF	a	500	B	Pueblo, Colo.	9 am-1 am.	(6 am-10 pm)
KGMB	a	1000	CM	Honolulu, Hawaii	11:25 am-5:30 am.	(8:25 am-2:30 am)
KID	a	500	(1)	Idaho Falls, Idaho		
KRNT	a	1000	C(5)	Des Moines, Iowa	6:30 am-1 am.	(3:30 am-10 pm)
WADC	a	1000	C(5)	Akron, Ohio		
WORK	a	1000	N	York, Pa.	8 am-midnight.	(5 am-9 pm)
WSMB	a	1000	R(5)	New Orleans, La.		

1330 kcs. (225.4 m.)

KGB	a	1000	M	San Diego, Calif.		
KMO	a	1000	M	Tacoma, Wash.	9 am-3 am.	(6 am-midnight)
KRIS	a	500	NM	Corpus Christi, Tex.	7:30 am-midnight.	(4:30 am-9 pm)
KSCJ	a	1000	C(5)	Sioux City, Iowa	7 am-2 am.	(4 am-11 pm)
WDRG	g	1000	C(5)	Hartford, Conn.	7 am-1 am.	(4 am-10 pm)
WSAI	a	1000	MN(5)	Cincinnati, Ohio		
WTAQ	a	1000	C	Green Bay, Wis.	8 am-1 am.	(5 am-10 pm)

1340 kcs. (223.7 m.)

KDTH	z	500	ADP	Dubuque, Iowa		
KGIR	a	1000	N(5)	Butte, Mont.		
KGNO	c	250	....	Dodge City, Kans.	7:30 am-10 pm.	(4:30 am-7 pm)
WCOA	a	500	C(1)	Pensacola, Fla.		
WFEA	a	500	MN(1)	Manchester, N. H.		
WFNC	z	250	DP	Fayetteville, N. C.		
WSPD	a	1000	B(5)	Toledo, Ohio	6:30 am-1 am.	(3:30 am-10 pm)
XEAP	z	50	....	Oregon, Son.		
XEBS	z	200	....	Mexico City, D. F.		
XEDH	z	200	....	Villa Acuna, Coah.		
XEFC	a	100	....	Merida, Yuc.		
XEXD	z	350	....	Jalapa, Ver.		

1350 kcs. (222.1 m.)

CMCA	a	200	....	Havana, Cuba		
CMKW	z	....	....	Santiago, Cuba		
KIDO	a	1000	N(2.5)	Boise, Idaho	9 am-2 am.	(6 am-11 pm)
KWK	a	1000	XBM(5)	St. Louis, Mo.		
WAWZ	a	500	1(1)	Zarephath, N. J.	7:45-8:45 am: 6-7:30 pm.	(4:45-5:45 am; 3 4:30 pm)
WBNX	a	1000	1	New York, N. Y.		
WMBG	a	500	R	Richmond, Va.	7 am-midnight.	(4 am-9 pm)

1360 kcs. (220.4 m.)

CMJH	b	200	....	Ciego de Avila, Cuba		
KCRC	a	250	M	Enid, Okla.		

SATURDAY TIME

Eastern Standard (Pacific Standard)

KGFR	a	1000	....	Long Beach, Calif.	9 am-3 am.	(6 am-midnight)
KLPM	a	500	(1)	Minot, N. Dak.		
WCSC	a	500	N(1)	Charleston, S. C.	7 am-midnight.	(4 am-9 pm)
WFBL	a	1000	C(5)	Syracuse, N. Y.		
WGES	a	500	1(1)	Chicago, Ill.		
WQBC	a	1000	D	Vicksburg, Miss.		
WSBT	a	500	1	South Bend, Ind.		
1370 kcs. (218.8 m.)						
CFAR	a	100	....	Flin Flon, Man.	8 am-2:15 pm; 6-10 pm.	(5-11:15pm; 3-7pm)
CFOS	z	100	....	Owen Sound, Ont.		
CKCW	a	100	F	Moncton, N. B.		
CKRN	z	100	P	Rouyn, P. Q.		
CMGE	a	200	....	Cardenas, Cuba		
KAST	a	100	DXZ	Astoria, Ore.	10 am-LS.	(7 am-LS)
KCMO	a	100	....	Kansas City, Mo.		
KEEN	a	100	3	Seattle, Wash.		
KELD	z	100	....	El Dorado, Ark.		
KERN	a	100	N	Bakersfield, Calif.	10 am-3 am.	(7 am-midnight)
KFGQ	a	100	D	Boone, Iowa	7-8:30 am; 10:30-11 am; 1-2 pm.	(4-5:30 am; 7:30-8 am; 10-11 am)
KFJZ	a	100	M(.25)	Fort Worth, Texas	8 am-midnight.	(5 am-9 pm)
KFRO	a	250	DM	Longview, Texas		
KGAR	a	100	C(.25)	Tucson, Ariz.	9 am-1 am.	(6 am-10 pm)
KGFL	a	100	4	Roswell, N. Mex.		
KGKL	a	100	(.25)	San Angelo, Texas		
KICA	a	100	4	Clovis, N. Mex.		
KIUN	a	100	....	Pecos, Texas	8 am-10 pm.	(5 am-7 pm)
KIUP	a	100	....	Durango, Colo.		
KLUF	a	100	M(.25)	Galveston, Tex.	8 am-1 am.	(5 am-10 pm)
KMAC	a	100	5(.25)	San Antonio, Tex.		
KOHB	a	100	(.25)	Rapid City, S. Dak.		
KOKO	a	100	....	La Junta, Colo.	8:30 am-11:30 pm.	(5:30 am-8:30 pm)
KONO	a	100	5	San Antonio, Tex.	7-8 am; 9:30-11 am; noon-1 pm; 2:30-5 pm; 7-8 pm; 9-11 pm.	(4-5 am; 6:30-8 am; 9-10 am; 11:30 am-2 pm; 4-5 pm; 6-8 pm)
KRE	a	100	(.25)	Berkeley, Calif.		
KRKO	a	50	3	Everett, Wash.	10 am-3 pm; 7-10 pm.	(7 am-noon; 4-7 pm)
KRMC	a	100	(.25)	Jamestown, N. Dak.		
KSLM	a	100	MXZ	Salem, Ore.	10:30 am-2:30 am.	(7:30 am-11:30 pm)
KTEM	a	250	DM	Temple, Texas		
KTOK	a	100	MN	Oklahoma City, Okla.	7 am-1 am.	(4 am-10 pm)
KTSW	z	100	DP	Emporia, Kans.		
KUJ	a	100	....	Walla Walla, Wash.	9:30 am-1 am.	(6:30 am-10 pm)
KVGB	z	100	....	Great Bend, Kans.		
KVRS	z	100	(.25)	Rock Springs, Wyo.		
KWYO	a	100	(.25)	Sheridan, Wyo.		
WABY	a	100	N(.25)	Albany, N. Y.	7 am-1 am.	(4 am-10 pm)
WAGF	a	250	D	Dothan, Ala.	9 am-LS.	(6 am-LS)
WATL	a	100	(.25)	Atlanta, Ga.	7 am-2 am.	(4 am-11 pm)
WBLK	a	100	....	Clarksburg, W. Va.	6 am-11:30 pm.	(3 am-8:30 pm)
WBNY	a	100	2(.25)	Buffalo, N. Y.	7-8:30 am; 10 am-2 am.	(4-5:30 am; 7 am-11 pm)
WBTM	a	100	(.25)	Danville, Va.		
WCBM	a	100	(.25)	Baltimore, Md.		
WCOS	z	100	P	Columbia, S. C.		
WDAS	a	100	(.25)	Philadelphia, Pa.	7:30 am-midnight.	(4:30 am-9 pm)
WDWS	a	100	(.25)	Champaign, Ill.	7 am-midnight.	(4 am-9 pm)
WEOA	a	100	C(.25)	Evansville, Ind.	8 am-1 am.	(5 am-10 pm)
WFOR	a	100	....	Hattiesburg, Miss.	8 am-9:30 pm.	(5 am-6:30 pm)
WGL	a	100	N(.25)	Fort Wayne, Ind.		
WGRC	a	250	D	New Albany, Ind.	7 am-LS.	(4 am-LS)
WHBQ	a	100	....	Memphis, Tenn.		
WHDF	a	100	(.25)	Calumet, Mich.		
WHLB	a	100	C(.25)	Virginia, Minn.		
WHLS	a	250	D	Port Huron, Mich.	6 am-7:30 pm.	(3 am-4:30 pm)
WIBM	a	100	(.25)B	Jackson, Mich.		

SUNDAY TIME

Eastern Standard

(Pacific Standard)

WLLH	a	100	Sy	Lawrence, Mass.		
WLLH	a	100	MSy(.25)	Lowell, Mass.	7:30 am-midnight.	(4:30 am-9 pm)
WMBR	a	100	C(.25)	Jacksonville, Fla.	7 am-midnight.	(4 am-9 pm)
WMFD	a	100	D	Wilmington, N. C.	7:30 am-7 pm.	(4:30 am-4 pm)
WMFO	a	100	D	Decatur, Ala.	7 am-LS.	(4 am-LS)
WMIN	a	100	(.25)	St. Paul, Minn.	7 am-3 am.	(4 am-midnight)
WOC	a	100	C(.25)	Davenport, Iowa		
WPAY	a	100	....	Portsmouth, Ohio	7 am-8 pm.	(4 am-5 pm)
WPRA	a	100	(.25)	Mayaguez, P. R.		
WRBK	a	100	(.25)	Williamsport, Pa.	7:30 am-9 pm.	(4:30 am-6 pm)
WRDO	a	100	MN	Augusta, Maine	8 am-midnight.	(5 am -9 pm)
WRJN	a	*00	(.25)	Racine, Wis.		
W SAU	a	100	(.25)	Wausau, Wis.	7:30 am-1 am.	(4:30 am-10 pm)
WSVS	a	50	2D	Buffalo, N. Y.	8:30 am-10 pm.	(5:30 am-7 pm)
XECZ	z	100	....	San Luis Potosi, S.L.P.		
XEI	a	125	....	Morelia, Mich.		
XELZ	z	100	....	Mexico City, D. F.		

1380 kcs. (217.3 m.)

CMCW	b	150	....	Havana, Cuba		
KOH	a	500	....	Reno, Nev.		
KQV	c	500	C(1)	Pittsburgh, Pa.	7 am-12:30 am.	(4 am-9:30 pm)
WALA	a	500	C(1)	Mobile, Ala.	8 am-midnight	(5 am-9 pm)
WKBH	a	1000	C	La Crosse, Wis.	7 am-midnight.	(4 am-9 pm)
WNBC	a	250	R(1)	New Britain, Conn.	7 am-midnight.	(4 am-9 pm)
WSMK	a	250	C(.5)	Dayton, Ohio	6 am-7:30 pm; 10 pm-1 am.	(3 am-4:30 pm; 7-10 pm)

1390 kcs. (215.7 m.)

CJGX	a	100	F	Yorkton, Sask.	8:30 am-1:45 am.	(5:30 am-10:45 pm)
CMJC	z	150	....	Camaguey, Cuba		
KABR	a	500	(1)	Aberdeen, S. Dak.	8 am-11 pm.	(5 am-8 pm)
KLRA	a	1000	C(5)	Little Rock, Ark.		
KOY	g	1000	C	Phoenix, Ariz.	8:30 am-2 am.	(5:30 am-11 pm)
KRLC	a	250	....	Lewiston, Idaho	9:30 am-12:30 am.	(6:30 am-9:30 pm)
WHK	a	1000	BM(.25)	Cleveland, Ohio	7 am-2 am.	(4 am-11 pm)
WQDM	f	1000	D	St. Albans, Vt.	6 am-LS.	(3 am-LS)

1400 kcs. (214.2 m.)

CMGC	a	150	....	Matanzas, Cuba		
CMKR	z	100	....	Santiago, Cuba		
KHBC	a	250	CM	Hilo, Hawaii	Noon-4 am.	(9 am-1 am)
KLO	a	500	BX	Ogden, Utah	9:30 aam-1:30 am.	(6:30 am-10:30 pm)
KTUL	a	1000	C(5)	Tulsa, Okla.	7:30 am-1:30 am.	(4:30 am-10:30 pm)
TGX	d	....	....	Guatemala City, Guat.		
WARD	a	500	2	Brooklyn, N. Y.		
WBBC	a	500	2	Brooklyn, N. Y.	7-11 am; 7:30-9 pm.	4-8 am; 4:30-6 pm)
WEGL	z	500	2(1)	Brooklyn, N. Y.		
WHDL	a	250	....	Olean, N. Y.		
WIRE	a	1000	MR(5)	Indianapolis, Ind.		
WLTH	a	500	2	New York, N. Y.	11 am-1:30 pm; 6-7:30 pm.	(8-10:30 am; 3-4:30 pm)
WVFW	a	500	2	Brooklyn, N. Y.	1:30-3:45 pm; 9-10:30 pm.	(10:30 am-12:45 pm; 6-7:30 pm)

1410 kcs. (212.6 m.)

CKFC	a	50	5	Vancouver, B. C.		
CKMQ	a	100	5	Vancouver, B. C.		
CMCQ	a	5000	....	Havana, Cuba		
KFJM	a	500	(1)	Grand Forks, N. Dak	8 am-10 pm.	(5 am-7 pm)
KGNC	a	1000	MN(2.5)	Amarillo, Texas		
KMED	b	250	N	Medford, Ore.		
WAAB	a	500	M(1)	Boston, Mass.		
WBCM	a	500	(1)	Bay City, Mich.		
WHIS	a	500	(1)	Bluefield, W. Va.	5 am-10 pm.	(3 am-7 pm)
WROK	a	500	(1)	Rockford, Ill.	7:30 am-11 pm.	(4:30 am-8 pm)
WSFA	a	500	C(1)	Montgomery, Ala.		

SATURDAY TIME

Eastern Standard (Pacific Standard)

1420 kcs. (211.1 m.)

CHLN	z	100	....	Three Rivers, P. Q.		
CKCA	a	100	....	Kenora, Ont.		
CKGB	a	100	F	North Bay, Ont.	7:45 am-midnight.	(4:45 am-9 pm)
CMJP	a	200	....	Moron, Cuba		
KABC	a	100	M(.25)	San Antonio, Tex.	7:30 am-12:30 am.	(4:30 am-9:30 pm)
KATE	a	100	(.25)	Albert Lea, Minn.		
KBPS	a	100	4	Portland, Ore.	2-3:30 pm; 6-8 pm.	(11 am - 12:30 pm; 3-5 pm)
KCMC	a	100	M(.25)	Texarkana, Tex.	8 am-midnight.	(5 am-9 pm)
KDNT	a	100	D	Denton, Texas	8 am-LS.	(5 am-LS)
KEUB	a	100	....	Price, Utah	10 am-10 pm.	(7 am-7 pm)
KFAM	a	100	(.25)	St. Cloud, Minn.	8 am-10 pm.	(5 am-7 pm)
KFIZ	a	100	....	Fond du Lac, Wis.		
KGFF	a	100	M(.25)	Shawnee, Okla.	8 am-1 am.	(5 am-10 pm)
KGIW	a	100	1	Alamosa, Colo.	9:30 am-9:30 pm.	(6:30 am-6:30 pm)
KGLU	z	100	(.25)	Safford, Ariz.		
KIDW	a	100	1	Lamar, Colo.		
KLBM	z	100	(.25)	La Grande, Ore.		
KNET	a	100	D	Palestine, Texas		
KORE	a	100	M	Eugene, Ore.		
KRBC	a	100	M(.25)	Abilene, Tex.		
KRBM	z	100	P(.25)	Bozeman, Mont.		
KRIC	z	100	M(.25)	Beaumont, Texas		
KRLH	a	100	D	Midland, Texas		
KSAN	a	100	....	San Francisco, Calif.	24 hrs. daily.	(24 hrs. daily)
KTRI	f	100	(.25)	Sioux City, Iowa	7 am-midnight.	(4 am-9 pm)
KUMA	a	100	D	Yuma, Ariz.		
KVAK	z	100	DP	Atchison, Kans.		
KVAL	z	100	(.25)P	Wallace, Idaho		
KWBG	a	100	....	Hutchinson, Kans.	8 am-10 pm.	(5 am-7 pm)
KXL	c	100	(.25)	Portland, Ore.	9 am-3 am.	(6 am-midnight)
WACO	c	100	CM(.25)	Waco, Texas	9 am-1 am.	(5 am-10 pm)
WAGM	a	100	....	Presque Isle, Me.		
WAPO	a	100	(.25)N	Chattanooga, Tenn.	7 am-midnight.	(4 am-9 pm)
WAZL	a	100	2	Hazleton, Pa.		
WBNO	a	100	(.25)	New Orleans, La.		
WCBS	a	100	(.25)	Springfield, Ill.	7 am-1 am.	(4 am-10 pm)
WCHV	a	100	(.25)	Charlottesville, Va.	7 am-10:05 pm.	(4 am-7:05 pm)
WEED	a	100	(.25)	Rocky Mount, N. C.	7 am-8 pm.	(4 am-5 pm)
WELL	a	100	B	Battle Creek, Mich.	7 am-midnight.	(4 am-9 pm)
WFMJ	z	100	DP	Youngstown, Ohio		
WGNC	7	100	(.25)P	Gastonia, N. C.		
WGPC	a	100	....	Albany, Ga.		
WHFC	a	100	(.25)	Cicero, Ill.	8 am-2 am.	(5 am-11 pm)
WHMA	z	100	D	Anniston, Ala.		
WILM	a	100	2	Wilmington, Del.		
WJMS	a	100	....	Ironwood, Mich.	8 am-8:30 pm.	(5 am-5:30 pm)
WJAP	a	100	(.25)	Lexington, Ky.	8 am-11 pm.	(5 am-8 pm)
WLEU	a	100	B(.25)	Eric, Pa.		
WMAS	a	100	C(.25)	Springfield, Mass.		
WMBC	a	100	(.25)	Detroit, Mich.	7 am-midnight.	(4 am-9 pm)
WMBH	a	100	(.25)	Joplin, Mo.	7 am-midnight.	(4 am-9 pm)
WMBS	a	100	(.25)	Uniontown, Pa.	7 am-8 pm.	(4 am-5 pm)
WMPJ	a	100	....	Daytona Beach, Fla.	8 am-11 pm.	(5 am-8 pm)
WMSD	a	100	....	Muscle Shoals City, Ala.		
WPAD	a	100	(.25)	Paducah, Ky.		
WPAR	a	100	C	Parkersburg, W. Va.		
WPRP	z	100	(.25)	Ponce, P. R.		
WSLI	a	100	(.25)	Jackson, Miss.	8 am-11 pm.	(5 am-8 pm)

1430 kcs. (209.7 m.)

CMKZ	z	125	....	Palm Soriano, Cuba		
KECA	a	1000	B(5)	Los Angeles, Calif.		
KGNF	a	1000	D	North Platte, Nebr.	8 am-LS.	(5 am-LS)
KINY	a	250	....	Juneau, Alaska		
KSO	a	500	BM(2.5)	Des Moines, Iowa	7:30 am-2 am.	(4:30 am-11 pm)
WBNS	a	1000	C(5)	Columbus Ohio		

SATURDAY TIME

Eastern Standard (Pacific Standard)

WHEC	a	500	C(1)	Rochester, N. Y.		
WHP	a	500	C(1)	Harrisburg, Pa.	7:30 am-1 am.	(4:30 am-10 pm)
WMPS	a	500	B(1)	Memphis, Tenn.	8 am-12:30 am.	(5 am-9:30 pm)
WOKO	a	500	C(1)	Albany, N. Y.	7 am-1 am.	(4 am-10 pm)

1440 kcs. (208.2 m.)

CMBY	z	200	....	Havana, Cuba		
HP50	z	....	....	Colon, Panama		
KDFN	a	500	....	Casper, Wyo.		
KELA	a	500	M	Centralia, Wash.	9:45 am-3 am.	(6:45 am-midnight)
KXYZ	a	1000	BM	Houston, Texas		
WBIG	a	1000	C	Greensboro, N. C.	6:30 am-midnight.	(3:30 am-9 pm)
WCBA	a	500	a	Allentown, Pa.		
WMBD	a	1000	C(5)	Peoria, Ill.	7 am-2 am.	(4 am-11 pm)
WSAN	a	500	Na	Allentown, Pa.		
XEFI	a	250	....	Chihuahua, Chih.		

1450 kcs. (206.8 m.)

CFCT	a	500	....	Victoria, B. C.	11 am-4:30 pm; 7:30 pm-5 am.	(8 am-1:30 pm; 4:30 pm-2 am)
CHGS	f	50	F	Summerside, P. E. I.	6:30-8:30 am; 9:30 am-1:30 pm; 3-8 pm.	(3:30-5:30 am; 6:30 -10:30 am; noon-5 pm)
CMHM	z	150	....	Cienfuegos, Cuba		
KGCX	a	1000	....	Wolf Point, Mont.		
KIEM	a	500	M(1)	Eureka, Calif.		
KTBS	a	1000	N	Shreveport, La.		
TGO	d	200	....	Quezaltenango, Guat.		
WAGA	a	500	B(1)	Atlanta, Ga.	7:15 am-2 am.	(4:15 am-11 pm)
WGAR	a	1000	C(5)	Cleveland, Ohio		
WHOM	a	250	....	Jersey City, N. J.		
WSAR	f	1000	M	Fall River, Mass.	7:30 am-midnight.	(4:30 am-9 pm)
XEF	a	100	....	Juarez, Chih.		

1460 kcs. (205.4 m.)

CMKF	z	250	....	Holguin, Cuba		
KSTP	a	10000	R(25)	St. Paul, Minn.	7 am-2 am.	(4 am-11 pm)
WJSV	a	10000	C	Washington, D. C.	7 am-1 am.	(4 am-10 pm)

1470 kcs. (204 m.)

CMCX	z	150	....	Havana, Cuba		
KGA	a	5000	BM	Spokane, Wash.		
WLAC	a	5000	C	Nashville, Tenn.		

1480 kcs. (202.6 m.)

CMHX	z	120	....	Cienfuegos, Cuba		
KOMA	a	5000	C	Oklahoma City, Okla.	7:30 am-1 am.	(4:30 am-10 pm)
WHIP	z	5000	D	Hammond, Ind.	6 am-LS.	(3 am-LS)
WKBW	a	5000	C	Buffalo, N. Y.	7 am-1 am.	(4 am-10 pm)

1490 kcs. (201.2 m.)

CMKQ	z	200	....	Santiago, Cuba		
KFBK	a	10000	N	Sacramento, Calif.	10 am-3 am.	(7 am-midnight)
WCKY	a	10000	NX	Covington, Ky.	6:30 am-1 am.	(3:30 am-10 pm)
XEDR	z	100	....	Guaymas, Son.		

1500 kcs. (199.9 m.)

CJIC	a	100	F	Sault Ste. Marie, Ont.	10 am-midnight.	(7 am-9 pm)
CMOX	a	200	....	Havana, Cuba		
KAWM	a	100	....	Gallup, N. Mex.	10 am-10 pm.	(7 am-7 pm)

SATURDAY TIME

SATURDAY TIME			Eastern Standard (Pacific Standard)	
KBIX	a	100	M Muskogee, Okla.	8 am-1 am. (5 am-10 pm)
KBKR	z	100	(.25)P Baker, Ore.	
KBST	a	100	M Big Spring, Tex.	
KDAL	a	100	C Duluth, Minn.	7:30 am-midnight. (4:30 am-9 pm)
KDB	a	100	M(.25) Santa Barbara, Calif.	10 am-3 am. (7 am-midnight)
KFDA	z	100	P Amarillo, Texas	
KGFI	a	100	(.25) Brownsville, Tex.	8 am-midnight. (5 am-9 pm)
KGKB	a	100	M(.25) Tyler, Texas	8 am-1 am. (5 am-10 pm)
KGKY	a	100	(.25) Scottsbluff, Nebr.	
KNEL	a	250	D Brady, Texas	
KNOW	a	100	CM Austin, Texas	
KOTN	a	100	D Pine Bluff, Ark.	
KOVC	a	100	(.25) Valley City, N. Dak.	
KPAB	a	100	(.25) Laredo, Tex.	7:30 am-11 am. (4:30-8 am)
KPLC	a	100	(.25) Lake Charles, La.	
KPLT	a	250	DM Paris, Texas	
KPQ	a	100	M(.25) Wenatchee, Wash.	
KRNR	a	100	M(.25) Roseburg, Ore.	
KROD	z	100	AP El Paso, Texas	
KSAL	a	100	(.25) Salina, Kans.	
KSAM	z	100	D Huntsville, Texas	
KTOH	z	100	(.25)P Lihue, Hawaii	
KUTA	a	100	N Salt Lake City, Utah	9 am-2 am. (6 am-11 pm)
KVNU	z	100	P Logan, Utah	
KVOE	a	100	M Santa Ana, Calif.	10 am-3 am. (7 am-midnight)
KVWC	z	100	P Vernon, Texas	
KWEW	z	100	D Hobbs, N. Mex.	
KXO	a	100	.... El Centro, Calif.	
KYCA	z	100	A(.25)P Prescott, Ariz.	
KYSM	z	100	(.25) Mankato, Minn.	7 am-3 am. (4 am-midnight)
WCNW	a	100	1(.25) Brooklyn, N. Y.	3-9 pm. (noon-6 pm)
WDAN	a	250	D Danville, Ill.	7:30 am-LS. (4:30 am-LS)
WDNC	a	100	C Durham, N. C.	7 am-11 pm. (4 am-8 pm)
WGAL	a	100	(.25) Lancaster, Pa.	
WGIL	z	250	DP Galesburg, Ill.	
WGKV	z	100	P Charleston, W. Pa.	
WHBB	a	100	.... Selma, Ala.	8 am-10 pm. (5 am-7 pm)
WIBK	a	100	(.25) Detroit, Mich.	
WKAT	a	100	(.25) Miami Beach, Fla.	
WKBB	a	100	YC(.25) E. Dubuque, Ill.	7:30 am-noon. (4:30 am-9 am)
WKBV	a	100	(.25) Richmond, Ind.	9:30 am-9:30 pm. (6:30 am-6:30 pm)
WKBZ	a	100	(.25) Muskegon, Mich.	7 am-10 pm. (4 am-7 pm)
WKEU	a	100	D Griffin, Ga.	
WMEX	a	100	(.25) Boston, Mass.	
WNBF	a	100	C(.25) Binghamton, N. Y.	
WNLC	a	100	DM New London, Conn.	7:30 am-LS. (4:30 am-LS)
WOMI	a	100	(.25) Owensboro, Ky.	8 am-midnight. (5 am-9 pm)
WOPI	a	100	.... Bristol, Tenn.	6 am-11 pm. (3 am-8 pm)
WRDW	a	100	C(.25) Augusta, Ga.	
WRGA	a	100	(.25) Rome, Ga.	7:30 am-11 pm. (4:30 am-8 pm)
WRTD	a	100	B Richmond, Va.	7 am-1 am. (4 am-10 pm)
WSTP	z	100	(.25) Salisbury, N. C.	
WSYB	a	100	.... Rutland, Vt.	8:30-9 pm. (5:30-6 pm)
WTMV	a	100	(.25) E. St. Louis, Ill.	
WWRL	a	100	1(.25) Woodside, N. Y.	
WWSW	a	100	(.25) Pittsburgh, Pa.	

1510 kcs. (198.6 m.)

CFRC	a	100	F Kingston, Ont	8 am-11:15 pm. (5 am-8:15 pm)
CKCR	a	100 Waterloo, Ont.	

1520 kcs. (197.3 m.)

TGW	d	1000 Guatemala City, Guat.	
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1530 kcs. (196 m.)

CMC	z	150 Havana, Cuba	
KITE	a	1000 Kansas City, Mo.	6 am-3 am. (3 am-midnight)
WBRY	a	1000	M Waterbury, Conn.	8 am-midnight. (5 am-9 pm)

SATURDAY TIME

Eastern Standard (Pacific Standard)

1550 kcs. (193.4 m.)

KPMC a 1000 M Bakersfield, Calif.

9:45 am-3 am. (6:45 am-midnight)
7:30-11 am; 4 pm- (4:35-8 am; 1-9 pm)
midnight.

WQXR a 1000 New York, N. Y.

1560 kcs. (192.2 m.)

CMBF z 5000 Havana, Cuba

1580 kcs. (189.8 m.)

CM9RT z 200 Guines, Cuba

1600 kcs. (187.4 m.)

CMBH z 5000 Havana, Cuba

DX

(Continued from page 16)

The international tests proved beyond a shadow of doubt that medium wave signals could cross the Atlantic, although it is granted that conditions were ideal. Then followed isolated reports of TA reception under normal conditions. By the beginning of this decade, scattered reports of European reception were coming in to RADEX, but it was not until the cricket matches of 1932-33 that TA reception was accepted by the lay DXer as an actuality.

Events since then have proved that these matches brought the dawn of a new era in DXing—and so well may they be classed as the greatest sporting event in DX history.

THE IMPROVED RADEX

WILL HELP YOUR FRIENDS TOO!

WILL YOU PLEASE HELP BY

TELLING THEM ABOUT IT?—*The Editor*

RADEX CLUB

(Continued from page 29)

bers who receive all six plaques in any one class will be listed in our Verified All Continents Roster. Verifications must bear the name of the person submitting them. If they are cards, they must bear the original postage stamp, or if letters, the envelope with stamp affixed must also be submitted. We realize, however that many of our members are stamp collectors, and if postage stamps have been removed for that purpose, the cards or envelopes will be acceptable if the postmark is still legible.

AMONG THE CLUBS

(Continued from page 45)

bulletins are bigger and better than ever, and that it is adding new members every month.

The re-organized National Radio Club is getting out newsworthy bulletins weekly, its CPC has been getting its share of special DX programs for the club, and the membership appears to be on the increase.

Information about other clubs is lacking, although it is understood that many of them are active in their own localities.

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

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

ALABAMA			Hot Springs			San Diego			New Haven		
Anniston			KTHS 1060	10000 N		KFSD 600	1000 B		WBEL 900	500	
WHMA 1420	100		Jonesboro			KGB 1330	1000M		New London		
Birmingham			KBMT 1200	100		San Francisco			WNLC 1500	100M	
WAPI 1140	5000 C		Little Rock			KFRC 610	1000M		Waterbury		
WBRC 930	1000 R		KARK 890	500 N		KGO 790	7500 B		WATR 1190	100	
WSGN 1310	100 B		KGHI 1200	100		KJBS 1070	500		WBRY 1530	1000M	
Decatur			KLRA 1390	1000 C		KPO 680	50000 R		DELAWARE		
WMFO 1370	100		Pine Bluff			KSAN 1420	100		Wilmington		
Dothan			KOTN 1500	100		KSFO 560	1000 C		WDEL 1120	250 R	
WAGF 1370	250		Siloam Springs			KYA 1230	1000		WILM 1420	100	
Gadsden			KUOA 1260	5000		San Jose			DISTRICT OF COLUMBIA		
WBLY 1210	100		CALIFORNIA			KQW 1010	1000M		Washington		
Huntsville			Bakersfield			San Luis Obispo			WJWS 1460	10000 C	
WBHP 1200	100		KERN 1370	100 N		KVEC 1200	100		WMAL 630	250 B	
Mobile			KPMC 1550	1000M		Santa Ana			WOL 1230	1000M	
WALA 1380	500 C		Berkeley			KVOE 1500	100M		WRC 950	1000 R	
Montgomery			KRE 1370	100		Santa Barbara			FLORIDA		
WCOV 1210	100		Beverly Hills			KDB 1500	100M		Daytona Beach		
WSFA 1410	500 C		KMPC 710	500		KTMS 1220	500 B		WMFJ 1420	100	
Selma			Chico			Santa Rosa			Gainesville		
WHBB 1500	100		KHSL 1260	250		KSRO 1310	100		WRUF 830	5000	
Muscle Shoals City			El Centro			Stockton			Jacksonville		
WMSD 1420	100		KXO 1500	100		KGDM 1100	1000M		WJAX 900	1000 N	
Tuscaloosa			Eureka			KWG 1200	100 N		WJHP 1290	250	
WJRD 1200	250		KIEM 1450	500M		Visalla			WMBR 1370	100 C	
ALASKA			KIEM 1450	500M		WTKC 1190	250M		Lakeland		
Anchorage			Fresno			Watsonville			WLAK 1310	100 N	
KFQD 780	250		KARM 1310	100 C		KHUB 1310	250		Miami		
Fairbanks			KMJ 580	1000 N		COLORADO			WIOD 610	1000 N	
KFAR 610	1000		Glendale			Alamosa			WMBF 610	1000	
Juneau			KIEV 850	250		KGIW 1420	100		WQAM 560	1000 C	
KINY 1430	250		Long Beach			Colorado Springs			Miami Beach		
Ketchikan			KFOX 1250	1000		KVOR 1270	1000 C		WKAT 1500	100	
KGBU 900	500		KGER 1360	1000		Denver			Orlando		
ARIZONA			Los Angeles			KFEL 920	500M		WDBO 580	1000 C	
Globe			KECA 1430	1000 B		KLZ 560	1000 C		Pensacola		
KWJB 1210	100		KEHE 780	1000		KOA 830	50000 R		WCOA 1340	500 C	
Jerome			KFAC 1300	1000		KPOF 980	1000		St. Augustine		
KCRJ 1310	100		KFI 640	50000 R		KVOD 920	500 B		WFOY 1210	100	
Lowell			KFSG 1120	500		Durango			St. Petersburg		
KSUN 1200	100		KFVD 1000	1000		KIUP 1370	100		WSUN 620	1000 N	
Phoenix			KFWB 950	1000		Grand Junction			Tallahassee		
KOY 1390	1000 C		KGJ 900	1000M		KFXJ 1200	100		Tampa		
KTAR 820	1000 N		KMT 570	1000		Greeley			WDAE 1220	1000 C	
Prescott			KMTR 570	1000		KFKA 880	500M		WFLA 620	1000 N	
KYCA 1500	100		KNX 1050	50000 C		La Junta			West Palm Beach		
Safford			KRKKD 1120	500		KOKO 1370	100		WJNO 1200	100 C	
KGLU 1420	100		Merced			Lamar			GEORGIA		
Tucson			KYOS 1040	250		KIDW 1420	100		Albany		
KGAR 1370	100 C		Modesto			Pueblo			WGPC 1420	100	
KVOA 1260	1000		KTRB 740	250		KGHF 1320	500 B		Athens		
Yuma			Monterey			Stirling			WGAU 1310	100	
KUMA 1420	100		KDON 1210	100M		KGEK 1200	100		Atlanta		
ARKANSAS			Oakland			CONNECTICUT			WAGA 1450	500 B	
Blytheville			KLS 1280	250		Bridgeport			WATL 1370	100	
KLON 1290	100		KLX 880	1000		WICC 600	500M		WGST 890	1000 C	
El Dorado			KROW 930	1000		Hartford			WJST 740	50000 R	
KELD 1370	100		Pasadena			WDR 1330	1000 C		Augusta		
Fort Smith			KPPC 1210	100		WTIC 1040	50000 R		WRDW 1500	100 C	
KFPW 1210	100		Redding			WTHT 1200	100M				
			KVCV 1200	100		New Britain					
			Sacramento			WNBC 1380	250 R				
			KFBK 1490	10000 N							
			KROY 1210	100 C							
			San Bernardino								
			KFXM 1210	100M							

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Columbus		
WRBL	1200	100
Griffin		
WKFU	1500	100
Macon		
WMAZ	1180	1000 C
Rome		
WRGA	1500	100
Savannah		
WSAV	1310	100
WTOC	1260	1000 C
Thomasville		
WPAX	1210	100
Waycross		
WAYX	1200	100

HAWAII

Hilo		
KHBC	1400	250 M
Honolulu		
KGMB	1320	1000 C
KGU	750	2500 N
Lihue		
KTOH	1500	100

IDAHO

Boise		
KIDO	1350	1000 N
Coeur d'Alene		
KGCI	1200	100
Idaho Falls		
KID	1320	500
Lewiston		
KRLC	1390	250
Nampa		
KFXD	1200	100
Pocatello		
KSEI	900	250 N
Twin Falls		
KTFI	1240	1000 N
Wallace		
KWAL	1420	100

ILLINOIS

Aurora		
WMRO	1250	250
Bloomington		
WBC	1200	100
Carthage		
WCAZ	1070	100
Champaign		
WDWS	1370	100
Chicago		
WAAF	920	1000
WBBM	770	50000 C
WCBF	1080	5000
WCFL	970	5000 N
WCRW	1210	100
WEDC	1210	100
WENR	870	50000 B
WGES	1360	500
WGN	720	50000 M
WJJD	1130	20000
WLS	870	50000 B
WMAQ	670	50000 R
WMBI	1080	5000
WSEC	1210	100

Cicero		
WHFC	1420	100
Danville		
WDAN	1500	250
Decatur		
WJBL	1200	100
East Dubuque		
WKBB	1500	100 C
East St. Louis		
WTMV	1500	100
Galesburg		
WGIL	1500	250
Harrisburg		
WEBQ	1210	100
Joliet		
WCLS	1310	100
Peoria		
WMBD	1440	1000 C
Quincy		
WTAD	900	1000
Rockford		
WROK	1410	500
Rock Island		
WHBF	1210	100
Springfield		
WCBS	1420	100
WTAX	1210	100
Tuscola		
WDZ	1020	250
Urbana		
WILL	580	1000

INDIANA

Anderson		
WHBU	1210	100
Elkhart		
WTRC	1310	100
Evansville		
WEOA	1370	100 C
WGBF	630	500 N
Fort Wayne		
WGL	1370	100 N
WOWO	1160	10000 B
Gary		
WIND	560	1000
Hammond		
WHIP	1480	5000
WWAE	1200	100
Indianapolis		
WFBM	1230	1000 C
WIBC	1050	1000
WIRE	1490	1000 R
Muncie		
WLBC	1310	100
New Albany		
WGRC	1370	250
Richmond		
WKBY	1500	100
South Bend		
WFAM	1200	100
WSBT	1360	500
Terre Haute		
WBOW	1310	100 N
West Lafayette		
WBAA	890	500

IOWA

Ames		
WOI	640	5000

Boone		
KFGQ	1370	100
Cedar Rapids		
WMT	600	1000 B
Davenport		
WOC	1370	100 C
Decorah		
KGCA	1270	100
KWLC	1270	100
Des Moines		
KRNT	1320	1000 C
KSO	1430	500 B
WHO	1000	50000 R
Dubuque		
KDTH	1340	500
Iowa City		
WSUI	880	500
Marshalltown		
KFJB	1200	100
Mason City		
KGLO	1210	100 C
Shenandoah		
KFNF	890	500
KMA	930	1000 B
Sioux City		
KSCJ	1330	1000 C
KTRI	1420	100

KANSAS

Abilene		
KFBI	1050	5000
Atchison		
KVAK	1420	100
Coffeyville		
KGGF	1010	1000 M
Dodge City		
KGNO	1340	250
Emporia		
KTSW	1370	100
Garden City		
KIUL	1210	100
Great Bend		
KVGB	1370	100
Hutchinson		
KWBG	1420	100
Kansas City		
KCKN	1310	100
Lawrence		
KFKU	1220	1000
WREN	1220	1000 B
Manhattan		
KSAC	580	500
Pittsburg		
KOAM	790	1000 N
Salina		
KSAL	1500	100
Topeka		
WIBW	580	1000 C
Wichita		
KANS	1210	100 B
KFH	1300	1000 C

KENTUCKY

Ashland		
WCMI	1310	100
Covington		
WCKY	1490	10000 N

Lexington		
WLAP	1420	100
Louisville		
WAVE	940	1000 N
WHAS	320	50000 C
Owensboro		
WOMI	1500	100
Paduoa		
WPAD	1420	100

LOUISIANA

Alexandria		
KALB	1210	100
Baton Rouge		
WJBO	1120	500 B
Lafayette		
KVOL	1310	100
Lake Charles		
KPLC	1500	100
Monroe		
KMLB	1200	100
New Orleans		
WBNO	1420	100
WDSU	1250	1000 B
WJWB	1200	100
WSMB	1320	1000 R
WWL	850	10000 C
Shreveport		
KRMD	1310	100
KTBS	1450	1000 N
KWKH	1100	10000 C

MAINE

Augusta		
WRDO	1370	100 M
Bangor		
WABI	1200	100
WLBZ	620	500 N
Lewiston		
WCOV	1210	100
Portland		
WCSE	940	1000 R
WGAN	640	500
Presque Isle		
WAGM	1420	100

MARYLAND

Baltimore		
WBAL	760	2500 B
WBAL	1060	10000 B
WCAO	600	500 C
WCBM	1370	100
WFBR	1270	500 R
College Park		
W3XJ	1060	100
Cumberland		
WTBO	800	250
Frederick		
WFMD	900	500
Hagerstown		
WJEJ	1210	100
Salisbury		
WSAL	1200	250

MASSACHUSETTS

Barnstable		
WOCB	1210	100

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Boston		
WAAB	1410	500M
WBZ	990	50000 B
WCOP	1120	500
WEEI	590	1000 C
WHDH	830	1000
WMEX	1500	100
WNAC	1230	1000 R
WORL	920	500
Fall River		
WSAR	1450	1000M
Greenfield		
WHAI	1210	250
Lawrence		
WLAW	680	1000
WLLH	1370	100M
Lowell		
WLLH	1370	100
New Bedford		
WNJL	1310	100M
Pittsfield		
WBRK	1310	100 C
Springfield		
WBZA	990	1000 B
WMAS	1420	100 C
WSPR	1140	500M
Worcester		
WORC	1280	500 C
WTAG	580	1000 R

MICHIGAN

Battle Creek		
WELL	1420	100 B
Bay City		
WBCM	1410	500
Calumet		
WHDF	1370	100
Detroit		
WJBK	1500	100
WJR	750	50000 C
WMBZ	1420	100
WWJ	920	1000 R
WXYZ	1240	1000 B
East Lansing		
WKAR	850	1000
Flint		
WDFD	1310	100 B
Grand Rapids		
WASH	1270	500 N
WOOD	1270	500 N
Ironwood		
WJMS	1420	100
Jackson		
WIBM	1370	100 B
Kalamazoo		
WKZO	590	1000 B
Lansing		
WJIM	1210	100 B
Lapeer		
WMPC	1200	100
Marquette		
WBEO	1310	100
Muskegon		
WKBZ	1500	100
Port Huron		
WELS	1370	250
Royal Oak		
WEXL	1310	50

MINNESOTA		
Albert Lea		
KATE	1420	100
Duluth		
KDAL	1500	100 C
WECB	1290	1000 N
Fergus Falls		
KGDE	1200	100
Hibbing		
WMFG	1210	100
Mankato		
KYSM	1500	100
Minneapolis		
WCCO	810	50000 C
WDGY	1180	1000 C
WLB	760	1000
WTCN	1250	1000 B
Moorhead		
KVOX	1310	100
Northfield		
WCAL	760	1000
Rochester		
KROC	1310	100
St. Cloud		
KPFM	1420	100
St. Paul		
KSTP	1460	10000 R
WMIN	1370	100
Virginia		
WHLB	1370	100 C
Winona		
KWNO	1200	250

MISSISSIPPI

Grenada		
WGRM	1210	100
Gulfport		
WGCM	1210	100
Hattiesburg		
WFOR	1370	100
Jackson		
WJDX	1270	1000 R
WSLI	1420	100
Laurel		
WAML	1310	100
Meridian		
WCOC	880	1000 C
Vicksburg		
WQCB	1360	1000

MISSOURI

Cape Girardeau		
KFVS	1210	100
Columbia		
KFRU	630	500
Jefferson City		
KWOS	1310	100
Joplin		
WMBH	1420	100
Kansas City		
KCMO	1370	100
KITE	1530	1000
KMBC	950	1000 C
WDAF	610	1000 R
WHB	860	1000M
Poplar Bluff		
KWOC	1310	100

St. Joseph		
KFEQ	680	2500
St. Louis		
KFUO	550	500
KMOX	1090	50000 C
KSD	550	1000 R
KWK	1350	1000 B
KXOK	1250	100
WEW	760	1000
WIL	1200	100
Springfield		
KGBX	1230	500 N
KWTO	560	5000

MONTANA

Billings		
KGHL	780	1000 N
Bozeman		
KREM	1420	100
Butte		
KGR	1340	1000 N
Great Falls		
KFBB	1280	1000 C
Helena		
KPPA	1210	100 N
Kalispell		
KGEZ	1310	100
Lewistown		
KDNC	1200	100
Missoula		
KGVO	1260	1000 C
Wolf Point		
KGCC	1450	1000

NEBRASKA

Clay Center		
KMMJ	740	1000
Kearney		
KGFV	1310	100
Lincoln		
KFAB	770	10000 C
KFOR	1210	100 C
Norfolk		
WJAG	1060	1000
North Platte		
KGNT	1430	1000
Omaha		
KOIL	1260	1000 B
WAAW	660	500
WOW	590	1000 R
Scottsbluff		
KGKY	1500	100

NEVADA

Reno		
KOH	1330	500 C
NEW HAMPSHIRE		
Laconia		
WLNH	1310	100M
Manchester		
WFCA	1340	500 N
Portsmouth		
WHEB	740	250

NEW JERSEY		
Asbury Park		
WCAP	1280	500
Atlantic City		
WPG	1100	5000 C
Bridgeton		
WSNJ	1210	100
Camden		
WCAM	1280	500
Jersey City		
WAAI	940	500
WHOM	1450	250
Newark		
WHBI	1250	1000
Red Bank		
WBRB	1210	100
Trenton		
WTNJ	1280	500
Whippany		
W3XDD	...	50000
Zarephath		
WAWZ	1350	500

NEW MEXICO

Albuquerque		
KGGM	1230	1000
KOB	1180	10000 N
Carlsbad		
KLAK	1210	100
Clovis		
KICA	1370	100
Gallup		
KAWM	1500	100
Hobbs		
KWEW	1500	100
Roswell		
KGFL	1370	100
Santa Fe		
KRQA	1310	100

NEW YORK

Albany		
WABY	1370	100 N
WOKO	1430	500 C
Auburn		
WMOB	1310	100
Binghamton		
WNBF	1500	100 C
Brooklyn		
WARD	1400	500
WBBC	1400	500
WBBR	1300	1000
WCNW	1500	100
WVPW	1400	500
Buffalo		
WBEN	900	1000 B
WBNY	1370	100
WBBR	1310	100 B
WGR	550	1000 C
WKBW	1480	5000 C
WSVS	1370	50
Canton		
WCAD	1220	500
Elmira		
WENY	1200	250
WESG	850	1000 C

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Freeport		
WGBB	1210	100
Jamestown		
WJTN	1210	100 B
Newburgh		
WGNY	1210	100
New York		
WABC	860	50000 C
WBIL	1100	5000
WBNX	1350	1000
WBOQ	860	50000
WEAF	660	50000 R
WEVD	1300	1000
WHN	1010	1000
WINS	1180	1000
WJZ	760	50000 B
WLTH	1400	500
WMCA	570	1000
WNEW	1250	1000
WNYC	810	1000
WOV	1130	1000
WQXR	1550	1000
Olean		
WEDL	1400	250
Pattsburg		
WMFF	1310	100 B
Rochester		
WHAM	1150	50000 B
WHCC	1430	500 C
WSAY	1210	100
Saranac Lake		
WNBZ	1290	100
Schenectady		
WGY	790	50000 R
Syracuse		
WFBL	1360	1000 C
WSYR	570	1000 B
WSYU	570	1000
Troy		
WHAZ	1300	1000
WTRY	950	1000
Utica		
WIBX	1200	100 C
White Plains		
WFAS	1210	100
Woodside		
WWRL	1500	100

NORTH CAROLINA		
Asheville		
WWNC	570	1000 N
Charlotte		
WBT	1080	50000 C
WSOC	1210	100 N
Durham		
WDNC	1500	100 C
Fayetteville		
WFNC	1340	250
Gastonia		
WGNC	1420	100
Greensboro		
WBIG	1440	1000 C
High Point		
WMFR	1200	100
Kinston		
WFCT	1200	100
Raleigh		
WPTF	680	5000 N
WRAL	1210	100

Rocky Mount		
WEED	1420	100
Salisbury		
WSTP	1500	100
Wilmington		
WMFD	1370	100
Wilson		
WGTM	1310	100
Winston-Salem		
WAIR	1250	250
WSJS	1310	100 C

NORTH DAKOTA		
Bismarck		
KFYR	550	1000 N
Devils Lake		
KDLR	1210	100
Fargo		
WDAY	940	1000 N
Grand Forks		
KFJM	1410	500
Jamestown		
KRMC	1370	100
Mandan		
KGCU	1240	250
Minot		
KLPM	1360	500
Valley City		
KOVC	1500	100

OHIO		
Akron		
WADC	1320	1000 C
WJW	1210	100
Ashtabula		
WICA	940	250
Canton		
WHBC	1200	100
Cincinnati		
WCPO	1200	100
WKRC	550	1000 C
WLW	700	50000 N
WSAI	1330	1000 N
Cleveland		
WCLE	610	500M
WGAR	1450	1000 C
WHK	1390	1000 B
WTAM	1070	50000 R
Columbus		
WBNS	1430	1000 C
WCOL	1210	100 N
WHKC	640	500M
WOSU	570	70
Dayton		
WHIO	1260	1000 C
WSMK	1380	250 C
Lima		
WBLY	1210	100
Portsmouth		
WPAY	1370	100
Toledo		
WSPD	1340	1000 B
WTOL	1200	100
Youngstown		
WFMJ	1420	100
WKBN	570	500 C
Zanesville		
WALR	1210	100

OKLAHOMA		
Ada		
KADA	1200	100M
Ardmore		
KVSO	1210	100M
Elk City		
KASA	1210	100 M
Enid		
KCRC	1360	250M
Muskogee		
KBIX	1500	100M
Norman		
WNAD	1010	1000
Oklahoma City		
KOCY	1310	100
KOMA	1480	5000 C
KTOK	1370	100M
WKY	900	1000 N
Okmulgee		
KHBG	1210	100
Ponca City		
WBBZ	1200	100M
Shawnee		
KGFF	1420	100M
Tulsa		
KOME	1310	250
KTUL	1400	1000 C
KVOO	1140	25000 N

OREGON		
Astoria		
KAST	1370	100
Baker		
KBKR	1500	100
Bend		
KBND	1310	100
Corvallis		
KOAC	550	1000
Eugene		
KORE	1420	100M
Klamath Falls		
KFJI	1210	100
La Grande		
KLBM	1420	100
Marshfield		
KOOS	1200	100
Medford		
KMED	1410	250 N
Portland		
KALE	1300	1000M
KBPS	1420	100
KEX	1180	5000 B
KGW	620	1000 R
KOIN	940	1000 C
KWJJ	1040	500
KXL	1420	100
Roseburg		
KRNR	1500	100M
Salem		
KSLM	1370	100M

PENNSYLVANIA		
Allentown		
WCBA	1440	500
WSAN	1440	500 N
Altoona		
WFBG	1310	100

Easton		
WEST	1200	100
Erie		
WLEU	1420	100 B
Glenside		
WIBG	970	100
Greensburg		
WHJB	620	250 C
Grove City		
WSAJ	1310	100
Harrisburg		
WHP	1430	500 C
WKBO	1200	100
Hazleton		
WAZL	1420	100
Johnstown		
WJAC	1310	100
Lancaster		
WGAL	1500	100 N
New Castle		
WKST	1250	250
Philadelphia		
KYW	1020	10000 R
WCAU	1170	50000 C
WDAS	1370	100
WFIL	560	1000 B
WHAT	1310	100
WIP	610	1000
WPEN	920	1000
WRAX	920	1000
WTEL	1310	100
Pittsburgh		
KDKA	980	50000 B
KQV	1380	500 C
WCAE	1220	1000 R
WJAS	1290	1000 C
WWSW	1500	100
Reading		
WEEU	830	1000 R
WRAW	1310	100
Seranton		
WGBI	880	500 C
WQAN	880	500
Sharon		
WPIC	780	250
Sunbury		
WKOK	1210	100
Uniontown		
WMBS	1420	100
Wilkes-Barre		
WBAX	1210	100M
WBRE	1310	100 N
Williamsport		
WRAK	1370	100
York		
WORK	1320	1000 N

PUERTO RICO		
Mayaguez		
WPRa	1370	100
Ponce		
WPRP	1420	100
San Juan		
WKAQ	1240	1000
WNEL	1290	1000

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

RHODE ISLAND			Amarillo			San Angelo			Richmond		
Providence			KPDA 1500 100	San Antonio		WBBL 1210 100					
WEAN 780 1000 M	KGNC 1410 1000 N		Austin	KGKL 1370 100	WMBG 1350 500 R						
WJAR 890 1000 R	KNOW 1500 100 C		KTBC 1120 1000	San Antonio			WENL 880 500				
WPRO 630 500 C	Beaumont		KBST 1500 100 M	KABC 1420 100 M	WRTD 1500 100 B						
SOUTH CAROLINA			KRIC 1410 100 M	KMAC 1370 100	WRVA 1110 5000 C						
Anderson			Big Spring	KONO 1370 100	Roanoke						
WAIM 1200 100 C	KBST 1500 100 M		Brady	KTSA 550 1000 C	WDEJ 930 1000 C						
Charleston			KNEL 1500 250	WAOI 1190 50000 N							
WCSC 1360 500 N	Brownsville		KGFI 1500 100	Sherman							
WTMA 1210 100	College Station		WTAW 1120 500	KRRV 1310 250 M							
Columbia			Corpus Christi	Temple							
WCOS 1370 100	KRGV 1500 100 M		KRIS 1330 500 N	KTEM 1370 250 M							
WIS 560 1000 N	KAND 1310 100 M		Corsicana	Texarkana							
Florence			KRLD 1040 10000 C	KCMC 1420 100 M							
WOLS 1200 100	Dallas		WFAA 800 50000 N	Tyler							
Greenville			WRR 1280 500 M	KGKB 1500 100 M							
WFBC 1300 1000 N	Denton		Denton	Vernon							
Spartanburg	KDNT 1420 100		Dublin	KVWC 1500 100							
WSPA 920 1000	Dublin		KEPL 1310 100	Waco							
SOUTH DAKOTA			El Paso	WACO 1420 100 C							
Aberdeen			KKROD 1500 100	Weslaco							
KABR 1390 500	KFDY 780 1000		KTSM 1310 100 N	KRGV 1260 1000 N							
Brookings			WDAH 1310 100	Wichita Falls							
KGFX 630 200	Rapid City		Fort Worth	KWFT 620 250							
WATC 1200 100	KOBH 1370 100		KRZJ 1370 100 M	UTAH							
Sioux Falls			KGKO 570 1000 B	Cedar City							
KELO 1200 100 N	WCAT 1200 100		KTAT 1240 1000 M	KSUB 1310 100							
KSOO 1110 5000 N	Vermillion		WBAP 800 50000 N	Logan							
KUSD 890 500	Yankton		Galveston	KVNU 1200 100							
WNAX 570 1000 C	KLUF 1370 100 M		Greenville	Ogden							
TENNESSEE			KGVL 1200 100	KLO 1400 500 B							
Bristol			Houston	Price							
WOPI 1500 100	KPRC 920 1000 R		KTRH 1290 1000 C	KEUB 1420 100							
Chattanooga			KXYZ 1440 1000 B	Salt Lake City							
WAPO 1420 100 N	Huntsville		KSAM 1500 100	KDYL 1290 1000 R							
WDDO 1280 1000 C	Kilgore		KOCA 1210 100	KSL 1130 50000 C							
Jackson			Laredo	KUTA 1500 100 N							
WTJS 1310 100	KPAB 1500 100		Longview	VERMONT							
WJHL 1200 100	KFPRO 1370 250 M		Lubbock	Burlington							
Knoxville			KPYO 1310 100 M	WCAX 1200 100							
WNOX 1010 1000 C	Lufkin		KRBA 1310 100	Rutland							
WROL 1310 100 N	Midland		KRLH 1420 100	WSYB 1500 100							
Memphis			Palestine	St. Albans							
WEBQ 1370 100	KNET 1420 100		Pampa	WQDM 1390 1000							
WMC 780 1000 R	KPDN 1310 100		Paris	Springfield							
WMPS 1430 500 B	KPLT 1500 250 M		Port Arthur	WNBX 1260 1000 C							
WREC 600 1000 C	Pecos		KIUN 1370 100	Waterbury							
Nashville			Port Arthur	WDEV 550 500							
WLAC 1470 5000 C	KPAC 1260 500		VIRGINIA								
WSIX 1210 100				Charlottesville							
WSM 650 50000 N				WCHV 1420 100							
TEXAS						Danville					
Ablene						WBEM 1370 100					
KRBC 1420 100 M							Harrisonburg				
						WSVA 550 500					
						Lynchburg					
						WLVA 1200 100					
						Newport News					
						WGH 1310 100					
						Norfolk					
						WTAR 780 1000 N					
						Petersburg					
						WPIV 1210 100					
						WEST VIRGINIA					
						Bekley					
						WJLS 1210 100					
						Bluefield					
						WHIS 1410 500					
						Charleston					
						WCBS 580 500 C					
						WGKV 1500 100					
						Clarksburg					
						WBLK 1370 100					
						Fairmont					
						WMMN 890 500 C					
						Huntington					
						WSAZ 1190 1000					
						Parkersburg					
						WPAR 1420 100 C					
						Wheeling					
						WWVA 1160 5000 C					

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

WISCONSIN		
Eau Claire		
WEAU	1050	1000
Fond du Lac		
KPIZ	1420	100
Green Bay		
WBXY	1200	100
WTAQ	1330	1000 C
Janesville		
WCLD	1200	100
LaCrosse		
WKBH	1380	1000 C
Madison		
WHA	940	5000
WIBA	1280	1000 N
Manitowoc		
WOMT	1210	100
Milwaukee		
WEMP	1310	100
WISN	1120	250 C
WTMJ	620	1000 N
Poyntette		
WBU	1210	100
Racine		
WRJN	1370	100
Rice Lake		
WJMC	1210	250
Sheboygan		
WHBL	1300	250
Stevens Point		
WLBL	900	5000
Superior		
WDSM	1200	100
Wausau		
WSAU	1370	100

WYOMING		
Casper		
KDFN	1440	500
Rock Springs		
KVRS	1370	100
Sheridan		
KWYO	1370	100

BAHAMAS		
Nassau		
ZNS	540	400

CANADA		
ALBERTA		
Calgary		
CFAC	930	1000 F
CFCN	1030	10000
CJCI	690	100 F
Edmonton		
CFRN	960	100 F
CJCA	730	1000 F
CKUA	580	500
Grande Prairie		
CFGP	1200	100
Lethbridge		
CJOC	950	100 F

BRIT. COLUMBIA		
Chilliwack		
CHWK	780	100 F
Kamloops		
CFJC	880	1000 F
Kelowna		
CKOV	630	100 F
Prince Rupert		
CFPR	580	50
Trail		
CJAT	910	1000 F
Vancouver		
CBR	1100	5000 F
CJOR	600	500
CKCD	1010	100
CKFC	1410	50
CKMO	1410	100
CKWX	1010	100
Victoria		
CFCT	1450	500

MANITOBA		
Brandon		
CBX	1120	1000 F
Flin Flon		
CFAR	1370	100
Winnipeg		
CJRC	630	1000 F
CKY	910	15000 F

NEW BRUNSWICK		
Fredericton		
CFNB	550	500 F
Moncton		
CKCW	1370	100 F
Sackville		
CBA	1050	50000
St. John		
CHSJ	1120	100 F

N. W. TERRITORY		
Aklavik		
CJCU	1210	50

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

ONTARIO		
Brantford		
CKPC	930	100 F
Chatham		
CFCO	630	100 F
Cobalt		
CKMC	1210	50
Fort William		
CKPR	580	1000 F

Hamilton		
CHML	1010	100 F
CKOC	1120	500 F
Kenora		
CKCA	1420	100
Kingston		
CFRC	1510	100 F
London		
CFPL	730	100 F
North Bay		
CFCH	930	100 F
CJKL	1310	100 F
CKGB	1420	100 F
Ottawa		
CBO	880	1000 F
CKCO	1010	100 F
Owen Sound		
CFOS	1370	100
Prescott		
CFPC	930	100
St. Catharines		
CKTB	1200	100 F
Sault Ste. Marie		
CJIC	1500	100 F
Stratford		
CJCS	1210	50
Sudbury		
CKSO	780	1000 F
Toronto		
CBL	840	50000 F
CBY	960	500 F
CFRB	690	10000 C
CKCL	580	100 F
Waterloo		
CKCR	1510	100
Windsor		
CKLW	1030	5000 F
Wingham		
CKNX	1200	100

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

QUEBEC		
Chicoutimi		
CBI	1120	100 F
Hull		
CKCH	1210	100 F
Montreal		
CBF	910	50000 N
CBM	1050	5000 F
CFCF	600	500 B
CHLP	1120	100 F
CKAC	730	5000 C
New Carlisle		
CHNC	610	1000 F
Quebec		
CHRC	580	100
CKCV	1310	100 F
CBV	950	1000 F
Rimouski		
CJBR	1030	1000 F

St. Anne de la Pocatiere		
CHGB	1200	100
Sherbrooke		
CHIT	1210	100
Three Rivers		
CHLN	1420	100

SASKATCHEWAN		
Moose Jaw		
CHAB	1200	100 F
Prince Albert		
CKBI	1210	100 F
Regina		
CJRM	540	1000 F
CKCK	1010	1000 F
Saskatoon		
CBK	540	50000
CFQC	840	1000 F
Yorkton		
CJGX	1390	100 F

COSTA RICA		
San Jose		
TIGH	725	600
TLJ	775	500
TLB	880	1000
TIPG	625	2000
TIX	650	1000
TXD	800	1000

CUBA		
Bayamo		
CMKL	950	200
Caibarien		
CMHD	1270	250
Camaguey		
CMJA	860	250
CMJC	1390	200
CMJE	1230	200
CMJF	930	200
CMJG	1290	200
CMJH	1070	200
CMJX	740	200
Cardenas		
CMGE	1370	200
Ciego de Avila		
CMJH	1360	200
CMJI	1130	200
CMJO	1260	200
Cienfuegos		
CMHJ	1160	100
CMHM	1450	150
CMHX	1480	120
Cruces		
CMHK	1210	250
Guantanamo		
CMKS	710	200
Guines		
CMRRT	1580	200
Havana		
CMBC	1140	150
CMBD	550	200
CMBF	1560	5000
CMBG	690	200
CMBH	1600	5000
CMBL	750	500

NORTH AMERICAN B. C. STATIONS BY CALLS

CMBQ	1320	5000
CMBS	1170	150
CMBX	1080	150
CMBY	1440	200
CMBZ	940	200
CMC	1530	150
CMCA	1350	200
CMCB	1230	150
CMCD	630	15000
CMCF	810	5000
CMCG	1290	150
CMCJ	1110	200
CMCK	970	5000
CMCL	730	10000
CMCO	1200	150
CMCP	1050	200
CMCR	860	150
CMCU	780	150
CMCW	1380	150
CMCX	1470	150
CMCY	570	15000
CMK	720	250
CMOA	910	250
CMOX	1500	200
CMQ	1010	25000 N
CMW	890	1400
CMX	1260	200

Holguin		
CMKF	1460	250
CMKO	1280	200
Manzanillo		
CMKM	1080	100
Matanzas		
CMGC	1400	200
CMGF	1120	200
CMGH	790	200
Moron		
CMJP	1420	200
Palma Soriano		
CMKZ	1430	125
Pinar del Rio		
CMAB	1240	200
Placetas		
CMHP	1100	200
Sagua la Grande		
CMHA	1090	200
Sancti Spiritus		
CMHB	1240	200
Santa Clara		
CMHJ	1060	250
CMHW	680	200
Santiago		
CMKC	1250	150
CMKD	910	1000
CMKG	1150	100
CMKQ	1490	200
CMKR	1400	250
CMKW	750	200
CMKX	1190	75
Trinidad		
CMHT	920	200

DOMINICAN REPUBLIC

Ciudad Trujillo		
HIN	1090	740
HIT	1050	50
HIX	800	800

EL SALVADOR

San Salvador		
YSS	640	500

GUATEMALA

Guatemala City		
TGW	1520	1000
TGX	1400	...
TGI	1310	...
Quezaltenango		
TGQ	1450	200

HONDURAS

Tegucigalpa		
HRN	1250	50

MEXICO

AGUASCALIENTES

Aguascalientes		
XEBI	1000	25

BAJACALIFORNIA

Mexicali		
XEAA	750	200
XEAO	660	250
XECL	960	1000
Rosarito Beach		
XERB	1090	100000
Tijuana		
XEAC	980	1000
XEBG	820	1000
XEC	1150	100
XELO	670	10000
XEMO	860	5000

CHIHUAHUA

Chihuahua		
XEBU	1240	50
XEAI	1440	250
Juarez		
XEF	1450	100
XEFV	1210	50
XEJ	1020	1000
XEP	1160	500
Parral		
XEAT	1210	250

COAHUILA

Piedras Negras		
XEMU	580	250
XEPN	730	100000
Sabinas		
XEBX	640	250
Saltillo		
XEAS	1160	100
Torreon		
XETB	1310	500
Villa Acuna		
XEDH	1340	200
XERA	840	250000

DISTRITO FEDERAL

Gral. Anaya		
XEDA	1220	200
Mexico City		
XEAI	1250	500
XEAL	660	1000
XEB	1030	10000
XEBS	1340	200
XEBZ	810	100
XEDF	1080	500
XEFO	940	5000
XEJP	1130	100
XEK	990	100
XEL	1150	250
XELZ	1370	100
XEN	780	1000
XEQ	710	50000
XERC	870	500
XEW	890	100000
XEXX	1170	1000

DURANGO

Durango		
XEBP	1150	250
XEE	1210	50

GUANAJUATO

Irapuato		
XEBO	1310	25
Leon		
XEKL	1240	500

JALISCO

Guadalajara		
XED	1160	2500
Guzman		
XEBA	1080	20

MEXICO

Texcoco		
XEXE	1270	17

MICHOACAN

Morelia		
XEI	1370	125

NUEVO LEON

Monterrey		
XEFB	870	200
XEG	1230	250
XEH	720	250
XET	690	5000
XEX	1310	125

PUEBLA

Puebla		
XETH	1210	100

SAN LUIS POTOSI

San Luis Potosi		
XECZ	1370	100

SINALOA

Mazatlan		
XEBL	1220	50

SONORA

Cananea		
XEFQ	1010	50
Guaymas		
XEDR	1490	100
Hermosillo		
XEBH	930	500
Nogales		
XEAF	990	750
Obregon		
XEAP	1340	50

TAMAULIPAS

Matamoros		
XEAM	750	25
Nuevo Laredo		
XEBK	1080	100
XEDF	810	100
XEFE	980	250
XENT	910	150000
Reynosa		
XEAW	960	100000
Tampico		
XECA	1230	250
XEFW	1310	300
XES	990	250

VERACRUZ

Cordoba		
XEAG	1310	10
Jalapa		
XEXB	1270	250
XEXD	1340	350
Minatitlan		
XEDW	1150	20
Veracruz		
XETF	1220	12
XEU	1010	250

YUCATAN

Merida		
XEFC	1340	100
XEME	1240	50
XEZ	630	500

MIQUELON

St. Pierre		
FQN	609	250

NEWFOUNDLAND

St. John's		
VOAC	1065	40
VOCM	1006	200
VOGY	840	400
VONF	1195	500
VOWR	681	500

NORTH AMERICAN B. C. STATIONS BY CALLS

CBA	1050	50000	CHLT	1210	100	CKIC	1010	50
Sackville, N. B.			Sherbrooke, P. Q.			Wolfville, N. S.		
CBF	910	50000	CHML	1010	100	CKLW	1030	5000
Montreal, P. Q.			Hamilton, Ont.			Windsor, Ont.		
CBJ	1120	100	CHNC	610	1000	CKMC	1210	50
Chicoutimi, P. Q.			New Carlisle, P. Q.			Cobalt, Ont.		
CBK	540	50000	CHNS	930	1000	CKMO	1410	100
Saskatoon, Sask.			Halifax, N. S.			Vancouver, B. C.		
CBL	840	50000	CHRC	580	100	CKNX	1200	100
Toronto, Ont.			Quebec, P. Q.			Wingham, Ont.		
CBM	1050	5000	CHSJ	1120	100	CKOC	1120	500
Montreal, P. Q.			St. John, N. B.			Hamilton, Ont.		
CBO	880	1000	CHWK	780	100	CKOV	630	100
Ottawa, Ont.			Chilliwack, B. C.			Kelowna, B. C.		
CBR	1100	5000	CJAT	910	1000	CKPC	930	100
Vancouver, B. C.			Trail, B. C.			Brantford, Ont.		
CBV	950	1000	CJBR	1030	1000	CKPR	580	1000
Quebec, P. Q.			Rimouski, P. Q.			Fort William, Ont.		
CBY	960	500	CJCA	730	1000	CKSO	780	1000
Toronto, Ont.			Edmonton, Alta.			Sudbury, Ont.		
CFAC	930	1000	CJCB	1240	1000	CKTB	1200	100
Calgary, Alta.			Sydney, N. S.			St. Catharines, Ont.		
CFAR	1370	100	CJCJ	690	100	CKUA	580	500
Flin Flon, Man.			Calgary, Alta.			Edmonton, Alta.		
CFCF	600	500	CJCS	1210	50	CKWX	1010	100
Montreal, P. Q.			Stratford, Ont.			Vancouver, B. C.		
CFCH	930	100	CJCU	1210	50	CKX	1120	1000
North Bay, Ont.			Aklavik, N. W. T.			Brandon, Man.		
CFCN	1030	10000	CJGX	1390	100	CKY	910	15000
Calgary, Alta.			Yorkton, Sask.			Winnipeg, Man.		
CFCO	630	100	CJIC	1500	100	CMAB	1240	200
Chatham, Ont.			S. Ste. Marie, Ont.			Pinar del Rio, Cuba		
CFCT	1450	500	CJKL	1310	100	CMBC	1140	150
Victoria, B. C.			North Bay, Ont.			Havana, Cuba		
CFCY	630	1000	CJLS	1310	100	CMBD	550	500
Charlottetown, P.E.I.			Yarmouth, N. S.			Havana, Cuba		
CFGP	1200	100	CJOC	950	100	CMBF	1560	5000
Grande Prairie, Alta.			Lethbridge, Alta.			Havana, Cuba		
CFJC	880	1000	CJOR	600	500	CMBG	690	200
Kamloops, B. C.			Vancouver, B. C.			Havana, Cuba		
CFLC	930	100	CJRC	630	1000	CMBH	1600	5000
Prescott, Ont.			Winnipeg, Man.			Havana, Cuba		
CFNB	550	500	CJRM	540	1000	CMBL	750	500
Fredericton, N. B.			Regina, Sask.			Havana, Cuba		
CFOS	1370	100	CKAC	730	5000	CMBQ	1320	5000
Owen Sound, Ont.			Montreal, P. Q.			Havana, Cuba		
CFPL	730	100	CKBI	1210	100	CMBS	1170	150
London, Ont.			Prince Albert, Sask.			Havana, Cuba		
CFPR	580	50	CKCA	1420	100	CMBX	1080	150
Prince Rupert, B. C.			Kenora, Ont.			Havana, Cuba		
CFQC	840	1000	CKCD	1010	100	CMBY	1440	200
Saskatoon, Sask.			Vancouver, B. C.			Havana, Cuba		
CFRB	690	10000	CKCH	1210	100	CMBZ	940	200
Toronto, Ont.			Hull, P. Q.			Havana, Cuba		
CFRC	1510	100	CKCK	1010	1000	CMC	1530	150
Kingston, Ont.			Regina, Sask.			Havana, Cuba		
CFRN	960	100	CKCL	580	100	CMCA	1350	200
Edmonton, Alta.			Toronto, Ont.			Havana, Cuba		
CHAB	1200	100	CKCO	1010	100	CMCB	1230	150
Moose Jaw, Sask.			Ottawa, Ont.			Havana, Cuba		
CHCK	1310	50	CKCR	1510	100	CMCD	630	15000
Charlottetown, P.E.I.			Waterloo, Ont.			Havana, Cuba		
CHGB	1200	100	CKCV	1310	100	CMCF	810	5000
St. Ann, P. Q.			Quebec, P. Q.			Havana, Cuba		
CHGS	1450	50	CKCW	1370	100	CMCG	1290	150
Summerside, P.E.I.			Moncton, N. B.			Havana, Cuba		
CHLN	1420	100	CKFC	1410	50	CMCI	1110	200
Three Rivers, P. Q.			Vancouver, B. C.			Havana, Cuba		
CHLP	1120	100	CKGB	1420	100	CMCK	970	5000
Montreal, P. Q.			North Bay, Ont.			Havana, Cuba		

NORTH AMERICAN B. C. STATIONS BY CALLS

CMCL	730	10000	CMJX	740	200	KARM	1310	100
Havana, Cuba			Camaguey, Cuba			Fresno, Calif.		
CMCM	850	250	CMK	720	250	KASA	1210	100
Havana, Cuba			Havana, Cuba			Elk Ciy, Okla.		
CMCO	1200	150	CMKC	1250	150	KAST	1370	100
Havana, Cuba			Santiago, Cuba			Astoria, Ore.		
CMCP	1050	100	CMKD	910	1000	KATE	1420	250
Havana, Cuba			Santiago, Cuba			Albert Lea, Minn.		
CMCQ	1410	5000	CMKF	1460	250	KAWM	1500	100
Havana, Cuba			Holguin, Cuba			Gallup, N. Mex.		
CMCR	660	150	CMKG	1150	100	KBIX	1500	100
Havana, Cuba			Santiago, Cuba			Muskogee, Okla.		
CMCU	780	150	CMKL	950	200	KBKR	1500	100
Havana, Cuba			Bayamo, Cuba			Baker, Ore.		
CMCW	1380	150	CMKM	1080	100	KBND	1310	100
Havana, Cuba			Manzanillo, Cuba			Bend, Ore.		
CMCX	1470	150	CMKO	1280	200	KBPS	1420	100
Havana, Cuba			Holguin, Cuba			Portland, Ore.		
CMCY	570	15000	CMKQ	1490	200	KBST	1500	100
Havana, Cuba			Santiago, Cuba			Big Spring, Texas		
CMGC	1400	200	CMKR	1400	250	KBTM	1200	100
Matanzas, Cuba			Santiago, Cuba			Jonesboro, Ark.		
CMGE	1370	200	CMKS	710	200	KCKN	1310	100
Cardenas, Cuba			Guantanamo, Cuba			Kansas City, Kans.		
CMGF	1120	200	CMKW	750	200	KCMC	1420	100
Matanzas, Cuba			Santiago, Cuba			Texarkana, Texas		
CMGH	790	200	CMKX	1190	75	KCMO	1370	100
Matanzas, Cuba			Santiago, Cuba			Kansas City, Mo.		
CMHA	1090	200	CMKZ	1430	125	KCRC	1360	250
Sagua la Grande, Cuba			Palma Soriano, Cuba			Enid, Okla.		
CMHB	1240	200	GMOA	910	250	KCRJ	1310	100
Sancti Spiritus, Cuba			Havana, Cuba			Jerome, Ariz.		
CMHD	1270	250	CMOX	1500	200	KDAL	1500	100
Caibarien, Cuba			Havana, Cuba			Duluth, Minn.		
CMHI	1060	250	CMQ	1010	25000	KDB	1500	100
Santa Clara, Cuba			Havana, Cuba			Santa Barbara, Calif.		
CMHJ	1160	100	CMW	880	1400	KDFN	1440	500
Cienfuegos, Cuba			Havana, Cuba			Casper, Wyo.		
CMHK	1210	250	CMX	1260	200	KDKA	980	50000
Cruces, Cuba			Havana, Cuba			Pittsburgh, Pa.		
CMHM	1450	500	CM9RT	1580	200	KDLR	1210	100
Cienfuegos, Cuba			Guines, Cuba			Devils Lake, N. D.		
CMHP	1100	200	FQN	609	250	KDNC	1200	100
Placetas, Cuba			St. Pierre, Miquelon			Lewistown, Mont.		
CMHT	920	200	HIN	1090	740	KDNT	1420	100
Trinidad, Cuba			Ciudad Trujillo, D. R.			Denton, Texas		
CMHW	680	200	HIT	1050	50	KDON	1210	100
Santa Clara, Cuba			Ciudad Trujillo, D. R.			Monterey, Calif.		
CMHX	1480	120	HIX	800	800	KDTH	1340	500
Cienfuegos, Cuba			Ciudad Trujillo, D. R.			Dubuque, Iowa		
CMJA	860	250	HP50	1440	....	KDYL	1290	1000
Camaguey, Cuba			Panama City, Panama			Salt Lake City, Utah		
CMJC	1390	200	HRN	1250	50	KECA	1430	1000
Camaguey, Cuba			Tegucigalpa, Hon.			Los Angeles, Calif.		
CMJE	1230	200	KABC	1420	100	KEEN	1370	100
Camaguey, Cuba			San Antonio, Texas			Seattle, Wash.		
CMJF	930	200	KABR	1390	500	KEHE	780	1000
Camaguey, Cuba			Aberdeen, S. Dak.			Los Angeles, Calif.		
CMJH	1360	200	KADA	1200	100	KELA	1440	500
Ciego de Avila, Cuba			Ada, Okla.			Centralla, Wash.		
CMJI	1130	200	KALB	1210	100	KELD	1370	100
Ciego de Avila, Cuba			Alexandria, La.			El Dorado, Ark.		
CMJK	1290	200	KALE	1300	1000	KELO	1200	100
Camaguey, Cuba			Portland, Ore.			Sioux Falls, S. Dak.		
CMJO	1260	200	KAND	1310	100	KERN	1370	100
Ciego de Avila, Cuba			Coriscana, Texas			Bakersfield, Calif.		
CMJP	1420	200	KANS	1210	100	KEUB	1420	100
Camaguey, Cuba			Wichita, Kans.			Price, Utah		
CMJW	1070	200	KARK	890	500	KEX	1180	5000
Camaguey, Cuba			Little Rock, Ark.			Portland, Ore.		

NORTH AMERICAN B. C. STATIONS BY CALLS

KFAB 770 10000	KFUO 550 500	KGIW 1420 100
Lincoln, Neb.	St. Louis, Mo.	Alamosa, Colo.
KFAC 1300 1000	KFVD 1600 1000	KGKB 1500 100
Los Angeles, Calif.	Los Angeles, Calif.	Tyler, Texas
KFAM 1420 100	KFVS 1210 100	KGKL 1370 100
St. Cloud, Minn.	Cape Girardeau, Mo.	San Angelo, Texas
KFAR 610 1000	KFWB 950 1000	KGKO 570 1000
Fairbanks, Alaska	Los Angeles, Calif.	Fort Worth, Texas
KFBB 1280 1000	KFXD 1200 100	KGKY 1500 100
Great Falls, Mont.	Nampa, Idaho	Scottsbluff, Neb.
KFBI 1050 5000	KFXJ 1200 100	KGLO 1210 100
Abilene, Kans.	Grand Junction, Colo.	Mason City, Iowa
KFBK 1490 10000	KFXM 1210 100	KGLU 1420 100
Sacramento, Calif.	San Bernardino, Calif.	Safford, Ariz.
KFDA 1500 100	KFYO 1310 100	KGMB 1320 1000
Amarillo, Texas	Lubbock, Texas	Honolulu, T. H.
KFDM 560 500	KFYR 550 1000	KGNC 1410 1000
Beaumont, Texas	Bismarck, N. D.	Amarillo, Texas
KFDY 780 1000	KGA 1470 5000	KGNF 1430 1000
Brookings, S. D.	Spokane, Wash.	North Platte, Neb.
KFEL 920 500	KGAR 1370 100	KGNO 1340 250
Denver, Colo.	Tucson, Ariz.	Dodge City, Kans.
KFEQ 680 2500	KGB 1330 1000	KGO 790 7500
St. Joseph, Mo.	San Diego, Calif.	San Francisco, Calif.
KFGQ 1370 100	KGBU 900 500	KGU 750 2500
Boone, Iowa	Ketchikan, Alaska	Honolulu, T. H.
KFH 1300 1000	KGBX 1230 500	KGVL 1200 100
Wichita, Kans.	Springfield, Mo.	Greenville, Texas
KFI 640 50000	KGCA 1270 100	KGVO 1260 1000
Los Angeles, Calif.	Decorah, Iowa	Missoula, Mont.
KFIO 1120 100	KGCI 1200 100	KGW 620 1000
Spokane, Wash.	Coeur d'Alene, Idaho	Portland, Ore.
KFIZ 1420 100	KGCU 1240 250	KGY 1210 100
Fond du Lac, Wis.	Mandan, N. D.	Olympia, Wash.
KFJB 1200 100	KGCK 1450 1000	KHBC 1400 250
Marshalltown, Iowa	Wolf Point, Mont.	Hilo, T. H.
KFJI 1210 100	KGDE 1200 100	KHBG 1210 100
Klamath Falls, Ore.	Fergus Falls, Minn.	Okmulgee, Okla.
KFJM 1410 500	KGDM 1100 1000	KHJ 900 1000
Grand Forks, N. D.	Stockton, Calif.	Los Angeles, Calif.
KFJZ 1370 100	KGEK 1200 100	KHQ 590 1000
Fort Worth, Texas	Sterling, Colo.	Spokane, Wash.
KFKA 880 500	KGER 1360 1000	KHSL 1260 250
Greeley, Colo.	Long Beach, Calif.	Chico, Calif.
KFKU 1220 1000	KGEZ 1310 100	KHUB 1310 250
Lawrence, Kans.	Kalispell, Mont.	Watsonville, Calif.
KFNF 890 500	KGFF 1420 100	KICA 1370 100
Shenandoah, Iowa	Shawnee, Okla.	Clovis, N. M.
KFOR 1210 100	KGFI 1500 100	KID 1320 500
Lincoln, Neb.	Brownsville, Tex.	Idaho Falls, Idaho
KFOX 1250 1000	KGFI 1200 100	KIDO 1350 1000
Long Beach, Calif.	Los Angeles, Calif.	Boise, Idaho
KFPL 1310 100	KGFL 1370 100	KIDW 1420 100
Dublin, Texas	Roswell, N. Mex.	Lamar, Colo.
KFPW 1210 100	KGFW 1310 100	KIEM 1450 500
Fort Smith, Ark.	Kearney, Neb.	Eureka, Calif.
KFPY 890 1000	KGFX 630 200	KIEV 850 250
Spokane, Wash.	Pierre, S. D.	Glendale, Calif.
KFQD 780 250	KGGF 1010 1000	KINY 1430 250
Anchorage, Alaska	Coffeyville, Kans.	Juneau, Alaska
KFRC 610 1000	KGGM 1230 1000	KIRO 710 1000
San Francisco, Calif.	Albuquerque, N. M.	Seattle, Wash.
KFRO 1370 250	KGHF 1320 500	KIT 1250 250
Longview, Texas	Pueblo, Colo.	Yakima, Wash.
KFRU 630 500	KGHI 1200 100	KITE 1530 1000
Columbia, Mo.	Little Rock, Ark.	Kansas City, Mo.
KFSD 600 1000	KGHL 780 1000	KIUL 1210 100
San Diego, Calif.	Billings, Mont.	Garden City, Kans.
KFSG 1120 500	KGIR 1340 1000	KIUN 1370 100
Los Angeles, Calif.	Butte, Mont.	Pecos, Texas

NORTH AMERICAN B. C. STATIONS BY CALLS

KIUP	1370	100	KOH	1380	500	KRKD	1120	500
Durango, Colo.			Reno, Nev.			Los Angeles, Calif.		
KJBS	1070	500	KOIL	1260	1000	KRKO	1370	50
San Francisco, Calif.			Omaha, Neb.			Everett, Wash.		
KJR	970	5000	KOIN	940	1000	KRLC	1390	250
Seattle, Wash.			Portland, Ore.			Lewiston, Idaho		
KLAH	1210	100	KOKO	1370	100	KRLD	1040	10000
Charlshad, N. Mex.			La Junta, Colo.			Dallas, Texas		
KLBM	1420	100	KOL	1270	1000	KRLH	1420	100
La Grande, Ore.			Seattle, Wash.			Midland, Texas		
KLCN	1290	100	KOMA	1480	5000	KRMC	1370	100
Blytheville, Ark.			Oklahoma City, Okla.			Jamestown, N. Dak.		
KLO	1400	500	KOME	1310	250	KRMD	1310	100
Ogden, Utah			Tulsa, Okla.			Shreveport, La.		
KLPM	1360	500	KOMO	920	1000	KRNR	1500	100
Minot, N. D.			Seattle, Wash.			Roseburg, Ore.		
KLRA	1390	1000	KONO	1370	100	KRNT	1320	1000
Little Rock, Ark.			San Antonio, Texas			Des Moines, Iowa		
KLS	1280	250	KOOS	1200	100	KROC	1310	100
Oakland, Calif.			Marshfield, Ore.			Rochester, Minn.		
KLUF	1370	100	KORE	1420	100	KROD	1500	100
Galveston, Texas			Eugene, Ore.			El Paso, Texas		
KLX	880	1000	KOTN	1500	100	KROW	930	1000
Oakland, Calif.			Pine Bluff, Ark.			Oakland, Calif.		
KLZ	560	1000	KOVC	1500	100	KROY	1210	100
Denver, Colo.			Valley City, N. Dak.			Sacramento, Calif.		
KMA	930	1000	KOY	1390	1000	KRQA	1310	100
Shenandoah, Iowa			Phoenix, Ariz.			Santa Fe, N. Mex.		
KMAC	1370	100	KPAB	1500	100	KRRV	1310	250
San Antonio, Texas			Laredo, Texas			Sherman, Texas		
KMBC	950	1000	KPAC	1260	500	KRSC	1120	250
Kansas City, Mo.			Port Arthur, Texas			Seattle, Wash.		
KMED	1410	250	KPDN	1310	100	KSAC	580	500
Medford, Ore.			Pampa, Texas			Manhattan, Kans.		
KMJ	580	1000	KPFA	1210	100	KSAL	1500	100
Fresno, Calif.			Helena, Mont.			Salina, Kans.		
KMLB	1200	100	KPLC	1500	100	KSAM	1500	100
Monroe, La.			Lake Charles, La.			Huntsville, Texas		
KMMJ	740	1000	KFLT	1500	250	KSAN	1420	100
Clay Center, Neb.			Paris, Texas			San Francisco, Calif.		
KMO	1330	1000	KPMC	1550	1000	KSCJ	1330	1000
Tacoma, Wash.			Bakerfield, Calif.			Sioux City, Iowa		
KMOX	1090	50000	KPO	680	50000	KSD	550	1000
St. Louis, Mo.			San Francisco, Calif.			St. Louis, Mo.		
KMPC	710	500	KPOF	880	1000	KSEI	900	250
Beverly Hills, Calif.			Denver, Colo.			Pocatello, Idaho		
KMTR	570	1000	KPPC	1210	100	KSFO	560	1000
Los Angeles, Calif.			Pasadena, Calif.			San Francisco, Calif.		
KNEL	1500	250	KPQ	1500	100	KSL	1130	50000
Brady, Texas			Wenatchee, Wash.			Salt Lake City, Utah		
KNET	1420	100	KPRC	920	1000	KSLM	1370	100
Palestine, Texas			Houston, Texas			Salem, Ore.		
KNOW	1500	100	KQV	1380	500	KSO	1430	500
Austin, Texas			Pittsburgh, Pa.			Des Moines, Iowa		
KNX	1050	50000	KQW	1010	1000	KSOO	1110	5000
Los Angeles, Calif.			San Jose, Calif.			Sioux Falls, S. Dak.		
KOA	830	50000	KRBA	1310	100	KSRO	1310	100
Denver, Colo.			Lufkin, Texas			Santa Rosa, Calif.		
KOAC	550	1000	KRBC	1420	100	KSTP	1460	10000
Corvallis, Ore.			Abilene, Texas			St. Paul, Minn.		
KOAM	790	1000	KRBM	1420	100	KSUB	1310	100
Pittsburg, Kans.			Bozeman, Mont.			Cedar City, Utah		
KOB	1180	10000	KRE	1370	100	KSUN	1200	100
Albuquerque, N. M.			Berkeley, Calif.			Lowell, Ariz.		
KOBH	1370	100	KRGV	1260	1000	KTAR	620	1000
Rapid City, S. Dak.			Weslaco, Texas			Phoenix, Ariz.		
KOCA	1210	100	KRIC	1420	100	KTAT	1240	1000
Kilgore, Texas			Beaumont, Texas			Fort Worth, Texas		
KOCY	1310	100	KRIS	1330	500	KTBC	1120	1000
Oklahoma City, Okla.			Corpus Christi, Tex.			Austin, Texas		

NORTH AMERICAN B. C. STATIONS BY CALLS

KTBS 1450 1000	KVOX 1310 100	TGI 1310
Shreveport, La.	Moorhead, Minn.	Guatemala City, Guat.
KTEM 1370 250	KVRS 1370 100	TIGH 725 600
Temple, Texas	Rock Springs, Wyo.	San Jose, Costa Rica
KTFI 1240 1000	KVSO 1210 100	TILJ 775 500
Twin Falls, Idaho	Ardmore, Okla.	San Jose, Costa Rica
KTHS 1060 10000	KVWC 1500 100	TILS 880 1000
Hot Springs, Ark.	Vernon, Texas	San Jose, Costa Rica
KTKC 1190 250	KWAL 1420 100	TIPG 625 2000
Visalia, Calif.	Wallace, Idaho	San Jose, Costa Rica
KTMS 1220 500	KWBG 1420 100	TIX 650 1000
Santa Barbara, Calif.	Hutchinson, Kans.	San Jose, Costa Rica
KTOH 1500 100	KWEW 1500 100	TIXD 800 1000
Lihue, Hawaii	Hobbs, N. Mex.	San Jose, Costa Rica
KTOK 1370 100	KWFT 620 250	VAS 685 2000
Oklahoma City, Okla.	Wichita Falls, Texas	Glace Bay, N. S.
KTRB 740 250	KWG 1200 100	VOAC 1065 40
Modesto, Calif.	Stockton, Calif.	St. John's Nfld.
KTRH 1290 1000	KWJB 1210 100	VOCM 1006 200
Houston, Texas	Globe, Ariz.	St. John's Nfld.
KTRI 1420 100	KWJJ 1040 500	VOGY 840 400
Sioux City, Iowa	Portland, Ore.	St. John's Nfld.
KTSA 550 1000	KWK 1350 1000	VONF 1195 500
San Antonio, Texas	St. Louis, Mo.	St. John's Nfld.
KTSM 1310 100	KWKH 1100 10000	VQWR 681 500
El Paso, Texas	Shreveport, La.	St. John's Nfld.
KTSW 1370 100	KWLC 1270 100	WAAB 1410 500
Emporia, Kans.	Decorah, Iowa	Boston, Mass.
KTUL 1400 1000	KWLK 780 250	WAAF 920 1000
Tulsa, Okla.	Longview, Wash.	Chicago, Ill.
KTW 1220 1000	KWNO 1200 250	WAAT 940 500
Seattle, Wash.	Winona, Minn.	Jersey City, N. J.
KUJ 1370 100	KWOC 1310 100	WAAW 660 500
Walla Walla, Wash.	Poplar Bluff, Mo.	Omaha, Neb.
KUMA 1420 100	KWOS 1310 100	WABC 860 50000
Yuma, Ariz.	Jefferson City, Mo.	New York, N. Y.
KUOA 1260 5000	KWSC 1220 1000	WABI 1200 100
Siloam Springs, Ark.	Pullman, Wash.	Bangor, Maine
KUSD 890 500	KWTO 560 5000	WABY 1370 100
Vermillion, S. Dak.	Springfield, Mo.	Albany, N. Y.
KUTA 1500 100	KWYO 1370 100	WACO 1420 100
Salt Lake City, Utah	Sheridan, Wyo.	Waco, Texas
KVAK 1420 100	KXA 760 250	WADC 1320 1000
Atchison, Kans.	Seattle, Wash.	Akron, Ohio
KVAN 880 250	KXL 1420 100	WAGA 1450 500
Vancouver, Wash.	Portland, Ore.	Atlanta, Ga.
KVCV 1200 100	KXO 1500 100	WAGF 1370 250
Redding, Calif.	El Centro, Calif.	Dothan, Ala.
KVEC 1200 100	KXOK 1250 1000	WAGM 1420 100
San Luis Obispo, Cal.	St. Louis, Mo.	Presque Isle, Me.
KVGB 1370 100	KXRO 1310 100	WAIM 1200 100
Great Bend, Kans.	Aberdeen, Wash.	Anderson, S. C.
KVI 570 1000	KXYZ 1440 1000	WAIR 1250 250
Tacoma, Wash.	Houston, Texas	Winston-Salem, N. C.
KVNU 1200 100	KYA 1230 1000	WALA 1380 500
Logan, Utah	San Francisco, Calif.	Mobile, Ala.
KVOA 1260 1000	KYCA 1500 100	WALR 1210 100
Tucson, Ariz.	Prescott, Ariz.	Zanesville, Ohio
KVOD 920 500	KYOS 1040 250	WAML 1310 100
Denver, Colo.	Merced, Calif.	Laurel, Miss.
KVOE 1500 100	KYSM 1500 100	WAPI 1140 5000
Santa Ana, Calif.	Mankato, Minn.	Birmingham, Ala.
KVOL 1310 100	KYW 1020 10000	WAPQ 1420 100
Lafayette, La.	Philadelphia, Pa.	Chattanooga, Tenn.
KVOO 1140 25000	TGQ 1450 200	WARD 1400 500
Tulsa, Okla.	Quezaltenango, Guat.	Brooklyn, N. Y.
KVOR 1270 1000	TGW 1520 1000	WASH 1270 500
Colo. Springs, Colo.	Guatemala City, Guat.	Grand Rapids, Mich.
KVOS 1200 100	TGX 1400	WATL 1370 100
Bellingham, Wash.	Guatemala City, Guat.	Atlanta, Ga.

NORTH AMERICAN B. C. STATIONS BY CALLS

WATR 1190	100	WBTM 1370	100	WCRW 1210	100
Waterbury, Conn.		Danville, Va.		Chicago, Ill.	
WAVE 940	1000	WBZ 990	50000	WCSC 1360	500
Louisville, Ky.		Boston, Mass.		Charleston, S. C.	
WAWZ 1350	500	WBZA 990	1000	WCSH 940	1000
Zarephath, N. J.		Springfield, Mass.		Portland, Me.	
WAYX 1200	100	WCAD 1220	500	WDAE 1220	1000
Waycross, Ga.		Canton, N. Y.		Tampa, Fla.	
WAZL 1420	100	WCAE 1220	1000	WDAF 610	1000
Hazleton, Pa.		Pittsburgh, Pa.		Kansas City, Mo.	
WBAA 890	500	WCAL 760	1000	WDAH 1310	100
West Lafayette, Ind.		Northfield, Minn.		El Paso, Texas	
WBAL 760	2500	WCAM 1280	500	WDASO 1500	250
Baltimore, Md.		Camden, N. J.		Danville, Ill.	
WBAL 1060	10000	WCAO 600	500	WDAS 1370	100
Baltimore, Md.		Baltimore, Md.		Philadelphia, Pa.	
WBAP 800	50000	WCAP 1280	500	WDAY 940	1000
Fort Worth, Texas		Asbury Park, N. J.		Fargo, N. Dak.	
WBAX 1210	100	WCAT 1200	100	WDBJ 930	1000
Wilkes-Barre, Pa.		Rapid City, S. Dak.		Roanoke, Va.	
WBBC 1400	500	WCAU 1170	50000	WDBO 580	1000
Brooklyn, N. Y.		Philadelphia, Pa.		Orlando, Fla.	
WBBL 1210	100	WCAX 1200	100	WDEL 1120	250
Richmond, Va.		Burlington, Vt.		Wilmington, Del.	
WBBM 770	50000	WCAZ 1070	100	WDEV 550	500
Chicago, Ill.		Carthage, Ill.		Waterbury, Vt.	
WBBR 1300	1000	WCBA 1440	500	WDGY 1180	1000
Brooklyn, N. Y.		Allentown, Pa.		Minneapolis, Minn.	
WBBZ 1200	100	WCBD 1080	5000	WDNC 1500	100
Ponca City, Okla.		Chicago, Ill.		Durham, N. C.	
WBCM 1410	500	WCBM 1370	100	WDD 1280	1000
Bay City, Mich.		Baltimore, Md.		Chattanooga, Tenn.	
WBEN 900	1000	WCBS 1420	100	WDR 1330	1000
Buffalo, N. Y.		Springfield, Ill.		Hartford, Conn.	
WBEO 1310	100	WCCO 810	50000	WDSM 1200	100
Marquette, Mich.		Minneapolis, Minn.		Superior, Wis.	
WBHP 1200	100	WCFL 970	5000	WDSU 1250	1000
Huntsville, Ala.		Chicago, Ill.		New Orleans, La.	
WBIG 1440	1000	WCHS 580	500	WDWS 1370	100
Greensboro, N. C.		Charleston, W. Va.		Champaign, Ill.	
WBIL 1100	5000	WCHV 1420	100	WDLZ 1020	250
New York, N. Y.		Charlottesville, Va.		Tuscola, Ill.	
WBKL 1370	100	WCKY 1490	10000	WEAF 660	50000
Clarksburg, W. Va.		Covington, Ky.		New York, N. Y.	
WBLY 1210	100	WCLE 610	500	WEAN 780	1000
Lima, Ohio		Cleveland, Ohio		Providence, R. I.	
WBNO 1420	100	WCLO 1200	100	WEAU 1050	1000
New Orleans, La.		Janesville, Wis.		Eau Claire, Wis.	
WBNS 1430	1000	WCLS 1310	100	WEBC 1290	1000
Columbus, Ohio		Joliet, Ill.		Duluth, Minn.	
WBNX 1350	1000	WCMJ 1310	100	WEBQ 1210	100
New York, N. Y.		Ashland, Ky.		Harrisburg, Ill.	
WBNY 1370	100	WCNW 1500	100	WEBR 1310	100
Buffalo, N. Y.		Brooklyn, N. Y.		Buffalo, N. Y.	
WBOQ 860	50000	WCOA 1340	500	WEDC 1210	100
New York, N. Y.		Pensacola, Fla.		Chicago, Ill.	
WBOW 1310	100	WCOC 880	1000	WEED 1420	100
Terre Haute, Ind.		Meridan, Miss.		Rocky Mount, N. C.	
WBRB 1210	100	WCOL 1210	100	WEEI 590	1000
Red Bank, N. J.		Columbus, Ohio		Boston, Mass.	
WBRC 930	1000	WCOP 1120	500	WEEU 830	1000
Birmingham, Ala.		Boston, Mass.		Reading, Pa.	
WBRE 1310	100	WCOS 1370	100	WELI 900	500
Wilkes-Barre, Pa.		Columbus, S. C.		New Haven, Conn.	
WBRK 1310	100	WCOU 1210	100	WELL 1420	100
Pittsfield, Mass.		Lewiston, Maine		Battle Creek, Mich.	
WBRY 1530	1000	WCOV 1210	100	WEMP 1310	100
Waterbury, Conn.		Montgomery, Ala.		Milwaukee, Wis.	
WBT 1080	50000	WCPO 1200	100	WENR 870	50000
Charlotte, N. C.		Cincinnati, Ohio		Chicago, Ill.	

NORTH AMERICAN B. C. STATIONS BY CALLS

WENY	1200	250	WGIL	1500	250	WHIP	1480	5000
Elmira, N. Y.			Galesburg, Ill.			Hammond, Ind.		
WEOA	1370	100	WGL	1370	100	WHIS	1410	500
Evansville, Ind.			Fort Wayne, Ind.			Bluefield, W. Va.		
WESG	850	1000	WGKV	1500	100	WHJB	620	250
Elmira, N. Y.			Charleston, W. Va.			Greensburg, Pa.		
WEST	1200	100	WGN	720	50000	WHK	1390	1000
Easton, Pa.			Chicago, Ill.			Cleveland, Ohio		
WEVD	1300	1000	WGNC	1420	100	WHKC	640	500
New York, N. Y.			Gastonia, N. C.			Columbus, Ohio		
WEW	760	1000	WGNV	1210	100	WHLB	1370	100
St. Louis, Mo.			Newburgh, N. Y.			Virginia, Minn.		
WEXL	1310	50	WGPC	1420	100	WHLS	1370	250
Royal Oak, Mich.			Albany, Ga.			Port Huron, Mich.		
WFAA	800	50000	WGR	550	1000	WHMA	1420	100
Dallas, Texas			Buffalo, N. Y.			Anniston, Ala.		
WFAM	1200	100	WGRC	1370	250	WHN	1010	1000
South Bend, Ind.			New Albany, Ind.			New York, N. Y.		
WFAS	1210	100	WGRM	1210	100	WHO	1000	50000
White Plains, N. Y.			Grenada, Miss.			Des Moines, Iowa		
WFBC	1300	1000	WGST	890	1000	WHOM	1450	250
Greenville, S. C.			Atlanta, Ga.			Jersey City, N. J.		
WFBG	1310	100	WGTM	1310	100	WHP	1430	500
Altoona, Pa.			Wilson, N. C.			Harrisburg, Pa.		
WFBL	1360	1000	WGY	790	50000	WIBA	1280	1000
Syracuse, N. Y.			Schenectady, N. Y.			Madison, Wis.		
WFBM	1230	1000	WHA	940	5000	WIBC	1050	1000
Indianapolis, Ind.			Madison, Wis.			Indianapolis, Ind.		
WFBR	1270	500	WHAT	1210	250	WIBG	970	100
Baltimore, Md.			Greenfield, Mass.			Glenside, Pa.		
WFDF	1310	100	WHAM	1150	50000	WIBM	1370	100
Flint, Mich.			Rochester, N. Y.			Jackson, Mich.		
WFEA	1340	500	WHAS	820	50000	WIBU	1210	100
Manchester, N. H.			Louisville, Ky.			Poynette, Wis.		
WFIL	560	1000	WHAT	1310	100	WIBW	580	1000
Philadelphia, Pa.			Philadelphia, Pa.			Topeka, Kans.		
WFLA	620	1000	WHAZ	1300	1000	WIBX	1200	100
Tampa, Fla.			Troy, N. Y.			Utica, N. Y.		
WFMD	900	500	WHB	860	1000	WICA	940	250
Frederick, Md.			Kansas City, Mo.			Ashtabula, Ohio		
WFMJ	1420	100	WHBB	1500	100	WICC	600	500
Youngstown, Ohio			Selma, Ala.			Bridgeport, Conn.		
WFNC	1340	250	WHBC	1200	100	WIL	1200	100
Fayetteville, N. C.			Canton, Ohio			St. Louis, Mo.		
WFOR	1370	100	WHBF	1210	100	WILL	580	1000
Hattiesburg, Miss.			Rock Island, Ill.			Urbana, Ill.		
WFOY	1210	100	WHBI	1250	1000	WILM	1420	100
St. Augustine, Fla.			Newark, N. J.			Wilmington, Del.		
WFTC	1200	100	WHBL	1300	250	WIND	560	1000
Kinston, N. C.			Sheboygan, Wis.			Gary, Ind.		
WGAL	1500	100	WHBQ	1370	100	WINS	1180	1000
Lancaster, Pa.			Memphis, Tenn.			New York, N. Y.		
WGAN	640	500	WHBU	1210	100	WIOD	610	1000
Portland, Me.			Anderson, Ind.			Miami, Fla.		
WGAR	1450	1000	WHBY	1200	100	WIP	610	1000
Cleveland, Ohio			Green Bay, Wis.			Philadelphia, Pa.		
WGAU	1310	100	WHDF	1370	100	WIRE	1400	1000
Athens, Ga.			Calumet, Mich.			Indianapolis, Ind.		
WGBB	1210	100	WHDH	830	1000	WIS	560	1000
Freeport, N. Y.			Boston, Mass.			Columbia, S. C.		
WGBF	630	500	WHDL	1400	250	WISN	1120	250
Evansville, Ind.			Olean, N. Y.			Milwaukee, Wis.		
WGBI	880	500	WHEB	740	250	WJAC	1310	100
Scranton, Pa.			Portsmouth, N. H.			Johnstown, Pa.		
WGCM	1210	100	WHEC	1430	500	WJAG	1060	1000
Gulfport, Miss.			Rochester, N. Y.			Norfolk, Neb.		
WGES	1360	500	WHFC	1420	100	WJAR	890	1000
Chicago, Ill.			Cicero, Ill.			Providence, R. I.		
WGH	1310	100	WHIO	1260	1000	WJAS	1290	1000
Newport News, Va.			Dayton, Ohio			Pittsburgh, Pa.		

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WJAX	900	1000	WKRC	550	1000	WMEX	1500	100
Jacksonville, Fla.			Cincinnati, Ohio			Boston, Mass.		
WJBC	1200	100	WKST	1250	250	WMFD	1370	100
Bloomington, Ill.			New Castle, Pa.			Wilmington, N. C.		
WJBK	1500	100	WKY	900	1000	WMFF	1310	100
Detroit, Mich.			Oklahoma City, Okla.			Plattsburg, N. Y.		
WJBL	1200	100	WKZO	590	1000	WMFG	1210	100
Decatur, Ill.			Kalamazoo, Mich.			Hibbing, Minn.		
WJBO	1120	500	WLAC	1470	5000	WMFJ	1420	100
Baton Rouge, La.			Nashville, Tenn.			Daytona Beach, Fla.		
WJBW	1200	100	WLAK	1310	100	WMFO	1370	100
New Orleans, La.			Lakeland, Fla.			Decatur, Ala.		
WJBY	1210	100	WLAP	1420	100	WMFR	1200	100
Gadsden, Ala.			Lexington, Ky.			High Point, N. C.		
WJDX	1270	1000	WLAW	680	1000	WMIN	1370	100
Jackson, Miss.			Lawrence, Mass.			St. Paul, Minn.		
WJEF	1210	100	WLB	760	1000	WMMN	890	500
Hagerstown, Md.			Minneapolis, Minn.			Fairmont, W. Va.		
WJHL	1200	100	WLBC	1310	100	WMPC	1200	100
Johnson City, Tenn.			Muncie, Ind.			Lapeer, Mich.		
WJHP	1230	250	WLBL	900	5000	WMPS	1430	500
Jacksonville, Fla.			Stevens Point, Wis.			Memphis, Tenn.		
WJIM	1210	100	WLBZ	620	500	WMRO	1250	250
Lansing, Mich.			Bangor, Me.			Aurora, Ill.		
WJJD	1130	20000	WLEU	1420	100	WMSD	1420	100
Chicago, Ill.			Erie, Pa.			Muscle Shoals C., Ala.		
WJLS	1210	100	WLLH	1370	100	WMT	600	1000
Beckley, W. Va.			Lawrence, Mass.			Cedar Rapids, Iowa		
WJMC	1210	250	WLLH	1370	100	WNAC	1230	1000
Rice Lake, Wis.			Lowell, Mass.			Boston, Mass.		
WJMS	1420	100	WLNH	1310	100	WNAD	1010	1000
Ironwood, Mich.			Laconia, N. H.			Norman, Okla.		
WJNO	1200	100	WLS	870	50000	WNAX	570	1000
W. Palm Beach, Fla.			Chicago, Ill.			Yankton, S. D.		
WJR	750	50000	WLTH	1400	500	WNBC	1380	250
Detroit, Mich.			New York, N. Y.			New Britain, Conn.		
WJRD	1200	250	WLVA	1200	100	WNBF	1500	100
Tuscaloosa, Ala.			Lynchburg, Va.			Binghamton, N. Y.		
WJSV	1460	10000	WLW	700	500000	WNBH	1310	100
Washington, D. C.			Cincinnati, Ohio			New Bedford, Mass.		
WJTN	1210	100	WMAL	630	250	WNBX	1260	1000
Jamestown, N. Y.			Washington, D. C.			Springfield, Vt.		
WJW	1210	100	WMAQ	670	50000	WNBZ	1290	100
Akron, Ohio			Chicago, Ill.			Saranac Lake, N. Y.		
WJZ	760	50000	WMAS	1420	100	WNL	1290	1000
New York, N. Y.			Springfield, Mass.			San Juan, P. R.		
WKAQ	1240	1000	WMAZ	1180	1000	WNEW	1250	1000
San Juan, P. R.			Macon, Ga.			New York, N. Y.		
WKAR	850	1000	WMBC	1420	100	WNLC	1500	100
East Lansing, Mich.			Detroit, Mich.			New London, Conn.		
WKAT	1500	100	WMBD	1440	1000	WNOX	1010	1000
Miami Beach, Fla.			Peoria, Ill.			Knoxville, Tenn.		
WKB	1500	100	WMBF	610	1000	WNYC	810	1000
East Dubuque, Ill.			Miami, Fla.			New York, N. Y.		
WKBH	1380	1000	WMBG	1350	500	WOAI	1190	50000
LaCrosse, Wis.			Richmond, Va.			San Antonio, Texas		
WKBN	570	500	WMBH	1420	100	WOC	1370	100
Youngstown, Ohio			Joplin, Mo.			Davenport, Iowa		
WKBO	1200	100	WMBI	1080	5000	WOCB	1210	100
Harrisburg, Pa.			Chicago, Ill.			Barnstable, Mass.		
WKBV	1500	100	WMO	1310	100	WOI	640	5000
Richmond, Ind.			Auburn, N. Y.			Ames, Iowa		
WKBW	1480	5000	WMBR	1370	100	WOKO	1430	500
Buffalo, N. Y.			Jacksonville, Fla.			Albany, N. Y.		
WKBZ	1500	100	WMBS	1420	100	WOL	1230	1000
Muskegon, Mich.			Untontown, Pa.			Washington, D. C.		
WKEU	1500	100	WMC	780	1000	WOLS	1200	100
Griffin, Ga.			Memphis, Tenn.			Florence, S. C.		
WKOK	1210	100	WMCA	570	1000	WOMI	1500	100
Sunbury, Pa.			New York, N. Y.			Owensboro, Ky.		

NORTH AMERICAN B. C. STATIONS BY CALLS

WOMT 1210 100	Manitowoc, Wis.	WRDW 1500 100	Augusta, Ga.	WSPD 1340 1000	Toledo, Ohio
WOOD 1270 500	Grand Rapids, Mich.	WREC 600 1000	Memphis, Tenn.	WSPR 1140 500	Springfield, Mass.
WOPI 1500 100	Bristol, Tenn.	WREN 1220 1000	Lawrence, Kans.	WSTP 1500 100	Sallsbury, N.C.
WOR 710 50000	Newark, N. J.	WRGA 1500 100	Rome, Ga.	WSUI 880 500	Iowa City, Iowa
WORC 1280 500	Worcester, Mass.	WRIN 1370 100	Racine, Wis.	WSUN 620 1000	St. Petersburg, Fla.
WORK 1320 1000	York, Pa.	WRNL 880 500	Richmond, Va.	WSVA 550 500	Harrisonburg, Va.
WORL 920 500	Boston, Mass.	WROK 1410 500	Rockford, Ill.	WSVS 1370 50	Buffalo, N. Y.
WOSU 570 750	Columbus, Ohio	WROL 1310 100	Knoxville, Tenn.	WSYB 1500 100	Rutland, Vt.
WOV 1130 1000	New York, N. Y.	WRR 1280 500	Dallas, Texas	WSYR 570 1000	Syracuse, N. Y.
WOW 590 1000	Omaha, Neb.	WRTD 1500 100	Richmond, Va.	WSYU 570 1000	Syracuse, N. Y.
WOWO 1160 10000	Fort Wayne, Ind.	WRUF 830 5000	Gainesville, Fla.	WTAD 900 1000	Quincy, Ill.
WPAD 1420 100	Paducah, Ky.	WRVA 1110 5000	Richmond, Va.	WTAG 580 1000	Worcester, Mass.
WPAR 1420 100	Parkersburg, W. Va.	WSAI 1330 1000	Cincinnati, Ohio	WTAL 1310 100	Tallahassee, Fla.
WPAX 1210 100	Thomasville, Ga.	WSAJ 1310 100	Grove City, Pa.	WTAM 1070 50000	Cleveland, Ohio
WPAY 1370 100	Portsmouth, Ohio	WSAL 1200 250	Salisbury, Md.	WTAQ 1330 1000	Green Bay, Wis.
WPEN 920 1000	Philadelphia, Pa.	WSAN 1440 500	Allentown, Pa.	WTAR 780 1000	Norfolk, Va.
WPG 1100 5000	Atlantic City, N. J.	WSAR 1450 1000	Fall River, Mass.	WTAW 1120 500	College Station, Tex.
WPIC 780 250	Sharon, Pa.	WSAU 1370 100	Wausau, Wis.	WTAX 1210 100	Springfield, Ill.
WPIV 1210 100	Petersburg, Va.	WSAV 1310 100	Savannah, Ga.	WTBO 800 250	Cumberland, Md.
WPRA 1370 100	Mayaguez, P. R.	WSAY 1210 100	Rochester, N. Y.	WTCN 1250 1000	Minneapolis, Minn.
WPRO 630 500	Providence, R. I.	WSAZ 1190 1000	Huntington, W. Va.	WTEL 1310 100	Philadelphia, Pa.
WPRP 1420 100	Ponce, P. R.	WSB 740 50000	Atlanta, Ga.	WTHT 1200 100	Hartford, Conn.
WPTF 680 5000	Raleigh, N. C.	WSBC 1210 100	Chicago, Ill.	WTIC 1040 50000	Hartford, Conn.
WQAM 560 1000	Miami, Fla.	WSBT 1360 500	South Bend, Ind.	WTJS 1310 100	Jackson, Tenn.
WQAN 880 500	Scranton, Pa.	WSFA 1410 500	Montgomery, Ala.	WTMA 1210 100	Charleston, S. C.
WQBC 1360 1000	Vicksburg, Miss.	WSGN 1310 100	Birmingham, Ala.	WTMJ 620 1000	Milwaukee, Wis.
WQDM 1390 1000	St. Albans, Vt.	WSIX 1210 100	Nashville, Tenn.	WTMV 1500 100	East St. Louis, Ill.
WQXR 1550 1000	New York, N. Y.	WSJS 1310 100	Winston-Salem, N. C.	WTNJ 1280 500	Trenton, N. J.
WRAK 1370 100	Williamsport, Pa.	WSLI 1420 100	Jackson, Miss.	WTOC 1260 1000	Savannah, Ga.
WRAL 1210 100	Raleigh, N. C.	WSM 650 50000	Nashville, Tenn.	WTOL 1200 100	Toledo, Ohio
WRAW 1310 100	Reading, Pa.	WSMB 1320 1000	New Orleans, La.	WTRC 1310 100	Elkhart, Ind.
WRAX 920 1000	Philadelphia, Pa.	WSMK 1380 250	Dayton, Ohio	WTRY 950 1000	Troy, N. Y.
WRBL 1200 100	Columbus, Ga.	WSNJ 1210 100	Bridgeton, N. J.	WVFW 1400 500	Brooklyn, N. Y.
WRC 950 1000	Washington, D. C.	WSOC 1210 100	Charlotte, N. C.	WWAE 1200 100	Hammond, Ind.
WRDO 1370 100	Augusta, Me.	WSPA 920 1000	Spartanburg, S. C.	WWJ 920 1000	Detroit, Mich.

	WWL	850	10000		XEBU	1240	50		XEKL	1240	500
	New Orleans, La.				Chihuahua, Chih.				Leon, Guan.		
	WWNC	570	1000		XEBX	640	250		XEL	1150	250
	Ashville, N. C.				Sabinas, Coah.				Mexico City, D. F.		
	WWRL	1500	100		XEBZ	810	100		XELO	670	100000
	Woodside, N. Y.				Mexico City, D. F.				Tijuana, B. Cfa.		
	WWSW	1500	100		XEC	1150	100		XELZ	1370	100
	Pittsburgh, Pa.				Tijuana, L. C.				Mexico City, D. F.		
	WWVA	1160	5000		XECA	1230	250		XEME	1240	50
	Wheeling, W. Va.				Tampico, Tam.				Merida, Yuc.		
	WXYZ	1240	1000		XECL	960	1000		XEMO	860	5000
	Detroit, Mich.				Mexicali, B. Cfa.				Tijuana, L. C.		
	W3XDD	....	50000		XECZ	1370	100		XEMU	580	250
	Whippany, N. J.				San Luis Potosi, S.L.P.				Piedras Negras, Coah.		
	W3XJ	1060	100		XED	1160	2500		XEMX	1280	100
	College Park, Md.				Guadalajara, Jal.				Mexico City, D. F.		
	XEAA	750	200		XEDA	1220	200		XEN	780	1000
	Mexicali, B. C.				Gral Anaya, D. F.				Mexico City, D. F.		
	XEAC	980	1000		XEDF	810	100		XENT	910	150000
	Tijuana, L. C.				Nuevo Laredo, Tams.				Nuevo Laredo, Tams.		
	XEAF	990	750		XEDH	1340	200		XEP	1160	500
	Nogales, Son.				Villa Acuna, Coah.				Juarez, Chih.		
	XEAG	1310	10		XEDP	1080	500		XEPN	730	100000
	Cordoba, Ver.				Mexico City, D. F.				Piedras Negras, Coah.		
	XEAI	1250	500		XEDR	1490	100		XEQ	710	50000
	Mexico City, D. F.				Guaymas, Son.				Mexico City, D. F.		
	XEAL	660	1000		XEDW	1150	20		XERA	840	250000
	Mexico City, D. F.				Minatitlan, Ver.				Villa Acuna, Coah.		
	XEAM	750	25		XEE	1210	50		XERB	1090	100000
	Matamoros, Tams.				Durango, Dgo.				RosaritoBeach, B. Cfa.		
	XEAO	660	250		XEF	1450	100		XERC	870	500
	Mexicali, B. C.				Juarez, Chih.				Mexico City, D. F.		
	XEAP	1340	50		XEFB	870	200		XES	990	250
	Obregon, Son.				Monterrey, N. L.				Tampico, Tams.		
	XEAS	1160	100		XEFC	1340	100		XET	690	5000
	Saltillo, Coah.				Merida, Yuc.				Monterrey, N. L.		
	XEAT	1210	250		XEFE	980	250		XETB	1310	500
	Parral, Chih.				Nuevo Laredo, Tams.				Torreon, Coah.		
	XEAW	960	100000		XEFI	1440	250		XETH	1210	100
	Reynosa, Tams.				Chihuahua, Chih.				Puebla, Pue.		
	XEB	1030	10000		XEFO	940	5000		XEU	1010	250
	Mexico City, D. F.				Mexico City, D. F.				Veracruz, Ver.		
	XEBA	1080	20		XEFQ	1010	50		XEW	890	100000
	Guzman, Jal.				Cananea, Son.				Mexico City, D. F.		
	XEBG	820	1000		XEFV	1210	50		XEX	1310	125
	Tijuana, B. Cfa.				Juarez, Chih.				Monterrey, N. L.		
	XEBH	930	500		XEFW	1310	300		XEXB	1270	250
	Hermosillo, Sonora				Tampico, Tams.				Jalapa, Ver.		
	XEBI	1000	25		XEG	1230	250		XEXD	1340	350
	Aguascalientes, Ags.				Monterrey, N. L.				Jalapa, Ver.		
	XEBK	1080	100		XEH	720	250		XEXE	1270	17
	Neuvo Laredo, Tams.				Monterrey, N. L.				Texcoco, Mex.		
	XEBL	1220	50		XEI	1370	125		XEXX	1170	1000
	Mazatlan, Sin.				Morelia, Mich.				Mexico City, D. F.		
	XEBO	1310	25		XEJ	1020	1000		XEZ	630	500
	Irapuato, Guan.				Juarez, Chih.				Merida, Yuc.		
	XEBP	1150	250		XEJP	1130	100		YSS	640	500
	Durango, Dgo.				Mexico City, D. F.				San Salvador, E. S.		
	XEBS	1340	200		XEK	990	100		ZNS	540	400
	Mexico City, D. F.				Mexico City, D. F.				Nassau, Bahamas		

TIME CONVERTER

The RADEX Map of the World with Time Converting Dial is the most useful accessory any radio fan could have around. Just a twirl of the dial shows the correct time at any location in the world. No calculation is necessary; the dial does all the work. The price is only

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BROADCASTING STATIONS OF NORTH AMERICA

Compiled from RADEX records, with the assistance of Ed. M. Vickers.

This supplementary call letter index began in the September, 1938 issue of RADEX, and will appear on these pages every month until completed.

The abbreviations used throughout this list are familiar to all our readers, except perhaps "CP" for Construction Permit, "LS" for Local Sunset, and "ss" for sunset.

KPO, San Francisco, Calif., 680 kcs., 50,000 watts unlt'd. *Network:* NBC Red. *Trans:* near Belmont. *Aerial:* 2 towers, 300 ft. *Time:* PST. *Veries:* for postage. *Manager:* Lloyd E. Yoder. *Licensee:* National Broadcasting Co., Inc., 111 Sutter St.

KPOF, Denver, Colo., 880 kcs., 1000 watts, shares time with KFKA. *Trans:* Belleview Junior College, Westminster. *Aerial:* vertical, 260 ft. *Time:* MST. *Veries:* for postage. *Manager:* Dr. Ray B. White. *Licensee:* Pillar of Fire, 1845 Champa St.

KPPC, Pasadena, Calif., 1210 kcs., 100 w. shared with KFXM. *Aerial:* 2 towers, 129½ ft. *Time:* PST. *Veries:* for postage. *Manager:* David Black. *Licensee:* Pasadena Presbyterian Church, 585 E. Colorado St.

KPQ, Wenatchee, Wash., 1500 kcs., 100 w. nights, 250 w. days to LS, unlt'd. *Network:* Mutual. *Trans:* Miller St. *Aerial:* vertical, 188 ft. *Time:* PST. *Veries:* for postage. *Manager:* Cole E. Wylie. *Licensee:* Westcoast Broadcasting Co., KPQ Bldg., 20 Second St.

KPRC, Houston, Texas, 920 kcs., 1000 w. nights, 5 kw. to LS, unlt'd. Has Special Authorization to use 5 kilowatts days and nights. *Network:* NBC Red. *Trans:* Deepwater. *Aerial:* vertical, 376 ft. *Time:* CST. *Veries:* for postage. *Manager:* Kern Tips. *Licensee:* Houston Printing Corp., Lamar Hotel.

KQV, Pittsburgh, Pa., 1380 kcs, 1000 w. unlt'd. *Network:* CBS. *Transmitter:* 1475 Crane Rd., Greentree. *Aerial:* Directional at night, vertical, 175 ft. *Veries:* not issued. *Manager:* J. J. Laux. *Licensee:* KQV Broadcasting Co., 1405 Chamber of Commerce Bldg.

KQW, San Jose, Calif., 1010 kcs., 1000 w. unlt'd. *Network:* MBS. *Aerial:* 2 towers, 125 and 150 ft. *Permit:* Has CP for 5 kw days. *Veries:* for postage. *Manager:* C. S. Harper. *Licensee:* Pacific Agricultural Foundation, Ltd., 87 E. San Antonio St.

KRBA, Lufkin, Texas, 1310 kcs., 100 watts days. *Veries:* for postage. *Manager:* Darrell E. Yates. *Licensee:* Red Lands Broadcasting Ass'n., Angelina Hotel.

KRBC, Abilene, Texas, 1420 kcs., 100 w. nights, 250 w. to LS. *Network:* MBS. *Trans:* 341 Ambler St. *Aerial:* vertical, 179 ft. *Veries:* for postage. *Manager:* Max Bentley. *Licensee:* Reporter Broadcasting Co., Box 263.

KRBM, Bozeman, Mont., 1420 kcs., 100 w. nights, 250 w. to LS. UNDER CONSTRUCTION.

KRE, Berkeley, Calif., 1370 kcs., 100 w. nights, 250 w. to LS, unlt'd. *Trans:* Ashby Ave. and East Shore Highway. *Aerial:* vertical, 190 ft. *Veries:* for postage. *Manager:* Arthur Westlund. *Licensee:* Central Calif. Broadcasters, Inc., 2337 Shattuck Ave.

KRGV, Weslaco, Texas, 1260 kcs., 1000 w. unlt'd. *Network:* NBC and MBS. *Aerial:* vertical, 210 ft. *Veries:* for postage. *Manager:* Ken L. Sibson. *Licensee:* KRGV, Inc., 201 Border St.

KRIC, Beaumont, Texas, 1420 kcs., 100 w. nights, 250 w. unlt'd. *Network:* MBS. *Licensee:* Beaumont Broadcasting Ass'n.

KRIS, Corpus Christi, Texas, 1330 kcs., 500 w. unlt'd. *Network:* NBC and MBS. *Aerial:* vertical, 185 ft. *Veries:* for postage. *Manager:* T. Frank Smith. *Licensee:* Gulf Coast Broadcasting Co., Medical & Professional Bldg.

KRKD, Los Angeles, Calif., 1120 kcs., 500 w. nights, 2500 watts to LS, sharing time with KFSG. *Trans:* 1100 Glendale Blvd. KRKD and KFSG employ same transmitter. *Aerial:* vertical, 250 ft. *Veries:* for postage. *Manager:* John A. Driscoll. *Licensee:* Radio Broadcasters, Inc., 312 Spring Arcade.

KRKO, Everett, Wash., 1370 kcs., 50 watts, sharing time with KEEN. *Aerial:* 2 towers, 80 ft. *Veries:* for postage. *Licensee:* Lee Mudgett, 2814 Rucker Ave.

KRLC, Lewiston, Idaho, 1390 kcs., 250 w. unlt'd. *Trans:* Lewiston Orchards. *Aerial:* vertical. *Veries:* for postage. *Manager:* Donald H. Wike. *Licensee:* H. E. Studebaker, Lewis-Clarke Hotel.

KRLD, Dallas, Texas, 1040 kcs., 10 kw unlt'd. *Network:* CBS. *Trans:* 1½ miles south of Garland. *Aerial:* 2 towers, 200 ft. *Permits:* Has CP for 50 kw, unlt'd. time, with directional aerial. *Veries:* for postage. *Manager:* John W. Runyon. *Licensee:* KRLD Radio Corp., Adolphus Hotel.

KRLH, Midland, Texas, 1420 kcs., 100 w. days. *Aerial:* vertical, 154 ft. *Veries:* for postage. *Manager:* Thomas K. Betzel. *Licensee:* Clarence Scharbaur.

KRMC, Jamestown, N. Dak., 1370 kcs., 100 w. nights, 250 w. to LS, unlt'd. *Trans:* U. S. Highway 10. *Aerial:* vertical, 200 ft. *Veries:* for postage. *Manager:* Roy H. Brant. *Licensee:* Roberts McNab Hotel Co., Gladstone Hotel.

KRMD, Shreveport, La., 1310 kcs., 100 w. nights, 250 w. days, unlt'd. *Trans:* 901 Louisiana Ave. *Aerial:* vertical, 176 ft. *Veries:* for postage. *Manager:* G. V. Wilson. *Licensee:* KRMD, Inc., Jefferson Hotel Bldg., (P. O. Box 1712).

KRNR, Roseburg, Ore., 1500 kcs., 100 w. nights, 250 w. to LS, unlt'd. *Network:* Mutual. *Aerial:* vertical, 140 ft. *Veries:* for postage. *Manager:* Justin B. Toles. *Licensee:* News-Review Publishing Co., Umpqua Hotel Bldg.

KRNT, Des Moines, Iowa, 1320 kcs., 1000 w. nights, 5 kw. to LS, Unlt'd. *Networks:* CBS and Iowa. *Trans:* N. 12th Road. *Aerial:* 3 towers, 1 of 370 ft., 2 of 190 ft. Directional at night. *Veries:* for postage. *Manager:* Luther L. Hill. *Licensee:* Iowa Brdcastg. Co., 715 Locust St.

KROC, Rochester, Minn., 1310 kcs., 100 w. nights, 250 w. to LS, unlt'd. *Aerial:* 2 towers, 177 ft. *Veries:* for postage. *Manager:* Gregory Gentling. *Licensee:* Southern Minn. Brdcastg. Co., Martin Hotel.

(To be continued next month)

QUESTIONS and ANSWERS

By B. FRANCIS DASHIELL

J. S., Coldwater, N. Y. I have been thinking about procuring an electric pickup for my Victrola and run into my "Air Castle" radio set for reproduction through the loud speaker. What do you advise?

Answer. A good service man can alter your set with a jack for plugging in the pickup current. Also, there is a grid-cap adapter which is used on the grid cap of the second detector or first audio tube. Then there is a much better arrangement called a phonograph oscillator. It is more costly. This device acts as a small broadcast set and sends the pickup energy into the entire radio set as a radio signal. Considerable power may be obtained from records using very soft needles. No alterations to the receiver are necessary with this unit. Oscillators may be purchased at any radio supply house, and most mail-order concerns.

J. H., London, Can. I have noticed mention made of pre-selectors from time to time in RADEX. I would like to try one, but do not know where to procure it. Can you tell me? Will it work with my Philco 1937 receiver?

Answer. Pre-selectors will work with any receiver, but in some cases where the set is large and already designed with sufficient radio-frequency circuits its use would be unnecessary. Any large radio supply concern handles these units. But, since the demand for this information has been rather insistent, we mention a few with which we are familiar. They are: Meissner Mfg. Co., Mt. Carmel, Ill. J. H. Miller Co., 5917 So. Main St., Los Angeles, Calif.; Allied Radio, 833 W. Jackson, Chicago, Ill.; Wholesale Radio, 100 Sixth Ave., New York, N. Y.; Radolek Co., 601 W. Randolph, Chicago, Ill.

C. W., Oakland, Calif. Please tell me how to realign the tuning of my Grunow all-wave set No. 760. Two service men already have worked on it, and now it does not tune on the dial as it did.

Answer. It is very difficult to tell you in

these pages how to align a receiver. To do such a job properly one must have precision oscillators so that the padding condensers can be adjusted correctly. This will bring in all stations on all bands at their proper positions on the dials. You will find that this is a job for a good service man. If you have had trouble we fear that the men you engaged did not do satisfactory work, for, after all, aligning is not so difficult for an experienced man. To be certain you get a recommended serviceman make inquiry of your local Grunow distributor, or write General Household Utilities, 2638 No. Crawford Ave., Chicago, Ill.

C. S. W., Washington, D. C. We have an oil burner. Each time it starts I hear the motor run. The makers put on two condensers. I use an R. C. A. noiseless antenna. But the burner still is noisy.

Answer. Oil burners are a source of much annoyance. However, the motors, in most cases, are for alternating current and should be noiseless. Unless you live downtown in an old direct-current district it is not necessary to use a d.c. motor with its brushes and commutator. However, the burner usually has a spark-plug arrangement that runs for a minute or so when first turned on. This ignites the oil. No filter or other device will eliminate the noise of this spark. It is possible to reduce the interference, if due to the motor, by filtering with condensers and choke coils. The Tobe Deutschmann Corp., of Canton, Mass., should be able to aid you with their products if you write them.

E. L., Columbus, O. Where can I obtain a circuit of my Le Wal 4-tube a.c.-d.c. receiver, or information about it?

Answer. We have no information about the Lewol Manufacturing Co's., radio receivers. We think there were only four or five models made. You might arrange with a radio service man to trace out this small circuit and prepare a diagram. Or perhaps one of our readers can help?

H. W. S., Pittsburgh, Pa. I erected a Zenith antenna to go with my new Zenith radio, but had to cut 5 feet off each end of the doublet and add 15 feet of twisted wire to the leadin. Will this change my reception?

Answer. The Zenith doublet antenna is made with 30 feet in each half section. Cutting off 5 feet reduces each half to 25 feet. This length is not resonant to the antenna coil of the set, nor is it in tune with the greatest number of wave bands of importance in the receiver. Changing an antenna that has been designed for the greatest efficiency does no good. But, on the other hand, it might not harm reception to a serious degree. If 50 feet is all the space you have you will have to make the best of it, but we do not recommend taking liberties with well-designed resonant antennas. Adding 15 feet of leadin does no harm, but take care to see that the two wires are of the same kind with similar twists.

T. R., Kansas City, Kans. What is the best antenna for 20-meter and similar short-wave reception?

Answer. If you are in a noisy section the noise-reducing types of doublet antennas are best. Otherwise, for short-wave reception, a short piece of antenna wire, well insulated and running as vertical as practicable, is satisfactory. Often only 10 or 15 feet of wire is sufficient. A ground may or may not be used, according to the results and noise obtained.

B. L. C., Meadows-of-Dan, Va. I want to catch and use the waves from broadcasting stations to light the room in my house. Give a list of parts and the circuit necessary.

Answer. The broadcast waves cannot be used to light a room or electric bulbs. They

are too weak and are of a high frequency. However, it is practicable to build a radio receiver which, when tuned to the signals or wave of one station, will close a relay and switch on a light that is powered from a separate source of electricity.

E. H. C., Loveland, Colo. I am building an all-wave set from a circuit I have. It calls for a variometer for providing regeneration, but I can not locate one at any radio store. What can you suggest?

Answer. The variometer is seldom used these days. We doubt whether you can find one. Regeneration that can be controlled steadily may be provided from a "three-circuit tuner" which has a "tickler" coil that rotates. Place this coil in the plate circuit of the detector, and the large fixed coil in the grid circuit which is tuned with a variable condenser. Three-circuit tuners may be purchased at any radio supply concern such as those listed under the third question, and they sell for approximately 75 cents each.

R. M., Union City, N. J.: My 7-tube receiver picks up wireless code all over the broadcast band. I can only hear the local stations. Also, can an extra band for more short waves be added to the set?

Answer: Code stations are not so far from you. They probably set up harmonics in the circuits of your set, and will be difficult to prevent. You might try a wave trap, they often help in such cases. Try a short aerial. It will be impracticable to add another short-wave band to this set.

FOR MORE QUESTIONS AND
ANSWERS SEE PAGE 44.

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WCSC Special

Station WCSC in Charleston, S. C. will broadcast a special program on February 4, 1939, from 4 to 5 am E.S.T. on 1360 kcs. This program will be dedicated to the URDXC, and all correct reports will be verified.

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(ADD 50c PER YEAR FOR FOREIGN SUBSCRIPTIONS, EXCEPT CANADA)

Print Name Plainly

Street and Number

City and State

THE DX CALENDAR

Time Is Eastern Standard
Special Programs

From Jan. 15 through Feb. 7, station KPAB at Laredo, Texas, on 1500 kcs, will broadcast each morning from 3 to 4 am or later, EST. Verifications and a worthwhile Mexican souvenir will be sent to all who report correctly.

- Jan. 22, 2-6 am, CMHJ, 1160, Cienfuegos, Cuba (E. Hidalgo—10c for veri)
 Jan. 22, 2-3 am, PRF3, 960, Sao Paulo, Brazil (NRC-NNRC)
 Jan. 22, 3-4 am, TG1, 1310, Guatemala City, Guat. (All clubs)
 Jan. 22, 3-4 am, TG2, 6190, Guatemala City, Guat. (All clubs)
 Jan. 28, 2-5 am, CMHM, 1450, Cienfuegos, Cuba (E. Hidalgo—10c for veri)
 Jan. 29, 1-2 am, WGAR, 1450, Cleveland, Ohio (IDA)
 Feb. 2, 1-2:30 am, CMKW, 770 kcs, Santiago, Cuba (NRC)
 Feb. 5, 3-4 am, KFDY, 780 kcs, Brookings, S. Dak., (URDXC).
 Feb. 8, 4-5 am, XEFV, 1210 kcs, Juarez, Chih. (NNRC).
 Feb. 9, 3:15-3:30 am, KGAR, Tucson, Ariz., 1370 kcs. (NRC)
 Feb. 11, 7-7:30 pm, SPW, 13635, Warsaw Poland (RSSL)
 Feb. 18, 4-5 am, KSUB, 1310 kcs, Cedar City, Utah. (NNRC).
 Mar. 20, 1-2 am, YSS, 638 kcs, San Salvador, E.S. (IDA)

Regular DX Programs

- Sundays: 12:01-2 am, XEAC, 980 kcs, Agua Caliente, B. Cfa.
 2:30-2:45 am, KLS, 1280 kcs, Oakland, Calif.
 2-4 am (First and Third Sunday only), WJBO, 1120 kcs., Baton Rouge, La. (NRC)
 10:15-10:45 am, CFCO, 630 kcs, Chatham, Ont.
 Mondays: 9:15-9:30 pm, CJCJ, 690 kcs, Calgary, Alta. (NRC)
 Tuesday: 5:30-6 pm, W2XAD, 15330 kcs, Scheenctaadv, N. Y. (IDA). at 8 pm, W2XJI, 26300 kcs, New York, N. Y. (NNRC).
 Wednesday: at 12:30 am, KOY, 1390 kcs, Phoenix, Ariz.
 1:45-2 pm, WTAR, 780 kcs, Norfolk, Va.
 10:30-11 pm, W8XWJ, 41000 kcs, Detroit Mich. (IDA).
 First and Third Thursday: 2:45-3 am, KSL, 1130 kcs, Salt Lake City, Utah. (NRC).
 Friday: 2-2:15 am, KLS, 1280 kcs, Oakland, Calif. (URDXC).
 Friday: at midnight, W2XJI, 26300 kcs, New York, N.Y. (NNRC).
 Saturday: at 10:30 am, WEEU, 830 kcs, Reading, Pa.
 First day of the month, 4-4:30 am, WPAY, 1370 kcs, Portsmouth, Ohio (NRC).

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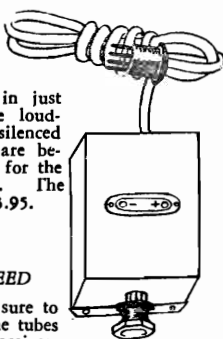
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