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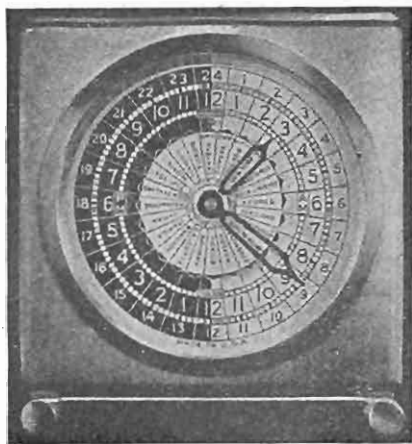
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The Broadcasting Corporation of Japan sends out six programs every day, each of the programs being addressed to a different part of the world. Two of these programs are sent to North America. The Eastern Districts of North America hear their programs from 7 to 7:30 in the morning, and again from 8 to 8:30 in the evening, EST, and the Pacific Coast and Hawaii hear their program from 9:30 to 10:30 at night, PST.

The Japanese stations are among the best in the world, and their North American programs are frequently heard with tremendous loudspeaker volume. Announcements during these periods are in English, and the entertainment consists of both "Western" and "Oriental" music, news and talks.

Eastern listeners hear the news in English daily at 8:05 pm. Pacific Coast listeners hear English news at 9:30 pm, PST.

Japanese entertainment heard from Tokyo consists of Koto, Nagauta and Choral selections, Kabuki, Guitar, Mandolin and Shakuhachi music, jazz, folk songs and concerts. Western music is frequently played on Japanese instruments, and Japanese music is frequently played on western instruments. The talks cover a variety of subjects, such as "Horticulture in Japan," "Typical Japanese Dogs" or "The Voices of Small Birds," which was interspersed with recorded bird calls.

The Japanese programs close with the Kimigayo, the national anthem. This is, we believe, the shortest of all national anthems. The words are as follows:

*May our Lord forever reign, while the sun
shines over ten thousand ages more!*

Hear Japan!

7-7:30 am, EST, JZI, 11800 kcs., and
JZK, 15160 kcs.

8:8:30 pm, EST, JZL, 17785
kcs.

9:30-10:30 pm, PST, JZK, 15160
kcs.



Nine Years a DXer

By HAROLD E. SHADE

Waterloo, Iowa

● I have just received my five hundredth verification, and am still going strong after nine years of DXing, and find that no other hobby exceeds it in pleasure and downright thrills. For what DXer is there who does not have that quickening of the pulse as he catches a faint call and, quickly looking through his copy of RADEX, finds that the station to which he is tuned is located half way 'round the world? At moments like this, who cares for a few hours of lost sleep?

I suppose everyone has his own pet opinions about the game, but personally I DX on the broadcast band only. When I first started, back in 1929, I used a 5 tube Crosley set; since then I have had a Mussette, an RCA, a General Electric, a Westinghouse, and am now using a 1938 model Philco.

Some of my prize catches are KZRM in the Philippine Islands, HIX in Santo Domingo, KGMB in Honolulu, one station in South America, five in Cuba, one in Puerto Rico, two others in Hawaii, two in Australia, one in the Bahamas, three in Japan, ten in Mexico and nineteen in Canada. I have also heard KFPM, 17 watts in Greenville, Texas, WRBQ, 15 watts in Greenville, Miss., 10AK, 15 watts in Stratford, Ont., and KTST, an old 50 watt outlaw station in Seymour, Texas. All of these were heard on the broadcast band, and all are verified.

I suppose I shall go on as long as there is left a station not logged on my list, ever hoping that the time will come when I can close the book and say "all logged, all verified." When that far distant date arrives, I will consider myself an accomplished DXer.

Your magazine started me on the road after I purchased a newsstand copy late in 1929, and I consider that as the best investment in pleasure I have ever made.

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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.

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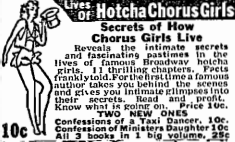
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SX-23, Speaker	127.50	19.40	14.08	9.58
SX-16, speaker	123.00	19.60	13.47	9.16
SX-17, speaker	149.50	22.60	16.53	11.25
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FIFTEENTH YEAR

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FOR SALE AT YOUR NEWSSTAND

Television is Here

For many years, television has been around the proverbial corner, but that it has finally rounded that corner and come within view cannot now be doubted. Several fine receivers have been placed on the market, the broadcasters are offering programs of the highest artistic and technical quality, and spectators who have viewed television demonstrations have been more than enthusiastic. There is no doubt that television is here, and it is here to stay.

While the Federal Communications Commission has not yet announced any television "standards," the manufacturers and broadcasters of the country have standardized their equipment so that anyone who becomes the owner of a new televisor at this time can be fairly certain that his equipment will not be outmoded within a few months.

Readers who are interested in learning more about the methods of television scanning are referred to the RADEX issues of March, April, May and Midsummer, 1937 in which Mr. Dashiell explains television so that anyone can understand its basic principles. In this place, we believe it sufficient to state that, in this country, the Radio Manufacturer's Association has adopted 441 lines as the standard definition of a television picture, at 30 frames per second.

Is Television DX Possible?

The DX clans of the country will naturally be interested in knowing if DX on the television bands will be possible, and the officials of several stations, in letters to RADEX, have answered this query.

From the National Broadcasting Company, Mr. Leif Eid writes, "It is believed that the service area of a television transmitter is a function both of antenna height and transmitter power. The NBC antenna, being located atop the Empire State Tower, is naturally the highest in the world. Since there are very few television receivers in the field it is a little too early to attempt to set definite limits to the service area. Our tests, however, indicate that the service area extends about 55 miles in all directions from the transmitter. The most distant reception we know of, made under special conditions



TOP—The General Electric table-model televisor with sound converter. It can be used to receive television pictures without sound, or can be used in conjunction with special radio receivers which will be available later. A five inch picture tube is included in the 17 tubes employed.

BOTTOM—RCA Victor television attachment, which reproduces pictures, using chassis and loudspeaker of any AC-operated radio for accompanying sound. It plugs directly into a jack provided on 1938-39 RCA radios. The 5-inch tube provides pictures 3 $\frac{3}{8}$ by 4 $\frac{3}{8}$ in size. (RCA-Victor photo).

by a very advanced radio amateur, was at Hartford, Connecticut, a distance of approximately 100 miles from the Empire State antenna. The RCA station at Riverhead reports the reception of excellent images whenever we are on the air. This distance, I believe, is about 70 miles. But here again, reception is under the best possible conditions. As you probably know, the RCA has made movies of images, of very poor quality, received at Riverhead from the Alexandra Palace sta-

tion in London. It is probable that NBC's pictures through the air will be received, occasionally in Europe when serious efforts are made in this direction."

That long distance reception may be possible has been hinted by the British Broadcasting Corporation in their booklet, *The London Television Station*, where we read,

"The maximum distance from Alexandra Palace at which consistently satisfactory reception of television pictures is possible has not yet been determined. It was believed at one time that the service area of an ultra-shortwave station would be limited to the visual range, but it has been found, since transmission began that this is not so. It is in fact now generally agreed that the horizon is not a critical factor in determining the range."

The British Broadcasting Corporation is more than justified in believing that television signals can be broadcast beyond the horizon, since they hold what we believe to be the long distance record for transmission of high definition television. The pictures from Alexandra Palace, as mentioned earlier, have been seen in Long Island, a distance of 3400 miles. (See RADEX for May, 1939). Furthermore, they have regular viewers at distances greater than 100 miles, according to a letter received from Mr. E. G. Thomson of the Alexandra Palace station. He writes, "Our most distant regular viewer is located in Guernsey, 200 miles away, but the official service area remains within an area of 30 miles from the station, although numerous viewers live at distances up to 60 miles and, if using good aerial systems, are able to obtain reception of fair quality. Interference from cars is still a problem and is of course more noticeable in outlying districts where receivers have to be worked in a condition of extreme sensitivity."

Images from the Don Lee station in Los Angeles have been seen at a distance of 30 miles from the transmitter, according to Mr. Mark Finley, the Public Relations Director. Present plans call for the erection in the near future of a new telecasting station atop Lee Mountain, overlooking Hollywood. The station on this 1700-foot peak will make telecasts available to the San Fernando Valley, as well



The new DuMont Model 182 televisor, with inclined picture screen.

as scores of seacoast and foothill towns.

"In answer to your question," writes Mr. Albert F. Murray, of the Television Research Department of Philco, "we wish to advise that our transmitter, which has been used since 1935 for field tests for our own engineers, has brought very few communications from local observers reporting reception. One reason for this is that practically no receivers are available in Philadelphia."

It seems to RADEX that it is still too early to say that television DX will not be possible. At one time it was thought that very special equipment was needed to hear programs from Europe by shortwaves, but now anyone can hear Europe with remarkable ease. Cannot the ease and consistency of television reception be improved as much as our shortwave reception has been improved? Reception of London just a few years ago required patience and ingenuity, and many were the persons who laughed at shortwave fans who had to tune their sets with three-foot poles to prevent body capacity, and who tied their headphones to their heads so that none of the precious, minute sounds in the 'phones would be lost. Television DX is possible, and we do not believe it will continue to be difficult. The scarcity of television DX now is due to the lack of receivers, and not much else. Why should NBC's image stop at Hartford? If that "very advanced radio amateur" had been situated farther from the station, we believe he would have gotten the picture. Indeed, NBC says it is

probable that pictures will travel all the way to Europe, if someone over there will make a serious effort to receive them.

How Good Is Television?

The New York Times said, in a comment on the televised dedication ceremonies of the RCA Building at the New York World's Fair, that "every detail was distinct, even the fleecy texture of the clouds." The Daily Mirror reported "a clarity and precision which compared favorably with motion pictures."

Mr. Finley of the Don Lee station kindly sent us copies of about a dozen reports that he selected from the hundreds received from viewers. Some of the reports indicate exceptionally clear signals "The whites of Eleanor Count's eyes when she looked up were quite plain," one viewer wrote. At another time, this scanner reported that when the Queen of the Annual Rose Parade in Pasadena appeared in a telecast, he was able, at a distance of 30 miles, to see in minute detail the folds and tucks in the queen's elaborate gown. Some of the letters report strange doings, such as the report from a viewer who, with a home-built receiver at a distance of 13 1/2 miles, received double pictures. When he got that trouble straightened out, he received his pictures upside down. A third adjustment in the circuit righted the "pix" so that he was able to enjoy good results.

Following are a few extracts from reports which have been received by BBC in London:

"I viewed the whole picture, The Trooping of the Colour Ceremony, and it was 95% perfect (car interference)." (From Eastbourne, 75 miles).

"... wonderful transmission showing details in Eric Wild's band." (From Newport, Isle of Wight, 100 miles).

"I have taken photographs from the screen." (From Cinderford, 130 miles).

For the NBC again, Mr. Leif Eid says, "Communications we have received from the few local television fans indicate, for the most part, that received images are of excellent quality. Proper installation of receiver and antenna system is of prime importance, of course, if good reception is the object. The use of ultra-high frequencies automatically removes television from the annoyance of ordinary static, but man-made static, the principal source of



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TELEVISION STATIONS

¹Power is shown in watts. "V" is for power of video (visual signal) and "A" is for power of aural (sound) signal.

²First is shown the number of lines per frame, and second, the number of frames per second.

Frequency	Call	Power ¹	Scanning ²	Location
2000-2100	W9XAK	....	60/20	Manhattan, Kans., State College.
2000-2100	W9XG	....	60/20	Lafayette, Ind. Purdue University.
39975	....	2000	120/25	Warsaw, Poland, Polskie Radio.
42000-56000	W1XG	500	441/60	Boston, Mass. General Television Corp.
	W2XAX	V-15000 A-7500	441/60	New York City. CBS.
	W2XBS	15000	441/60	New York City. NBC.
	W2XD	40	441/60	Schenectady, N. Y. General Elec. Co.
	W2XDR	1000	.....	Long Island City, N. Y. Radio Pictures, Inc.
	W2XH	40	441/60	Schenectady, N. Y. General Elec. Co.
	W2XVT	50	441/60	Passaic, N. J. Allen Dumont Labs.
	W3XE	1000	441/60	Philadelphia, Pa. Philco.
	W3XPF	V-250 A-1000	441/60	Springfield, Pa. Farnsworth Television, Inc.
	W6XAO	V-1000 A-150	300/24	Los Angeles, Calif.
	W9XAL	V-300 A-150	441/60	Kansas City, Mo. First National Television.
45000	.....	17000	.....	London, Gt. Britain. BBC, Alexandra Palace.
45985	.....	25000	.....	Paris, France. PTT, 103 rue de Grenelle.
60000-86000	W1XA	40	441/60	Bridgeport, Conn. General Elec. Co.
	W1XG	....	441/60	Boston, Mass. General Television Corp.
	W2XAX	7500	441/60	New York City. CBS.
	W2XB	40	441/60	Albany, N. Y. General Electric Co.
	W2XBS	....	441/60	New York City. NBC.
	W3XE	....	441/60	Philadelphia, Pa. Philco.
	W3XPF	....	.....	Springfield, Pa. Farnsworth Television, Inc.
	W6XAO	1000	441/60	Los Angeles, Calif. Don Lee.
	W9XAL	....	.....	Kansas City, Mo. First National Television, Inc.
92000-	W2XBT	V-400 A-100	441/60	Portable-NYC. NBC.
175000-				
180000	W2XBT	....	441/60	Portable-NYC. NBC.
204000-				
210000	W3XP	15000	.....	Philadelphia, Pa. Philco.

which is diathermy apparatus and automobile ignition systems, is quite serious.

More reports from viewers will be printed in RADEX from time to time, in a series of television articles which we shall run next season.

What Do You See?

One of the frequently-asked questions concerning television is a query about the programs that this field will offer. The possibilities for entertainment are unlimited . . . in fact, anything that can be photographed can be televised, and any kind of entertainment imaginable can be adapted to television. No doubt it will

be interesting to examine some of the current television programs.

The NBC programs were resumed on April 30, and some of the features presented during the first week were transmitted direct from the World's Fair. On the opening day, President Roosevelt, Grover Whalen, and others participating in the opening were televised, as well as a review of the opening parade. NBC's first studio program featured Fred Waring and his Pennsylvanians. Other features included a juggling team, Walt Disney's latest cartoon comedy, "Donald's Cousin Gus," and a demonstration of a lie detector by its inventor.

Don Lee's station, W6XAO, the only one in the eleven western states, went on the air in 1931. Programs are non-commercial, as advertising of any kind is prohibited by the FCC. This organization uses live talent four times a week and motion picture film twice a week. More than 11,000,000 feet of film have already been televised. The Don Lee program for a week included, among many others, the following features: a jiu-jitsu demonstration, a demonstration by a pastry chef, a demonstration of model midget gasoline-powered race cars, an Hawaiian dancer, a demonstration of glass blowing, a fashion show featuring the latest hats, pottery manufacture, skiing instructions, as well as newsreels and film "shorts."

Where Are The Stations?

A complete list of the television stations of the country appears in another part of this magazine. More complete details about most of the stations have been forwarded to us, and these letters from the broadcasters are quoted in the paragraphs following.

Writing for Philco, Albert F. Murray states, "Philco's transmitter is rated at 1 kw. The antenna is 220 feet above the street, and the greatest distance at which we have been reported is 12 miles. The station is situated at Tioga and 'C' Streets, Philadelphia. The call letters are W3XE. The frequency of the television channel is 50-56 megs.

"Separate transmitters are used for picture and sound. We use a unique system of modulation, known as Transmission Line Modulation, invented by Mr. Parker of Philco. This permits high fidelity transmission of a 441-line picture. The transmissions are in accordance with RMA standards. In order to radiate a high-definition 441-line picture within a 6 meg. band, single side band transmission has been employed by Philco since 1938. This is accomplished by suppressing the undesired side band by means of a filter in the antenna transmission line.

"The complete television station consists of a studio, control room, and projection room for motion pictures. Indoor and outdoor cameras are employed."

The Columbia Broadcasting System station is not on the air at the time of writing, but it is expected to resume broad-

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23 .81	32 1.03	41 1.39	50 2.04
24 .83	33 1.06	42 1.45	51 2.15
25 .85	34 1.09	43 1.51	52 2.27
26 .87	35 1.13	44 1.57	53 2.39
27 .90	36 1.16	45 1.64	54 2.53
28 .92	37 1.21	46 1.70	55 2.66
29 .95	38 1.25	47 1.79	

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casting very shortly. Describing the CBS system, Gladys Kustler writes:

"Installation of the CBS new 15 kw. television transmitter on the top floors of the Chrysler Building (the world's second-tallest building) in New York and construction of its television studios in the Grand Central Terminal Building across the street, are rapidly nearing completion and it is hoped that programs may be presented starting sometime during the spring or early summer.

"The transmitter equipment weighs about 100,000 pounds and is to be located on the 73rd, 74th and 75th floors of the Chrysler Tower. This transmitter will operate on the sound channel of 55.75 megs. with $7\frac{1}{4}$ kw. of power, and the picture carrier will be between 50 and 55.25 megs., with 15 kw.

"The antenna is divided into two identical sections located one above the other just below the steel spire of the building. This site will be capable of providing primary coverage within a radius of about 40 miles. There are several studio pickup and film channels available. A coaxial cable carries the picture signal from the studio to the transmitter."

"Gilbert Seldes, noted writer, journalist and critic, will be the director of experimental television programs, and Dr. Peter C. Goldmark is Columbia's chief television engineer."

The Los Angeles station, W6XAO, broadcasts pictures of 300 lines repeated 24 times per second. Installation of a 441-line screen is contemplated. It is estimated that several hundred receivers pick up these programs on the regular six-day schedule. Much interest is stimulated in Southern California by the Hollywood Television Society, which gives weekly demonstrations in the public auditorium in Plummer Park, at 7377 Santa Monica Boulevard.

First National Television, of Kansas City, Mo. is now in the process of installing the latest 441-line electronic television equipment in their station W9XAL. Mr. W. J. Robb, Assistant Manager of the station, is not able to give further information until the construction is completed. Preliminary tests conducted with their completed receiving unit, however, indicate that they will produce pictures closely approximating the clearness of motion pic-

tures.

The DuMont Television Studios in Passaic, N. J., are nearly completed. It will operate on 42000-56000 kcs. when completed. The FCC reports that DuMont has also applied for licenses to operate television stations in New York City, and in Washington, D. C.

Very aptly, the BBC says in their advertisements, "Television is here—you can't shut your eyes to it."

The Receivers

Five television receiver models, ranging from a picture receiver with sound converter to consoles combining television and all-wave radio, have been announced for spring production by the General Electric Radio and Television division, Bridgeport, Conn. The smallest set in the new line is the HM-171 (illustrated in this issue of RADEX), which is a table-type picture receiver with sound converter. The front controls include brightness, contrast, focus and tuning, and rear controls include horizontal and vertical size, hold, centering and distribution. The set stands $14\frac{1}{2}$ inches high and is approximately 20 inches wide and 19 inches deep.

Other models announced by General Electric include the HM-185, a console-type receiver for both sight and sound, employing a five inch picture tube, and includes 18 tubes in all. The HM-225 is a 22-tube console with a 9-inch picture tube. The two remaining console models, the HM-226 and the HM-275, combine all-wave radio and television receiver features. The former employs 29 tubes and the latter, 30 tubes, including a 12-inch picture tube. The approximate price range of the new G-E television receivers is from \$250 to \$1000.

A complete line of television receivers has been announced by RCA. There are three complete television and radio combinations, and a television attachment, ranging in price from \$199.50 to \$600.

The DuMont Laboratories of Passaic, N. J., have announced a new televisior with the cathode-ray tube mounted at an angle so that its screen is tilted backwards. Thus the screen remains in correct position for those sitting close by or for those standing some distance away. The chassis of this receiver is similar to that of the table model previously introduced. It comprises 21 tubes, including a 14-inch picture tube.

The RADEXER'S REPORT

●●● By CARLETON LORD

During the past several years, DXers found reception on the broadcast band to be generally poor. A period of maximum sunspot activity increased prevailing static, reduced the distance travelled by signals and created surging noises which covered the entire continent. A new low in modern DXing was noted during the 1935-36 and 1936-37 seasons, and listeners everywhere had to be satisfied with a limited range of reception.

Although it was believed that the sunspot activity would run true to its normal 11-year cycle and that improved reception could not be expected before 1940, a definite uptrend was noticed by many listeners during the 1937-38 season. A few of us ventured the opinion that the cycle had passed its point of worst reception conditions and that the next few years would find a return to a period of reception to which we had become accustomed in the early years of this decade.

Last fall, it was learned that scientists had indeed established this uptrend of reception and that sunspot activity would diminish in intensity until the period of minimum activity and best reception conditions was reached in 1943 or 1944. And so it was predicted that the season just past would find listeners turning in better DX records than at any time during the past four or five years.

Reports during the past season seemed to indicate that the prediction of better reception had been accurate, and most Radexers once more had reason to be proud of their DX achievements.

"Reception on the broadcast band this season was the best in several



KOTN, 1500 kcs. broadcast band station, verifies correct reports with this photographic card. (Courtesy of Bernard Duff).

years," observes James W. Newman, New Toronto, Ont. "The best DX catches heard here were LYA, 2YA, 2YC, 4YA, HJ1ABN, KGMB, KGU, KHBC, LRA, LR3, PRF3, YV5RQ, and Poste Parisien, Moscow, Droitwich and Paris were also heard on the long waves. I have just received my verification from PRF3 for their January 22nd special. It consists of several nice photos of Sao Paulo, a travel folder about Brazil and a booklet describing the transmitter."

"Well, DXing has become very profitable indeed for the old puddle jumper," submits Richard Wright, Chicago, Ill. "Recent catches include 1YA, 3YA, LRA, LS11, KHBC, YSS, XECZ and XEFC. The two YA's were heard during March and reports are out to them. LRA and LS11 were heard during the IBU tests and are both verified. As for the Mexican muddle, the station on 730 is XELO, or at least they were there a couple of days ago, and XERB verified for me on 1090.

DX reception has been excellent lately," reports Alfred Razzando, Fayette City Pa. "Recently I pulled in

three new West Coast stations -- KLS, KRSC and CFCT -- to increase the total of catches in that section to 72. They are distributed with 40 in California, 14 in Washington, seven in Oregon, six in Baja California, and four in British Columbia. Since 1929 I have been concentrating on these Pacific Coast stations. Some of my other better veries are 1OBI, 1OBP, 1OAK, 1OBQ, CFCN, CKCK, CKY, KGU, KOH, KOY, KSL, KDYL, CHGS, VAS, WKAQ, CMC, HJN, XJN, XEFL, XED, LR1, and LR4."

"I have been an invalid since June 1936," writes M. Kristianson, Vancouver, B. C. "and I spend a lot of time by my radio, which is a 1939 8-tube Westinghouse. I am in a rather poor location, for a street car line passes the house, but I get pretty good reception. My catches include CJOR, CKCO, CKWX, CFCN, CBR, CFKC, CKMO, CJAT, CJCT, CJCA, CJRM, CFAX, KOAC, KVI, KHQ, KFRC, KFI, KPO, KXA, KIRO, KGHL, KGO, KLX, KFPY, KOMO, KOIN, KROW, KFWB, KJR, KFVD, KQW, WJJ, KNX, KRSC, KSL, KEX, KVOS, KDON, KTW, KWSC, KTFI, KVOS, KDON, KTW, KWSC, KTFI, KFOX, KIT, KHSL, KOL, KLS, KDYL, KALE, KARM, KXRO, KMO, KGIR, KIDO, KGER, KRE, KRLC, KELA, KGA, KFBX, KBIX, KRNR, KPMC, KSFO, KOA, KHJ, KJBS, KYA, KSRO, KOH, KOY, KORE, KIEM, KTKC, KMJ, KTMS, KWG, KVEC, KGB, KPQ, WOR, WBAP, WFAA, WCCO, WWL, WLW, WCFL, XELO, XEBG, XERA, XENT, XEAW, and XEAC."

"I have been doing some good DXing lately," reports Gerald Harris, Kansas City, Kans. "Included in my log are such catches as CBL, CFRB,

CKY, CKCR, XELO, XERA, WGY, WHAM, WFBL, WOR, WLW, WWL, WALA, WBZ, KFKA, KOIL, KFAB, KWBG, WIBW, WDZ, KEX, WDGY, WCCO, WACO, WOAI, KTAR, KSL, KFBK, KPO, KFI, and KDYL. I am using a 1932 11-tube Philco receiver."

"Latest trans-Atlantic reception here includes Deutschlandsender on 191 kcys and Praha on 1113," reports Walter T. Kamman, Caracas, Venezuela. "Catches in the U.S.A. include WLW, WFAA, WHO, WQAM, WSB, WGN, KLZ, and WIOD. LR3 is the best of the Buenos Aires stations."

"Since my latest report," asserts Jim Walker, Romney, W. Va., "I have received veries from CHRC, KSAM, KPFA, KTSW, CMKM, CMBL, WORC, WJHL, XECZ, LRA, XERA, XEAW, KFRU, KGFV, WPG, XEN, KSRO, KSAN, CKNX, XEFE, CJOC, KVNU, KSEI, KVWC, WCOV, CMK, KFku, Radio Normandie, LS11 and HJ3CAZ. Reports are out to XEQ, XEAI, XEBS, CFCT, CX18, YVIRA, HJ1ABN, HJ1ABH, XETB, PRFC, CKCA, CMKZ, XEDH, XEBH, KVEC, KSUB, KELO, WJLS, Rennes, Poste Parisien, XEM, CFQC, and XEX. KSEI, by the way, may be heard every morning until 2 a. m., while they cover KHJ pretty well"

Reception Records

Business men measure their records during a fiscal year in terms of profit and loss. Baseball players check their batting averages, runs batted in, or games won and lost.

From the time a log is started, DXers keep an accurate record of the stations heard or verified, or both. At the end of each year, they check over

the number of new stations which have been added to their logs and thereby determine whether or not the season has been a success.

On the basis of their all-time and annual totals, they are able to compare their results with the records of fellow DXers in all parts of the country. Through the medium of reports to RADEX and to their club bulletins, they are able to proclaim outstanding achievements and point to modest records.

"I have been DXing for three years," noted Everett C. Johnson, Beach Haven, N. J. "and have logged 426 stations on the broadcast band. I have only received two veries, from KGGM and WCOV, but there are several more reports still out. I guess it will soon be time to quit for the summer, but I'll be going next fall."

"My DXing started in 1932 with a five-tube G.E. midget," advises Les McClure, Portland, Ore. "and after logging KGBU and receiving a verie, I really started to go to town. At present I am using another five-tube midget receiver, and with my current set-up, I can't hold a candle to some of the reports which are appearing in RADEX. At any rate, I am out to get the veries and I'll be content to hear the U S. stations until I can get a better receiver."

"To date I have received a total of 358 stations," adds up William C. France, Bridgeport, Ohio, "in the United States, Canada, Cuba, Mexico, Puerto Rico and Costa Rica."

Counting Stations

Practically since the birth of DXing as an organized hobby, listeners have employed various methods in counting the stations which have been re-

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ceived and verified. Attempts to establish a standard system have so far met with failure, due to the belief that every DXer indulges in the hobby for his own personal pleasure and, consequently, will use the system which affords him the most pleasure from the pastime.

Most frequently disputed points concern what to do with stations which have been deleted and those which have changed call, location power or frequency. Some DXers dis-

card all stations no longer active, while other listeners keep the deleted stations in their logs. In the opinion of some midnight marauders, any change in power or frequency means that a new station has been heard. Other listeners disagree with this system, and then proceed to offer unique rules of their own. And so it goes.

While it is granted that any listener is entitled to DX in a manner which affords him the most pleasure, a variety of systems is bound to lead to confusion when reports are compared—and a comparison of reports has always been a primary part of DXing. Unless identical systems are used, one listener's log will include "new catches" claimed on the basis of numerous changes, while a contemporary's total will be much lower since he does not count any changes.

"I note the resumption of the old argument on counting stations," observes Frank W. Hoxie, So. Orrington, Me., "and I would like to give my opinion. I know that DXers have different methods of counting stations and veries, and probably no set rule can be established, but under present conditions there is no fair way to compare logs. As things stand now, one listener may report 1000 stations and another have but 800 on his log, but the latter might actually have heard more stations. At present I have 519 veries, of which only ten are from stations which have been deleted. I do not count changes in location, as I have never heard of a station moving a really great distance. (How about KYW from Chicago to Philadelphia?—Ed.) Neither do I count changes in call letters or frequency. In the former case, if a man changes his name, he is the same man. Perhaps a

change in frequency or power might make reception more or less difficult, but it would still be the same station which was being heard."

"Noticing that DXers have a difference of opinion on how to count stations, I am submitting a resume of my system," contributes Walter V. Scholz, 2nd, Webster Groves, Mo. "If a station changes call letters, I don't count it a new station, but put the new call below the old. If there is a change in frequency, power or location, I indicate the change in my log, but most certainly do not count a new station. When KYW moved from Chicago to Philadelphia, I didn't count it as a new catch—merely changed the location from Chicago to Philadelphia. Deleted stations remain in my log, but I put an 'X' before the call to show that it is no longer on the air."

"In counting veries," notes Merlin N. Steen, Decorah, Iowa, "I only list a station once, no matter how many frequencies they may use. If there is a change in call or location, the station is counted a second time."

"If a station changes frequency, I always count it a second time," avers John L. Tate Petersburg, Va. "A broadcaster may be heard on the old frequency, but after a change to another channel, it may be another question. Deleted stations are not subtracted from the log. I don't bother to verify every station heard, but am concentrating on verifying one station in each state and province. Also I verify any particularly good catches, as well as the larger stations which are heard on special programs for the radio clubs."

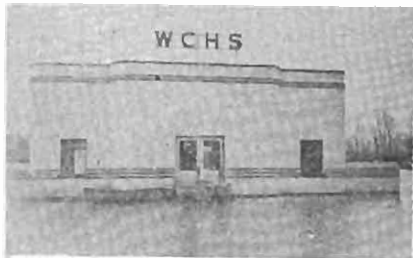
Daytime Reception

From the standpoint of distance

covered, reception during the daytime hours can offer little in the way of real DX. Pick-up of stations a thousand miles away at high noon is a real achievement, but reception of such a station at night is commonplace. Very few new additions to a log are ever heard while the sun is shining.

With this in mind, it is interesting to note the recent interest in daytime DXing by dozens of Radexers. While they can hear nothing which will add to their log or be classed as an outstanding catch, they scan the broadcast spectrum at mid-day and are quite proud of what they can hear.

Perhaps the knowledge that real distances are impossible adds zest to daytime DXing. With a known obstacle in their paths, listeners may be striving to meet that challenge and go beyond what is believed to be the mid-day reception horizon. But whatever the reason, many Radexers have found a new and interesting field, and the recent increase in reports of this nature indicate that the idea is spreading.



Two months after the new transmitter of WCHS in Charleston, W. Va. was put into operation, it was completely surrounded by flood. This photograph shows the door protected by sand bags, and a boat handy for the use of the operators. The station was off the air only three hours as a result of this flood. (Courtesy of Frank Clements).

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"In the March RADEX there were reports on what is called daytime DXing on the broadcast band," states H. D. Goodale, Williamstown, Mass. "Mr. G. L. Thompson, of Chicago lists 44 stations, plus what he calls locals. I understand that there are 14 of these in the Chicago area, but I don't know how far away a station must be before ceasing to be classified as a local. Our nearest station is about 20 miles distant, and the next nearest is about 40 miles away. Anyhow, for personal information, I often run the scale of the broadcast spectrum and find stations on most channels—sometimes two on a single frequency—all day long. A hurried check yesterday verified this impression. By 'most' channels, I mean about 90 percent. The strong Chicago stations have been heard regularly all day during the past winter."

Question Department

"Can any Radexer identify the Spanish speaking station on 640 kcs. which is heard evenings?" asks Jack Welsh, Kingston, Ill. "I should also like to know the identity of the Mexicans on 980, 985 and 990."

Peter Danko, 308 Lincoln Ave., Mingo Junction, Ohio, is anxious to learn the identity of a station which was heard one morning (date not

mentioned) between 2:02 and 2:47 a.m., EST, on 1167 kcs. Recordings of American and Spanish dance music were played, but there were no station announcements.

Radexers able to identify the stations mentioned above are asked to send their information direct to the readers. Since the next issue will not appear until September, the answers would be of little value if held over until then.

"In a recent issue of RADEX," points out Albert Palmer, Portland, Ore., "a listener in Rockford, Ill., reported his catches and mentioned that he had heard KWJJ. Is it a fact that this 500-watt station would reach clear out to Illinois? It really doesn't seem possible."

Not only is reception of a 500-watt Oregon station possible, but listeners as far East as the Atlantic seaboard would rate KWJJ as a pretty easy catch. They don't begin to get excited over trans-continental reception until they hear a 100-watter, and even these flea-power stations are heard regularly.

"I find that it is impossible to get the West Coast stations on the frequency checks," complains Edgar W. Keller, Chicago, "for the Eastern stations have come on with their daily programs before the Pacific Coast stations start up their tests. How have the other DXers heard them? I can't seem to hear WAGM, WILM and WBOQ, and am wondering when is the best time to hear them."

Very few Eastern listeners have any luck with Pacific Coast stations on frequency checks which start after 6 a.m., EST. Those stations must be heard on their regular programs just before they sign off, or on special test

or DX programs between 3 and 6 a.m., EST. Stations WILM and WAGM also must be heard on special after-midnight programs. WBOQ is the experimental call of WABC and is used infrequently on tests. You have to be lucky to hear them.

Corrections

"I have just received my April RADEX," points out Clarence Wakefield, Warton, Ont., "and notice that you have me down as saying that my verie from WCOV is the same as WMBO's. What I really said was that my veries from WMBO of three or four years ago is the same card as that pictured on page 7 of the February RADEX."

"We note that you have our schedule down in the April issue as 7 a.m. to midnight, EST," writes W. L. Willis, Jr., Director of Public Relations and Publicity, Station WRVA, Richmond, Va. "Actually, we are one the air from 6:30 a.m. to 1 a.m., EST. Congratulations on the good work you are doing to keep the DXers informed about just what is going on in the radio world!"

Blocked Channels

"In the February RADEX, Rud Anderson, Ambrose, N. D., complains that he can't hear 20 Eastern stations because they come on the air after certain mid-Western stations have occupied their channels," recalls Frank W. Hoxie, So. Orrington, Me. "If he lived here in the East, he would find that we have very much the same trouble with stations like KSAC, KFRR, KGFX, KMMJ, KFNF, KFEG, KSOO, KGNF, KGNO, KOAM, WAAW, WRUF, WHB, WHA, WNAD, WCBF, WMBI, WDGY and WKBH. Seldom if ever do these stations put on DX pro-

grams, and they cannot be logged here on their regular programs because of interference from the Eastern stations. Regardless of where a listener is located, I think he is up against a similar problem, and can only keep his chin up and hope for a special broadcast some day."

"Had a funny experience during one of my infrequent late sessions at the radio," contributes Gene Kosolapoff, Dayton, Ohio. "When I started in at 12:30 a.m., WHN was coming in with a signal that almost blew out my 'S' meter. Then KGVO in Montana was picked up with the same strength, despite its 1 KW power. Then the 500-watt WCAM showed up with just as strong a signal, and I seemed to be settled for the night. With conditions apparently good, I tried the West Coast and, believe it or not, I could barely hear the 50-KW Californians. Their signals were awfully weak and they faded badly. Checked with KGVO again, and they were as strong as ever. The whole thing just didn't make sense."

"While I am very thankful for the monthly frequency checks and the swell opportunity to hear those 300-odd stations," comments Caleb Cope, Philadelphia, "why does the FCC allow some of the stations to escape the tests? WRJN, KFEQ, WCRW and lots of others never have to put on a test program. Even if they only tested three or four times a year, that would satisfy the DX fans. Also, when there is one station testing for the FCC, why aren't the other stations on that frequency kept silent?"

In inaugurating its frequency test broadcast schedule, the FCC was interested only in checking stations which could not be heard by their

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monitoring stations during the regular hours of operation. If a station could be heard with a minimum of interference during the day or night, its frequency was measured while it was on its regular schedule. If the station could not be heard on its daily schedule, then it was obliged to put on a test program. Thus, a majority of the stations do not need to test

each month, since they can be heard by the monitors on their regular schedule. By the same token, the FCC is interested only in getting clear reception from each station on the monitoring schedule. Thus, while the monitor in Baltimore may be checking the frequency of WBTM on 1420 kcs., he will experience no interference from KIUN on the same frequency out in Texas, and there is no reason for KIUN to keep silent as long as it does not interfere with a station whose frequency is being checked.

A lot of DXers would be glad if all stations were obliged to test three or four times a year, but unfortunately there isn't a DXer in the FCC. The Commission is interested only in keeping the stations in some form of order, and it cares little whether a few thousand DXers want a chance to increase their logs. Most of the stations do test at some time of the year on their own account, and the listeners must depend on their radio clubs to advise them of special programs or be lucky enough to catch an unannounced test when it is on.

Station Information

"There is a new station in Tijuana," advises Richard S. Croker, San Pedro, Calif. "They announce as XEAU, the Voice of Southern California. They are on 1310 kcs. with 250 watts power."

"ZNS switched from 540 to 790 kcs. because many out-island listeners complained that their receivers would not tune the power frequency," reports Peter Straton, Nassau, Bahamas, "and also because of interference with WQAM at Miami. The power of the station is now definitely 1000 watts and, according to friends,

their studios and equipment are quite up-to-date."

"Here's some dope on our local stations," contributes Winship Taylor, Baltimore, Md. "WBAL and WFBR sign on at 6:30 a.m., EDT, and WCAO and WCBM come on at 7. All sign off at midnight. An easy catch for Western listeners should be WRC in Washington, which signs on at 6 a.m."

"The new station CKRN at Rouyn, Que., was heard on a special program the morning of March 11th," notes Howard E. Ziegler, Jr., Narberth, Pa., "so you can list them as on the air and willing to verify."

"I would like to call your attention to a new station up this way," advises Bill Hayward, Sackville, N. B. "This is the new station of the recently-formed Newfoundland Broadcasting Corp. Its call is VONF, it is located at St. Johns, and it operates on 640 kcs. with 10 KW power from 8:30 a.m. to 12:30 p.m. and from 4:30 to 9:30 p.m., EST, daily. The management is especially anxious to receive reports from the United States. I suppose there will be some interference from WGAN up to 9 p.m., but reception should be possible during the next half hour until VONF signs off at 9:30. By way of a report, latest catches here include Poste Parisien, Toulouse, Stettin, Turin, London Regional and National, Scottish Regional and National, Radio Normandie, Vienna, Rome, Bordeaux, Lyons and Strasbourg."

George B. Bairey, Manager of KFAM, St. Cloud, Minn., advises that his station operates from 6:45 a.m. to 10:30 p.m., CST, weekdays, and from 9 a.m. to 10:30 p.m. on Sundays. KFAM carries NBC Blue

and Red network programs.

Vernon Upton, Jr., chief control operator of WGNC, Gastonia, N. C., writes that his station went on the air March 23rd and is scheduled for frequency checks on the second Saturday between 3:30 and 3:45 a.m., EST. Although no DX programs have been lined up as yet, he promises to keep us posted, and adds that all letters to him or the station will be answered.

Radio Club Activities

"Here is some information about the CDXR," offers Clarence Wakefield, Warton, Ont. "Due to sickness in the editor's family, he found it impossible to get the bulletin out. The club funds were also running low, but we are trying to get the affairs straightened out and hope to have the club functioning again by next season."

"In the February RADEX there was a statement that nothing had been heard from the GCDXC and that only one bulletin had been issued all season," declares Erick R. Johnson, Box 422, Perth Amboy, N. J. "I wish to advise you that the GCDXC has been taken over by the World DX Alliance and that the combine is being operated under the name 'Globe Circlers DX Club and The World DX Alliance.' Headquarters are located here in Perth Amboy, and all correspondence should be addressed to me personally. We would be glad to hear from all former GCDXC members so that we may inform them of complete details of the new organization."

With news about the CDXR and the GCDXC, we are now wondering what has happened to the URDXC. Bulletins stopped arriving at our offices several months ago and recent

letters to President Norton have been unanswered.

DX on Two Tubes

"DX has been fair this spring," reports Frank Macedo, Victoria, B. C., "and I have had more than my share of luck. I am still using my old two-tube set and, while things are getting tougher every year, it still manages to pull in the stations. The morning of March 14th found reception quite good. I started off with an R8 signal from CKTB, followed up with WJHL, tuned in WAIM, WJNO, WAIR, CKCA, KOCY, KWOC, WLOK, WLBC, WHBU, WCMI, WHBY and WMFR, and finished up with 2TM in Tamworth, N.S.W., Australia. Since January, I have picked up and verified KRBC, KRLH, KOCA, KRIS, KGFI, KAND, KDNT, KPAB, KRBA, KFRO, KRRV, KGKB, WQDM, KABR, KOBH, KIUP, WROL, WHBQ, KYSM, KTSW, KVOX, WMIN, KMFG, WFOR, WSLI, WMBH, KWOS, WJTN, WMBR, WMBO, KVSO, KOME, KBIX, WIL, WIP, KTOK, KRMC, WCOV, WSGN, WAGF, WHBB, WBHP, WMSD, KWJB, KGHI, KBTM, KSRO, KVEC, KHUB, WDWS, WDZ, KFGQ, KOAM, WJBO, KVOL, XECZ and PRF3. My verified log now stands at 400 in the United States, 22 in Australia, seven in New Zealand, three in Hawaii, two in Argentina, ten in Japan, two in Puerto Rico, 13 in Mexico, 39 in Canada, and one each in Manchuria, China, Hong Kong, Guatamala, Alaska, Newfoundland, Venezuela, Colombia, Haiti and the Dominican Republic. All were heard on two tubes. Not bad, eh?"

"It has been about two years since I have done any DXing," admits W. S. Petty, Schofield Barracks, Oahu, T. H., "but now I have a five-tube Zenith receiver and am taking time in the evenings for a little listening. All told, I have heard some 93 stations, most of them from the West Coast. It is quite difficult to hear East Coast stations, as they are blocked by Pacific Coasters during the early evening and then, between 10 p.m. and 2 a.m., stations in New Zealand, Australia and Japan cover the spectrum with R8-9 signals. I'll probably be home in Virginia in a year or so, and then I will start DXing in earnest again. When I was home a few years ago, I had built up a log of some 600 stations on the broadcast band."

"I started DXing last November," greets Jesse Strawn, Whiting, Kan., "and since then I have logged 514 stations on the broadcast band. They include broadcasters in every state except Maryland, Rhode Island, and New Hampshire, as well as Canada, Cuba, Mexico, Hawaii and Puerto Rico. Some of my better catches include KFJI, KGY, KHBC, KGMB, WCOV, WKAQ, WQDM, WTHT, XECL, CKBI and CKOV. My receiver is a 1937 five-tube Airline battery model. I live on a farm where there is no interference within five miles."

"I have been interested in long distance reception for a long time," admits Edwin Gumeson, Longmont, Colo. "Recently I happened to see RADEX on a newsstand, bought a copy, and found it to be just the type of magazine I've always wanted. On the night of March 31st, I heard

KNX, KVOO, XEAW, XERA, KOB, CKTB, KOMA and KSL during the course of two hours. On the broadcast band I have heard 150 stations with my six-tube Philco."

"Reception has not been very good down here this year," advises Bireley Ross, Austin, Texas. "My best DX on the broadcast band was LRA on 750 kcs. The Australians and New Zealanders have been conspicuous by their absence. 1YA was heard only once or twice, and then very weak, while but one Jap has come down my lead-in so far. Just now, my BCB log stands at 1030 verified, with all continents except Africa. Hope to get one of these some day. A medal for the outstanding BCB station should go to KHBC. What a swell signal they put in for a small station! Some nights they are R-9 plus, and they are never worse than R-4.

"The other morning I got up at 4:30 a.m. to see what I could hear on the broadcast band," advises John Varga, Chicago. "In the next two and a half hours, I heard the following stations: WIP, WQAM, KMA, WHO, WHIO, KFEQ, XERA, WFAA, WAVE, WBZ, KYW, KMOX, WHAM, WCAU, WOAI, WOL, KTRH, KRNT, KSTP and KITE. Reports were sent out to ten of these. If I hadn't taken the time to get verification material, I probably would have heard quite a few more stations."

"I am very much interested in DXing," admits Donald M. Wheatley, Chester, Vt., "although I am still in high school and not able to spend much time listening. Some of my best catches are CHNC, KPMC, WPIC, CHNS, CHNX and WHLS."

"Since I moved into these barracks early last November," writes H. W. Hartley, Barracks P-4, U.S.N.T.S., Norfolk, Va., "I have picked up around 120 stations at odd times. Thirty-three of these were heard during the daytime and include WGH, WTAR, WFIL, WCAO, WMAL, WEAJ, WLW, WOR, WSB, WJZ, WHAS, WABC, WRNL, WRC, WBZ, KYW, WTIC, WBAL, WBT, WRVA, WCAU, WSAL, WJSV, WRTD, WCSH, WSVA, WDBJ, WPEN, KDKA, WPTF, WOL and WBRY. This was done on an old 1931 Philco Model 20, and I don't think it was so bad."

"With an RCA Victor receiver," notes Desmond Callan, Readville, Mass., "I have been able to hear the following stations during the daytime: WDEV, WFIL, WMCA, WTAG, WEEL, WLBZ, WPRO, WGAN, WSM, WEAJ, WLAW, WOR, WLW, CKAC, WHEB, WJR, WJZ, WEAN, WGY, WNYC, WHDH, WABC, WJAR, WELI, WORL, WCSH, CBY, WBZ, WHN, WTIC, WTAM, WPG, WRVA, WCOP, WSPR, WHAM, WCAU, WINS, WHAI, WNAC, WNBX, WORC and WBBR."

Reports and Resumes

Many DXers are finding that they can secure greater pleasure from their hobby by comparing their records with those of fellow listeners in their own locality. If they find that the other fellow consistently hears more stations at greater distances, they have a basis for determining how their own DXing is at fault. It may be improper tuning methods, lack of knowledge of when and where to hear certain desired stations, or poor receiving equipment. But before the

DXer can take the proper steps to improve his DX efficiency, he must have a means of learning whether or not he is doing as well as other listeners in his territory.

Some listeners are fortunate enough to be located in large communities where there are many DXers, and it is usually easy to arrange gatherings at which logs may be compared and tips exchanged. But for listeners in remote sections, such gatherings are frequently impossible, and then the columns of RADEX are valuable aids in making comparisons.

"During the past winter I have not tried for overseas DX," declares L. M. Jensen, Cowley, Wyo., "although I did receive KGU on several occasions. However, I have had some notable daytime reception, hearing on several occasions stations more than 1000 miles distant between 10 a.m. and 4 p.m. XERA, 1100 miles away, was heard every day during January between 10 a.m. and noon, and WLW, 1300 miles away, has been heard at 2 p.m. Other daytime catches are WGN, KFI and WJZ. My receiver is a Philco Model 630, and I use an inverted-L aerial 420 feet long."

"When I sent in my last report, I had heard about 70 stations," notes Frank Billingsley, Jr., Ellenboro, N. C. "The log now stands at 172."

"I am 13 years of age and have been DXing seriously since last September," reports Desmond Callan, Readville, Mass. "My BCB log stands at 315 stations. By the end of the next FCC frequency checks, I hope to have the total raised to 375."

Service Problems and Other Things

● ● ● By The Technical Editor

WHEN the time comes for the Mid-summer edition of RADEX we know that another radio season has ended. People naturally ease up on their radio activities when they can get out of doors, and then, radio reception is not always pleasant when the volume has to be turned up for DXing. It is natural for static to prevail during summer. So far, mankind has done very little about it! In fact, the great increase in sensitivity in modern radio sets has made it worse. Of course, certain of the shortwaves are, to a limited extent, free of static. This is a help.

● The big National Radio Show will be held in Chicago early this summer. On June 16th and 17th it will devote those days to amateurs, students, servicemen, retailers and others deeply interested in the radio art. And speaking of radio shows it'll be well to remember that the two world's fairs will have radio exhibits and demonstrations galore. No one should miss these great opportunities to become better acquainted with radio. Television, of course, will be the center of attraction, particularly at New York.

The Technical Editor has received many interesting communications during the past month and he hopes that more will continue to come to his desk throughout the summer. Let's look over some of these letters and discuss those which are likely to be of general interest to our readers.

H. K., West Reading, Pa.: On some stations I hear a steady whistle at times and the tuning eye of my set closes. Then I get a whisper and a "mushy" tone, but soon the set returns to normal.

Answer. This appears to be station interference or heterodyning. Two signals are too close together and when the weak one becomes stronger through the effect of fading, this interference is noticed by the action of the tuning eye and the weakening and distortion of the sound. When the weaker or more distant signal fades away, the nearby station with its stronger signal predominates, and the effect is not noticeable.

F. M., Erie, Pa.: The tuning eye in my Silvertone 4566 is a type 6H5 and it does not work properly for it does not come together but only flickers.

Answer. This receiver should have a type 6G5 electronray tube for its tuning eye. The 6H5 has an additional element for which the circuit of your set may not be properly balanced. We suggest using the tube the manufacturers of the set recommend. However, a faulty 6H5G could cause the trouble, even when it is being used. A bad 1-megohm resistor, in the tuning eye socket, will give some trouble.

H. E., Call, Texas: I would like to have a 1-tube set that will receive long-wave code signals from the press radio stations. How can this be done to pick up the C. W. waves which I understand are difficult to hear?

Answer. A three-circuit tuner will oscillate so as to receive the continuous wave (C. W.) signals that are difficult to hear on ordinary radio receivers. The important thing is to have a coil on the tuner that is sufficiently large to tune to the longer waves, some of which might be several thousand meters in length. Honeycomb coils are excellent for this purpose—one for tuning and one smaller coil in the plate circuit of the single tube for regeneration or as a "tickler".

F. B. G., Pittsburgh, Pa.: I am using head-phone adapters in my General Electric 61 receiver but the volume is weak. I have been told to place them under the second 42 tube instead of the first, but there is only one 42 tube. Can you help me?

Answer. The G. E. model 61 has but one power tube, and according to our information it should be a type 41 and not a type 42. However, the 42 can be used, and it is a bit more powerful. There is no second audio power tube, so you have been misinformed. The adapter should be placed under the single 41 or type 42 tube, whichever may be the case. Phone adapters work nicely in most cases, and should work with this set. Evidently there is something wrong with it or perhaps the headphones have a defect.

R. J. N., Louisville, Ky.: I can get good shortwave reception during the late afternoon, but as soon as the street lights come on it is impossible to hear anything. Why is this?

Answer. Once street lights are turned on there should be little or no interference from them unless old-fashioned arcs are being used. If large bulbs are set into the pole sockets, and are tightly inserted, the static should be next to nothing. Of course, overhead wires, if nearby, might cause some inductive hum. If the lights actually are the source of interference, a careful antenna arrangement might help some. The aerial itself must be as far away from the wires as possible. It should be a doublet type. The leadin may be very long, if necessary, if it is twisted, and fitted with coupling transformers at the antenna top and also at the receiver.

NEW STATION LISTS

In this section we offer official radio station lists from three countries, China, Colombia and Venezuela.

The China list was sent to us by the Director General of Telegraphs and Telephones, at Chungking. The Colombian list comes from the Minister of Mails and Telegraphs at Bogota. The Venezuelan list was submitted by Walter Th. Kamman of Caracas, Mason-Williams of Newark, N. J., and John Oskay, New Brunswick, N. J.

Colombia

Colombian stations are classified as cultural, regional, local, and international.

Aguadas:
HJ6FAJ 1500 kcs. 25 w. (C).

Armenia:
HJ6FAH 4875 kcs. 600 w. (R).

Barranquilla:
HJ1ABA 1330 kcs. 251 w. (L).
HJ1ABB 4785 kcs. 600 w. (R).
HJ1ABG 6050 kcs. 600 w. (I).
HJ1ABH 1080 kcs. 500 w. (L).
HJ1ABK 1310 kcs. 251 w. (L).
HJ1ABN 1190 kcs. 1000 w. (L).

Bogota:
HJ3CAB 1105 kcs. 960 w. (R).
HJ3CAC 870 kcs. 1000 w. (R).
HJ3CAD 4845 kcs. 720 w. (R).
HJ3CAE 1220 kcs. 1000 w. (R).
HJ3CAF 4855 kcs. 750 w. (R).
HJ3CAG 1060 kcs. 251 w. (L).
HJ3CAH 4895 kcs. 720 w. (R).
HJ3CAI 1160 kcs. 750 w. (R).
HJ3CAJ 1380 kcs. 280 w. (L).
HJ3CAK 1290 kcs. 480 w. (L).
HJ3CAL 1400 kcs. 251 w. (L).
HJ3CAX 6012 kcs. 750 w. (L).
HJ3CAZ 1040 kcs. 1100 w. (R).

Bucaramanga:
HJ7GAB 4775 kcs. 750 w. (R).
HJ7GAK 1280 kcs. 280 w. (L).
HJ7GAD 9630 kcs. 650 w. (I).
HJ7GAE 1130 kcs. 350 w. (L).

Cartagena:
HJ1ABE 4835 kcs. 525 w. (R).
HJ1ABF 1240 kcs. 251 w. (L).
HJ1ABP 9616 kcs. 608 w. (I).
HJ1ABR 1400 kcs. 251 w. (L).

Cali:
HJ5EAB 1150 kcs. 300 w. (L).
HJ5EAC 1300 kcs. 251 w. (L).
HJ5EAD 4825 kcs. 720 w. (R).
HJ5EAE 1090 kcs. 251 w. (L).
HJ5EAF 1340 kcs. 251 w. (L).

Cienaga:
HJ2BAI 1430 kcs. 250 w. (L).

Cucuta:
HJ2BAB 4815 kcs. 600 w. (R).
HJ2BAC 1270 kcs. 251 w. (L).

Manizales:
HJ6FAB 6187 kcs. 501 w. (R).
HJ6FAD 1390 kcs. 450 w. (L).
HJ6FAX 1260 kcs. 251 w. (L).

Medellin:
HJ4DAX 1350 kcs. 251 w. (L).
HJ4DAE 6145 kcs. 700 w. (I).
HJ4DAK 1250 kcs. 251 w. (L).
HJ4DAP 4885 kcs. 501 w. (R).
HJ4DAQ 1320 kcs. 1800 w. (R).
HJ4DAR 1380 kcs. 251 w. (L).
HJ4DAT 1150 kcs. 400 w. (L).
HJ4DAU 4805 kcs. 250 w. (C).

Monteria:
HJ1ABM 1210 kcs. 251 w. (L).

Pasto:
HJ8HAB 1500 kcs. 25 w. (L).

Pereira:
HJ6FAC 6054 kcs. 501 w. (I).
HJ6FAE 1470 kcs. 251 w. (L).
HJ6FAF 1350 kcs. 453 w. (L).

Popayan:
HJ5EAG 1450 kcs. 200 w. (L).

Quibdo:
HJ4DAG 4805 kcs. 150 w. (R).

Santa Marta:
HJ2BAJ 4865 kcs. 751 w. (R).

Sincelejo:
HJ1ABC 550 kcs. 30 w. (L).

Uribia:
HJ2BAD 4805 kcs. 30 w. (C).

China

All the Shanghai stations listed are Privately Owned, and the rest of the stations in the list are Government Owned.

Chungking XGOA 1450 kcs. 10000 w.
Sian XGOB 1290 kcs. 500 w.
Chengtu XGOG 560 kcs. 10000 w.
Nanchang XGOC 1130 kcs. 3000 w.
Nanning XGOE 1290 kcs. 1000 w.
Kunming XGOY 697 kcs. 250 w.
Shanghai XHHK 620 kcs. 100 w.
Shanghai XMHC 700 kcs. 500 w.
Shanghai XHHB 740 kcs. 100 w.
Shanghai XLHA 780 kcs. 50 w.

Shanghai	XLHG	800	kcs.	100	w.
Shanghai	XHHU	840	kcs.	100	w.
Shanghai	XHHE	940	kcs.	100	w.
Shanghai	XHHE	960	kcs.	100	w.
Shanghai	XHHH	1040	kcs.	100	w.
Shanghai	XMHB	980	kcs.	500	w.
Shanghai	XLHN	1120	kcs.	200	w.
Shanghai	XHHZ	1180	kcs.	100	w.
Shanghai	XHHN	1200	kcs.	100	w.
Shanghai	XHHY	1240	kcs.	100	w.
Shanghai	XHHP	1260	kcs.	100	w.
Shanghai	XQHD	1360	kcs.	200	w.
Shanghai	XMHD	1420	kcs.	1000	w.

Venezuelan Stations

Following is a complete list of the stations of Venezuela, arranged by frequencies, showing the new frequencies which became effective on April 1st. This list was sent to us by Walter Th. Kammann of Caracas.

Freq.	Call	Kw.	City	Slogan
882	YV5RQ	5	Caracas.	"La Voz de la Philco."
960	YV5RA	10	Caracas.	"Radio Caracas."
980	YV2RB	2	San Cristobal.	"La Voz de Tachira."
1010	YV5RG	5	Caracas.	"Ondas Populares."
1050	YV5RZ	..	La Guaira.	"Emisoras Vargas."
1110	YV5RE	2	Caracas.	"La Voz de Venezuela."
1120	YV1RF	5	Maracaibo.	"Ondas del Lago."
1153	YV1RE	5	Maracaibo.	"Radiodifusora Maracaibo."
1153	YV4RG	½	Maracay.	"La Voz de Aragua."
1167	YV5RL	..	Caracas.	Cesar Banuls.
1200	YV5RB	10	Caracas.	"Radiodifusora Venezuela."
1250	YV1RK	1	Maracaibo.	"Radio Popular."
1270	YV3RC	2	Barquisimeto.	"La Voz de Lara."
1300	YV1RA	5	Maracaibo.	"Ecos del Zulia."
1330	YV5RR	5	Caracas.	"Estudios Universitario."
1350	YV4RA	2	Valencia.	"La Voz de Carabobo."
1370	YV5RI	5	Caracas.	"La Voz de la Esfera."
1400	YV1RC	2	Maracaibo.	"La Voz de la Fe."
1400	YV4RE	2	Valencia.	"Radio Valencia."
1400	YV6RA	½	Ciudad Bolivar.	"Radio Bolivar."
1430	YV4RL	..	Maracay.	A. Ormezzano.
1450	YV4RI	..	Valencia.	Teodoro Ache.
1450	YV6RD	½	Ciudad Bolivar.	"Ecos del Orinoco."
1475	YV3RE	2	Barquisimeto.	"Radio Barquisimeto."
4770	YV1RT	2	Maracaibo.	"La Voz de la Fe."
4780	YV1RO	½	Trujillo.	"Radio Trujillo."
4790	YV5RY	5	Caracas.	"La Voz de la Esfera."
4800	YV1RV	5	Maracaibo.	"Ecos del Zulia."
4810	YV1RU	5	Maracaibo.	"Radiodifusora Maracaibo."
4820	YV3RN	2	Barquisimeto.	"Radio Barquisimeto."
4830	YV5RH	5	Caracas.	"Ondas Populares."
4840	YV4RX	½	Maracay.	"La Voz de Aragua."
4850	YV1RZ	1	Valera.	"Radio Valera."
4860	YV1RL	1	Maracaibo.	"Radio Popular."

4880	YV6RU	½	Ciudad Bolivar.	"Ecos del Orinoco."
4890	YV1RX	5	Maracaibo.	"Ondas del Lago."
4900	YV6RT	½	Ciudad Bolivar.	"Radio Bolivar."
4910	YV1RY	2	Coro.	"Radio Coro."
4920	YV5RU	5	Caracas.	"Estudios Universitario."
4930	YV4RP	2	Valencia.	"Radio Valencia."
4940	YV5RO	2	Caracas.	"La Voz de Venezuela."
4950	YV4RO	2	Valencia.	"La Voz de Carabobo."
4960	YV5RS	5	Caracas.	"La Voz de la Philco."
4970	YV1RJ	1	Coro.	"Radio Falcon."
4990	YV3RX	2	Barquisimeto.	"La Voz de Lara."
5000	YV5RK	10	Caracas.	Government.
5010	YV5RM	10	Caracas.	"Radiodifusora Venezuela."
5020	YV4RQ	2	Puerto Cabello.	"Radio Pto. Cabello."
5040	YV5RN	10	Caracas.	"Radio Caracas."

MERLIN STEEN

A broadcast band DXer, Merlin has heard 796 stations, of which he has verified 434. He is a member of several clubs, among them, The Radex Club (R814), The Lazy DXer's Club, The Experimenter's Club, the NRC and the Friendship Club. Along with some of his choice veries in the photo, he has his Radex Club membership card, and a copy of Radex.

LEO HERZ

A RADEX subscriber for six years, and a member of The Radex Club, Leo is a shortwave DXer of the first class. He has verified all continents eight times, and heard 71 different countries. His receiver is a Howard, and the aerial is a Taco Selective Beam antenna.

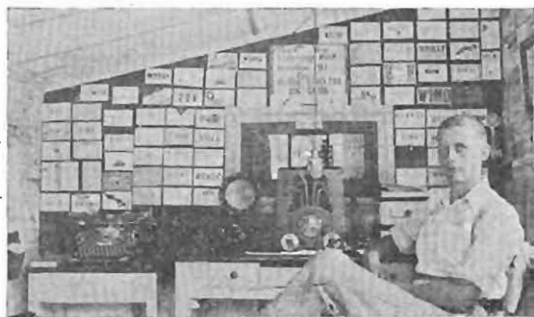
GEORGE CRYDER

A shortwave DXer for one year, George already has 60 different countries to his credit. His log stands at about 500 stations on the broadcast band, 156 on shortwaves, and 375 amateur stations. He is Radex Club member R634.

HENRY HENDRICKSON

After four years of DXing, Henry counts close to 2000 amateur stations heard on the 20 meter band. In addition to this, he has 400 stations on the broadcast band. He collects SWL cards, of which he has 669. Shown in the photo are his Air Caste receiver, and some of his veries.

Dxers' Picture Gallery



HENRY HENDRICKSON



LEO HERZ



MERLIN STEEN



GEORGE CRYDER



RAY SHAFFAR



Cleveland and Erie DXers, photographed during a visit of the National Radio Club with members of the Cleveland Radio Club. Standing, from left to right, are Bob Breymaier, Jack Siringar, Harry Gordon, Ed Feichtner, W. H. Herman. In the front row are Elmer Wokaty, Stephen Mann, Jack Gardner, Harold Burstrom and Francis Gmeiner.

HIGH FREQUENCY GLOBE TROTTING

● ● ● By RAY LA ROCQUE

Report-o-Meter

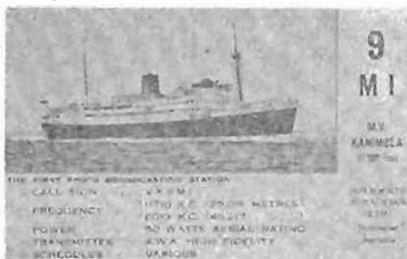
John J. Oskay	100%
M. F. Williams	72%
C. J. Fern	52%
George Nahas	28%
A. D. Jordan	22%
Pat Webb	22%

After having occupied second place for a couple of months, John J. Oskay finally has succeeded in reaching the top spot in the meter. A tie occurred in the fight for last place, hence the six names in the meter this month. Honorable mention is made for the reporting of James Hodgden, G. R. Jewell, Jr., and Bob Sawada.

This month marks the conclusion of our first DX season with RADEX and before saying goodbye 'till September we want to say "Thanks" to every reporter who has helped us during the past season. The spirit of co-operation and the desire to help the other fellow found among our readers is priceless. It was very pleasant work indeed, preparing this shortwave department each month and being associated with the most able assistants in the world—the RADEX Readers. Again our thanks—especially to those who were not so fortunate as to register in any of our Report-o-Meters. We sincerely hope that you will keep trying next season and that you will register often in the months to come.

ASK US ANOTHER

Russell Carter (R649), Jackson, Mich. asks about a station heard on April 20 on about 11780 kcs. from 11:45 p.m. to 12:45 a.m. The program was the same as ZRK on 9606 kcs. Has anyone any information?



The Motor Vessel "Kanimbla," the home of the world's first ship broadcasting station, VK9MI. The ship broadcasts while travelling from Australia to New Zealand, using only 50 watts of power. (Courtesy of J. E. Gardner).

. . . John J. Oskay, RFD#1, Box 179, Pacific St., New Brunswick, N. J. has the following question marks: An HJ on 4950 kcs. heard around 7:20 p.m. Rome on 11900 kcs. near 7 p.m. with 2RO-4 in parallel. YVA (call not certain) on 5225 kcs. on Saturday nights at 6:30 p.m. HC2CAB (call uncertain) on 9185 kcs. near 9 p.m., and a Russian on 15410 kcs. irregularly at 6 p.m. . . In reply to Pat Webb's question in RADEX, I recently received a verification from W2XAA, Bell Telephone, stating that W2XAA was operating portable in Chicago. The station is used in connection with various radio transmissions tests that are not concerned with the performance of the transmitter. W2XAA operates on 8655 and 12862.5 kcs.—This from Bob Taglauer, 223 Orchard Rd., Covington, Ky.

NOT SO SHORT WAVES

Panama

HOA on 2340 kcs. at Panama City is anxious for reports and all careful and correct reports will be properly

acknowledged and verified. (Macrae—R473, Manitoba)

Guatemala

TGWC on 2330 kcs. heard daily in the evening with a signal varying from R6-9. (Cryder—R634, Ohio)

U. S. A.

KGLU on 2738 kcs., the tug "Mama" owned by Young Brothers of Honolulu heard here in the evening, Hawaii Time. (Fern—R211, T. H. 2)

WAHJ on 2102 kcs., portable mobile unit of WDWS heard at 10 p. m. relaying program of WDWS. Reports were requested. They verified by card. (Taglauer—Ky.)

WWMA on 2690 kcs., the Detroit Border Patrol, heard at 9 p. m. working WWMN on 2760 kcs. Mecena, N. Y. and WWMC on 2708 kcs., at Marine City, Mich. (Taglauer—Ky.)

SHORTWAVES IN REVIEW

Angola

CR6CC on 11740 kcs. at Luanda is heard when CS2WD signs off at 2:30 p. m. with a very weak signal badly QRM'd by the side bands of W1XAL. (Williams—R552—N. J.)

Australia

VK2ME on 9590 kcs. at Sydney put in its best appearance on April 9, between 3:30 a. m. and 4:30 a. m. Their schedule has been permanently changed, it is believed, to 1 a. m. till 11 a. m., instead of 1-3 a. m., 5-11 a. m. Average signal R6-8. (Nahas—R1045, N. Y.)

VLK on 9580 kcs. at Melbourne is heard with news, stock market reports, weather forecast and music from 7:30-8 a. m. when they fade out. (Hodgden—R976, Ohio)

VLR—3 on 11880 kcs. at Melbourne is heard very well every morning from 1—3 a. m. Average signal R6-7. (Nahas—R1045, N.Y.)

Bahama Islands

ZNF is a new experimental station being operated on 6090 kcs. relaying ZNS. Reports requested from all over the states if they reach out that far. Heard in Saskatchewan relaying London from 6-8 p. m. with R6 signal. (Straton—R715, Bahama Islands; and Flynn—R937, Sask.)

Brazil

PSH on 10220 kcs. at Rio de Janeiro heard every Monday with an English program from 8-8:30 p. m. with an excellent signal. (Hodgden—R976, Ohio; Jewell—R834, Ala.; and Nahas—R1045, N. Y.)

British Honduras

ZIK-3 on 5300 kcs. is a new call and frequency for the Belize short-wave station. They are using this frequency in place of ZIK-2 on the same schedule: 8:30 to 8:50 p. m. (Williams—R552, N. J.)

Canada

CKFX on 6080 kcs. at Vancouver is on Saturdays until 3 a. m. (Fern—R211, T. H. 2)

CFVP on 6030 kcs. in Calgary Alberta is heard with a good R9 signal between 9 a. m. and 1 a. m. on Thursdays and noon to midnight on Sunday. (Williams—R552, N. J.)

CJRO on 6150 kcs. at Winnipeg heard carrying hockey game between Ft. William and Brandon at 11 p. m. (Flynn—R937, Sask.)

CJRO on 6150 kcs. and CJRX on 11720 kcs. broadcast on Saturday nights from 10 p. m. until 3 a. m. Sunday morning. (Jordan—R702, Pa.)

VE9CHX on 5750 kcs. called CZ6U and CZ6Z (Camp 14) at 8 p. m. They made a three way QSO. CZ6U and CZ6Z were heard on 5760 kcs. VE9CHX is in Toronto. (Flynn—R937, Sask.)

Chile

CB1174 on 11745 kcs., between GSD and COCX is heard till 11 p. m. Their address is Orlandini y Raggio, Ltda., Casilla 3455, Santiago. (Fern—R211, T. H. 2).

CB1510 on 15100 kcs. at Valparaiso testing near 6:30 p. m. (Fern—R211, T. H. 2)

China

XGOY on 11900 or 11880 kcs. (call is still uncertain) is heard alternating on these two frequencies in the morning between 5:45 and 6:15 a. m. (Oskay—N. J.; Williams—R552, N. J.; and Sawado—R592, Calif.)

XPSA on 6800 kcs. at Kweiyang is heard daily till 10:15 or 10:45 a. m. They sign off with Chinese National Anthem, but they do not carry the same program as the 9500 kcs. station. (Parks —B. C.)

Colombia

HJ3CAX on 6012 kcs. at Bogota relays broadcast station HJ3CAZ on 1040 kcs. Schedule is 10:30 a. m. to 2 p. m. and 5:30-11:30 p. m. daily with a Sunday schedule from noon to 1:30 p. m. and 6-11 p. m. Closing announcement is in English, French, and Spanish. (Hankins—R7, Pa. 1; and Jewell—R834, Ala.)

HKF on 9710 kcs. "La Voz de Bogota", Apartado 312, Bogota, has been heard nightly after 9 p. m. with a good R8 signal. (Williams—R552, N. J.)

Costa Rica

TIPG on 9700 kcs. at San Jose operates in parallel with TIPG on 6410 kcs. from 7-9:30 a. m., noon to 2 p. m. and 4-11:30 p. m. Slogan: "La Voz de la Victor." (Fern—R211, T. H. 2; Harris—Mass.; Jewell—R834, Ala.; Flynn—R937, Sask.; Williams—R552, N. J.; and Jordan



Green, red, black and light blue are the colors of this Dominican verification card. The station is HIN, the "Voice of the Dominican Party," and the man pictured is General Rafael Trujillo M., the Chief of the Party. (Courtesy of Dick Anderson).

—R702, Pa.)

Cuba

COCD on 6130 kcs. seems a little higher in actual frequency on 6137 kcs. They are heard with an R9 signal around 10:30 p.m. (Hankins—R7, Pa. 1)

COCQ is moving often and heard on several frequencies the same day. Among those heard were: 8935, 8825, 8850 kcs. (Oskay—N. J.)

Czechoslovakia

OLR4A on 11840 kcs. heard between 8 and 10 p. m. signing with just OLR and announcing as Prague. The word Czechoslovakia is not mentioned at all. Neither are there any numerals following the call (Williams—R552, N. J.)

Dominican Republic

Saturday nights is the best time to tune for stations in this country (HI stations) as most of them are on the air between 5 and 9 p. m. (Oskay—N. J.)

HI-1J on 5890 kcs now and heard on April 20 at 7:40 p. m. (Oskay—N. J.)

HI9B on 6390 kcs. at Santiago is heard with a program of the Gospel Mission church from 7:10-8:15 p. m. (Hodgden—R976, Ohio)

Ecquador

HCJB broadcasts simultaneously on 12460 kcs. (1000 w.), 4170 kcs. (200 w.), and 974 kcs. (50 w.) and occasionally over HC1JB on 14420 kcs. daily except Monday from 7-8:15 a. m., 11:30 a. m. to 2:30 p. m. and 5-10:30 p. m. (Fisher—Mich.)

HC1PZ on 14770 kcs. (approximately) at Quito, was heard from 12:05 a. m. till sign off at 1 a. m. Announcements were made in English and Spanish after each musical selection and announcer asked for reports promising to verify all correct reports. Gave address as Box 756, Quito, Ecuador. (Nahas—R1O45, N. Y.)

Fiji Islands

VPD-2 on 9538 kcs. at Suva puts in an R7 signal at 6:30 a. m. (Oskay—N. J.)

France

"Paris Mondial" on 7280 kcs. heard from 10 p. m. to midnight with English news at 11:20 p. m. Slight CW QRM. (Taglauer—Ky.; and Flynn—R937, Sask.)

Great Britain

All the letters available in the GA-series having been assigned to Daventry stations, the new stations bear letters in a new GR- series. GSX, Y and Z had been allocated to services other than broadcasting many years ago, and the series GT- has already been assigned. So, commencing with GRZ, new call letters will be assigned in reverse alphabetical order. As Daventry listeners know, a word identifying the final letter of each call is allotted, to avoid confusion. The full list of such identifications, with frequencies, is now:

GRY	9600	York
GRZ	21640	Zero
GSA	6050	Aerial
GSB	9510	Broadcasting
GSC	9580	Corporation
GSD	11750	Daventry
GSE	11860	Empire
GSF	15140	Fortune
GSG	17790	Greeting
GSH	21470	Home
GSI	15260	Island
GSJ	21530	Justice
GSL	6110	Liberty
GSN	11820	Nation
GSO	15180	Ocean
GSP	15310	Progress
GST	21550	Transmitter
GSU	7260	Unity
GSV	17810	Valor
GSW	7230	Westminster

GSP on 15310 kcs. in parallel with GSF at Daventry broadcasts talks, news, and music in Arabic from 12:20 until 1:20 p. m. daily. A gong is sounded at 1 p. m. These programs have been mistaken for Oriental stations or Oriental broadcasts. (Nahas—R1O45; and Harris—Mass.)

GSY on 9600 kcs. "Y for York" was reported in operation by the BBC on a broadcast the other evening, but static was so high on that band that it was impossible to check it. (Webb—Texas)

Guadeloupe

"Radio Guadeloupe" on 7435 kcs. at Pointe-a-Pitre is heard consistently with a good strong signal between 6-7 p. m. daily. Address is P. O. Box 125. (Taglauer—Ky.; and Williams—R552, N. J.) This station is planning a special broadcast for the IDA, the NRC and the Cleveland Radio Club. (Gardner—R517 Ohio)

Guatamala

TGWA on 15170 kcs. heard at 7 p. m. contacting W6MIE. W6MIE transmitted Gov. Olson's message to Guatamala in which he expressed the wish for further peace and friendly relations between the respective countries. During this broadcast it was announced that TGWA would broadcast evening programs on that

frequency from 7:30-10 p. m. when it would change to 9685 kcs. (High-tower—Fla.)

TGWA on 11180 kcs. instead of 11760 kcs. on April 11 at 11 p. m. (Nahas, —R1045, N. Y.)

TGWA on 9685 kcs. and TGWB on 6490 kcs. as well as TGWC on 2320 kcs. present a program for DX listeners on the 1st and 3rd Sunday of every month between 1 and 3:30 a. m. (Williams—R552, N. J.)

TGWB on 6490 kcs. again after having experimented elsewhere. (Oskay—N. J.)

TGXI on 6132 kcs. at P. O. Box 23, Guatamala City, presents a DX program for listeners in the United States each Sunday after 1 a. m. (Williams—R552, N. J.)

TG-1 on 1310 kcs. and TG-2 on 6190 kcs. work daily from 7:30-10 a. m. and from 6-11:30 p. m. Saturdays until 3 o'clock Sunday morning, and Sunday from 3-8 p. m. The Spatari Foundation has received reports from many listeners which show that even with 200 watts output of each station, they are well heard in the USA, especially TG-2 which is heard as clearly as a local station. (Spatari —R683 N. Y.; and Williams —R552, N. J.)

Haiti

HH2S, on 6065 kcs. now, was first believed to be a new Jamaica station because of special program for Jamaica. Signal very weak on this frequency. (Oskay—N. J.)

Hungary

HAT-4 on 9125 kcs. heard signing off with announcement in English at 7:30 p. m. They are heard Sundays with English news at 7 p. m. (Hodgden—R976, Ohio; and Hankins—R7, Pa. 1)

India

VUD-2 on 9590 kcs. at Delhi has been heard here lately with R6-7 signals. On March 28, I had VUD-2 with a greeting program to children. That was a Tuesday. Program started at 8 a. m. and lasted until 8:30 a. m. with an R6 signal. VUD-4 on 15290 kcs. has been heard in place of VUD-3 on 15160 kcs. here for the past 6 weeks from 8:30-10 p. m. (Jewell—R834, Ala.)

Ireland

Frequencies and schedule of the Irish Shortwave Station are as follows, according to a letter of acknowledgment from the station: 8:30-10 a.m. daily on 17840 kcs. and 12:30-4:30 p.m. on alternate days on 17840 kcs. and 9595 kcs. Reports are requested and appreciated and should be addressed to Broadcasting Station, Athlone, Eire. (Snook—R620, N.S.2; Leshner—R757, Mass.; and Morris—R37, Ont.1).

Italy

Arabic programs are broadcast over Italian Shortwave stations daily and are often mistaken by listeners for Oriental or similar stations. I2RO-4 on 11810 kcs. and IQA on 14795 kcs. broadcast a program of news and music in Arabic daily from 4:30-5:15 a. m. I2RO-3 on 9630 kcs., and I2RO-6 on 15300 kcs. and IQY on 11673 kcs., broadcast a similar program daily from 12:10-12:55 p. m. (Nahas—R1045, N. Y.)

IQA not IQH is the call of the irregularly used Rome station on 14736 kcs. (Jordan—R702, Pa.)

IRF on 9835 kcs. can be heard in the afternoons working Cairo with a good R9 signal. (Williams—R552, N. J.)

I2RO-4 on 11810 kcs. at Romè



Verifying reception of "Radio Nacional" on 10370 kcs., this brown-colored card was sent to A. D. Jordan of Philadelphia.

heard from 5:38 p. m. announcing in Italian. Heard the popular "Oh Mama" sung in Italian. (Flynn—R937, Sask.)

Japan

Complete schedule of transmissions: Transmission I for Europe from 2:30-4 p. m. daily on JLG-3 (11705) and JZK (15160).

Transmission II for South America from 4:30-5:30 p. m. daily except Saturday on JZL (17785), JLT-3 (9645), JLG-3 (11705).

Transmission III for Eastern North America from 8-8:30 p. m. daily on JZL (17785 kcs.)

Transmission IV for the Pacific Coast of North America and Hawaii from 12:30-1:30 a. m. daily on JZK (15160)

Transmission V for Eastern North America from 7-7:30 a. m. daily on JZJ. (11800) and JZK (15160).

Transmission VI for South Seas, South Asia, Dutch East Indies, and Oceania, from 8-9:30 a. m. on JLU-3 (15135), JZJ (11800), and JZK (15160). (Fern—R211, T. H. 2; Leshner—R757 Mass.; and Blanchard—R485, N. Y.)

JIB on 10500 kcs. is not heard now, but JFO on 9630 kcs. is heard together with JIE on 7290 kcs. from 9-10:20 a. m. relaying JFAK. (Sawado—R592 Calif.)

JL-3 on 9645 kcs. not JLG-3 as interpreted by listeners. (Brummond—R139, Utah 1)

JLT on 6190 kcs. is on the air daily from 8-9:30 a. m. with same program as JZJ on 11800. (Sawado—R592, Calif.)

JZI on 9535 kcs. at Tokyo heard with overseas program from 7-7:30 a. m. with R7 signal (Hodgden—R976, Ohio; Jewell—R834, Ala.)

JZL on 11785 kcs. heard on 8 p. m. program on this frequency. (Oskay—N. J.)

Java

PLP on 11000 kcs. is putting in an R8 signal up to 8:15 a. m. PMN on 10260 kcs. with an R4, YDB on 9550 kcs. with R6-7 and YDC on 15150 kcs. with R3-4. No signals have been heard here in the a. m. from PMH on 6720 kcs., lately. All the above stations were in parallel. The program consisted of popular music, news, and talks. (Jewell—R834, Ala.)

Lithuania

LYZ-4 on 15130 kcs. has been heard on Sunday afternoons after the sign off of W1XAL at 1 p. m. (Williams—R552, N. J.)

Manchoukuo

JDY on 9925 kcs. at Dairen heard at 7:30 a. m. every morning with R6-8 signal. They operate from 7-8 a. m. (Taglauer—Ky.)

Martinique

"Radio Martinique" on 9700 kcs. sign off nightly at 8:32 p. m. with the "Marseillaise". They seem to sign off occasionally in English and more often in French or Spanish.

Mexico

XEQQ on 6080 kcs. is heard with a very good signal nightly around 8 p. m. (Oskey—N. J.)

XEWQ on 12150 kcs. (approx.) at Mexico City is a new station heard very weakly and relaying the programs of standard broadcast station XEQ. (Webb—Texas)

Mozambique

CR7DB on 15240 kcs. (call not certain) is a new one in Lourenzo Marques operating in parallel with CR7BH and CR7AA according to an announcement over the latter station. (Fern—R211, T. H. 2)

Newfoundland

VONF on 5730 kcs., heard with a R7 signal on this frequency around 9:30 p. m., must be the ninth harmonic of the 637 kcs. frequency. (Oskey—N. J.)

Nicaragua

YNRF on 6760 kcs. now, not 7660 kcs. as previously listed. (Harris—Mass.)

Norway

LKQ on 11735 kcs. at Lamberster is heard between 11 a. m. and 2 p. m. daily. The old Oslo station (8025 kcs.) is heard experimenting on this frequency and rebroadcasting LLG between 3-6, 8-9, and 11-12 midnight. (Williams—R552, N. J.)

Panama

HP5G and HOA in Panama City are now under full charge of Mr. George Williams whose "Radio Newspaper" is broadcast from 7-7:30 p. m. over these stations. He has an international program dedicated to Americans from noon to 1 p. m. Verification cards will be sent to every reporter. (Dessinger, Kansas.)

Papua

VIG on 7310 kcs. at Port Moresby heard at 4:30 on April 1st, "and that's no April Fooling, either!"

(Oskey—N. J.)

Paraguay

ZP14 on 11720 kcs. heard between 8 and 9 p. m. with R5-7 signal. (Williams—R552, N. J.; and Oskey—N. J.)

Peru

OAX4J sent the following letter to Herbert Tucker of Akron, Ohio: "We intend to open a new band on the short wave length of 49 meters and we do not know exactly which frequency we will choose. I will ask you to advertise this during the coming months, asking for collaboration. We wish to know just the best frequency on the 49 meter band, that is to say on the following kilocycle frequencies: 6220, 6443, 6533, 6583. To make more clear what we want, we need to know exactly a free frequency on the 49 meter band to start work on the new shortwave station." Address: Antonio Vazquez P., Manager of OAX4J Radio International, Casilla No. 1166, Lima, Peru.

OAX4T on 9562 kcs. from 11:30 a. m. to 1:30 p. m.

OAX4Z on 6082 kcs. from 7 p. m. to 11:30 p. m. (Official schedule from Williams—R552, N. J.; and Gardner—R517 Ohio)

OAX5LA on 11850 kcs. (no location given) heard in the evening on this frequency. (Jordan—R702, Pa.)

Philippine Islands

KZRM on 9570 kcs. at Manila sign off exactly at 10 a. m. (Sawado—R592, Calif.)

Portugal

CSW on 9737 kcs. "Emisora Nacional" in Lisbon calling in English saying "This is Emisora Nacional, Lisbon, Portugal, calling WSAR in Fall River for the Fall River Portuguese Hour." The announcer was a woman. Signal was excellent, R9 at

8:30 p.m. on April 10. (Hankins—R7, Pa.1)

CSW on 11040 kcs. is on from noon to 5:30 p. m. (Fern—R211, T. H. 2)

Spain

"Radio Nacional" on 10370 kcs. (actually 10350) signing off at 10 p. m. at the end of the North American broadcast and announcing in English, asking for reports. (Hankins—R7, Pa. 1)

EAQ on 9860 kcs., heard broadcasting on this frequency at 6 p. m. For some time EAQ was used only for CW, but seems to be used for broadcasting again. (Oskay—N. J.)

Spanish Morocco

EA9AH on 14030 kcs. at Tetuan heard between 5 and 6 p. m. nightly with increased signal strength. (Nahas—R1045, N. Y.)

Straits Settlements

ZHP on 9690 kcs., at Singapore, has been badly QRM'd by a station on or near the same frequency broadcasting music similar to that heard on All India Radio's Urdu and Hindu programs. (Fern—R211, T. H. 2) ZHP heard now on 9704 kcs. at 5:32 a. m. (Oskay—N. J.)

Sweden

The new address of the Swedish shortwave station is: "Radiotjänst Kungsgatan 8, Stockholm, Sweden. This is for SBO, SBP, SM5SX. Power of these stations has been raised from 500 to 15000 watts. A special transmission to North America is heard Wednesday and Saturday from 8-9 p. m. on SBP (11705 kcs.) heard here with R8 signal. Anderson—Calif.)

SBP on 11705 kcs. was heard on Sunday April 9 from 1:30-2 p. m. on a salute to the N. Y. World's Fair. (Barker —R1102, Me.)

Switzerland

HBO on 11402 kcs. is heard at 7:55 p. m. on April 17 (Oskay—N. J.)

HBP on 7795 kcs. at Geneva is heard with a program for Swiss people abroad from 7:30-8 p. m. (Hodgden—R976, Ohio)

? on 9535 kcs. at Swarzenburg broadcasts for North America between 8 and 9 p. m. This station does not sign any call. (Williams—R552, N. J.)

Turkey

The Ankara stations are TAQ (20 kw.) on 15195 kcs., TAP (20 kw.) on 9465 kcs. and TAR (120 kw.) on long waves 183 kcs. TAQ operates from 5:30 a. m. to 7 a. m. and TAP from 11:30 a.m. to 5 p. m. Opening announcement: "This is Ankara calling, transmitting the Turkish National Program." Closing announcement: "Dear friends and listeners, we are now closing down." No special selection is used at opening of transmission but the Turkish anthem closes all programs. A provisional interval signal



All the QSL cards used by the Polish shortwave stations have been very attractive, and this new one from SP19, printed in brown and red, is no exception. SP19 on 15120 kcs. transmits daily from 6 to 9 pm EST. (Courtesy of J. E. Gardner).

of a 400 cycle note is used. Both men and women are used as announcers. Address for reports: Correspondence Dept., Radio Ankara, Ankara Turkey. Reports should be made out in Greenwich Mean Time—five hours ahead of EST. Post Bag talks in foreign languages including German and English are on Saturday from 3:20 p.m. (Anderson—R256, Alta.4; Coradetti—R884, Pa.; and Snook—R620, N. S.2)

TAP on 9465 kcs. is heard here as early as 11:30 a.m. when they sign on the air (Fern—R211, T. H.2)

U. S. A.

W1XAR on 15130 kcs. and 11730 kcs. at Boston will use 20000 watts and operate in parallel with W1XAL and is expected to greatly improve transmissions to Latin America (Varga—R960, Ill.)

W4XB on 6040 kcs. is relaying WIOD'S Miami Night Owl Club to 2 a.m. nightly. (Fern—R211, T.H.2)

W6XBE on 9530 kcs. for their morning program now from 7-10 a.m. (Carter—R649, Mich.; and Webb—Texas.)

W6XBE on 15330 kcs. still being heard well on this frequency from 6:30-10 p.m. (Billingsley—R874, N. C.; Doyle—R1031, Wis.; and Robertson—R984, Man.)

W9XEI at Lake Bluff, Ill. and W-10XJF on the yacht "Mako" in the Caribbean on 6425 and 8655 kcs. alternately work nightly around 8 p.m. (Taglauer—Ky.)

U. S. S. R.

Schedule of English programs:

Daily at 3 a.m. on 15182 kcs., and at 7 p.m. on 9600, 15080, and 15182 kcs.

Thursday and Saturday at 5 p.m.

on 12000 kcs. and on Sat. 6030 and 9520 kcs. are also used.

Sunday, Monday, and Friday at 4 p.m. on 12000 kcs.

Sunday at 6 and 10 a.m. on 12000 kcs.

Wednesday at 6:30 a.m. on 12000 kcs.

Call letters for 15182 kcs. (RW96), 15080 kcs. (RKI) and for 9600 kcs. (RAL). Other calls not given. (Doyle—R1031, Wis.; Hodgden—R976, Ohio; Webb—Texas; Oskay—N. J.)

For those who are worried about the new policy inaugurated by Radio Center, why not try sending them a recording or dictaphone cylinder? Then they can't kick! (Fern—R211, T.H.2)

Yugoslavia

A 10000 watt station at Belgrade is being constructed for the 19, 25, 31, and 49 meter bands. Yugoslavia's programs are sent via DJP on 11880 kcs. the 14th and last day of each month from 7-8:15 p.m. Reports may be sent either to YUA or DJP. (Jordan—R702, Pa.)

Radex Reporters

RL: Your Shortwave Editor, Worcester, Mass.
RX: Official News.

R7, Pa. 1: A. M. Hankins, Latrobe, Pa.
R24, Ill. 5: Wm. J. Wood, Jr., Oak Park, Ill.
R37, Ont. 1: J. F. Morris, Toronto, Ont.
R101: Weston Richards, Zion, Ill.
R137: Herbert Tucker, Akron, Ohio.
R139, Utah 1: Sgt. A. W. Brummond, Ft. Douglas, Utah.

R211, Hawaii 2: C. J. Fern, Jr., Lihue, Hawaii.
R256, Alta. 4: Dick Anderson, Calgary, Alta.
R274: Anthony C. Tarr, Seattle, Wash.
R473: John Macrae, Winnipeg, Man.
R485: Robt. L. Blanchard, Brooklyn, N. Y.
R517: J. E. Gardner, Cleveland, Ohio.
R552: M. F. Williams, Newark, N. J.
R589: Don Martinez, San Francisco, Calif.
R592: Bob Sawada, Isleton, Calif.
R620, N. S. 2: Wm. Snook, Middle Musquodoboit, N. S.

R622, La. 3: A. V. Deterly, Baton Rouge, La.
R634: Geo. Cryder, Delaware, Ohio.
R649: Russell Carter, Jackson, Mich.
R672, Tenn. 4: W. A. Dobbins, Columbia, Tenn.

(Please turn to page '93)

HAM HOUNDING

● ● ● By HUGH HUNTEM

Well, here we are for the last roundup of the 1938-39 DX season and we are glad to say that amateur DX has taken a turn for the better. As during the Spring of 1938, we are again hearing the Europeans and Australians after midnight and we are experiencing fair success with the PK's and KA's in the later hours of the mornings.

During the summer months, a good many good DX catches on 20 meters are anticipated, for if conditions are anywhere near normal, the band should be open throughout almost the entire 24 hours of the day.

Gail T. Beyer of Chicago has arranged with FNIC of French India to broadcast a special test for Ham Hounders, on June 29, and again on July 2, from 9 to 9:10 am, and from 1 to 1:10pm, EST. These programs will be dedicated to the IDA.

FNIC will transmit on 14084 kcs., with 100 watts power in his rotary beam antenna. All reports which mention the special quotation that he will use as a verification check, will be verified. International Reply Coupons, or unused British India stamps, must be sent. The address is D. Patterson, Gondalpara, Chandernagore, Bengal, French India.

"Ham Forum," probably the oldest radio program now on the air devoted exclusively to the radio amateur, can now be heard over W8XTA, UHF station at Harrisburg, Ill. The programs consist of amateur news, technical information, editorial comment and ham gossip. W9XTA employs 26500 kcs., and a power of 500 watts. It is understood that WILL, Urbana, Ill., 580 kcs., also broadcasts this program. The time is every Saturday, at 1:15 pm CST.

Latvia Special

We are sorry that we were unable to list, in time, the special 20 meter broadcast of YL2CD on May 13. J. E. Gardner, of Cleveland, Ohio, sent us the information that Mr. Armids Vitolins, operator of YL2CD, was to have been on 14.042, calling U. S. A. listeners. YL2CD had, heretofore, broadcast two

10 meter specials which gave many listeners their initial reception of Latvia. Mr. Vitolins is to be congratulated for his fine work and we hope that many were able to hear him on May 13 and to drop him a letter of thanks. The QTH, incidently, is Miera iela 52-5, Riga, Latvia.

Mrs. Kay Kibling, 336 Orchard Beach Ave., Rye, N. Y., is the Chairman of the Reception and Entertainment Committee of the N. Y. World's Fair amateur radio station. She will send information concerning the fair to hams who plan to visit. Perhaps she might also oblige a few of the SWL's, also.

Verification Insurance

Several times, during the past, we have mentioned that we didn't care about the appearance of a verification card. Undoubtedly the safest way to insure verification of a top-notch DX catch is through the use of a reply card. Merely word your own verification on a blank card, stick an unused postage stamp on the back and drop it to the station heard, so that the operator need only sign and return the card. The Return Postage Bureau can provide the listener with the desired stamp or stamps.

William Pieper, 1830 Greenfield Ave., Los Angeles, Calif., has been appointed QTH representative for the West Coast. We welcome Mr. Pieper into this capacity and thank him for his interest.

As we have many reports this month, we will immediately break into the DX section of this article.

ALGERIA

FA3JY on 14.09, is, at present, the best heard Algerian on 20 meters. His QTH is Rene Rougas, 17 rue Lafontaine, Belcourt-Alger.

ANTIGUA

The best bet for this country is VP2AB who is just about on CO2LY's frequency. From reports received, we gather that this station will QSL. Send reports to Clement E. de Silva, 33 Nevis St., St. John's.

AZORES

The Azores are now an easy country to log with CT2BP coming through with very good signals in the afternoons and evenings. Look for CT2BP on 14.145. The address is Florencio Jose Terra, Jr., Travessa de S. Francisco, Horta-Faial. Elmer Wokaty, W8, states that he followed CT2BP for over three hours one evening.

BAHRAIN ISLAND

Our Egyptian representative states that VS8AA is now on 20 meter fone, and is operating on about 14.05. If anyone is fortunate enough to log this FB catch, send your report to J. A. Faithful, c/o Cable and Wireless, Ltd. Bahrain Is., Persian Gulf.

BAKER IS.

Tony Tarr, W7, is hearing KF6PUL on the low side of the 10 meter band on about 28.48. Judging by this frequency, it is possible that KF6PUL may sometime drop down to 14.24.

BELGIAN CONGO

Look for OQ5ZZ, the Ghatti Expedition, on approximately 14.35. OQ5AA is also again being heard, but on the low end of the band. Reports for OQ5ZZ may be addressed to the expedition at Leopoldville.

BOLIVIA

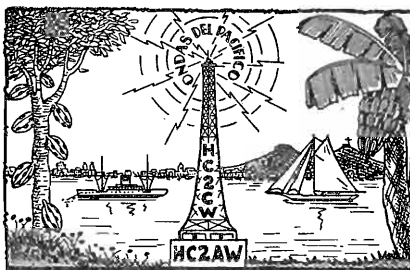
CP1BA is again quite active on 14.04. The operator speaks both English and Spanish and often puts a very good signal into the States. Several listeners have complained about not receiving QSL's from this station. There may, however, be a very good reason for this as CP1BA is a member of the Rueda del Oeste and is compelled to QSL only with the official Rueda card. His cards are printed in Buenos Aires and he often may have to wait a long time before receiving a batch from the Rueda del Oeste headquarters.

BORNEO

PK5PF or BF is the only PK5 reported. He has been heard on about 14.02 but with very poor signals.

BURMA

XZ2DX has been putting a fair signal into the eastern part of the country on 14.03. A letter addressed to the QSL



From "Ondas del Pacifico," station in Guayaquil, Ecuador, comes this attractive card. It verifies reception of HC2AW, 1350 kcs., or HC2CW, 9130 kcs. (Courtesy of Capt. E. N. Massey).

bureau, P.O. Box 380, Rangoon, will reach this station OK.

CANAL ZONE

Another easily heard station is NY1AA, P.O. Box 505, Balboa. This station has been logged on 14.29 and, according to reports, QSL's.

CANARY IS.

We wonder if anyone has received a QSL from the Canaries. Both EA8AE and EA8AS seem to be somewhat reluctant about answering reports. EA8AB has verified for a few listeners on his 40 meter National broadcasts and it is possible that he will be on 20 meter fone during the Summer months.

CANTON IS.

Arthur Beahr, W6, states that KF6DHW QSL's 100%, but we have not, as yet, heard of anyone receiving a QSL. KF6DHW is still being close to 14.38. Send reports to Charles D. Calley, c/o Dept. Interior, Honolulu, Hawaii.

CAPE VERDE IS.

E. Wokaty, W8, states that CR4HT is operating on about 14.3, but is difficult to log as he speaks only his native language (Portugese) and his signal is very weak.

CEYLON

VS7RF, 14.3, is being heard quite consistently and, according to J. E. Gardner, verifies promptly. It is rumored that the operator may soon return to England so don't be surprised if your card arrives with an English postmark.

CHINA

Don Martinez, W6, sends the following anent the XU fones. "XU8NR is on 14.27, XU8HB on 14.26, XU8RB on 14.084 and 14.11, KA1AF wrote to say that XU6TL is off the air and that he has joined the Chinese army. XU8ET on 14.14 also appears to be on the air as I heard KA2OV calling him." A letter from XU2CK, QSL manager of the XU 2nd district, states that no XU2's are on the air because of the present "unusual" situation.

CHOSEN

Don Martinez states that the best J8's are J8CA on 14.25 and J8CI on 14.12. We sure wish that these boys would put in their appearance on the East coast!

ENDERBERRY IS.

KF6ODC is still being heard on approximately 14.03 and those needing this country had better log him in a hurry as he may leave the island.

FALKLAND IS.

Walter Kammann, YV5, has been hearing VP8AT on the LF side of the band but is not positive of the location. It is entirely possible that VP8AT is located in either the South Georgia or South Shetland Is. as they also use the VP8 prefix.

FEDERATED MALAY STATES

VS2AI is being occasionally heard on the LF side of the band as is VS2LS. The latter, however, is thought to be a "phoney" as all VS2's in the Call Book have an "A" following the numeral.

FRENCH MOROCCO

Some of the best heard CN8's are CN8AM, 14.09, CN8AN, 14.08, CN8BD, 14.02 and CN8MI, 14.04. A recent letter from CN8MV discloses the fact that CN8MU was the operator. CN8MU states that his call was taken away because he QSO'd an Italian amateur station.

GERMANY

According to a Hamburg correspondent, no D stations are on 20 meter fone. By the way, judging by the number of German SWL cards floating around, we are inclined to put little faith in the rumor that sw coils have been forcibly removed from all receivers in Germany. One W3 was heard to say that over half of his SWL cards were

from Germany.

GREENLAND

Our star W6 reporter, Don Martinez, is hearing NX2L on 14.09, announcing his QTH as Etna. As this station comes in R9 with little QSB, Don believes him to be a pirate.

GUATEMALA

The station carrying a musical program and often relaying TGW is the 1200 watt TG5JC in Guatemala City on 14.05. TG5JC is doing a splendid job of hogging the band. Anyhow, TG5JC does QSL and that's something. TG9BA also QSL's but TG9AA, chief operator of TGW, does not. TG5JC often operates on 40 m fone on 7.025 as does TG9LT on 7.01.

ICELAND

George Eder, W3, reports reception of TF3C on 14.3. As we stated in our last column, TF3C is the only active Iceland fone.

ISLE OF MAN

In addition to the oft reported G6IA, is G5CZ on 14.08. This station QSL's and letters should be addressed to R. A. C. Cubbin, Strathillin Cliff, Douglas, Isle of Man, Gt. Britain.

JAPAN

With thanks to Don Martinez, W6, and Ron Russell, VE5, our dope on Japan is a great deal more complete than is usually the case. A short time ago we mentioned that we never heard of a J refusing to QSL; however, we must have been mistaken as Don lists the following delinquents—J2CR, J2LL, J2NG, J5CC, J5CW, J6DU, J7CB, and Ron states that J2MI and J4CC failed to come through for him. Ron has also logged J3CX, J5CC and J5CW, all with R8 signals, and has verified J7CR. Don Martinez says the following about the J's. "The stations on 20 meter fone have been received with tremendous signal strength. The most consistently received is J2MI on 14.11, 14.09, and 14.18. J2NG on 14.08 and 14.14 is also good. Others are J2OI, 14.03, J7CB on 14.08, J5CC on 14.3, J5CW on 14.06, J3CX on 14.26, J7CR on 14.27, J2KN on 14.35, J2NF on 14.37, and 14.16, J2XA on 14.2 and 14.33, J2KG on 14.4 and 14.09, J2KJ on 14.34, J2LL on 14.02, J2NQ who has been on practically every



A very interesting card from an amateur in Johannesburg, South Africa. In the tree at the right, a man is catching radio signals in a large net, and dropping them into the funnel which leads to the RME receiver. On the left, the amateur is shooting his signals (50 watt cannon-balls) from the cannon. The mail carrier has just landed, by parachute, with a report from a listener.

evening on 14.26, J2PU on 14.09, J6DU on 14.17, and two of whose frequencies I am not positive, J2CS and 14CP, on the low end of the band." Don has also been hearing J's on 40 meters but cannot read them because they speak in their native language. J3FI wrote Don that a typhoon destroyed his shack and all of the equipment.

JARVIS IS.

KF6NVJ is still being heard on the low frequency end of the 10 meter band by Tony Tarr, W7, near 4:00 pm, PST. It is reported that KF6NVJ will soon be leaving the island so those that need him better report in a hurry.

JAVA

Don Martinez, W6, says that PK1RI on 14.04 and 14.33, is the most consistent. Bill Jones, W5, gives PK3WI's frequency as 14.035, and E, Wokaty, W8, states that PK2AY, LF, is being well heard and QSL's by return mail.

LATVIA

J. E. Gardner, W8, tells us that the following YL stations are the most active—YL2BB, YL2BQ, YL2CD, YL2CG, YL2CM and YL2AA. YL2CD is the most consistently received in the States.

MALTA

Two fones are being received, at present. ZB1L, 14.14, and ZB1R, 14.04.

the latter is supposed to be 100%. The former is pretty poor at QSLing but

MANCHUKUO

The only station we know of in this country is MX5B who has been heard on the West coast on the LF side of the band. The only MX listed in the callbook is MX2B, Box 23, Mukden, which is the QSL bureau.

MAURITIUS

VQ8AE is reported as operating on the extreme LF end of the band. This is a rarely heard country and we urge all listeners to send reports of VQ8AE's signals to H. d'Agnel, Box 163, Port Louis.

MEXICO

As we stated before, we don't care about the appearance of a QSL card, but if any of you really want a "honey" of a card, ship XE1LK, Aurora de Franco, Box 384, Guadalajara, Jal., a report.

NETHERLANDS NEW GUINEA

PK6XX is also received well on 40 meters. In a short time, VK4HN, "Nick" Nicholson, will take over the controls at PK6XX, so it is possible that reports sent to VK4HN's home might be verified in the distant future.

NEW ZEALAND

The most consistently received ZL station is ZL2BE on 14.2. Don Martinez also reports this station on 75 meter fone, along with ZL2BN.

N. IRELAND

From latest reports we gather that G12CC and G15MZ will not QSL but that G15QX and G18UW will, for return postage.

OCEAN IS.

The only station ever reported on 20 meters is VR1AN but he is not supposed to QSL. We advise a return card with a New Zealand stamp for this station.

PAPUA

VK4HN is received well on 14.3 and 7.150. As before stated, the op will soon leave for PK6XX, so it may be some time before reports to VK4HN are QSL'd.

PHILIPPINES

Following are the most consistent, according to Don Martinez who has furnished most of the frequencies—KA1AP, 14.14 and 14.26; KA1BH, 14.145; KA1CS, 14.135 and 14.27;

KA1CW, 14.15; KA1ER, 14.27 and 14.08; KA1FH, 14.14 and 14.27; KA1HS, 14.16 (uses 1KW); KA1JM, 14.04 and 14.29; KA1JZ, 14.14; KA1LB, 14.135 and 14.270; KA1ME, 14.27; KA1MM, 14.13; KA1PI, 14.14; KA3KK, 14.3; KA2OV, 14.27; KA4LH, 14.13; KA7EF, 14.12 and 14.28; and KA7HB, 14.25.

RUMANIA

YR5AA is again pounding in, on 14.1. Bear in mind that this station does not QSL, regardless of the quality of the report.

ST. VINCENTS

Walter Kammann, YV5, reports VP2SA on 14.2 but there is plenty of QRM on this frequency. We do not have the QTH but as the island is rather small, the postal service should experience little difficulty in finding VP2SA.

SALVADOR

One of those rarely heard YS stations, YS1AP, is being heard on 14.05. We do not know the exact QTH but he is located in the Capitol city.

SPANISH MOROCCO

In addition to EA9AH, EA9AI and EA9BJ may also be expected to be heard on 20 meters during the summer months. The first two are about 50% QSL, and EA9BJ QSL's about 10% of reports received.

SWITZERLAND

E. Wokaty, W8, reports two Swiss stations coming in quite well during the early evenings, HB9DE on 14.08, and HB9DO on 14.02. The HB stations are few in number and are not too often heard in the States.

SARAWAK

VS5AC is again being heard on 14.3. The operator insists upon complete reports and QSL's. Write to Horace G. Gray, Kuching, Sarawak, Borneo, via Singapore.

SPAIN

The three most consistent stations are Radio Malaga, 14.4, EA7AB, LF, in Cadiz, and EA7BB, 14.23, in Cordoba. It is also understood that all of these stations also operate on 40 meters and that they are also poor at verifying.

TAHITI

FO8AA occasionally calls CQ on various occasions on approximately 7.1. This station may be regarded as a non-QLS'er.

TASMANIA

VK7AB is, by far, the best VK7 on 20, often hitting R9. Look for him on 14.02. The QTH is D. H. Fisher, 6 York St., Launceston, Tas.

TIBET

In case any of you are interested, AC4YN, on 14.1, is by far the best heard Tibet station, if you can hear him.

TUNIS

The most consistently heard FT station is FT4AI on 14.05. This station is regarded as a QSL'er.

TURKEY

A TA1CC has been reported as operating on the LF side of the band and the QRA is given as Istanbul (Constantinople). This would count as a country apart from Asiatic Turkey where the TA SWBC stations are located.

U. S. S. R.

Many listeners are reporting reception of U stations. According to a Russian correspondent, amateurs are not permitted to use phone in the U. S. S. R., so possibly all of the U's being heard are "bootleggers" or something.

VIRGIN IS.

K4ENY has returned to the States so if you still want to get him verified send your old reports, accompanied with a stamped reply card, to the old QTH and hope that they are forwarded.

As we have just about exhausted our space, we'll wind up by listing a few of the better catches reported by our readers.

Albert Pickering, W1, La1F, YR5AA, 11TKM, SU1MW, VU2BG, ES5D, OQ5AA, OQ5AQ, YU7AY, PK4KS, ZL2JQ.

Bertram Podall, W1, ES5D, LY1S, LA6X, PK4KS, 11TKM, ZE1JX, SU1MW, LX1AI.

Cliff Tavener, W5, J2MI, KA1ME, KF6DHW, PK1RI, PK3WI, ZE1JZ, ZE1JX.

William Pieper, W6, ZS5BZ, ZS2AQ, J2MI, J2NQ, KA1CS, PK1RI, PK4KS.

Fred Morris, VE3, I1PG, SU1CR, G18UW, CN8MU, ZS6DY, ZS4X, CT1PK.

Jack Wells, W4, SU1MW, LA1F, PK1JM, VK6LH, ZS2AQ, EA9AI, CN8BA.

Walter Kammann, YV5, VP8AT, CX3VE, VP2LC, W7GAE, VK4MF, PK4KS, VO2N, EA8AS.

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. On 20 meters, only calls heard by more than one person are listed.

Ten Meters

CE2BX (moyC); CN8BA (o); CO8EC (m); CT1QG (oC); CT1ZA (joC); CX2CO (pC); EI2L (C); F3DI (o); F3LS (o); F3QT (o); F8EO (oC); F8MX (o); F8NT (joC); F8NX (C); F8PA (o); F8QD (oC); F8RR (oC); F8SI (o); F8TU (o); F8UE (o); F8VC (o); F8WK (C); F8XT (oC); F8YZ (oC); GM6RG (joC); GM8RG (o); GW5KJ (o); G2DV (o); G2IS (o); G2KG (o); G2MI (o); G2PU (C); G2SD (C); G2WB (o); G2WD (o); G2ZV (o); G3DO (o); G3YZ (o); G5BM (o); G5DM (o); G5KH (joC); G5LJ (C); G5LL (o); G5LU (joCD); G5SA (C); G5SO (o); G5WP (o); G6BW (joC); G6GF (o); G6GS (o); G6JL (oC); G6LK (oC); G6ML (o); G6WT (oC); G6WY (o); G8DM (o); G8IG (oC); G8IX (C); G8JQ (oC); G8MX (o); G8QX (j); G8SA (o).

HC1PZ (opC); HC2CC (p); HH5PM (C); HI2T (C); HI5C (o); HI7G (joC); HI7GW (joC); HK3CG (opC); HK3CO (opC); HR5C (C); I1IT (C); I1TKM (oC); KA1ME (y); KF6PUL (py); KG6NVJ (y); K4DDH (C); K4EJG (C); K4ENT (C); K4EZR (joC); K4FAB (C); K4FAY (mC); K4FDC (oC); K4FRN (j); K4FSP (oCD); K4SA (oC); K5AN (mpD); K5AT (m); K6DV (m); K6JLV (p); K6LKN (o); K6LPW (mp); K6MNV (mpC); K6MVX (m); K6NYD (op); K6OJI (m); K6PCF (mC); K6PIT (o); K6PLZ (m); K7GC (m).

LU1DA (moyC); LU1DJ (C); LU3AX (m); LU3HA (m); LU3HA (m); LU5AN (oyC); LU7BK (C); LU9BV (mC); LY1J (C);

NY1AA (m); ON4AK (C); ON4IW (C); ON4PA (C); PAO4D (C); PAOBE (C); PAOEO (C); PAOUN (jCD); PY2AA (mC); SM7UC (C); SU1MW (C); TG9AA (D); TI2RC (j); VK2ADT (my); VK2ALU (y); VK2GU (m); VK2IQ (y); VK3CP (m); VK3XP (m); VK4JP (y); VP1BA (mC); VP1WB (p); VP3AA (jC); VP6YB (jCD); VP9L (p); VP9R (j); XE2AE (j); YN3DG (p); YV1AO (m); ZE1JZ (C); ZL1HY (my); ZL1LC (my); ZL1MO (my); ZL1MR (my); ZL2BE (my); ZL2BI (m); ZL3AY (my); ZL3BV (m); ZL3IF (m); ZL3KZ (m); ZL4AO (m); ZL4BK (my); ZS2IK (j); ZS4H (C); ZS5AW (C); ZS6DW (jCD); ZS6DY (C); ZS6EG (C); ZS6G (C); ZS6W (c).

Twenty Meters

CE1AH (imprs); CE1AO (ijms); CE2BX (imprs); CE3AA (mzD); CE3AI (prB); CE3BH (mp); CE3BK (larB); CE4AC (mpB); CN8AV (oz); CN8BD (s); CN8MU (en); CT1AY (cdehlnoszBCD); CT1OO (ksC); CT1PK (cefhjnpzBCD); CT1QA (efsC); CT1QG (nzBCD); CT1ZA (ceBC); CX2CO (dmnps); CX3BL (dprs); EA9AH (cedejm); EI2L (ejnosBCD); EI3J (nqC); EI4L (enBC); EK1AF (deosCD); ES5D (mqS); FA8CF (BC); F3OO (ceBC); F8BM (CD); F8LX (BC); F8MG (nsD); F8NT (enzBC); F8QD (eosBC); F8VP (nC); F8ZO (kC).
G1ZCC (eC); GM2SL (nBC); GM2UW (efjnZBCD); GM6RG (dejknBC); GM6WD (ewzCD); GM8MN (aejnCB); GW3AX (nc); GW6JW (nBC); G2AV (nBC); G2DV (jknoBC); G2KG (nBC); G2TR (dB); G2UT (CD); G2WD (oD); G3BM (nC); G3DO (kBCD); G3PS (nBC); G3QK (nC); G3QO (fC); G4AS (nBC); G5BJ (cnozBC); G5BM (bc); G5QN (fnBCD); G5SO (nC); G5WP (nb); G5YV (nzC); G5ZG (fABC); G6BY

If you like RADEX why not tell your friends? When an article in this magazine strikes you as being unusually good, please tell your friends to get a copy at the newsstand, and read it.



Guatemalan volcanoes, a native village and Maya decorations feature this pretty card from amateur station TG9BA of Guatemala City. (Courtesy of Peter D. Straton).

(nC); G6GF (kB); G6JL (cfnBC); G6LK (fnzCD); G6ML (BC); G6UX (KCD); G8CL (BCD); G8IK (fnzD); G8KD (nB); G8TD (BCD).

HC1FG (djm); HC1PZ (jklrnsBC); HC2CC (dehklmnrBC); HC2HP (dm); HH2B (cdehiloStwC); HH2PB (dC); HH4AS (ahinopswC); HH5PA (dehijlpwC); HI3N (ajlsC); HI5X (dijlC); HI6F (dsC); HI6Q (adehnsC); HI7G (fz); HK3CC (dC); HK3CG (dehijklpryzCD); HK3CL (dehijklmTD); HK3CO (djslm); HK3DG (nv); HK4EA (jz); HK5AR (adnzC); HK5EH (dm); HP1A (dC); HR2A (dr); HR5C (de); ITTKM (qsZC); J2MI (mryA); J2NQ (mr); J3CX (mv); J5C (mv); J5CW (mv); KA1AP (lmr); KA1CS (mr); KA1FH (lmr); KA1LB (mry); KA1ME (jlmqsa); KA1PI (jA); KA7BF (imA); KF6DHW (bA); K4DSE (dj); K4EJF (adhjmvD); K4EMG (degjnpC); K4ENT (entC); K4FAY (dehijlmnrzCD); K4FKC (dehijlmtzCD); K4SA (defjklpD); K6BNR (lm); K6CMC (ehlmdD); K6GAS (lm); K6IAE (klmt); K6ILW (lmtD); K6IQN (klmBD); K6JLV (elmD); K6KGA (ehlpABD); K6LEJ (deklm); K6LKN (dlmnd); K6MTH (lm); K6MZX (lmB); K6NJZ (km); K6NYD (dehmnopABD); K6NZO (lA); K6OFW (mA); K6OJI (lm); K6OOE (mtBD); K6OTH (kmp); K6PLZ (lmd); K6PPR (klm); K7AOC (mr); K7GSC (mvy).

LA1F (eqCD); LU1DA (dktB); LU1QA (dmrBC); LU2BG (aB); LU4AH (jryC); LU4BC (dm); LU4CZ (lmpC); LU5AN (dlrvBC); LU5CZ (lmA); LU7BK (jmorCD); LU8EC (im); LU9BV (noprBD); LX1AJ (s); LY1S (es); NX2L (im); NY1AA (dmsCD); NY2AE (msA); OA4AI (djmrst); OA4AW (dmB); OA4R (jz); ON4AK (efoszBC); OQ5AA (q); OX7ZL (l); PA0AD (eosC); PA0EH (esBC); PA0MZ (enoBC); PA0UN (eoszBCD); PK1RI (mrA); PK3WI (hijA); PK4YS (jilmpqrsV); PK6XX (ilmpqD); PY1CK (fB); PY2AC (ejmnpRS); PY2AK (mC); PY2DA (ejpy); PY2GC (jp); PY2LM (AB); PY2LN (hmnpsB); PY5AQ (efjC); PY7AI (eC).

SU1CH (oq); SU1CR (nqzBC); SU1MW (efoqszCD); TF3C (e); TG5JG (delmrwA); TG9AA (dehijklmnorswvBC); TG9BA (dghi-klmrtwB); TI1AF (eh); TI2AC (sz); TI2FG (elmsC); TI2LR (jl); TI2RC (mz); TI2RH (din); TI3AV (elmC); TI6HP (el); VE5AHU (l); VK2ADT (imBD); VK2ADU (imp); VK2AEN (im); VK2AGU (emrA); VK2AKR (im); VK2ALU (im); VK2IQ (prA); VK2NS (im); VK2UC (irACD); VK2VA (mr); VK3ED (iD); VK3EN (mA); VK3GP (pr); VK3HG (lmr); VK3MX (rA); VK3OI (mA); VK3TZ (mz); VK3XJ (rAD); VK3XP (jpr); VK4XS (lrAD); VK4GS (AB); VK4HN (im); VK4IP (hlmABCD); VK4IU (lmrB); VK4KH (jmD); VK4KO (ip); VK4KS (irA); VK4MF (mr); VK4VD (lrB); VK5BF (jrAC); VK5FL (im); VK5RN (rA); VK6LH (sD); VO1D (hzC); VO1Y (cehjpC); VP1BA (dehijlmorstABC); VP1WB (dehijlmnopstzABC); VP2AE (fjz); VP2LC (dejoB); VP3AA (dhilmpyBD); VP3CO (djoszCD); VP3LF (dhilmpoz); VP5IS (asBC); VP6EO (dehilmnprzABC); VP6LN (hBC); VP6YB (degh-

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ijklmnoprsxyzBC); VP7NH (dsz); VP7NS (cdehijlmnostzBCD); VP7NU (deijklnszABC); VP9G (dhilmBC); VP9L (dehijlmnrzBCD); VP9R (deghijklmnrstuwvBCD); VP9X (tBD); VU2BG (q); XU8HB (m); XU8NR (m); XU8RB (m).

YN1IP (dehijlnopszAC); YN3DG (sB); YR5AA (q); YU7AY (q); YV1AQ (fghmC); YV4AA (ejhC); YV4ABG (akA); YV4AE (deghijlmnrstxyzC); YV4AL (deijkpC); YV4AM (dh); YV4AN (tC); YV5ABC (dsyC); YV5ABF (dilmsC); YV5ABQ (dgnyzC); YV5ABY (deklps); YV5AG (dlC); ZS1AX (mo); ZS2AQ (sD); ZS2AV (rs); ZS2AZ (lnosB); ZS2X (klB); ZS4H (elnoprzB); ZS5AW (lor); ZS5BZ (rs); ZS5CO (lm); ZS5T (os); ZS6AJ (am); ZS6BR (al); ZS6CN (mA); ZS6DW (lmmorAB); ZS6DY (lnow); ZS6S (alor); ZS6W (ov); ZX4M (im).

The Reporters

- (a) Victor J. Balt, Aurora, Ill.
- (b) Arthur Beahr, Los Angeles, Calif.
- (c) Robert Blanchard, Brooklyn, N. Y.
- (d) George Cryder, Delaware, Ohio.
- (e) George Eder, Philadelphia, Pa.
- (f) Donald Hall, Boulevard Heights, Md.
- (g) Henry Hendrickson, Jr., McGregor, Iowa.
- (h) Lewis R. Hill, Maywood, Ill.
- (i) Ralph Kastner, New Braunfels, Texas.
- (j) Vincent Longo, Detroit, Mich.
- (k) John Macrae, Winnipeg, Man.
- (l) Carl Martin, Atchison, Kans.
- (m) Don Martinez, San Francisco, Calif.
- (n) J. F. Morris, Toronto, Ont.
- (o) James W. Newman, New Toronto, Ont.
- (p) Martin Olthoff, Independence, Kans.
- (q) Albert Pickering, West Medway, Mass.
- (r) William Pieper, Los Angeles, Calif.
- (s) Bertram Podall, Gilman, Vermont.
- (t) Weston Richards, Zion, Ill.
- (u) Martin Rizack, Bronx, New York City.
- (v) Ron Russell, Powell River, B. C.
- (w) Murray Shainis, Bronx, New York City.
- (x) Carl Sylvester, Columbiaville, Mich.
- (y) Anthony Tarr, Seattle, Wash.
- (z) J. L. Tate, Petersburg, Va.
- (A) Cliff Tavener, Rosenberg, Texas.
- (B) Winship Taylor, Baltimore, Md.
- (C) Walter E. Welch, Lynn, Mass.
- (D) Jack Wells, Phenix City, Ala.

WHEN RADIOS GET THE JITTERS

By B. Francis Dashiell

● Turner Dial was worried. He said so frankly. Even Bill Wood, his young assistant, could offer no fantastic suggestion. Bill knew, too, that if Turner worried about a little service job, it must be something serious. Dial had been monkeying around with that set all morning, and still it was cutting off and on.

"If you can't fix it," commented Bill, "it must be ready for the junk pile. Tell 'em to turn it in on a new one!" The matter was settled so far as he was concerned, and Wood turned back to his job at the service bench in the shop of Higrade Radio Sales and Service.

"I've checked and tested everything," exploded the fully exasperated Turner Dial as he tossed a pair of pliers across the bench and sat down in his chair at the desk in one corner of the shop. "I haven't yet seen a set with intermittent reception that I couldn't fix! As Andy says: 'I se regusted'"

"Well, you promised it for tonight," reminded Bill Wood. "What are you going to say when they expect you to deliver it this afternoon?"

Wood came over and stood before the chassis that had Turner deep in the slough of despond. "There must be something wrong," he opined helpfully. "We've got to find it pretty soon."

"You're telling me!" exclaimed Turner sarcastically.

Wood turned on the set. It played for a while and suddenly stopped. Bill spun the dial. The set started up. But it quickly stopped again. "Sounds like a loose connection or a bad tube," he ventured further.



Turner swung about in his chair. "I've been doing that all morning," he growled. "There isn't a loose connection in that set. Every coil and transformer is perfect. The condensers and resistors are good. Volume and tone controls haven't a flaw! Tuning condensers clean and bright. The power pack is fine. I give up!" And Turner leaned back in his chair and puffed great clouds of smoke from his pipe.

Bill Wood studied the set from the front. It looked all right. But he noticed the dial light was out. "Going to put in a new dial-light bulb?" he inquired.

Again Turner grunted disgustedly. "Sure. But I wanted to get at the trouble first. Those people will think I'm a heck of a serviceman if all I can do is put in a new bulb and not fix the set."

Nevertheless Wood unscrewed the tiny light. The radio continued to play. "Burned out, all right," Bill remarked, as he tossed the bulb on the bench. The two men contemplated the set for a few moments.

Suddenly Turner sat up. "Hey!"

he shouted. "That set hasn't cut off once!"

"That's so," agreed Bill Wood. He rapped on the chassis. The set continued playing steadily. Wood tapped the tubes, turned the dial, and vigorously twisted the controls. By now Turner Dial was on his feet.

"Let me see that bulb," he demanded. Bill retrieved the tiny light. "Maybe this caused all the trouble," said Turner as he inserted the bulb in its socket at the rear of the dial. In a few moments the set cut off again. Turner loosened the bulb and instantly the set began to play. "Bill, I believe you've hit on something!" exclaimed Turner. He took a magnifying glass from his desk. "Yes, sir! There's the trouble. It was a bad bulb from the start. The two filament supports are bent so as to almost touch. Occasionally they caused a short. That's all there's to it." With a sigh of relief Turner Dial reached for a new bulb.

But Wood was looking on with a puzzled expression spread over his face. "I can't see how the bulb could affect the set," he said. "Isn't the bulb on a separate circuit?"

"That's so," answered Dial. "Let's look at it." Turner studied for a few moments. "I see," he remarked. "The dial light is connected across the filaments of the two audio output tubes as the voltage is just right at that point. When the misplaced leads in the base of the bulb shorted they also shorted the filaments of the two tubes and the set cut off temporarily. It just goes to show what we're up against in this business. Nothing to do but take it home. Well, we got some experience but no profit." Turner reached for his hat

and coat and made no attempt to conceal his disgust.

After Turner Dial departed, and while Bill Wood was arranging a stock of new tubes on the shelves, a worried little man hastened through the door. "You the Boss here?" he asked.

"Sure!" answered Bill. "What do you want?"

"My radio needs fixing," began the man. "Last night it stopped dead, but before I could turn it off it started up again. Then I tuned for different stations and it was weak on all of them. But this morning it was working fine and loud. Now my wife says it is dead and only comes on once in a while. What do you think is wrong?" The man gazed at Bill with an anxious look.

Bill smiled tolerantly. "Merely a case of intermittent reception, Mister," he announced with a show of authority. "It's a common thing but sometimes very difficult to locate. We had one bad case today so far. It can be taken care of if you let us bring your set to the shop."

The worried look left the customer's face, and he gave his address and departed. Bill Wood's assurances that his set was as good as fixed right then and there were pleasant music in his ears.

It was late in the afternoon when Bill returned with the receiver. Turner joined him at the service bench. "Looks like a good set," the latter said. "What's wrong?"

"Intermittent reception," replied Bill with a grin.

"Another one, eh?" exclaimed Turner. It was the old story of a common fault. He knew that the things that made radios cut off and

on could be the most baffling and varied of all troubles. Only expert treatment, in most cases, would effect a cure. It required instrumental tests, for there were tubes, condensers, coils and resistors to be checked. And even then, as Dial recollected, the trouble might be some tiny affair that instruments could fail to indicate.

"The dial light's o.k.," Bill said, as he took a quick glance at Turner to see how he took it. But Dial was greeting an old customer who had entered the store.

"We're starting on a set that cuts off and on," said Turner, by way of explanation. "Stick around and look on."

The customer looked thoughtful. "You know," he began, "my old set does that same thing. If I could get it fixed I'd be able to use it down in my basement room. How do you cure that sort of thing?"

"It's a long story," said Turner. "Cutting off is due to some defect. It means that some circuit carrying a current opens up and puts the whole set out of commission. Just like opening an electric switch. The defect may be obvious and easily remedied, or it might be so hidden as to cause a lot of trouble, time and expense in locating it." Turner leaned over the chassis that Bill had placed on the bench.

Dial began to remove the tubes. He continued: "Tubes are a source of this trouble. We look 'em over first. The elements inside, such as grids and cathodes, sometimes get out of place or become loose and cause short circuits when heated. The set goes dead, but when the tube cools off and makes contact again it starts off as good as new. Or an oscillator

tube may be in bad shape. Contacts and sockets must be cleaned and tightened." In a few minutes Bill and Turner had the tubes back in the set. "They seem to be good," was Turner's comment.

"Next," continued Turner Dial to his listeners, "comes the circuit itself. Let's look at the switches and controls." He vigorously twisted all the knobs. "All o.k.," insisted Turner. "Now, here's where we'll likely find trouble," he added. "The resistors may be shorted to the chassis or wiring. Sometimes the insulation on leads becomes worn where it passes through tiny holes in the chassis. But everything looks to be in good shape." Turner picked up a pair of prods and reached into the chassis.

"Now, we'll look at the resistors," he said. "I hate to test the blamed things. I'd rather pull 'em out and put in all new ones. And nine times out of ten I'd hit the cause of the trouble right on the head. But I guess my customers would kick about too many new parts."

"How can you tell what these resistors are?" interrupted the listener.

"Simple," answered Turner. "There's a standard code for resistors, condensers and the different wires in a circuit." Dial pointed at the different colored units in the set. "Black, brown, red, orange, yellow, green, blue, violet, gray and white, represent the figures, zero, one, two, three, four, five, six, seven, eight and nine, respectively. The main or body colors on a resistor stand for the first figure of the total resistance of the unit. Then the end colors represent the second figure, and the little dot or central band stands for the number of zeros that follow the first two

figures. Take this resistor, for instance. You will see that the body is yellow—that stands for the figure 4. Now the ends are green—and that means the figure 5. So we have the figures 4 and 5, or the whole number 45. The little dot is red, and that means 2. So, add two zeros after 45 and we have 4,500 ohms, the total resistance of this resistor. Not so bad, eh?"

Turner worked over the resistors. They were all in good shape. He used an ohmmeter—sometimes called a continuity meter or tester. By placing the two prods at the ends of a resistor the needle of the meter showed the actual resistance which checked closely with the color code. An open resistor does not show any reading. As long as a resistor measures within 10% of its rated value it is satisfactory to leave it in the circuit. Then Dial tested the radio- and intermediate-frequency transformers. They all have low resistances and a break can be detected, while a short shows up immediately. He tested for shorts to ground or to the shields and between windings. "They're all o.k.," declared Turner. The audio-frequency transformers have high resistances and breaks or shorts show up very readily. Dial said: "These audio windings may break down, however, with a partial open circuit and cause intermittent or noisy reception. If such was the case the little needle of the meter would jump back and forth. As it is steady and shows a high resistance, it is normal."

Turner reached again into the chassis. The power unit tested satisfactory. "Looks like the trouble is narrowing down to one or two things," he remarked. "We've checked every-

thing except a few bypass and coupling condensers. I hate to test condensers, too. It's a bigger job than checking resistors, to do it right. But I think this meter will do for this time. You see, a good condenser should not permit direct current to pass, and it should hold a charge of electricity. If it leaks it allows direct current to pass. So we will touch the terminals of the condensers with the ohmmeter prods and watch the needle swing over while the condenser charges. Then the hand comes back slowly. That means the condenser is good for it is holding its charge. If the hand does not come back after swiging out it means the condenser leaks and is no good." Turner passed from one condenser to another.

"Hello!" he exclaimed a moment later. Bill Wood and the customer crowded closer. "Here's a bad one. See how the needle stays over but sometimes come back in irregular jumps. The condenser is leaking intermittently and killing the set each time it occurs. It's a coupling condenser, too, in the audio circuit. The very one to give this sort of trouble. I should have suspected it sooner."

"Say!" remarked the customer, "maybe my old set could be fixed up this easy."

"Sure," announced Bill Wood. But Turner Dial applied a match to his pipe and said nothing. It was wise, he had learned, not to lead a customer to believe that radios could be repaired quickly and inexpensively unless an examination had first been made.

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.



Arriving at the inevitable end of a winter DX season, many listeners usually plan a vacation away from their radio activities for the summer months. With the exception of casual tuning to occasional daily programs, DXers generally are glad enough to turn their attention to other interests for a time.

Such a period of hibernation from the midnight air lanes is good for the DXer and his hobby. Too much concentration on any pastime will dull the interest of most enthusiasts, and DXing is no exception. Overindulgence in the search for distant and elusive stations can turn a pleasant hobby into a deadly grind, so it probably is well that summer static curtains DXing on the broadcast band and forces an annual vacation upon most listeners.

But while summer retards DX activities it does offer a chance to take up an interesting angle of radio which, so far, has received a surprisingly small amount of attention from the DX fraternity. Not only does this sidelight fit in with the usual plans of most listeners, but it will enable them to get more out of their hobby when another season rolls around in the fall.

It was just a year ago that I installed a seven-tube, two-unit Silver-tone auto radio in my car. Like most

of the other five million drivers who have equipped their automobiles with radios, I was primarily interested in being able to hear favorite programs wherever I happened to be driving. On weekdays, I wanted to keep in touch with the ball games as I drove about the city. On week-end trips to the country or seashore, there were popular broadcasts which I didn't want to miss. And on long trips through different states, I felt that the radio would be mighty swell company.

The first long trip of any consequence took place over the Fourth of July week-end, when I ran out to Ohio from Philadelphia. Leaving at nine-thirty in the evening during a blinding rain storm, I was faced with an all-night drive under definitely adverse conditions. During the first four hours, which brought me into the foothills of the Allegheny Mountains, reception from the Eastern stations was just about perfect. Between 1 and 2 a.m., the midnight dance program from WBT roared out of the speaker with truly local volume. After two o'clock, most of the Eastern and mid-Western stations had signed off, and it was necessary to go a little farther West. I suppose I was a bit surprised when I found quite adequate reception from stations in Texas, Colorado, Utah and

California, and along the Mexican border. It seemed a bit strange to be crossing Pennsylvania mountains at three and four in the morning, with the voices of Doc Brinkley and Norman Baker emerging from under the dashboard, and it really was amazing to find an auto radio which would pick up the same stations you were accustomed to hear with your home radio.

It was this trip which opened my eyes to the possibilities of additional radio pleasure and knowledge which can be provided by an automobile receiver. Besides furnishing entertainment wherever you may be, an auto radio can provide interesting sidelights on the vagaries of reception which puzzle many listeners.

Frequently, after an evening of DXing, listeners compare notes with fellow night owls in their locality and are surprised to find that there has been quite a difference in results. Where one DXer has been able to tune a distant station with an R5-6 signal, another listener finds that the same station was barely audible at his home a few miles away. And just to make the problem more perplexing, the second listener reported an R4-5 signal from another station, in a different direction, which the first DXer had been unable to hear at all.

"It's a matter of location," they will decide, and let the matter drop. And while their conclusion may be correct, they will know little about *why* such a situation exists.

Most listeners have read something about how radio signals are affected by different obstacles. In a hazy sort of way, they realize that trees, buildings, hills and power lines will absorb a certain amount of a signal, and

thereby cut down the carrier strength at a point beyond the obstacle. They have heard that signals travel better over water than over dry land. But while they have some small knowledge of the behavior of signals, their observations are based solely on what they have heard in their own home.

The owner of an auto radio, however, is in a position to make his own observations in all parts of his locality. By driving through various sections of his city, he can see the effect of tall buildings and overhead wires on reception. Out in the country, he can observe how signals fade in hollows and build up to peaks on the hills. He can check the loss in strength of a carrier after he passes from open country to wooded sections. And he will observe other effects of different types of terrain, more difficult to understand and explain. He will find spots when signals from certain directions are always distorted, while other stations are heard clearly. He will find dead spots where no signals can be heard at any time and ponder on the obstacle which is causing this mystery. In short, he will become a mobile monitoring station, observing reception conditions in all parts of the country within driving distance.

If he passes through the Western part of Massachusetts, he will know why the state police must have relay transmitters at key points in the Berkshire Hills, since signals lose strength rapidly while crossing mountain ranges, yet travel up the valleys quite easily.

If he crosses the Appalachian Mountains, he will find why listeners on the Atlantic Seaboard frequently have trouble hearing the small West

Coast stations, while DXers just West of the mountains have much better reception. And he will know that this difference is not all due to the extra distance the signal has to travel.

Driving East to the Atlantic, he will notice rather poor reception of distant stations up and down the coastline. And then, as he reaches the ocean, he will find the same signals increasing several fold in strength, because their path is largely over water.

Through the use of an auto radio, listeners will obtain first-hand information on the eccentricities of reception. They learn far more from mobile listening than they would from making observations from a fixed point. They can actually notice changes as they occur and can see what is causing the effect they have observed.

Besides offering an opportunity to acquire a wealth of direct knowledge and pleasure, an auto radio can be extremely valuable from a practical angle. During the past winter, I was looking for a place to live. Naturally I hoped to find a location which would be good for radio reception, and so I turned to the car radio for help.

An output meter was attached to the receiver, and I proceeded to drive about town, checking the signal strength of a picked group of stations. Some sections were immediately dropped from consideration, since all stations showed to poor advantage. Gradually I was able to find the locations where the average signal strength was the highest and the general noise level the lowest. One of these sections showed the best all-around signal strength, but it was no-

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ticed that stations to the West were much below normal for the other sections. And so, by a process of elimination, I finally picked one location which was strong in all directions except South. This weakness was corrected to some extent though the medium of an aerial which was directional to the South, and I wound up with what I believe is the best location in the entire city for reception.

Of course, not all listeners are able to choose a location strictly on the basis of its reception possibilities, and probably only a few will ever use an output meter to check signal strength, but that does not alter the fact that an auto radio can be put to very practical use. It is a valuable aid in locating sources of heavy interference. Also, by checking the strength of stations from different directions and determining signal-absorbing obstacles in the neighborhood, it is possible to design an aerial which will make the most of any given location.

From the standpoint of actual reception, the Silvertone auto radio which has been in my car for the past year, offers remarkably good performance. Its separate eight-inch P.M. speaker gives a quality of reproduction which can be compared with home receivers of the better type, and there is more than ample volume on even the distant stations.

While one would normally believe that such a small receiver, with a tiny aerial and no real ground, would be shy on sensitivity, I have been agreeably surprised by the way it pulls in the stations. Under favorable conditions, stations up to three hundred miles distant have been heard in the daytime, and at night there appears to

be no limit within the North American continent.

Last New Year's Eve I drove up Broad Street in Philadelphia with KFI and KNX pounding through the speaker. KFBK has been heard on several occasions to stand out as the lowest-power West Coaster to be tuned in. Virtually all of the larger stations in this country have been heard, while the Cubans and Mexicans are just as big a nuisance in the car as at home. And on one memorable night this past February, I stopped outside of Cape May, N. J., and heard a Venezuelan broadcaster.

The selectivity of the receiver is really amazing for so small a model. Driving around Philadelphia, it is an easy matter to tune out the local WCAU on 1170 and pull in WINS in New York on 1180, while WHN can be heard on the channel next to the local KYW. And this selectivity is possible during the day as well as at night!

And so, with the summer months fast approaching, I am looking forward to further pleasure from this field of radio. Besides the best of entertainment wherever I may drive, I know that I am going to learn a little more about my favorite hobby. I am going to continue my notes on reception in different parts of the country and observe the effects of various types of terrain on signal strength. And when another winter season rolls around, I'll know a little more about the vagaries of reception—not only why I can hear what I do hear, but why I don't hear what I should like to hear!

It's a fascinating thing, this field which auto radio has opened, and I'm glad I found it!

The SHORTWAVE STATIONS

● The shortwave list, arranged by frequencies in kilocycles, gives the schedules of the shortwave broadcasting stations. When requesting verifications from radio stations, return postage should always be sent. Return postage to foreign countries can be sent in the form of an International Reply Coupon, available at any post office at 9c each. Unused postage stamps from many foreign countries, which can be sent instead of Reply Coupons, are available from the Return Postage Bureau, 85 Francisco Ave., Rutherford, N. J.

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

1734	....	Liepaja, Latvia.. 1 kw.. Latvijas Radiofons.	5850 YV1RB	Maracaibo, Venezuela. 300 w. 5:45-9:45 am; 3:30-10:45 pm. "Ecos del Zulia," Apartado 37. Relays YV1RA; interval, gong and xylophone, and signs off with "Strike Up The Band."
2320	TGWC	Guatemala City, Guat. 1 kw. See TGWA. Sun, 10:30 am-5:15 pm; 7 pm-midnight. Other days, 7:45-9 am; 12:45-3:45 pm; 7:30 pm-12:15 am.	5970 YV5RC	Caracas, Venezuela. 1 kw. (Reported on 5910, 5900 and 5973). W eekdays, 7 am-10 pm; Sun, 8:30 am-9:30 pm. "Radio Caracas," Apartado 2009. Relays YV5RA, and signs off with "March 1BC."
2437	HRN	Tegucigalpa, Honduras. 500 w. Noon-1:30 pm; 7-10:30 pm. "La Voz de Honduras."	5984 HJ4DAG	Quibdo, Colombia. 150 w. "La Voz del Choco.
3480	ZZB	Wellington, New Zealand. 200 w. At 7 am.	6005 CFCX	Montreal, P. Q. 75 w. Relays CFCF. Canadian Marconi Co., Ltd., Box 1690.
4107	HCJB	Quito, Ecuador. 7-8:15 am; 11:30 am-2:30 pm; 2:45-10:15 pm. "Broadcasting Provincial," Clarence W. Jones, Casilla 691.	6010 CJCX	Sydney, N. S. 1 kw. Relays CJCB. Eastern Broadcasters, Ltd., Radio Bldg.
4300	4ZB	Dunedin, New Zealand. 30 w. At 6 am.	VK9MI	M. V. "Kanimbla," 50 w. McIlwraith & McEacharn, Ltd., Melbourne, Vic., Australia.
4775	HJ7GAB	Bucaramanga, Colombia. 750 w. 6-10:45 pm. "Radio Santander."	6020 DJC	Berlin, Germany. 50 kw. 1-4 25 pm. See "Berlin" at end of list.
4785	HJ1ABB	Barranquilla, Colombia. 600 w. Relays HJ1ABA, "La Voz de Barranquilla," Apartado 715. Interval signal, 3 chimes.	6030 CFVP	Calgary, Alta. 100 w. Voice of th Prairies, Ltd., Toronto General Trusts Bldg.
4845	HJ3CAD	Bogota, Colombia, 720 w. Voz de Bogota "	6040 W1XAL	Boston, Mass. 20 kw. See "W1XAL".
	HJ6FAI	Ibague, Colombia, 501 w. "Ecos de Combeima."	W4XB	Miami, Fla. 5 kw. 10 pm-1 am. Relays WIOD. Ruth Richardson, Isle of Dreams Broadcasting Corp.
4805	HJ6FAB	Manizales, Colombia. 501 w. "Radio Manizales."	6042 HJ1ABG	Barranquilla, Colombia. 600 w. Relays HJ1ABH. "Emisora Atlantico," Aptdo. 445.
4815	HJ2BAB	Cucuta, Colombia, 600 w. Relays HJ2BAC, "La Voz de Cucuta."	6054 HJ6FAB	Pereira, Colombia, 501 w. "La Voz de Pereira."
4825	HJ5EAD	Cali, Colombia. 720 w. "La Voz del Valle."	6050 GSA	London, Gt. Britain. 20 kw. 10:45 am-noon; 4:15-6 pm. See "London" at end of list.
4835	HJ1ABE	Cartagena, Colombia, 525 w. Relays HJ1ABF. "La Voz de los Labs. Fuentes," Aptdo. 31.	6060 W3XAU	Philadelphia, Pa. 10 kw. Su, Tu, W, F, 7:30-11 pm; Su, W, F, 11:30 pm-1 am; M, Tu, Th, midnight-1 am; Sat, 11 pm-2 am. See "W3XAU" at end of list.
4840	VUC2	Calcutta, India. 10 kw. 7 am-12:30 pm. All-India Radio.	W8XAL	Cincinnati, Ohio. 10 kw. See W8XAL.
485	HJ3CAD	Bogota, Colombia, 720 w. "Nueva Granada."	6065 SBO	Stockholm, Sweden. 500 w. 4:15-5 pm. Telegrafverket Tjanstebrev 5.
4865	HJ2BAJ	Santa Marta, Colombia. 751 w. 10:30 am-2 pm; 5-11 pm. "La Voz de Santa Marta."	6070 CFRX	Toronto, Ont. 1 kw. Sun, 10:30 am-midnight. Weekdays 7:30 am-midnight. Relays CFRB. Rogers Radio Broadcasting Co., 37 Bloor St. W.
4875	HJ6FAH	Armenia, Colombia. 600 w. "La Voz de Armenia."		
4880	VUB2	Bombay, India. 10 kw. 8 am-1 pm. All-India Radio.		
4885	HJ4DAP	Medellin, Colombia. 501 w. Relays HJ4DAQ, "Emisora Claridad."		
4895	HJ3CAH	Bogota, Colombia. 720 w. "La Voz de la Victor." Relays HJ3CAL. Almacenes Victor, Aptdo 565.		
4920	VUM2	Madras, India. 10 kw. 7 am-12:30 pm. All-India Radio.		
4960	VUD2	Delhi, India. 10 kw. 8am-1 pm. All-India Radio.		
5835	YV5RR	Caracas, Venezuela. 4:30-10 pm.		

- 6079 DJM Berlin, Germany. 50 kw. 4:50 10:50 pm. See "Berlin" at end of list.
- 6080 CKFX Vancouver, B. C. 10 w. 2 pm-midnight. Relays CKFC. Standark Broadcasting System, 1504 Sun Bldg.
- W9XAA Chicago, Ill. 500 w. See W9XAA.
- XEWW Mexico City, D. F. 10 kw.
- 6082 OAX4Z Lima, Peru. 10 kw. Radio Nacional." Relays OAX4A, Av. Petit Thouars 447.
- 6090 ZNS Nassau, Bahamas. Superintendent of Telegraphs, Box 48 (No postage required for veries).
- 6100 W3XL New York, N. Y. 35 kw. See W3XL.
- YUA Belgrade, Yugoslavia. 1 kw. 12:45 am-5:30 pm. "Radio Beograd," Bureau Central de Presse, Poste Emetteur a Ondes Courtes. Announce in Serbian, Italian, English, German, Turkish, Hungarian, Albanian, and Greek.
- 6120 W2XE London, Gt. Britain.
- 6110 GSL New York, N. Y. 10 kw. See W2XE.
- 6122 HJ3CAX Bogota, Colombia. 750 w. Relays HJ3CAZ, La Voz de Colombia, Aptdo 772.
- TGWB Guatemala City, Guat. 1 kw. Sun, 10:30 am-5:15 pm; 7 pm-midnight. Weekdays 7:45-9 am; 12:45-3:45 pm; 7:30 pm-12:15 pm. See TGWA.
- 6130 CHNX Halifax, N. S. 500 w. Sat, 8 am-11:30 pm; Sun, noon-11:15 pm; other days, 7 am-11:15 pm. Maritime Broadcasting Co., Lord Nelson Hotel.
- COCD Havana, Cuba. 250 w. Relays CMCD. "La Voz del Aire," S. A., Sr. J. Benitez, Aptdo. 2294.
- LKJ Oslo, Norway, 5 kw. See "Oslo."
- 6132 VP3BG Georgetown, British Guiana.
- XEXA Mexico City, D. F. 100 w. Depto. de Publicidad y Propaganda, Sr. Jose Rivera.
- 6140 W8XK Pittsburgh, Pa. 40 kw. See W8XK.
- 6145 HJ4DAE Medellin, Colombia. 700 w. "La Voz de la Antioquia."
- 6150 CJRO Winnipeg, Man. 2 kw. James Richardson & Sons, Ltd., 157 Royal Alexandra Hotel.
- 6170 W2XE New York, N. Y. Sat, Sun, 11:30 pm-1 am; other days, midnight-1 am. See "W2XE" at end of list.
- W2XAF Schenectady, N. Y. 40 kw. See "W2XAD."
- W6XBE San Francisco, Calif. 20 kw. See "W6XBE."
- 6190 HVJ Vatican City. 15 kw. Mon, Thur, Sat, 2-3:30 pm; Tues, Fri, 2-3 pm; Wed, 2-2:30 pm; 3-3:30 pm. See NVJ.
- 6235 HRD2 La Ceiba, Honduras. 250 w. 10-11 pm. "La Voz de Atlantida."
- 6243 HIN Trujillo, D. R. 740 w. Week-days, noon-2:30 pm; 5:45 10 pm. Sign off National Anthem. Frank Hatton, Dominican Government, Carle Arzobispo Merino 79.
- 6330 COCW Havana, Cuba. 7 am-midnight. Relays CMW. "La Voz de las Antillas," Apartado 130.
- 6351 HRP1 San Pedro Sula, Honduras. 100 w. 12:30 pm-12:30 am. "Fl Eco de Honduras."
- 6380 ZIZ Basseterre, St. Kitts. (Reported on 6384). Daily 4-5 pm; Wed, 7-7:30 pm.
- 6425 W4XD Gainesville, Fla.
- 6490 TGWB Guatemala City, Guat. 1 kw. (Reported on 6495). See TGWA.
- 6690 TIEP San Jose, Costa Rica. 4-11 pm. (Reported on 6695). "La Voz de Isthmo," Eduardo Pinto H., Aptdo. 257.
- VK8SK Broken Hill, Australia. At 2:30 am. Australian Aerial Medical Service.
- 6960 2ZB Wellington, New Zealand. 200 w.
- 7006 FETI Valladolid, Spain. 7:30 am-5:30 pm.
- 7020 X6SA Kweiyang, China. 8-11:15 am; 8-9 pm.
- 7088 PI1J Dordrecht, Netherlands. 50 w. Sat, 10 am-12:50 pm. Technical College.
- 7220 I2ROII Rome, Italy. 100 kw. See 2RO.
- 7300 VIG Port Moresby Papua. Relays 4 pm.
- 7450 FG8AA Pointe a Pitre, Guadeloupe. (Reported on 7050, 7435). 6-7 pm. "Radio Guadeloupe," Box 125.
- 7510 JVP Tokyo, Japan. 50 kw. 6-9:30 am. See "Tokyo" at end of list.
- 8650 HJ4DAU Medellin, Colombia. 250 w. Universidad Antioquia.
- 8664 COJK Camaguey, Cuba. 1 kw. 11:30 am-12:30 pm; 8-10 pm. (Reported on 8660 and 8680). Relays CMJK, "Radio Zenith," Jones Castillon y Cie., Finlay #3.
- 8820 HCJB Quito, Ecuador. 1 kw.
- 9100 COCA Havana, Cuba. Relays CMCA. Testar y Gonzales, Box 3488.
- 9125 HAT4 Budapest, Hungary. 20 kw. Sun, Wed, 7-8 pm; Sat, 6-7 pm. Radiolabor, Kiserleti Allomas, Gyali-ut 22, Budapest IX.
- 9234 Bucuresti, Romania. 2 kw. "Radio Experimental." Societatea Romana de Radiodifuziune, Str. Yral, Berthelot 60.
- 9465 TAP Ankara, Turkey. 20 kw. Turkish Brdcstg. System. Ann. in Tur., Eng., Fr., Ger. daily 11:30 am-5 pm.
- 9480 EAR Madrid, Spain. 20 kw. 7:40-8 pm; 8:30-9 pm. "La Voz de Espana," Medinaaceli 6.

- 9500 XEWW Mexico City, D. F. 10 kw. 8:55 am-midnight. "La Voz de la America Latina desde Mexico." Apto. 2516. Relays XEW, Cadena Radiodifusora Mexicana.
- 9510 GSB London, Gt. Britain. 20 kw. 10:30 am-noon; 1:30-4 pm; 4:15-8:30 pm; 9:20-11:25 pm. See "London" at end of list.
- VK3ME, Melbourne, Australia. 5 kw. Weekdays, 4-7 am. Amalgamated Wireless, (A/sia), Ltd., 167 King St.
- 9520 OZF Copenhagen, Denmark. 6 kw. 2-6 pm; 10-11 pm. Statsradiofonieue, Heibergsgade 7.
- 9525 ZBW3 Hong Kong. 2500 w. Hong Kong Broadcasting Committee, Box 200.
- 9530 LKC Oslo, Norway. 5 kw. See "Oslo."
- VUC2 Calcutta, India. 10 kw. 2:30-4:30 am. All-India Radio.
- W2XAF Schenectady, N. Y. 40 kw. See W2XAD.
- W6XBE San Francisco, Calif. 20 kw. Tokyo, Japan. 20 kw. 4:30-5:30 pm. See "Tokyo" at end of list.
- 9535 JZI Tokyo, Japan. 20 kw. 4:30-5:30 pm. See "Tokyo" at end of list.
- 9540 DJN Berlin, Germany. 50 kw. 12:05-11 am; 4:50-10:50 pm. See "Berlin" at end of list.
- 9550 HVJ Vatican City. 15 kw. Wed, See W6XBE. 2-30-3 pm; Sun, 5-530 am. See HVJ.
- 9550 TPB11 Paris, France. 25 kw. 11:15 pm-6 pm. See "Paris" at end of list.
- 9550 VUB2 Bombay, India. 10 kw. 12:30-4 am; 5-7:30 am; 10-11 pm. All India Radio.
- W2XAD Schenectady, N. Y. 25 kw. See W2XAD.
- 9560 DJA Berlin, Germany. 50 kw. 12:05-11 am; 4:50-10:50 pm. See "Berlin" at end of list.
- 9570 W1XK Springfield, Mass. 10 kw. Relays NBC-WBZ-WMZA. Westinghouse Electric & Mfg. Co.
- W8XK Pittsburgh, Pa. 40 kw. See W8XK.
- 9580 GSC London, Gt. Britain. 20 kw. 4:15-6 pm; 6-8:30 pm; 9:20-11:25 pm. See "London" at end of list.
- VLR Melbourne, Vic., Australia. 500 w. 3:15-9:45 am. See VLR.
- 9590 HP5J Panama City, Panama. 1 kw. (Reported on 9610). 6:30-11 pm. "La Voz de Panama." Apartado 867.
- PCJ Huizen, Netherlands. 60 kw. Sun, 2-3 pm; Mon, 7:15-8:15 pm; 8:25-9:25 pm; Tu, 1:45-3:30 pm; W, Th, 7-9:30 pm; F, 8-9 pm. See Hilversum.
- VK2ME Sydney, Australia. 20 kw. Sun, 1-3 am; 5-11 am. Signature, laughing notes of kookaburra. Amalgamated Wireless, (A/sia), Ltd., 47 York St.
- VK6ME Perth, Australia. 5 kw. Weekdays, 6-8 am. Amalgamated Wireless, (A/sia), Ltd.
- VUD2 Delhi, India. 10 kw. 2-4:15 am; 8 am-1 pm; 10 pm-midnight. All-India Radio.
- VUD3 Delhi, India. 5 kw. 8 am-1 pm. All India Radio.
- W3XAU Philadelphia, Pa. 10 kw. M, Th, 7:30-11:30 pm; Sat, 7:30-10:45 pm. See "W3XAU" at end of list.
- W8XAL Cincinnati, Ohio. 10 kw. See W8XAL.
- 9606 ZRK Cape Town, U. of South Africa. 5 kw. Weekdays. W8XAL. 11:45 pm-12:45 am. Programs open with bugle call, and announcement is "Johannesburg Calling." South African Broadcasting Corp., Box 4559, Johannesburg.
- 9616 HJ1ABP Cartagena, Colombia. 608 w. 4:30-10:30 pm. "Radio Cartagena," Aptado 37.
- 9630 H7GAD Bucaramanga, Colombia. 650 w. Relays HJ7GAE. "Radio Bucaramanga."
- 9630 2RO3 Rome, Italy. 25 kw. 12:10-10 pm. See 2RO.
- 9645 HH3W Port-au-Prince, Haiti. 30 w. 1-2 and 7-8 pm. C. Ricardo Widmaier, Box A-117.
- 9650 1ABA Addis Ababa, Ethiopia. 1 kw. E. I. A. R.
- W2XE New York, N. Y. Mon thru Fri, 10:30-11:30 pm. See "W2XE" at end of list.
- 9660 HVJ Vatican City. 15 kw. Wed 2:30-3 pm; Sun, 5-5:30 am. See HVJ.
- 9670 I2RO9 Rome, Italy. 400 kw. See 2RO W3XAL New York, N. Y. 35 kw. See W3XL.
- 9675 DJX Berlin, Germany. 10:35 am-4:25 pm. See "Berlin" at end of list.
- 9685 TGWA Guatemala City, Guat. 10 kw. Sun, 12:45-5:15 pm; 7 pm-midnight; weekday, 12:45-1:45 pm; 10-11:30 pm. See TGWA.
- 9692 TI4NRH Heredia, Costa Rica. 500 w. Sun, 7-8 am; Tu, Th, Sat, 9-10 pm. Amando Cespedes Marin, Apartado 40
- 9700 "Radio Martinique," Fort de France, Martinique. 1500 w. 1:15-2:45 pm; 6-10 pm. Sign off with Marseillaise. Poste Seri, Boite 136.
- 9715 COCQ Havana, Cuba. 1 kw. "de la RCA Victor," Calle 25 No. 225. Valparaiso, Chile. (Reported on 9710). 6:30-11 pm.
- 9730 CB970 Rome, Italy. 20 kw. 12:40-1 pm; 1:37-3:30 pm; 6-9 pm. See "Rome" at end of list.
- 9830 IRF Rome, Italy. 20 kw. 12:40-1 pm; 1:37-3:30 pm; 6-9 pm. See "Rome" at end of list.
- 9833 COCM Havana, Cuba. 1 kw. (Reported on 9805 and 9840). 8 am-10:30 pm. "Trans Radio Columbia," 23 No. 1113, Vedado.

- 9860 EAQ Madrid, Spain. "The Voice of Republican Spain," Apartado 951.
- 9925 JDY Dairen, Kwantung. 10 kw. 7-8 am. Manchuria Telephone and Telegraph Co.
- 9940 CSW Lisbon, Portugal. 5 kw. (Reported on 9735).
- 9960 COBC Havana, Cuba. (Reported on 9980). 6:55 am-midnight. "El Progreso Cubano." Apto 132.
- 10042 DZB Berlin, Germany.
- 10050 TIEMC San Jose, Costa Rica. Relays TIEH. Apartado 1049.
- 10220 PSH Rio de Janeiro, Brazil. 12 kw. Mon, 6-9 pm. Relays PRF4; signs off with Brazilian National Hymn. Cia. Radio Internacional do Brasil, Caixa Postal 709.
- 10330 ORK Brussels, Belgium. 11 kw. 1:30-3 pm.
- 10660 JVN Tokyo, Japan.
- 10740 JVM Tokyo, Japan.
- 11040 CSW Lisbon, Portugal. 5 kw. 2-5:30 pm. "Emisora Nacional".
- 11280 HIN Trujillo, D. R. 750 w. Apto 604.
- 11402 HBO Geneva, Switzerland. "Radio Nations." Sun, 7-7:45 pm.
- 11650 COCX Havana, Cuba. 1 kw. (Reported on 11740). Sun, 6-9 pm; Weekdays, 8 am-midnight. Relays CMX, "Casa Lavin," Box 32.
- 11660 JVL Tokyo, Japan.
- 11700 HP5A Panama City. 300 w. Sun, 9 am-1 pm; 6-10 pm. Weekdays, 11:45 am-1 pm; 6-10 pm. "Radio Teatro Estrella de Panama." Sign off with "Anvil Chorus." Radio Teatro, Apto. 954.
- 11705 SBP Stockholm, Sweden. 500 w. Sun, 1:15-4:15 pm; Wed, Sat, 8-9 pm; Daily 1-4:15 pm. Telegrafuerket Tjanstebrev 5.
- 11718 TPB6 Paris, France. 7-9:15 pm. See "Paris."
- TPA4 Paris, France. 7-9:15 pm; 9:30 pm-midnight. See "Paris."
- 11720 CJRX Winnipeg, Man. 2 kw. James Richardson & Sons, 157 Royal Alexandra Hotel.
- 11730 PHI Huizen Netherlands. 23.6 kw. See Hilversum.
- W1XAL Boston, Mass. 20 kw. See W1XAL.
- 11735 LKQ Oslo, Norway. 5 kw. See "Oslo."
- 11740 HVJ Vatican City. 15 kw. Tues, 8:30-9 am. See HVJ.
- 11750 GSD London, Gt. Britain. 20 kw. 3-5:25 am; 9-10:15 am; 12:20-4 pm; 4:15-8:30 pm; 9:20-11:25 pm. See "London."
- 11760 TGWA Guatemala City, Guat. 10 kw. Sun, 12:45-5:15 pm; Weekdays, 12:45-1:45 pm. See TGWA.
- 11770 DJD Berlin, Germany. 50 kw. 11:30 am-4:25 pm; 4:50-10:50 pm. See "Berlin."
- 11790 W1XAL Boston, Mass. 20 kw. See W1XAL.
- 11800 JZJ Tokyo, Japan. 50 kw. 12:30-1:30 am; 7-9:30 am; 2:30-4 pm; 4:30-5:30 pm; 8-8:30 pm. See "Tokyo."
- 11810 2RO4 Rome, Italy. 25 kw. 4:40-8:45 am; 11 am-1:09 pm. See 2RO.
- 11820 GSN London, Gt. Britain.
- 11830 W2XE New York, N. Y. 10 kw. Sat. Sun, 6:30-11 pm; Other days, 6:30-10 pm. See "W2XE."
- W9XAA Chicago, Ill. 500 w. See W9XAA.
- 11860 GSE London, Gt. Britain. 20 kw 3-5:25 am; 5:45-8:50 am; 9-10:30 am. See "London."
- 11870 VUM2 Madras, India. 10 kw. 4-430 am. All-India Radio.
- 11880 VLR3 Melbourne, Australia. 1-3 am. See VLR.
- 11885 TPA3 Paris, France. 25 kw. 2-5 am; 11:15 am-6 pm. See "Paris."
- TPB7 Paris, France. 25 kw. 9:30 pm-midnight. See "Paris."
- 11900 I2RO13 Rome Italy. 100 kw. See 2RO.
- 12235 TFF Reykjavik, Iceland. 7500 w. Sun, 1:45-2:30 pm. Icelandic State Broadcasting Service, Box 547.
- 12450 HCJB Quito, Ecuador. Daily exc. Mon, 7:15-10:30 pm.
- 15100 I2RO12 Rome, Italy. 100 kw. See 2RO.
- 15110 DJL Berlin, Germany. 50 kw. 12:05-2 am; 8-9 am; 10:35 am-4:25 pm. See "Berlin."
- 15120 HVJ Vatican City. 15 kw. Tues, 10:30-11 am; Sun, 1-1:30 pm. See HVJ.
- 15130 TPB11 Paris, France. 25 kw. 2-5 am. See "Paris."
- W1XAL Boston, Mass. 20 kw. See W1XAL.
- 15140 GSF London, Gt. Britain. 15 kw. 3-5:25 am; 5:45-8:50 am; 9 am-non. See "London."
- 15160 JZK Tokyo, Japan. 50 kw.
- VUD3 Delhi, India. 5 kw. 2-4:15 am; 10 pm-midnight. All-India Radio.
- XEWV Mexico City, D. F. 10 kw. "La Voz de la America Latina desde Mexico," Apto. 2516.
- 15170 LKV Oslo, Norway. 5 kw. See Oslo.
- 15170 TGWA Guatemala City, Guat. 10 kw. Sun, 12:45-5:15 pm. Weekdays 12:45-1:45 pm. See TGWA.
- 15180 GSO London, Gt. Britain. 3-5:25 am; 4:15-8:30 pm. See "London."
- TAQ Ankara, Turkey. 20 kw. 9:30-11 am.
- 15195 TAQ Ankara, Turkey. 20 kw. Turkish Brdctg. System. daily 5:30-7 am.
- 15200 DJB Berlin, Germany. 8 kw. 8-9 am; 4:50-10:50 pm; Sun only, 11:10 am-12:25 pm. See "Berlin."
- 15210 W8XK Pittsburgh, Pa. 40 kw. See W8XK.
- 15220 PCI2 Huizen, Netherlands. 60 kw. Tues, 3-4:30 am; Wed, 9:30-11:30 am. See Hilversum.

- 15243 TPA2 Paris, France. 25 kw. 6-11 am. See "Paris."
- 15250 W1XAL Boston, Mass. 20 kw. See W1XAL.
- 15260 GSI London, Gt. Britain. 3-5:25 pm; 12:20-1:30 pm.
- 15268 HI3X Ciudad Trujillo, D. R. 300 w. Tues., Fri, 8:10-10:10 pm; Sun, 7:40-9:40 pm. Relays HIX. Secretaria de Comunicaciones y obras Publicas.
- 15270 W2XE New York, N. Y.
W3XAU Philadelphia, Pa. 10 kw. 3-7 pm. See "W3XAU."
W8XAL Cincinnati, Ohio. 50 kw. See "W8XAL."
- 15280 DJQ Berlin, Germany. 50 kw. Sun, 11:10 am-12:25 pm; Daily, 12:05-11 am; 4:50-10:50 pm. See "Berlin."
- LRU Buenos Aires, Argentina. 5 kw. 8 am-1 am. "Radio El Mundo," Calle Maipu 555.
- 15310 GSP London, Gt. Britain. 1:45-4 pm. See "London."
- 15330 W2XAD Schenectady, N. Y. 25 kw. See W2XAD
W6XBE San Francisco, Calif. 20 kw. 1-4 am to the Orient; 12:30-4 pm to CA and SA. See "W6XBE."
- 15340 DJR Berlin, Germany. 50 kw. 12:05-11 am. See "Berlin."
- 17760 DJE Berlin, Germany. 50 kw. 12:05-5:50 am; 6-7:50 am. See "Berlin."
W8XAL Cincinnati, Ohio. 50 kw. See "W8XAL."
- 17770 PHI2 Huizen, Netherlands. 23.6 kw. Sun. 6:25-9:40 am; M, Th, 7:40-8:40 am. See Hilversum.
- 17780 W3XL New York, N. Y. 35 kw. See "W3XL."
W8XK Pittsburgh, Pa. 40 kw. See "W8XK."
W9XAA Chicago, Ill. 500 w. See "W9XAA."
- 17790 GSG London, Gt. Britain. 5:45-8:50 am; 9 am-noon; 12:20-4 pm. See "London."
- 17800 TGWA Guatemala City, Guat. 10 kw. See "TGWA."
- 17810 GSV London, Gt. Britain. 5:45-8:50 am; 12:20-4 pm. See "London."
New York, N. Y.
- 17830 W2XE Vatican City. 15 kw. See HVJ.
- 17840 HVJ Boston, Mass. 20 kw. See W1XAL.
- 21460 W1XAL London, Gt. Britain. 5:45-8:50 am; 9 am-noon. See "London."
- 21470 GSH Schenectady, N. Y. 25 kw. See W2XAD.
- 21500 W2XAD Philadelphia, Pa. 10 kw. 1-2:30 pm. See "W3XAU."
- 21520 W3XAU London, Gt. Britain. 5:45-8:50 am. See "London."
- 21530 GSJ Pittsburgh, Pa. 40 kw. See "W8XK."
- 21540 W8XK London, Gt. Britain.
- 21550 GST Berlin, Germany. 6-7:50 am. See "Berlin."
- 21565 DJJ Schenectady, N. Y. 40 kw. See W2XAD.
- 21630 W3XAL New York, N. Y. 35 kw. See W3XAL.
- 21650 W8XAL Cincinnati, Ohio. 50 kw. See W8XAL.
- 25725 W3XAU Philadelphia, Pa. 10 kw. See W3XAU.
- 25950 W4XH Spartanburg, S. C. WSPA.
W6XKG Los Angeles, Calif. KGFJ.
- 25950 W8XNU Cincinnati, Ohio. WLW.
- 26050 W3XEX Norfolk, Va. WTAR.
W9XH South Bend, Ind.
W9XTC Minneapolis, Minn. WTCN.
- 26100 GSK London, Great Britain. See London.
W9XJL Superior, Wis. WEBC.
- 26150 W4XA Nashville, Tenn. 1 kw. 7:30-11 pm.
W9XUP St. Paul, Minn. KSTP.
W2XJI Newark, N. J. WOR.
- 26300 W9XAZ Milwaukee, Wis. WTMJ.
- 26400 W9XAZ Kansas City, Mo. 1 kw. Everett L. Dillard, Commercial Radio Equipment Co.
- 26450 W9XA Harrisburg, Ill. Schenert Radio Service.
- 26500 W9XTA Flushing, N. Y. WMCA.
- 26550 W2XQO Reading, Pa.
- 31100 W3XIW Fairhaven, Mass. WNBH.
- 31600 W1XER Boston, Mass. The Yankee Network.
W1XKA Boston, Mass. WBZ.
W1XKB Springfield, Mass. WBZA.
W1XOE Boston, Mass. CBS.
W2XDG New York, N. Y. WEAJ-WJG.
W2XDV New York, N. Y. WABC.
W2XHG Bound Brook, N. J. WJZ.
W3XES Baltimore, Md. WCAO.
W3XEX Norfolk, Va. WTAR.
W3XEY Baltimore, Md. WFBR.
W3XIR Philadelphia, Pa. WCAU.
W3XKA Philadelphia, Pa. KYW.
W4XBW Chattanooga, Tenn. WDOD.
W4XCA Memphis, Tenn. WMCA.
W5XAU Oklahoma City, Okla. WKY.
W5XD Dallas, Texas.
W5XGB Pasadena, Texas. Houston Lighting & Power Co.
W5XGC Humble, Texas. Houston Lighting & Power Co.
- W6XAS San Francisco, Calif. KJBS.
W6XXT Portable. Press Wireless, Ltd.
W8XAI Rochester, N. Y. WHAM.
W8XH Buffalo, N. Y. WBEN.
W8XKA Pittsburgh, Pa. KDKA.
W8XNT Cleveland, Ohio. WGAR.
W8XOY Akron, Ohio. WADC.
W8XWJ Detroit, Mich. WWJ.
W9XBS Chicago, Ill. WENR.
W9XER Kansas City, Mo. KMBC.
W9XHW Minneapolis, Minn. WCCO.
W9XLA Denver, Colo. KLZ.
W9XOK St. Louis, Mo.
W9XPD St. Louis, Mo. KSD.
W9XUY Omaha, Nebr.
- W4XBW Chattanooga, Tenn. WDOD.
- 35600 W3XES Baltimore, Md. 300 w. Monumental Radio Co.
W6XDA Los Angeles, Calif. 100 w. CBS, Inc.
W9XAZ Milwaukee, Wis. 500 w. Journal Co.
- 36785 Warsaw, Poland. 2 kw. Television sound. Polskie Radio.

- 38600 W6XDA Los Angeles, Calif. 100 w. CBS, Inc. 3-9 pm except Wed. and Thurs.
 W8XNT Cleveland, hOio.
 41000 W2XHG Bound Brook, N. J. 150 w. NBC.
 W2XOY Albany, N. Y. WGY.
 W3XIR Philadelphia, Pa. 100 w. WCAU.
 W8XH Buffalo, N. Y. 100 w.
 W8XWJ Detroit, Mich. Sun, 10 am-5 pm. Weekdays, 9 am-11:30 pm.
 W8XBS Chicago, Ill. 50 w.
 41500 WBOE Cleveland, Ohio. 500 w. Board of Education.
 London, Gt. Britain. Television sound. British Brdcstg. Corp., Alexandra Palace.
 41990 Paris, France. 25 kw. Television sound.
 42260 W2XBF New York, N. Y. Wm. G. H. Finch.
 42800 W2XMN Alpine, N. J. Major Armstrong.
 43000 W1XOJ Paxton, Mass. Yankee Network, 21 Brookline Ave., Boston, Mass.
 86000 to 40000.0:
 W1XSL Hartford, Conn. 100 w. Relay from WDRC to W1XPW.
 401000 and above:
 W1XSL Hartford, Conn. 100 w.

Addresses

- Berlin—These transmitters are located at Zeesen, near Berlin. Interval signal is the tune, repeated several times, "Ever Be True and Honest," and sign off theme, two national anthems, "Horst Wessel Lied" and "Deutschlandlied". Address is Reichs-Rundfunk G. m. b. H., Haus des Rundfunk, Masurenallee, Berlin-Charlottenberg 9.
- Hilversum—Transmitters a Huizen. PCJ is "The Happy Station." Announcements in Dutch, German, French, English, Spanish, Portuguese. Sign off with National Anthem. N. V. Philips' Radio, Eindhoven.
- Johannesburg—All programs originate in J/B. Announce "Johannesburg Calling." English and Afrikaans. Open with bugle call. South African Broadcasting Corp., Box 4559, Johannesburg.
- London—Transmitters are at Daventry. Interval signals are Bow Bells; Greenwich time signal on even hours; and, irregularly, Big Ben, preceded by Westminster Chimes, strikes the hours. Sign off with "God Save The King." British Broadcasting Corp., London W1.
- Oslo—Norsk Rikskringkasting, Shortingsgaten 28, Oslo, Norway.
- Tokyo—Transmitters are at Nazaki. Sign off with national anthem, "Kimagayo." Broadcasting Corp. of Japan, Overseas Section, Atago-Yama, Tokyo
- Paris—Transmitters at Essarts-le-Roi. Announce as "Paris Mondial," (Paris Embracing The World), and sign off with "La Marseillaise."
- Minister of Posts, Telegraphs and Téléphones, 98 bis Blvd. Haussmann.
- Rome—Stations sign off with "Giovinezza" and "Marcha Reale." E. I. A. R., 5 Via Montello.
- HVJ—Announcements in Dutch, Italian, Polish, English, German, French, Spanish, Russian. A clock or metronome ticks seconds during 5 minutes preceding broadcasts. Bells of St. Peters strike hour. Open and close with Laudetur Jesus Christus." Pontificia Accademia Della Scienze, Roma-Castina Pio IV.
- 2RO—"Radio Roma-Napoli." Transmitter at Prato-Smeraldo. Interval signal, chirping of bird. Announcements usually by a lady. Sign off with 2 anthems, "Giovinezza" and "Marcha Reale." Ente Italiano per le Audizioni Radiofoniche, Via Montello 5.
- TGWA—Radiodifusora National, "La Voz de Kuatemala." Relay TGW. Return postage is not necessary for verifications.
- VLR—Transmitter at Lyndhurst. Australian Broadcasting Commission (Victorian Division), P. O. Box 1686, GPO, Melbourne, Vic., Australia.
- W1XAL—"Dedicated to Enlightenment." World Wide Broadcasting Corp., Educational Director, Unversity Club, Boston, Mass.
- W2XAD—Transmitter at South Schenectady. Relays NBC-WGY. Programs commence with discharge of man-made lightening. General Elec. Co., 1 River Road.
- W2XE—Transmitters at Wayne Township, N. J. Relay programs of CBS-WABC, and sign off with "Star Spangled Banner." Columbia Broadcasting System, 485 Madison Ave., New York, N. Y.
- W3XAU—Transmitters at Newton Square. Relay CBS-WCAU. WCAU Broadcasting Co., 1622 Chestnut St.
- W3XL—Transmitter at Bound Brook, N. J. Relays NBC-WJZ. Sign off with "Star Spangled Banner." NBC, Inc., 30 Rockefeller Plaza, New York, N. Y.
- W6XBE—Transmitter Treasure Island. General Electric Co., 235 Montgomery St., San Francisco.
- W8XAL—Transmitter a Mason. Relays NBC-WLW. Crosley Corp., 1329 Arlington St., Cincinnati, Ohio.
- W8XK—Transmitter at Saxonburg. Relays NBC-KDKA. Westinghouse Electric & Mfg. Co., Grant Bldg., Pittsburgh, Pa.
- W9XAA—"The Voice of Labor." Transmitter, York Township. Relays NBC-WCFI. Sign off in English, French, German, Norwegian, Polish, Russian and Spanish. Chicago Federation of Labor, 666 Lake Shore Drive, Chicago, Ill.

DXER'S REPORT

"This morning, during the frequency checks," reports Herbert Campbell, Athens, Pa., "KBTM made the following announcement: 'To all listeners who have heard our little program and will write us, we will send a copy of the Bible. For DX listeners, we have a verification card.'"

Sort of puts us night owls on the spot, doesn't it?

"A novel station in New Zealand has been reported by one of our DXers," reports A. Mervyn Branks, Invercargill, N. Z. "This is 5ZB, a mobile unit of the National Commercial Broadcasting Service. It is housed in a rail car and will travel the North Island of New Zealand, visiting the smaller towns. It will operate from 1 to 5 a.m., EST, on 1360 kcs. with 250 watts power. The tour began in March and was to last for 77 days."

We wonder how many American DXers remember KIED, the mobile transmitter of KFWB, which travelled around America on the special train which Warner Brothers used to ballyhoo one of their early musical pictures some six or seven years ago.

"I purchased a January RADEX for program information only," declares George J. Ullrich, St. Joseph, Mo., "but — Boy, Oh Boy! — I got into something else. That was DXing! And I think I have made a pretty good start. So far I have logged 109 stations and have sent for veries from TGW, WGAU, WJBW, CJRM, CKCR and WSYR. Just the other night I installed a phone jack in my Stewart Warner 102A receiver and it works fine."

The Month's Changes in Station Data

New

1200	WBAB	Atlantic City, N. J.
1200	....	McComb, Miss.
1210	....	Provo, Utah.
1260	....	Fredericksburg, Va.
1370	WADN	Asheville, N. C.
1500	WTMC	Ocala, Fla.
1500	....	Sedalia, Mo.

Power

680	KFEQ	St. Joseph, Mo., 500 (2.5) from 2500 D.
1200	KWNO	Winona, Minn. 100 (.25) from 250 D.
1210	WHAI	Greenfield, Mass. 100 (.25) from 250 D.

Owner

1200	WCAX	Burlington, Vt. Vermont Brdctg. Corp.
1300	WBBR	Brooklyn, N. Y. Watch Tower Bible & Tract Society, Inc.

Permit to Change Power

590	WKZO	Kalamazoo, Mich., to 250 (1).
760	KXA	Seattle, Wash., to 1000.
770	KFAB	Lincoln, Nebr., to 50000.
850	WKAR	E. Lansing, Mich., to 5000.
850	WVWL	New Orleans, La., to 50000.
880	WRNL	Richmond, Va., to 1000.
890	KARK	Little Rock, Ark., to 1000.
890	KFNF	Shenandoah, Iowa, to 1000 (5).
900	WELI	New Haven, to 250 (.5).
900	KGBU	Ketchikan, T. A., to 1000.
920	KFEL	Denver, Colo., to 1000.
920	KVOD	Denver, Colo., to 1000.
1020	WDZ	Tuscola, Ill., to 1000.
1040	KRLD	Dallas, Texas, to 50000.
1190	KTKC	Visalia, Calif., to 1 kw.
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 (2.5).
1370	KSLM	Salem, Ore., to 500.
1370	WPRA	Mayaguez, P. R., to 1000.
1400	KLO	Ogden, Utah, to 1000 (5).
1430	WHP	Harrisburg, Pa., to 1000 (5).
1460	KSTP	St. Paul, Minn., to 50000.
1460	WJSV	Washington, D. C., to 50000.
1490	WCKY	Covington, Ky., to 50000.

Permit to Change Frequency

770	KFAB	Lincoln, Nebr., to 1080.
920	KVOD	Denver, Colo., to 630.
1190	KTKC	Visalia, Calif., to 890.
1190	WATR	Waterbury, Conn., to 1290.
1370	KAST	Astoria, Ore., to 1200.
1370	KSLM	Salem, Ore., to 1360.
1370	WPRA	Mayaguez, P. R., to 780.

Permit to Change Location

1200	WHBY	Green Bay, Wis., to Appleton.
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Stations Using Special Frequencies

Call	City	Assigned	Using
KIRO	Seattle	650	710
KTHS	Hot Springs	1040	1060
KWKH	Shreveport	850	1100
WESG	Elmira	1040	850
WTIC	Hartford	1060	1040

**NORTH AMERICAN B. C. STATIONS BY FREQUENCIES
WITH NAMES OF VERIFICATION SIGNERS**

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 fourth column. Daytime power is shown in parentheses in second column, in kilowatts. Thus: (.25) indicates 250 watts. Exact frequencies, when not multiples of ten are shown in the second column.

Third 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; verify stamp for 10c.
- z—No information available.

Second Column Symbols

- A—Status in doubt.
- 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.
- ?—Reported but not officially confirmed.
- ...—No information.

540 kcs. (552.2 m.)

CBK	P	z	5000
CJRM	F	a	1000

Watrous, Sask.
Regina, Sask.

Harry C. Dane

550 kcs. (545.1 m.)

CFNB	F	a	1000
CMW		e	1400
KFLUO	2(1)	a	500
KFYR	N(5)	a	1000
KOAC		a	1000
KSD	2R(5)	a	1000
KTSA	C(5)	a	1000
WDEV	D	a	500
WGR	C(5)	a	1000
WKRC	C(5)	a	1000
WSVA	D	a	500

Fredericton, N. B.
Havana, Cuba
St. Louis, Mo.
Bismarck, N. D.
Corvallis, Ore.
St. Louis, Mo.
San Antonio, Tex.
Waterbury, Vt.
Buffalo, N. Y.
Cincinnati, Ohio
Harrisonburg, Va.

T. B. Young, Ch. Eng.
Carl H. Meyer, Ch. Eng.
W. R. Griffin, DX Ann'r.
Grant S. Feikert, Ch. Eng.
Robert L. Coe, Ch. Eng.
W. G. Egerton, Cr. Eng.
William G. Ricker
K. B. Hoffman, Ch. Eng.
Vera Tyson.
U. L. Lynch, Ch. Eng.

560 kcs. (535.4 m.)

KFDM	N(1)	a	500
KLZ	C(5)	a	1000
KSFO	C(5)	a	1000
KWTO	D	a	5000
WFIL	BM	a	1000
WIND	(5)	a	1000
WIS	N(5)	a	1000
WQAM	C	a	1000

Beaumont, Texas
Denver, Colo.
San Francisco, Calif.
Springfield Mo.
Philadelphia, Pa.
Gary, Ind.
Columbia, S. C.
Miami, Fla.

Bernice Anderson, Sec'y.
T. G. McClelland, Ch. Eng.
R. V. Howard, Ch. Eng.
Fritz Bauer, Ch. Eng.
Donald Withycomb, Gen. Mgr.
Kenneth Shirk, Ch. Eng.
Floyd D. Rogers
Ralph Nulsen, Ch. Eng.

570 kcs. (526 m.)

KGKO	B(5)	a	1000
KMTR		a	1000
KVI	C(5)	a	1000
TISCV	575	z	100
WKBN	1C	a	500
WMCA		a	1000
WNAX	C(5)	a	1000
WOSU	1(1)	a	750
WSYR	Ba	a	1000
WSYU	Qa	a	1000
WWNC		a	1000

Ft. Worth, Texas
Los Angeles, Calif.
Tacoma, Wash.
Alajuela, Costa Rica
Youngstown, Ohio
New York, N. Y.
Yankton, S. Dak.
Columbus, Ohio
Syracuse, N. Y.
Syracuse, N. Y.
Asheville, N. C.

C. B. Locke, Ch. Eng.
Carroll Hauser, Ch. Eng.
J. W. Wallace, Ch. Eng.
C. L. Lindberg; A. O. Hardy
Miss F. Hapton
Cliffon Todd, Ch. Eng.
A. H. Hammerschmidt, Ch. Eng.
Armand G. Belle Isle, Ch. Eng.
Armand G. Belle Isle, Ch. Eng.
C. B. Hoskins, Ch. Eng.

580 kcs. (516.9 m.)

CFPR	....	a	100
CHRC	....	a	100
CKCL	F	a	100
CKPR	F	a	1000
CKUA	F	c	500
KMJ	KN	a	1000
KSAC	2(1)	a	500
WCHS	C(1)	a	500
WDBO	C(5)	a	1000
WIBW	C2(5)	a	1000
WILL	D	a	5000
WTAG	R	a	1000
XEMU	....	z	.250

Prince Rupert, B. C.
Quebec, P. Q.
Toronto, Ont.
Fort William, Ont.
Edmonton, Alta.
Fresno, Calif.
Manhattan, Kans.
Charlottesville, W. Va.
Orlando, Fla.
Topeka, Kans.
Urbana, Ill.
Worcester, Mass.
Piedra Negra, Coah.

Ralph H. Parker
Oscar Marcoux, Ch. Eng.
E. O. Swan, Ch. Eng.
Tom Ross, Ch. Eng.
.....
J. E. Dickinson, Ch. Eng.
R. L. Meisenheimer, Ch. Eng.
Odes E. Robinson, Ch. Eng.
James E. Yarbrough, Ch. Eng.
Karl Troeglen, Ch. Eng.
E. Hansen, Sec'y.
Hobart H. Newell, Ch. Eng.
.....

590 kcs. (508.2 m.)

CMCY	....	a	15000
CHQ	R(5)	a	1000
WEEI	C(5)	a	1000
WKZO	BDX	a	1000
WOW	R(5)	a	1000

Havana, Cuba
Spokane, Wash.
Boston, Mass.
Kalamazoo, Mich.
Omaha, Nebr.

M. Vogel
Margaret Crady; H. E. Fellows.
Edwin Rector, Ch. Eng.
William J. Kotera, Ch. Eng.

600 kcs. (499.7 m.)

CFCF	BF	a	500
CFQC	F	a	1000
CJOR	....	a	500
FON	609	a	250
KFSD	B	a	1000
WCAO	C(1)	g	500
WICC	BM(1)	f	500
WMT	BM(5)	a	1000
WREC	C(5)	a	1000

Montreal, P. Q.
Saskatoon, Sask.
Vancouver, B. C.
St. Pierre, Miquelon
San Diego, Calif.
Baltimore, Md.
Bridgeport, Conn.
Cedar Rapids, Iowa
Memphis, Tenn.

Kenneth R. Paul, Ch. Eng.
Stan Clifton
H. B. Seabrook, Ch. Eng.
.....
Leah McMamahon, Prog. Dir.
M. W. Lewis, Radio Dept.
Garo Ray, Ch. Eng.
C. F. Quentin, Ch. Eng.
Mildred Allen.

610 kcs. (491.5 m.)

CHNC	F	a	1000
KFAR	P	z	1000
KFRC	M(5)	b	1000
WCLE	DM	a	500
WDAF	R(5)	a	1000
WIOD	Na	a	1000
WIP	....	a	1000
WMBF	Qa	a	1000

New Carlisle, P. Q.
Fairbanks, Alaska
San Francisco, Calif.
Cleveland, Ohio
Kansas City, Mo.
Miami, Fla.
Philadelphia, Pa.
Miami, Fla.

J. R. McGough, Ch. Eng.
.....
Ernest G. Underwood, Ch. Eng.
E. V. Gove, Tech. Sup'r.
J. A. Flaherty, Ch. Eng.
Futh Henderson
James Allen, Prog. Dir.
.....

620 kcs. (483.6 m.)

KGW	R(5)	a	1000
KTAR	N	a	1000
KWFT	(1)P	z	250
TIPG	625	b	5000
WFLA	Na(5)	a	1000
WHJB	CD	a	250
WLBZ	MN(1)	a	500
WSUN	Na(5)	a	1000
WTMJ	N(5)	a	1000

Portland, Ore.
Phoenix, Ariz.
Wichita Falls, Tex.
San Jose, Costa Rica
Tampa, Fla.
Greensburg, Pa.
Bangor, Maine
St. Petersburg, Fla.
Milwaukee, Wis.

Orvie Stecte; H. C. Singleton
Arthur C. Anderson, Ch. Eng.
.....
Joe Mitchell, Ch. Eng.
R. H. Verret, Mgr.
Lucille C. Weeks
Louis J. Link, Ch. Eng.
D. W. Gellerup, Ch. Eng.

630 kcs. (475.9 m.)

CFCO	F	a	100
CFCY	F	a	1000
CJRC	F	a	1000
CKOV	F	a	100
CMCD	....	a	15000
KFRU	I(1)	a	500
KGFX	D	a	200
WGBF	N(1)	a	500
WMAL	B(5)	a	250
WPRO	C(1)	a	500
XEZ	....	a	500

Chatham, Ont.
Charlottetown, P.E.I.
Winnipeg, Man.
Kelowna, B. C.
Havana, Cuba
Columbia, Mo.
Pierre, S. Dak.
Evansville, Ind.
Washington, D. C.
Providence, R. I.
Merida, Yuc.

Gordon Brooks, Ch. Eng.
John Q. Adams, Ch. Eng.
H. R. McLaughlin, Ch. Eng.
James Browne, Jr., Ch. Eng.
.....
Robert Haigh, Ch. Eng.
Robert H. Dye, Ch. Eng.
Fay A. Gehres, Ch. Eng.
A. E. Johnson, Ch. Eng.
Margaret M. O'Rourke.
.....

640 kcs. (468.5 m.)

KFI R f 50000
 VONF a 12500
 WGAN L a 500
 WHKC ML a 500
 WOI D a 5000
 XEBX z 250
 YSS a 500

Los Angeles, Calif.
 St. John's, Nfld.
 Portland, Me.
 Columbus, Ohio
 Ames, Iowa
 Sabinas, Coah.
 San Salvador, E. S.

Dorothy Roe

 C. E. Gatchell, Mgr.
 J. E. Anderson, Ch. Eng.
 W. E. Stewart, Ch. Eng.

650 kcs. (461.3 m.)

TIX b 1000
 WSM KMN a 50000

San Jose, Costa Rica
 Nashville, Tenn.

.....
 Harry Stone, Gen. Mgr.

660 kcs. (454.3 m.)

CMCR z 200
 KOWH D a 500
 WFAF R a 50000
 XEAL A z 1000
 XEAO a 250

Havana, Cuba
 Omaha, Nebr.
 New York, N. Y.
 Mexico City, D. F.
 Mexicali, B. Cfa.

.....
 F. E. Shopen
 Audience Mail Dept.

670 kcs. (447.5 m.)

WMAQ R c 50000

Chicago, Ill.

Audience Mail Dept.

680 kcs. (440.9 m.)

CMHW f 200
 KFEQ (.25) a 500
 KPO R a 50000
 VAS 685 f 2000
 VOWR 681 c 500
 WLAW D a 1000
 WPTF JN a 5000

Santa Clara, Cuba
 St. Joseph, Mo.
 San Francisco, Calif.
 Glace Bay, N. S.
 St. John's, Nfld.
 Lawrence, Mass.
 Raleigh, N. C.

.....
 J. Wesley Kock, Ch. Eng.
 S. Jalbert

 George R. Lackey, Ch. Eng.
 Henry Hulick, Jr., Ch. Eng.

690 kcs. (434.5 m.)

CMBG a 200
 CFRB C a 10000
 CJCJ F a 100
 XET a 5000

Havana, Cuba
 Toronto, Ont.
 Calgary, Atla.
 Monterery, N. L.

.....
 H. Sedgewick, Managing Di.
 R. H. Henderson, Ch. Eng.

700 kcs. (428.3 m.)

WLW KMN a 50000
 W8XO a 500000

Cincinnati, Ohio
 Cincinnati, Ohio

R. J. Rockwell, Tech. Sup'r.
 R. J. Rockwell, Tech. Sup'r.

710 kcs. (422.3 m.)

CMKS a 200
 KIRO CHJ a 1000
 KMPC L a 500
 WOR KM a 50000

Guantanamo, Cuba.
 Seattle, Wash.
 Beverly Hills, Calif.
 Newark, N. J.

.....
 H. J. Quilliam, Gen. Mgr.
 Roger Love, Ch. Eng.
 J. R. Popelle, Ch. Eng.

720 kcs. (416.4 m.)

CMK a 200
 TIGH 725 z 600
 WGN KM c 50000
 XEH a 250

Havana, Cuba
 San Jose, Costa Rica
 Chicago, Ill.
 Monterery, N. L.

.....
 Carl J. Meyers, Ch. Eng.

730 kcs. (410.7 m.)

CFPL F a 100
 CJCA F a 1000
 CKAC C a 5000
 XELO a 50000
 KEPN QA a 100000
 XEQ a 50000

London, Ont.
 Edmonton, Atla.
 Montreal, P. Q.
 Tijuana, B. Cfa.
 Piedras Negras, Coah.
 Mexico City, D. F.

L. J. Yorke, Ch. Eng.
 Hastings McMahon, Ch. Eng.
 Leonard Spencer, Ch. Eng.

740 kcs. (405.2 m.)

CMJX	....	z	200
KMMJ		D a	1000
KTRB		D a	250
WHEB		D a	250
WSB		R a	50000

Camaguey, Cuba
Grand Island, Nebr.
Modesto, Calif.
Portsmouth, N. H.
Atlanta, Ga.

.....
Randall Ryan, Gen. Mgr.
Margery Van Loon, Prog. Dir.
Don R. Stevens.
C. F. Daugherty

750 kcs. (399.8 m.)

CMBL	....	a	200
KGU		LN a	2500
TIRM	....	z	500
WJR		C a	50000
XEAA	....	a	200
XEAM	....	z	25

Havana, Cuba
Honolulu, Hawaii
San Jose, Costa Rica
Detroit, Mich.
Mexicali, B. Cfa.
Matamoros, Tams.

.....
John Signer, Ch. Eng.
.....
M. R. Mitchell, Ch. Eng.
.....

760 kcs. (394.5 m.)

KXA	(.5)X	a	250
WBAL	BHMSy.	a	2500
WCAL	2D	a	5000
WEW		D a	1000
WJZ	BSv	a	50000
WLB	2D	a	5000

Seattle, Wash.
Baltimore, Md.
Northfield, Minn.
St. Louis, Mo.
New York, N. Y.
Minneapolis, Minn.

Maurice M. McMullen, Ch. Eng.
Gerald Cooke, Ch. Eng.
Milford Jensen, Ch. Eng.
George E. Rueppel, Ch. Eng.
Audience Mail Dept.
Waldemar Klima, Ch. Eng.

770 kcs. (389.4 m.)

CMKW	....	z	200
KFAB	CSyXZ	a	10000
TILJ	775	z	450
WBBM	CSy	a	50000

Santiago, Cuba
Lincoln, Nebr.
San Jose, Costa Rica
Chicago, Ill.

.....
Mark W. Bullock, Tech. Dir.
.....
A. Boyes

780 kcs. (384.4 m.)

CHWK		F f	100
CKSO		F a	1000
CMCU	....	a	200
KEHE	(5)	a	1000
KFDY		D a	1000
KFQD	....	c	250
KGHL	N(5)	a	1000
KWLK		D a	250
WEAN	BM(5)	a	1000
WMC	JR(5)	a	5000
WPIC		D a	250

Chilliwack, B. C.
Sudbury, Ont.
Havana, Cuba
Los Angeles, Calif.
Brookings, S. Dak.
Anchorage, Alaska
Billings, Mont.
Longview, Wash.
Providence, R. I.
Memphis, Tenn.
Sharon, Pa.

Jack Pilling, Ch. Eng.
L. Parkes, Ch. Eng.
.....
Fred Ragsdale, Ch. Eng.
Jack Towers, Eng.
William J. Wagner, Ch. Eng.
J. A. Kichli, Ch. Eng.
Kenneth Lite, Ch. Eng.
Rose M. Powers.
H. W. Slavick
John McDonald; W. P. Goodrick
Lee Chadwick
.....

WTAR	JN	g	5000
XEN	....	a	1000

Norfolk, Va.
Mexico City, D. F.

790 kcs. (379.5 m.)

CMGH	....	a	200
KGO		B a	7500
KOAM		DN a	1000
WGY		R a	50000
ZNS	....	d	1000

Matanzas, Cuba
San Francisco, Calif.
Pittsburg, Kans.
Schenectady, N. Y.
Nassau, Bahamas

.....
A. E. Evans, Ch. Eng.
W. L. Brown, Ch. Eng.
A. O. Coggeshall, Prog. Dir.
.....

800 kcs. (374.8 m.)

HIX	....	a	800
TIXD	....	z	1000
WBAP		Na a	50000
WFAA		Na a	50000
WTBO		D a	250

Ciudad Trujillo, D. R.
San Jose, Costa Rica
Fort Worth, Tex.
Dallas, Texas
Cumberland, Md.

.....
.....
Ellen Flake, Sec'y.
Adams Calhoun
George R. Lenhart, Ch. Eng.

810 kcs. (370.2 m.)

CMCF		a	5000
WCCO		C g	50000
WNYC		D a	1000
XEBZ	....	a	100
XEDF	....	a	100

Havana, Cuba
Minneapolis, Minn.
New York, N. Y.
Mexico City, D. F.
Nuevo Laredo, Tams.

.....
Hugh S. McCartney, Ch. Eng.
Isaac Brimberg, Ch. Eng.
.....

820 kcs. (365.6 m.)

WHAS C a 50000
XEBG z 1000

[]
Louisville, Ky.
Tijuana, B. Cfa.

Credo Fitch Harris
.....

830 kcs. (361.2 m.)

KOA R a 50000
TJEP ... e 3000
WEEU DR a 1000
WHDH L a 1000
WRUF L a 5000

[]
Denver, Colo.
San Jose, Costa Rica
Reading, Pa.
Boston, Mass.
Gainesville, Fla.

E. A. Sproul
.....
H. O. Landis, Ch. Eng.
Watson Kownaski, Ch. Eng.
Joseph Weil, Ch. Eng.

840 kcs. (356.9 m.)

CBL F a 50000
VOGY a 400
XERA a 250000

[]
Toronto, Ont.
St. Johns, Nfld.
Villa Acuna, Coah.

W. C. Little, Eng.
.....
Jules Andolon

850 kcs. (352.7 m.)

CMCM a 200
KIEV D a 250
WESG CDH a 1000
WKAR DX a 1000
WWL CJX a 50000

[]
Havana, Cuba
Glendale, Calif.
Elmira, N. Y.
E. Lansing, Mich.
New Orleans, La.

.....
George Ness, Ch. Eng.
True McLean, Ch. Eng.
Ronald Coleman, Prog. Dir.
J. D. Bloom, Jr., Ch. Eng.

860 kcs. (348.6 m.)

CMJA a 200
WABC Ca a 50000
WBOQ Qa a 50000
WHB DM a 1000
XEMO a 5000

[]
Camaguay, Cuba.
New York, N. Y.
New York, N. Y.
Kansas City, Mo.
Tijuana, B. Cfa.

.....
Henry Grossman, Ch. Eng.
Henry Grossman, Ch. Eng.
Henry E. Goldenberg, Ch. Eng.
.....

870 kcs. (344.6 m.)

WENR Ba c 50000
WLS Ba a 50000
XEFB ... a 200
XERC A z 500

[]
Chicago, Ill.
Chicago, Ill.
Monterrey, N. L.
Mexico City, D. F.

Audience Mail Dept.
T. L. Rowe, Ch. Eng.
.....
.....

880 kcs. (340.7 m.)

CBO F a 1000
CFJC F a 1000
CMX ... e 20000
KFKA 2M(1) a 500
KLX ... a 1000
KPOF 2 a 1000
KVAN DP z 250
TILS ... b 500
WCOC C a 1000
WGBI C1(1) f 500
WQAN 1(1) a 500
WRNL DX a 500
WSUI (1) a 500

[]
Ottawa, Ont.
Kamloops, B. C.
Havana, Cuba
Greeley, Colo.
Oakland, Calif.
Denver, Colo.
Vancouver, Wash.
San Jose, Costa Rica
Meridian, Miss.
Scranton, Pa.
Scranton, Pa.
Richmond, Va.
Iowa City, Iowa

Lillian E. de Olloqui
L. Irwine, Ch. Eng.
.....
Patricia Murphy, Prog. Dr.
Charles Lloyd
Wesley O. Lomlin, Ann.
Paul W. Spargo, Ch. Eng.
.....
D. W. Gavin, Ch. Eng.
K. R. Cook, Eng.
.....
W. C. Hamilton
Sylvanus J. Ebert, Ch. Eng.

890 kcs. (336.9 m.)

KARK N(1) a 500
KFNF 2X(1) a 500
KFPY C(5) a 1000
KUSD 2 a 500
WBAA (1) a 500
WGST C(5) a 1000
WIAR R(5) a 1000
WMMN C(5) a 1000
XEW a 100000

[]
Little Rock, Ark.
Shenandoah, Iowa
Spokane, Wash.
Vermillion, S. Dak.
W. Lafayette, Ind.
Atlanta, Ga.
Providence, R. I.
Fairmont, W. Va.
Mexico City, D. F.

Dan L. Winn, Ch. Eng.
W. E. McDonald, Comm. Mgr.
Geo. E. Langford, Ch. Eng.
LeRoy Johnson
Ralph R. Townsley, Ch. Eng.
Ben Akerman, Ch. Eng.
Thomas Prior, Ch. Eng.
W. J. Barnes
.....

900 kcs. (333.1 m.)

KGBU X a 500
KHJ M(5) a 1000

[]
Ketchikan, Alaska
Los Angeles, Calif.

James A. Britton, Ch. Eng
Frank Kennedy, Ch. Eng.

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

R. A. Fletcher, Prog. Dir.
 Ralph J. Kingley, Ch. Eng.
 J. Gordon Keyworth, Ch. Eng.
 John A. Fels, Ch. Eng.
 John T. Hopkins, III
 Earl C. Hull, Ch. Eng.
 F. R. Calvert, Mgr.
 Paul E. Miller, Ch. Eng.

910 kcs. (329.6 m.)

CBF	FN	a	50000	Montreal, P. Q.
CJAT	F	a	1000	Trail, B. C.
CKY	F	a	15000	Winnipeg, Man.
CMKD	....	a	1000	Havana, Cuba
CMOA	....	z	200	Havana, Cuba
TIRS	915	z	250	San Jose, Costa Rica
XENT	A	a	150000	Nuevo Laredo, Tams.

G. E. Sarault, Ch. Eng.
 Eric C. Aylen, Ch. Eng.
 G. H. Mills, Ch. Eng.

 N. Baker

920 kcs. (325.9)

CMHT	....	z	200	Trinidad, Cuba.
KFEL	Mx	a	500	Denver, Colo.
KOMO	R(5)	a	1000	Seattle, Wash.
KPRC	R(5)	a	1000	Houston, Texas
KVOD	BaXZ	a	500	Denver, Colo.
WAAF	D	a	1000	Chicago, Ill.
WORL	D	a	500	Boston, Mass.
WPEN	....	a	1000	Philadelphia, Pa.
WSPA	D	a	1000	Spartanburg, S. C.
WWJ	R(5)	a	1000	Detroit, Mich.

.....
 J. P. Veatch, Ch. Eng.
 Lee Barnes
 J. F. DeBardeleben, Test Eng.
 W. D. Pyle, Eng.
 Carl Ulrich, Ch. Eng.
 George Luckey, Ch. Eng.
 Charles W. Curtis, Ch. Eng.
 E. S. Long, Ch. Eng.
 Ty Tyson

930 kcs. (322.4 m.)

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

Ken Hughes
 Allan K. Taylor, Ch. Eng.

 A. W. Grieg, Ch. Eng.
 Hugh Clarke, Ch. Eng.

 Ray Schroeder, Ch. Eng.
 C. E. Downey, Ch. Eng.
 J. C. Bell, Ch. Eng.
 R. P. Jordan, Mgr.

940 kcs. (319 m.)

CMBZ	....	a	200	Havana, Cuba
KOIN	C(5)	a	1000	Portland, Ore.
WAAT	D	a	500	Jersey City, N. J.
WAVE	N	a	1000	Louisville, Ky.
WCSH	R(2.5)	a	1000	Portland, Me.
WDAY	N(5)	a	1000	Fargo, N. Dak.
WHA	D	a	5000	Madison, Wis.
WICA	D	a	250	Ashtabula, Ohio
XEFO	....	a	5000	Mexico City, D. F.

.....
 Johnny Walker, Prod. Mgr.
 Anthony Castellani, Ch. Eng.
 W. E. Hudson, Ch. Eng.
 G. Fred Crandon, Ch. Eng.
 Julius Hetland, Ch. Eng.
 Mary A. Sands, Sec'y.
 G. E. Gaultney, Ch. Eng.

950 kcs. (315.6 m.)

CBV	F	a	1000	Quebec, P. Q.
CJOC	F	a	100	Lethbridge, Atla.
CMKL	....	z	200	Bayamo, Cuba
KFWB	(5)	a	1000	Los Angeles, Calif.
KMBC	C(5)	a	1000	Kansas City, Mo.
TIRH	....	b	2000	San Jose, Costa Rica
WRC	R(5)	a	1000	Washington, D. C.
WTRY	DP	z	1000	Troy, N. Y.

Charles Frenette, Ch. Eng.
 Robert Reagh, Ch. Eng.

 Harry Myers, Ch. Eng.
 A. R. Moler, Ch. Eng.

 A. E. Johnson, Ch. Eng.
 W. F. Moore, Ch. Eng.

960 kcs. (312.3 m.)

CBM	FR	a	5000	Montreal, P. Q.
CFRN	F	a	100	Edmonton, Alta.
XEAW	....	a	100000	Reynosa, Tams.

G. E. Sarault, Ch. Eng.
 F. G. Makeplace, Ch. Eng.

970 kcs. (309.1 m.)

CMCK a 5000
 KJR B a 5000
 WCFL N a 5000
 WIBG D a 100

Havana, Cuba
 Seattle, Wash.
 Chicago, Ill.
 Glenside, Pa.

.....
 Lee Barnes
 Maynard Marquardt, Ch. Eng.
 James A. Nasau

980 kcs. (306 m.)

KDKA B b 50000
 XEAC a 5000
 XEFE z 250

Pittsburgh, Pa.
 Tijuana, B. Cfa.
 Nuevo Laredo, Tams.

J. E. Baudino, Ch. Eng.
 Fred Ingraham; George Riviera

990 kcs. (302.8 m.)

WBZ Bsy a 50000
 WBZA Bsy a 1000
 XEFE z 250
 XEK a 100
 XES a 250

Boston, Mass.
 Springfield, Mass.
 Nogales, Son.
 Mexico City, D. F.
 Tampico, Tams.

Dwight A. Myer, Ch. Eng.
 H. E. Randel, Mgr.

1000 kcs. (299.8 m.)

KFVD L a 1000
 TIFA z 250
 VOCM 1006 z 200
 WHO KR a 50000
 XEBI a 250

Los Angeles, Calif.
 San Jose, Costa Rica
 St. John's, Nfld.
 Des Moines, Iowa
 Aguascalientes, Ags.

John Smithson, Ch. Eng.

 Paul A. Loyet, Ch. Eng.

1010 kcs. (296.9 m.)

CHML F a 100
 CKCD 1 a 100
 CKCK F a 1000
 CKCO F a 100
 CKIC a 50
 CKWX 1F a 100
 CMO N a 25000
 KGGF 2M a 1000
 KOW M a 1000
 WHN (5) a 1000
 WNAD 2 a 1000
 WNOX C(5) a 1000
 XEFQ a 50
 XEU a 250

Hamilton, Ont.
 Vancouver, B. C.
 Regina, Sask.
 Ottawa, Ont.
 Wolfville, N. S.
 Vancouver, B. C.
 Havana, Cuba
 Coffeyville, Kans.
 San Jose, Calif.
 New York, N. Y.
 Norman, Okla.
 Knoxville, Tenn.
 Cananea, Son.
 Veracruz, Ver.

C. R. Snelgrove, Ch. Eng.
 W. G. Hassell, Gen. Mgr.
 E. A. Strong, Ch. Eng.
 Ian R. Henderson, Ch. Eng.

 E. Ross Mac Intyre, Ch. Eng.

 H. J. Powell, Mgr.
 Van Connors
 Gordon Windham, Ch. Eng.
 T. M. Beard, Prog. Dir.
 R. B. Westergaard, Gen. Mgr.

1020 kcs. (293.9 m.)

KYW R c 10000
 WDZ DX a 250
 XEJ a 1000

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

Ernest H. Gager, Ch. Eng.
 Mark C. Spies, Ch. Eng.

1030 kcs. (291.1 m.)

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

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

P. B. McCafferly, Ch. Eng.
 Raymond Laine, Ch. Eng.
 William J. Carter, Ch. Eng.

1040 kcs. (288.3 m.)

KRLD CX a 10000
 KWJJ H a 500
 KYOS D a 250
 WTIC HR a 50000

Dallas, Texas
 Portland, Ore.
 Merced, Calif.
 Hartford, Conn.

Roy M. Flynn, Ch. Eng.
 Sammy Taylor; Art. Morey.
 Morton Wiebers, Ch. Eng.
 T. C. McCray

1050 kcs. (285.5 m.)

CBA a 50000
 CMCP z 200
 HIT z 50
 KFBI L a 5000
 KNX C c 50000
 WEAU (5)L a 1000
 WIBC D a 1000

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

J. Carlisle, Ch. Eng.

 K. W. Pyle
 Lester H. Bowman, Ch. Eng.
 Charles B. Persons, Ch. Eng.
 Harry Adams

1060 kcs. (282.8 m.)

CMHI	....	a	200
KTSH	HN	a	10000
VOAC	1065	z	40
WBAL	BM	a	10000
WJAG	L	a	1000

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

.....
Mary T. Grayson
.....
G. W. Cook
Art Thomas, Mgr.

1070 kcs. (280.2 m.)

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

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

.....
Miriom Ford
Byrle Shreve, Eng.
May Draxell

1080 kcs. (277.6 m.)

CMBX	....	a	200
CMKM	....	a	200
WBT	C	a	50000
WCBD	1L	a	5000
WMBI	1L	g	5000
XEBA	....	z	20
XEBK	....	a	100
XEDP	....	a	500

Havana, Cuba	
Manzanillo, Cuba	
Charlotte, N. C.	
Chicago, Ill.	
Chicago, Ill.	
Guzman, Jal.	
Nuevo Laredo, Tams.	
Mexico City, D. F.	

.....
J. J. Beloungy, Ch. Eng.
E. Jacker, Ch. Eng.
A. P. Frye, Ch. Eng.
.....
.....

1090 kcs. (275.1 m.)

CMHA	....	z	200
HIN	....	a	740
KMOX	C	a	50000
XERB	....	a	150000

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

.....
G. L. Tevis, Ch. Eng.
.....

1100 kcs. (272.6 m.)

CBR	F	a	5000
CMHP	....	z	200
KGDM	DM	f	1000
KWKH	CHJ	a	50000
WBIL	1	a	5000
WPG	C1	a	5000
XECL	?	z	1000

Vancouver, B. C.	
Piacetas, Cuba	
Stockton, Calif.	
Shreveport, La.	
New York, N. Y.	
Atlantic City, N. J.	
Mexicali, B. Cfa.	

N. R. Olding, Ch. Eng.
.....
A. H. Green, Mgr.
M. Estes
Robert E. Study, Ch. Eng.
Earle Godfrey, Ch. Eng.
.....

1110 kcs. (270.1 m.)

CMCJ	....	a	200
KSOO	LN	a	5000
WRVA	CM	a	50000

Havana, Cuba	
Sioux Falls, S. Dak.	
Richmond, Va.	

.....
Les Frake
M. D. Roddenburg

1120 kcs. (267.7 m.)

CBJ	F	a	100
CHLP	F	a	100
CHSJ	F	a	100
CKOC	F(1)	a	500
CKX	F	a	1000
CMGF	....	a	200
KFIO	D	a	100
KFSG	a(2.5)	a	500
KRKD	a)2.5)	a	500
KRSC	....	a	250
KTBC	DP	z	1000
WCOP	D	a	500
WDEL	R(5)	a	250
WISN	C(1)	a	250
WJBO	B	a	500
WTAW	L	a	500

Chicoutimi, P. Q.	
Montreal, P. Q.	
St. John, N. B.	
Hamilton, Ont.	
Brandon, Man.	
Matanzas, Cuba	
Spokane, Wash.	
Los Angeles, Calif.	
Los Angeles, Calif.	
Seattle, Wash.	
Austin, Texas	
Boston, Mass.	
Wilmington, Del.	
Milwaukee, Wis.	
Baton Rouge, La.	
College Station, Tex.	

J. E. Roberts, Ch. Eng.
F. F. Tambling, Ch. Eng.
J. G. Bishop, Ch. Eng.
Gordon Anderson, Gen. Mgr.
C. E. R. Collins, Ch. Eng.
.....
Curtis T. Strong, Ch. Eng.
Myron E. Kluge, Ch. Eng.
Ruth Pritchard
George Freeman, Ch. Eng.
.....
Whitman Hall
J. E. Mathiot, Ch. Eng.
D. A. Weller, Ch. Eng.
Wilbur T. Golson
H. C. Dillingham, Ch. Eng.

1130 kcs. (265.3 m.)

CMJI	....	a	200
KSL	C	a	50000
WJJD	L	a	20000
WOV	D	a	1000
XEJP	....	z	100

Ciego de Avila, Cuba	
Salt Lake City, Utah	
Chicago, Ill.	
New York, N. Y.	
Mexico City, D. F.	

.....
Eugene G. Pack, Ch. Eng.
W. Gunther, Ch. Eng.
Robert E. Study, Ch. Eng.
.....

1140 kcs. (263 m.)

CMBC	....	a	200
KVOO		N	a 25000
WAPI		C	a 5000
WSPR		DM	a 500

Havana, Cuba
Tulsa, Okla.
Birmingham, Ala.
Springfield, Mass.

.....
W. B. Way
N. McFarland
Hillis W. Holt

1150 kcs. (260.7 m.)

CMKG	....	z	200
WHAM		B	a 50000
XEBP	....	z	250
XEC	....	a	100
XEDW	....	z	300
XEL	....	z	250

Santiago, Cuba
Rochester, N. Y.
Durango, Dgo.
Tijuana, B. Cfa.
Minatitlan, Ver.
Mexico City, D. F.

.....
John J. Long, Jr., Ch. Eng.
.....
.....
.....

1160 kcs. (258.5 m.)

CMHJ	....	a	200
WOWO		1B	a 10000
WWVA		1C	a 5000
XEAS	....	a	100
XED	....	c	2500
XEP	....	a	500

Cienfuegos, Cuba
Fort Wayne, Ind.
Wheeling, W. Va.
Saltillo, Coah.
Guadalajara, Jal.
Juarez, Chih.

.....
Fred W. Fischer, Ch. Eng.
E. A. Hadden
.....
.....

1170 kcs. (256.3 m.)

CMBS	....	a	200
WCAU		C	a 50000
XEXX	....	z	1000

Havana, Cuba
Philadelphia, Pa.
Mexico City, D. F.

J. G. Leitch
.....

1180 kcs. (254.1 m.)

KEX		2B	a 5000
KOB		N	a 10000
WDGY		CM(5)	a 1000
WINS	....	a	1000
WMAZ		C(5)	a 1000

Portland, Ore.
Albuquerque, N. Mex.
Minneapolis, Minn.
New York, N. Y.
Macon, Ga.

Orvie Stecte
George S. Johnson, Ch. Eng.
George W. Young
Geo. Q. Herrick, Ch. Eng.
E. K. Cargill

1190 kcs. (252 m.)

CMKX	....	z	200
KTKC		DMXZ	f 250
WATR		DXZ	a 100
WOAJ		N	a 50000
WSAZ		L	a 1000

Santiago, Cuba
Visalia, Calif.
Waterbury, Conn.
San Antonio, Tex.
Huntington, W. Va.

.....
Charles P. Scott, Mar.
Carl Stromwell, Ch. Eng.
Fred Sterling, Ch. Eng.
Glenn E. Chase, Ch. Eng.

1200 kcs. (249.9 m.)

CFGP	....	a	100
CHAB		F(.25)	a 100
CHGB		FP	z 100
CKNX	....	b	100
CKTB		F	a 100
CMCO	....	a	200
KADA		M	a 100
KBTM		D	a 100
KELO		N(.25)	a 100
KFJB		(.25)	a 100
KFXD		(.25)	a 100
KFXJ		(.25)	a 100
KGDE		(.25)	b 100
KGEK		L	f 100
KGFJ	....	a	100
KGHI		(.25)	a 100
KGVL		DP	z 100
KMLB		(.25)	a 100
KOOS		(.25)M	a 100
KSUN		(.25)	a 100
KVCV	....	a	100
KVEC		(.25)	a 100
KVNU	....	z	100
KVOS		M	b 100
KWVG		N	a 100

Grande Prairie, Alta.
Moose Jaw, Sask.
St. Anne de Pocatiere, P. Q.
Wingham, Ont.
St. Catharines, Ont.
Havana, Cuba
Ada, Okla.
Jonesboro, Ark.
Sioux Falls, S. Dak.
Marshalltown, Iowa
Nampa, Idaho
Grand Junction, Colo.
Fergus Falls, Minn.
Sterling, Colo.
Los Angeles, Calif.
Little Rock, Ark.
Greenville, Tex.
Monroe, La.
Marshfield, Ore.
Lowell, Ariz.
Redding, Calif.
San Luis, Obispo, Calif.
Logan, Utah
Bellingham, Wash.
Stockton, Calif.

George Sinclair, Ch. Eng.
A. E. Jacobson, Ch. Eng.
G. T. Desjardins, Ch. Eng.
Scott Ried, Ch. Eng.
W. H. Allen, Ch. Eng.
.....
Leiland Seay, Ch. Eng.
J. C. Warren
Les Frake
Warren Bailey, Ch. Eng.
Edward Hurt, Ch. Eng.
Fred Mendenhall, Ch. Eng.
Matt E. Wakz, Ch. Eng.
E. G. Berhler
H. Duke Hancock, Ch. Eng.
Timmy Speer
.....
O. L. Morgan, Ch. Eng.
Roger L. Spaugh, Ch. Eng.
David C. Karbach, Ch. Eng.
Charles Sherburne, Ch. Eng.
Earl Travis, Ch. Eng.
J. M. Reeder, Ch. Eng.
Joe Ernst, Ch. Eng.
Russell Bennett, Ch. Eng.

XWNO	(.25)	a	100	Winona, Minn.
WABI	(.25)	a	100	Bangor, Maine
WAIM	C	a	100	Anderson, S. C.
WAYX	(.25)	a	100	Waycross, Ga.
WBAB	(.25)P	z	100	Atlantic Cit., N. J.
WBBZ	M(.25)	a	100	Ponca City, Okla.
WBHP	....	a	100	Huntsville, Ala.
WCAT	D	a	100	Rapid City, S. Dak.
WCAX	(.25)	a	100	Burlington, Vt.
WCLO	(.25)	a	100	Janesville, Wis.
WCPO	(.25)	a	100	Cincinnati, Ohio
WDSM	P	z	100	Superior, Wis.
WENY	DP	z	250	Elmira, N. Y.
WEST	(.25)	a	100	Easton, Pa.
WFAM	4	a	100	South Bend, Ind.
WFTC	(.25)	a	100	Kinston, N. C.
WHBC	(.25)	a	100	Canton, Ohio
WHBY	Y(.25)	a	100	Green Bay, Wis.
WIBX	C(.25)	a	100	Utica, N. Y.
WIL	(.25)	a	100	St. Louis, Mo.
WJBC	5(.25)	a	100	Bloomington, Ill
WJBL	5	a	100	Decatur, Ill.
WJBW	....	a	100	New Orleans, La.
WJHL	(.25)	a	100	Johnson City, Tenn.
WJNO	C(.25)	a	100	W. Palm Beach, Fla.
WJRD	D	a	250	Tuscaloosa, Ala.
WKBO	(.25)	a	100	Harrisburg, Pa.
WLVA	(.25)	a	100	Lynchburg, Va.
WMFR	....	a	100	High Point, N. C.
WMOB	DP	z	100	Mobile, Ala.
WMPC	(.25)	a	100	Lapeer, Mich.
WOLS	D	a	100	Florence, S. C.
WRBL	(.25)	a	100	Columbus, Ga.
WSAL	D	z	250	Salisbury, Md.
WTHT	M	a	100	Hartford, Conn.
WTOL	D	a	100	Toledo, Ohio
WWAE	4	a	100	Hammond, Ind.
....	DP	z	100	McComb, Miss.

Maurice Reutter, Ch. Eng.
 Nelson H. Lawson, Ch. Eng.
 John Peoples, Ch. Eng.
 John Tobola, Ch. Eng.

.....
 Wheeler F. Frye, Ch. Eng.
 Milton Hazel, Ch. Eng.
 E. E. Clark, Ch. Eng.
 James Tierney, Ch. Eng.
 Charles Brannen, Ch. Eng.
 Glen A. Davis, Ch. Eng.

.....
 True McLean, Ch. Eng.
 J. E. Mathiot, Ch. Eng.
H. G. Gole, Eng.
 Jonas G. Wetlan
 Kenneth Giles, Ch. Eng.
 W. J. Stangel, Ch. Eng.
 David Foote, Ch. Eng.
 L. A. Benson
 A. M. McGregor
 G. Becker, Ch. Eng.
 C. E. Davidson, Ch. Eng.
 O. K. Garland, Ch. Eng.
 Reginald B. Martin
 James R. Doss
 C. G. Moss, Mgr.
 Albert E. Heiser, Ch. Eng.
 E. J. Day, Ch. Eng.

.....
 F. S. Hemingway, Mgr.
 R. M. Wallace, Ch. Eng.
 Oliver Heeley, Ch. Eng.
 Richard W. Bullers, Ch. Eng.
Richard K. Blackburn
 Frank Ridgeway, Ch. Eng.
 Elmer Herkner

1210 kcs. (247.8 m.)

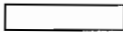
CHLT	....	z	100	Sherbrooke, P. Q.
CJCS	....	a	50	Stratford, Ont.
CJCU	....	z	50	Aklavik, N. W. T.
CKBI	F	a	100	Prince Albert, Sask.
CKCH	F	a	100	Hull, P. Q.
CKMC	....	a	50	Cobalt, Ont.
CMHK	....	z	200	Cruces, Cuba
KALB	(.25)	a	100	Alexandria La.
KANS	N	a	100	Wichita, Kans.
KASA	M	b	100	Elk City, Olka.
KDLR	(.25)	a	100	Devils, Lake, N. Dak.
KDON	M	a	100	Monterey, Calif.
KFJI	....	a	100	Klamath Falls, Ore.
KFOR	CM(.25)	a	100	Lincoln, Nebr.
KFPW	....	a	100	Fort Smith, Ark.
KFVS	5(.25)	a	100	Cape Girardeau, Mo.
KFXM	2M	a	100	San Bernardino, Calif.
KGLO	C(.25)	a	100	Mason City, Iowa
KGY	M	a	100	Olympia, Wash.
KHBG	D	a	100	Okmulgee, Okla.
KIUL	....	a	100	Garden City, Kans.
KLAH	(.25)	a	100	Carlsbad, N. Mex.
KOCA	(.25)	a	100	Kilgore, Texas
KPFA	N(.25)	a	100	Helena, Mont.
KPPC	2	a	100	Pasadena, Calif.
KROY	CD	a	100	Sacramento, Calif.
KVSO	M(.25)	a	100	Ardmore, Okla.
KWJB	(.25)	a	100	Globe, Ariz.
KWTN	A	z	100	Watertown, S. Dak.
WALR	....	a	100	Zanesville, Ohio
WBAX	M	a	100	Wilkes-Barre, Pa.
WBBL	S	a	100	Richmond, Va.
WBRB	3	a	100	Red Bank, N. J.
WCOL	N	a	100	Columbus, Ohio
WCOU	M	a	100	Lewiston, Maine

Marcel Provost
 W. J. Stauffer, Ch. Eng.
 Dr. Urquardt
 Gerald Prest
 J. L. Champagne, Ch. Eng.

.....
 T. L. Stanley, Ch. Eng.
 Glenn Ritter, Ch. Eng.
 G. W. Patterson, Eng.
 Al Arnold
 Howard V. Walters, Mgr.
 Joe Carroll, Ch. Eng.
 Mark W. Bullock, Ch. Eng.
 Dorothy Gilson
 R. L. Hirsch, Ch. Eng.
 Richard F. Lewis, Ch. Eng.
 Milo Knutsen
 Jack Thatcher, Ch. Eng.
 A. F. Schultz, Ch. Eng.
 Dallas Stallard, Prog. Dir.
 Lucille Neilson
 Orvin Franklin, Ch. Eng.
 Ernest A. Neath
 N. Vincent Parsons
 Milton Cooper, Ch. Eng.
 Paul W. Ross
 E. W. Henderson, Mgr.
 E. A. Blackburn, Ch. Eng.
 Arthur L. Martin
 John H. Stenger, Jr., Ch. Eng.
 M. A. Sifton; Bert Child
 Robert Johnson, Ch. Eng.
 J. E. Lowe, Ch. Eng.
 Leslie R. Hall

WCOV	D	z	100	Montgomery, Ala.
WCRW	4	a	100	Chicago, Ill.
WEBQ	5(.25)	a	100	Harrisburg, Ill.
WEDC	4	a	100	Chicago, Ill.
WFAS	3	a	100	White Plains, N. Y.
WFOY	(.25)	a	100	St. Augustine, Fla.
WGBB	3	a	100	Freeport, N. Y.
WGCM	(.25)	a	100	Gulfport, Miss.
WGRM	(.25)	a	100	Grenada, Miss.
WHAI	M(.25)	a	100	Greenfield, Mass.
WHBU	(.25)	a	100	Anderson, Ind.
WIBU	(.25)	a	100	Poynette, Wis.
WINN	P(.25)	z	100	Louisville, Ky.
WJBY	(.25)	a	100	Gadsden, Ala.
WJJE	....	a	100	Hagerstown, Md.
WJIM	B(.25)	z	100	Lansing, Mich.
WJLS	(.25)	z	100	Beckley, W. Va.
WJMC	DP	z	250	Rice Lake, Wis.
WJTN	B(.25)	a	100	Jamestown, N. Y.
WJW	(.25)	a	100	Akron, Ohio
WKOK	L	a	100	Sunbury, Pa.
WLOK	D	a	100	Lima, Ohio.
WMFG	(.25)	a	100	Hibbing, Minn.
WOCB	(.25)P	z	100	Hyannis, Mass.
WOMT	....	a	100	Manitowoc, Wis.
WPAX	(.25)	a	100	Thomasville, Ga.
WPIV	(.25)P	z	100	Petersburg, Va.
WRAL	(.25)P	z	100	Raleigh, N. C.
WSAY	(.25)	a	100	Rochester, N. Y.
WSBC	4(.25)	a	100	Chicago, Ill.
WSIX	(.25)	a	100	Nashville, Tenn.
WSNJ	D	a	100	Bridgeport, N. J.
WSOC	N(.25)	a	100	Charlotte, N. C.
WTAX	....	a	100	Springfield, Ill.
WTMA	(.25)P	z	100	Charleston, S. C.
XEAT	....	a	250	Parral, Chih.
XEE	....	a	50	Durango, Dgo.
XEFV	....	a	50	Juarez, Chih.
XETH	....	a	100	Puebla, Pue.
....	(.25P	z	100	Provo, Utah

1220 kcs. (245.8 m.)



KFKU	a(5)	a	1000	Lawrence, Kans.
KTMS	B	z	500	Santa Barbara, Calif.
KTW	2S	a	1000	Seattle, Wash.
KWSC	2(5)	a	1000	Pullman, Wash.
WCAD	D	a	500	Canton, N. Y.
WCAE	MR(5)	a	1000	Pittsburgh, Pa.
WDAF	C(5)	a	1000	Tampa, Fla.
WGNV	D	a	250	Newburgh, N. Y.
WREN	Ba(5)	a	1000	Lawrence, Kans.
XEBL	....	a	50	Mazatlan, Sin.
XEDA	....	z	200	Gral. Anaya, D. F.
XETF	....	a	12	Veracruz, Ver.

1230 kcs. (243.8 m.)



CMCB	....	a	200	Havana, Cuba
KGBX	N	a	500	Springfield, Mo.
KGGM	....	a	1000	Albuquerque, N. Mex.
KYA	(5)	a	1000	San Francisco, Calif.
WFBM	C(5)	a	1000	Indianapolis, Ind.
WNAC	R(5)	a	1000	Boston, Mass.
WOL	M	a	1000	Washington, D. C.
XECA	....	z	250	Tampico, Tamps.
XEG	....	z	250	Monterey, N. L.

1240 kcs. (241.8 m.)



CICB	F	a	1000	Sydney, N. S.
CMAB	....	z	200	Pinar del Rio, Cuba
CMHB	....	z	200	Santci Spiritus, Cuba
KGCU	....	a	250	Mandan, N. Dak.
KTAT	M	a	1000	Fort Worth, Tex.
KTFI	N	a	1000	Twin Falls, Idaho

Al Thompson, Ch. Eng.
J. A. White, Gen. Mgr.
J. R. Tate, Ch. Eng.
Caleb Frisk, Ch. Eng.
Harry C. Laubenstein, Ch. Eng.
Bradley Overton, Ch. Eng.
A. E. Granbacka, Ch. Eng.
C. H. Dyess, Ch. Eng.
C. A. Perkins, Ch. Eng.
James L. Spates, Mgr.
R. F. Fulwider, Ch. Eng.
Leonard Doese, Ch. Eng.
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Vernon Storey, Ch. Eng.
Grover C. Crilley, Gen. Mgr.
Leo J. Ylha, Ch. Eng.
James L. Cox, Prog. Dir.
Arthur F. Johnson, Ch. Eng.
Harold J. Kratzert, Ch. Eng.
G. G. Roberts, Ch. Eng.
Paul L. Miller, Eng.
S. L. Gladfelter, Ch. Eng.
Charles Persons, Ch. Eng.
Helen W. MacLellan, Gen. Mgr.
W. C. Dubin, Ch. Eng.
J. W. Poole
Campbell Arnoux, Gen. Mgr.
Geo. T. Case, Gen. Mgr.
Thurlow A. Greene
Ed Jacker Ch. Eng.
Bascom E. Porter, Ch. Eng.
Russell Ely, Ch. Eng.
L. L. Caudle, Ch. Eng.
Jay A. Johnson, Mgr.
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R. P. Stringham, Ch. Eng.
Mary K. Hagan, Sec'y.
James S. Ross, Ch. Eng.
Kenneth Yeend, Prog. Dir.
Dr. Ward C. Priest, Ch. Eng.
James Schultz, Ch. Eng.
William P. Moore
Irwin Moison, Ch. Eng.
Vern Omer, Ch. Eng.
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Fritz Bauer, Ch. Eng.
Leonard Dodds, Ch. Eng.
Frances Pike; Paul C. Schulz
F. O. Sharp
Paul de Mars, Ch. Eng.
H. H. Lyon, Ch. Eng.
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Charles Atkinson, Ch. Eng.
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.....
J. A. Kennelly
H. Sutton, Ch. Eng.
F. V. Cox, Ch. Eng.

WHBF (.25) a 1000
 WKAQ a 1000
 WXYZ B a 1000
 XEBU z 50
 XEKL A b 500
 XEME z 50

Rock Island, Ill.
 San Juan, P. R.
 Detroit, Mich.
 Chihuahua, Chih.
 Leon, Gto.
 Merida, Yuc.

Robert J. Sinnett
 J. Dizney
 Russell Neff, Mgr.

1250 kcs. (239.9 m.)

CMKC a 200
 KFOX a 1000
 KIT MX(.5) a 250
 XOK z 1000
 WAIR D a 250
 WDSU B a 1000
 WHBI 2(.25) a 1000
 WKST D a 250
 WMRO D z 250
 WNEV 2(.5) a 1000
 WTCN B(5) a 1000
 XEAI z 500

Santiago, Cuba
 Long Beach, Calif.
 Yakima, Wash.
 St. Louis, Mo.
 Winston-Salem, N. C..
 New Orleans, La.
 Newark, N. J.
 New Castle, Pa.
 Aurora, Ill.
 New York, N. Y.
 Minneapolis, Minn.
 Mexico City, D. F.

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 Lawrence W. McDonald
 J. A. Murphy, Mgr.
 Arthur F. Rekart, Ch. Eng.
 Earl F. Downley, Ch. Eng.
 Fred Fabre, Ch. Eng.
 Erwin R. Wolfe, Ch. Eng.
 A. W. Graham
 Martin R. O'Brien
 M. J. Weiner
 John M. Sherman, Ch. Eng.

1260 kcs. (238 m.)

CMBD z 200
 CMJO a 200
 KGVO C(5) a 1000
 KHSL a 250
 KOIL M(5) a 1000
 KPAC D a 500
 KRGV MN a 1000
 KUOA D a 5000
 KVOA ... a 1000
 WHIO C(5) a 1000
 WNBX CM a 1000
 WTOC C a 1000
 DP z 250

Havana, Cuba
 Ciego de Avila, Cuba
 Missoula, Mont.
 Chico, Calif.
 Omaha, Nebr.
 Port Arthur, Tex.
 Weslaco, Texas
 Siloam Springs, Ark.
 Tucson, Ariz.
 Dayton, Ohio
 Springfield, Vt.
 Savannah, Ga.
 Fredericksburg, Va.

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 Thos. A. Atherstone, Ch. Eng.
 Robert Songstad, Ch. Eng.
 Mark Bullock, Ch. Eng.
 Joe Walters, Ch. Eng.
 Neal McNaughton, Ch. Eng.
 Storm Whaley, Mgr.
 L. L. Nalley, Ch. Eng.
 Ernest L. Adams, Ch. Eng.
 William Moore, Ch. Eng.
 James R. Donovan, Ch. Eng.

1270 kcs. (236.1 m.)

CMHD b 200
 KGCA 2D a 100
 KOL M(5) a 1000
 KVOR C a 1000
 KWLC 2D a 100
 WASH DN a 500
 WFBR R(1) a 500
 WJDX R(5) a 1000
 WOOD Na a 500
 XEXB A a 250
 XEXE z 17

Caibarien, Cuba
 Decorah, Iowa
 Seattle, Wash.
 Colorado Springs, Colo.
 Decorah, Iowa
 Grand Rapids, Mich.
 Baltimore, Md.
 Jackson, Miss.
 Grand Rapids, Mich.
 Jalapa, Ver.
 Texcoco, Mex.

.....
 Otto Renninger, Jr.
 Hugh Terry, Mgr.

 Fred Russell
 Wm. Q. Ranft, Ch. Eng.
 Percy G. Root, Ch. Eng.
 Fred Russell, Ch. Eng.

1280 kcs. (234.2 m.)

CMKO z 200
 KFBB C(5) a 1000
 KLS a 250
 WCAM 1 a 500
 WCAP 1 a 500
 WDOD C(5) c 1000
 WIBA N(5) a 1000
 WORC C a 500
 WRR M a 500
 WTNJ 1 a 500
 XEMX z 100

Holguin, Cuba
 Great Falls, Mont.
 Oakland, Calif.
 Camden, N. J.
 Ashbury Park, N. J.
 Chattanooga, Tenn.
 Madison, Wis.
 Worcester, Mass.
 Dallas, Texas
 Trenton, N. J.
 Mexico City, D. F.

.....
 J. Jacobson, Mgr.
 Russell Butler, Ch. Eng.
 R. L. Horn
 Ernest G. Ruckle, Ch. Eng.
 Frank Lane, Gen. Mgr.
 M. Chapin, Ch. Eng.
 A. F. Kleindienst, Ch. Eng.
 Durward Tucker, Ch. Eng.
 E. P. Knowles, Ch. Eng.

1290 kcs. (232.4 m.)

CMCG a 200
 CMJK a 200
 KDYL R(5) a 1000
 KLCN D a 100
 KTRH C(5) a 1000
 WEBC N(5) a 1000

Havana, Cuba
 Camaguey, Cuba
 Salt Lake City, Utah
 Blytheville, Ark.
 Houston, Texas
 Duluth, Minn.

.....
 John M. Baldwin, Ch. Eng.
 Algie Bishop, Prog. Dir.
 K. H. Robbins, Ch. Eng.
 Charles Persons, Ch. Eng.

WJAS C(5) a 1000 Pittsburgh, Pa.
 WJHP P z 250 Jacksonville, Fla.
 WNBZ D a 100 Saranac Lake, N. Y.
 WNEL (2.5) a 1000 San Juan, P. R.

W. W. McCoy
 Beecher Hayford, Ch. Eng.
 John Dowdell, Ch. Eng.
 Wm. Greer, Ch. Eng.

1300 kcs. (230.6 m.)

KALE M a 1000 Portland, Ore.
 KFAC a 1000 Los Angeles, Calif.
 KFH C(5) a 1000 Wichita, Kans.
 WBRR 1 a 1000 Brooklyn, N. Y.
 WEVD 1 a 1000 New York, N. Y.
 WFBC N(5) a 1000 Greenville, S. C.
 WHAZ 1 a 1000 Troy, N. Y.
 WHBL (1) a 250 Sheboygan, Wis.

L. S. Bookwalter, Ch. Eng.
 C. J. Smith, Mgr.
 Leila Hull

 Gene King
 Frank Blair, Prog. Dir.
 H. D. Harris, Ch. Eng.
 Herbert Mayer, Ch. Eng.

1310 kcs. (228.9 m.)

CHCK a 50 Charlottetown, P. E. I.
 CJKL F a 100 North Bay, Ont.
 CJLS F a 100 Yarmouth, N. S.
 CKCV F a 100 Quebec, P. Q.
 CMKE ? a Manzanillo, Cuba
 KAND DM z 100 Corsicana, Tex.
 KARM C a 100 Fresno, Calif.
 KBND (.25) z 100 Bend, Ore.
 KCKN a 100 Kansas City, Kans.
 KCRJ (.25) a 100 Jerome, Ariz.
 KFPL (.25) f 100 Dublin, Texas
 KFYO M(.25) a 100 Lubbock, Texas
 KGEZ a 100 Kalispell, Mont.
 KGFW (.25) a 100 Kearney, Nebr.
 KHUB D a 250 Watsonville, Calif.
 KOCY (.25) a 100 Oklahoma City, Okla.
 KOMA D z 250 Tulsa, Okla.
 KPDN D a 100 Pampa, Texas
 KRBA D a 100 Lukfin, Texas
 KRMD (.25) a 100 Shreveport, La.
 KROC N(.25) a 100 Rochester, Minn.
 KROA a 100 Santa Fe N. Mex.
 KRRV DM a 250 Sherman, Texas
 KSRO (.25) a 100 Santa Rosa, Calif.
 KSUB a 100 Cedar City, Utah
 KTSM N(.25) a 100 El Paso, Texas
 KVOL (.25) a 100 Lafayette, La.
 KVOX (.25) a 100 Moorhead, Minn.
 KWOC D a 100 Poplar Bluff, Mo.
 KWOS (.25) a 100 Jefferson City, Mo.
 KXRO M(.25) a 100 Aberdeen, Wash.
 TGI d Guatemala, C., Guat.
 WAML (.25) a 100 Laurel, Miss.
 WBEO (.25) a 100 Marquette, Mich.
 WBOW N(.25) a 100 Terre Haute, Ind.
 WBRE N(.25) a 100 Wilkes-Barre, Pa.
 WBRK C(.25) a 100 Pittsfield, Mass.
 WCLS L a 100 Joliet, Ill.
 WCM1 (.25) a 100 Ashland, Ky.
 WDAH S(.25) a 100 El Paso, Tex.
 WEBR B(.25) a 100 Buffalo, N. Y.
 WEMP (.25) a 100 Milwaukee, Wis.
 WEXL a 50 Royal Oak, Mich.
 WFBG 3 a 100 Altoona, Pa.
 WFDF B a 100 Flint, Mich.
 WGAU (.25) a 100 Athens, Ga.
 WGH (.25) a 100 Newport News, Va.
 WGTM D a 100 Wilson, N. C.
 WHAT 4 a 100 Philadelphia, Pa.
 WJAC 3(.25) a 100 Johnstown, Pa.
 WLAK N z 100 Lakeland, Fla.
 WLBC (.25) a 100 Muncie, Ind.
 WLNH M a 100 Laconia, N. H.
 WMBO (.25) a 100 Auburn, N. Y.
 WMFF B(.25) a 100 Plattsburgh, N. Y.
 WNBH M(.25) a 100 New Bedford, Mass.

M. H. F. Young, Gen. Mgr.
 William Marks, Ch. Eng.
 Laurie Smith, Gen. Mgr.
 Charles Frenette, Ch. Eng.

 Burton Boatright, Ch. Eng.
 Milton Cook, DX Mgr.
 Stanton Bennett, Ch. Eng.
 Evans A. Frye, Prog. Dir.
 Irvin L. Faulkner, Chief Op.
 C. B. Baxter, Ch. Eng.
 DeWitt Landis
 Donald Gorman, Ch. Eng.
 Walter Ely, Ch. Eng.
 Harold Platt, Ch. Eng.
 M. H. Bonebrake, Mgr.
 James Manship
 Herman Kreiger, Ch. Eng.
 Darrell E. Yates
 W. J. Wilkinson, Ch. Eng.
 F. C. Clarke, Ch. Eng.
 J. L. Martin, Ch. Eng.
 Tom Spellman, Ch. Eng.
 W. R. Nicholas, Ch. Eng.
 Wayne Booth, Op-Ann.
 E. L. Gemoets, Ch. Eng.
 J. C. Cooper, Ch. Eng.
 Robert Schulz, Ch. Eng.
 John Lee Milster, Ch. Eng.
 J. C. Haynes, Ch. Eng.
 Wm. McCoffin, Ch. Eng.

 A. A. Touchstone, Ch. Eng.
 Gordon Brozek, Ch. Eng.
 Stokes Graham, Ch. Eng.
 Chas. Sakoski, Ch. Eng.
 N. H. Blake, Ch. Eng.
 G. M. Ives, Jr., Ch. Eng.
 Paul W. Holton, Eng.
 E. L. Gemoets, Ch. Eng.
 L. C. Bailey
 Ray H. Host, Ch. Eng.
 Garnet G. Sparks
 Roy Thompson, Eng.
 Frank D. Fallain, Ch. Eng.
 A. L. Brannen, Ch. Eng.
 R. P. Aylor, Ch. Eng.
 H. W. Wilson
 J. C. Geise, Ch. Eng.
 A. J. Reid, Ch. Eng.
 Powell Hunter, Ch. Eng.
 M. M. Crain, Ch. Eng.
 Kenneth Taylor, Ch. Eng.
 Herbert House, Ch. Eng.
 John Nazak, Ch. Eng.
 I. Vermilya

WRAW	....	a	100	Reading, Pa.
WROL	N(.25)	a	100	Knoxville, Tenn.
WSAJ	....	a	100	Grove City, Pa.
WSAV	P	z	100	Savannah, Ga.
WSGN	B(.25)	a	100	Birmingham, Ala.
WSJS	C	a	100	Winston-Salem, N. C.
WTAL	(.25)	a	100	Tallahassee, Fla.
WTEL	4	a	100	Philadelphia, Pa.
WTJS	(.25)	a	100	Jackson, Tenn.
WTRC	(.25)	a	100	Elkhart, Ind.
XEAG	....	z	10	Cordoba, Ver.
XEBO	....	z	25	Irapuato, Gto.
XEFW	....	a	300	Tampico, Tams.
XETB	....	a	500	Torreón, Coah.
XEX	....	a	500	Monterrey, N. L.

H. O. Landis, Ch. Eng.
L. Strunk,
Albert Valente, Ch. Eng.
.....
Paul Cram, Ch. Eng.
Phil Hedrick, Ch. Eng.
Wm. A. Snowden, Ch. Eng.
.....
M. Stone
K. Singleton, Ch. Eng.
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1320 kcs. (227.1 m.)



CMBQ		a	5000	Havana, Cuba
KGHF	B	a	500	Pueblo, Colo.
KGMB	CM	a	1000	Honolulu, Hawaii
KID	(1)	a	500	Idaho Falls, Idaho
KRNT	C(5)	a	1000	Des Moines, Iowa
WADC	C(5)	a	1000	Akron, Ohio
WORK	N	a	1000	York, Pa.
WSMB	R(5)	a	1000	New Orleans, La.

R. Pazos
J. H. McGill
E. T. Goldrup, Ch. Eng.
J. W. Duckworth
Edmund Linehan, Prog. Dir.
Bob Wilson
J. E. Mathiot, Ch. Eng.
H. G. Nebe, Ch. Eng.

1330 kcs. (225.4 m.)



KGB	M	a	1000	San Diego, Calif.
KMO	M	a	1000	Tacoma, Wash.
KRIS	NM	a	500	Corpus Christi, Tex.
KSCJ	C(5)	a	1000	Sioux City, Iowa
WDRC	C(5)	g	1000	Hartford, Conn.
WSAI	MN(5)	a	1000	Cincinnati, Ohio
WTAQ	C(5)	a	1000	Green Bay, Wis.

David R. Young, Prog. Dir.
Joe Kolesar, Ch. Eng.
H. B. Lockhart, Ch. Eng.
C. W. Corkhill, Mgr.
Italo Martino, Ch. Eng.
R. J. Rockwell, Ch. Eng.
W. J. Stangel, Ch. Eng.

1340 kcs. (223.7 m.)



KDTH	DP	z	500	Dubuque, Iowa
KGIR	N(5)	a	1000	Butte, Mont.
KGNO	....	c	250	Dodge City, Kans.
WCOA	N(1)	a	500	Pensacola, Fla.
WFEE	MN(1)	a	500	Manchester, N. H.
WPNC	DP	z	250	Fayetteville, N. C.
WSPD	B(5)	a	1000	Toledo, Ohio
XEAP	....	z	50	Obregon, Son.
XEBS	....	z	200	Mexico City, D. F.
XEBW	a	250	Chihuahua, Chih.
XEDH	z	200	Villa Acuna, Coah.
XEFC	a	100	Merida, Yuc.
XEXD	A	z	350	Orizaba, Ver.

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M. L. Owen, Eng.
J. E. Doane, Ch. Eng.
B. Hayford, Ch. Eng.
V. H. Chandler, Ch. Eng.
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Judith Tom
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1350 kcs. (222.1 m.)



CMCA	a	200	Havana, Cuba
CMKW	z	Santiago, Cuba
KIDO	N(2.5)	a	1000	Boise, Idaho
KWK	XBM(5)	a	1000	St. Louis, Mo.
WAWZ	1	a	1000	Zarephath, N. J.
WBNX	1	a	1000	New York, N. Y.
WMBG	R	a	500	Richmond, Va.

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H. W. Toedtmeier, Ch. Eng.
Clarence Crosby, Gen. Mgr.
N. L. Wilson, Ch. Eng.
Sue Royal

1360 kcs. (220.4 m.)



CMJH	....	b	200	Ciego de Avila, Cuba
KCRC	M	a	250	Minot, N. Dak.
KGER	....	a	1000	Enid, Okla.
KLPM	(1)	a	500	Long Beach, Calif.
WCSC	N(1)	a	500	Charleston, S. C.
WFBL	C(5)	a	1000	Syracuse, N. Y.
WGES	1(1)	a	500	Chicago, Ill.
WQBC	D	a	1000	Vicksburg, Miss.
WSBT	1	a	500	South Bend, Ind.

Baxter E. Burris, Eng.
Jay Tapp, Ch. Eng.
K. McGath
J. B. Fugua
A. R. Marcy, Ch. Eng.
Ed Jacker, Ch. Eng.
C. E. Drake, Ch. Eng.
H. G. Cole, Eng.

1370 kcs. (218.8 m.)

CFAR	....	a	100	Flin Flon, Man.	Monty Bridgman, Ch. Eng.
CFOS	....	a	100	Owen Sound, Ont.	.....
CKCW	F	a	100	Moncton, N. B.	J. A. White, Ch. Eng.
CKRN	P	z	100	Rouyn, P. Q.	.....
CMGE	....	a	200	Cardenas, Cuba	G. Sabater
KAST	DXZ	a	100	Astoria, Ore	Lawrence King, Chief Tech.
KCMO	....	a	100	Kansas City, Mo.	L. C. Sigmon, Ch. Eng.
KEEN	3	a	100	Seattle, Wash.	R. N. Nicholes, Ch. Eng.
KELD	....	z	100	El Dorado, Ark.	Chas. Mathis Ch. Eng.
KERN	N	a	100	Bakersfield, Calif.	Luverne Shatto, Ch. Eng.
KFGQ	D	a	100	Boone, Iowa	Lois Crawford
KFJZ	M(.25)	a	100	Fort Worth, Texas	E. L. Starness, Ch. Eng.
KFRO	DM	a	250	Longview, Texas	Morris Ming, Ch. Eng.
KGFL	4	a	100	Roswell, N. Mex.	George Farmer, Ch. Eng.
KGKL	(.25)	a	100	San Angelo, Texas	Frank Jones, Eng.
KICA	4	a	100	Clovis, N. Mex.	Charles Alsup, Eng.
KIUN	....	a	100	Pecos, Texas	T. W. Hubbard, Ch. Eng.
KIUP	....	a	100	Durango, Colo.	G. L. Schmehl, Ch. Eng.
KLUF	M(.25)	a	100	Galveston, Tex.	J. K. Taylor, Ch. Eng.
KMAC	5(.25)	a	100	San Antonio, Tex.	R. R. Hayes, Ch. Eng.
KOBH	(.25)	a	100	Rapid City, S. Dak.	Casey Jones
KOKO	....	a	100	La Junta, Colo.	Jack Lund, Ch. Eng.
KONO	5	a	100	San Antonio, Tex.	Geo. W. Ing., Ch. Eng.
KRE	(.25)	a	100	Berkeley, Calif.	Ralph Kennedy, Ch. Eng.
KRKO	3M	a	50	Everett, Wash.	Floyd E. Steele, Ch. Eng.
KRMC	(.25)	a	100	Jamestown, N. Dak.	Frank Gillespie
KSLM	MXZ	a	100	Salem, Ore.	Clyde Wiegand, Ch. Eng.
KTEM	DM	a	250	Temple, Texas	Wm. Carmean, Ch. Eng.
KTOK	MN	a	100	Oklahoma City, Okla.	Bernard Tullius, Ch. Eng.
KTSW	D	a	100	Emporia, Kansas	K. W. Trimble, Gen. Mgr.
KTUC	C(.25)	a	100	Tucson, Ariz.	Clifford Livingstone
KUJ	....	a	100	Walla Walla, Wash.	M. McLafferty, Ch. Eng.
KVGB	....	z	100	Great Bend, Kans.	Leo Legleiter, Ch. Eng.
KVRS	(.25)	z	100	Rock Springs, Wyo.	Donald M. Young
KWYO	(.25)	a	100	Sheridan, Wyo.	Robert Crosswaight, Ch. Eng.
WABY	N(.25)	a	100	Albany, N. Y.	James Corey, Ch. Eng.
WADN	P	z	100	Asheville, N. C.	.....
WAGF	D	a	250	Dothan, Ala.	Julian C. Smith
WATL	(.25)	a	100	Atlanta, Ga.	J. M. Comer, Ch. Eng.
WBLK	....	a	100	Clarksburg, W. Va.	W. P. Heitzman, Ch. Eng.
WBNY	2(.25)	a	100	Buffalo, N. Y.	T. L. Vines, Ch. Eng.
WBTM	(.25)	a	100	Danville, Va.	Phil Briggs, Ch. Eng.
WBTH	DP	z	100	Williamson, W. Va.	S. W. Wagner, Ch. Eng.
WCBM	(.25)	a	100	Baltimore, Md.	G. P. Houston, Ch. Eng.
WCOS	P	z	100	Columbia, S. C.	.....
WDAS	(.25)	a	100	Philadelphia, Pa.	Harold Davis, Prog. Dir.
WDWS	(.25)	a	100	Champaign, Ill.	J. M. Waincott, Ch. Eng.
WEOA	C(.25)	a	100	Evansville, Ind.	J. B. Caraway, Ch. Eng.
WFOR	....	a	100	Hattiesburg Miss.	G. W. Wilson, Ch. Eng.
WGBR	P	z	100	Goldsboro, N. C.	.....
WGL	N(.25)	a	100	Fort Wayne, Ind.	F. W. Fischer, Ch. Eng.
WGRC	D	a	250	New Albany, Ind.	Jack Gardner, Ch. Eng.
WHBQ	....	a	100	Memphis, Tenn.	Weldon Roy, Ch. Eng.
WHDF	(.25)	a	100	Calumet, Mich.	Wm. Jackson, Ch. Eng.
WHLB	C(.25)	a	100	Virginia, Minn.	Vernon Baumgartner, Op.
WHLS	D	a	250	Port Huron, Mich.	W. F. McDonnell, Ch. Eng.
WIBM	(.25) B	a	100	Jackson, Mich.	Chas. Wirtanen, Ch. Eng.
WLLH	Sy	a	100	Lawrence, Mass.	Robert Donahue, Mgr.
WLLH MSy	(.25)	a	100	Lowell, Mass.	Anthony Michaels, Ch. Eng.
WMBR	C(.25)	a	100	Jacksonville, Fla.	H. B. Greene, Ch. Eng.
WMFD	(.25)	a	100	Wilmington, N. C.	R. A. Plank, Ch. Eng.
WMFO	D	a	100	Decatur, Ala.	F. L. James, Jr., Ch. Eng.
WMIN	(.25)	a	100	St. Paul, Minn.	Mat Walz, Ch. Eng.
WOC	C(.25)	a	100	Davenport, Iowa	Harold Higby, Ch. Eng.
WPAY	....	a	100	Portsmouth, Ohio	Maurice L. Myers, Ch. Eng.
WPRA XZ	(.25)	a	100	Mayaguez, P. R.	Ralph P. Perry, Ch. Eng.
WRAK	(.25)	a	100	Williamsport, Pa.	Louis Persio, Ch. Eng.
WRDO	MN	a	100	Augusta, Maine	J. Mitchell
WRJN	(.25)	a	100	Racine, Wis.	F. L. Dechant, Ch. Eng.
WSAU	(.25)	a	100	Wausau, Wis.	Roland Reichardt, Ch. Eng.
WSVS	2D	a	50	Buffalo, N. Y.	.....
XECZ	....	z	100	San Luis Potosi, S. L. P.	.....
XEI	....	a	125	Morelia, Micho.	.....
XELZ	....	z	100	Mexico City, D. F.	.....

1380 kcs. (217.3 m.)

CMCW	....	b	200	Havana, Cuba
KOH	C	a	500	Reno, Nev.
KQV	C(1)	c	500	Pittsburgh, Pa.
WALA	C(1)	a	500	Mobile, Ala.
WKBH	C	a	1000	La Crosse, Wis.
WNBC	R(1)	a	250	New Britain, Conn.
WSMK	C(.5)	a	250	Dayton, Ohio
XEM	z	500	Chihuahua, Chih.

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Merle Snider, Prog. Dir.
Walter McCoy, Ch. Eng.
R. M. Cole, Ch. Eng.
Al Leeman, Ch. Eng.
Roger B. Holt, Ch. Eng.
Stanley Krohn
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1390 kcs. (215.7 m.)

CJGX	F	a	100	Yorkton, Sask.
CMJZ	z	150	Camaguey, Cuba
KABR	(1)	a	500	Aberdeen, S. Dak.
KLRA	C(5)	a	1000	Little Rock, Ark.
KOY	C	g	1000	Phoenix, Ariz.
KRLC	....	a	250	Lewiston, Idaho
WHK BKM (.25)	a	a	1000	Cleveland, Ohio
WQDM	D	f	1000	St. Albans, Vt.

H. R. McLaughlin, Ch. Eng.
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Delbert T. Hunt, Ch. Eng.
K. F. Tracy, Ch. Eng.
E. E. Alden, Ch. Eng.
Donald A. Wike, Gen. Mgr.
E. L. Gove, Tech. Sup'r.
E. J. Regan, Ch. Eng.

1400 kcs. (214.2 m.)

CMKR	....	z	200	Santiago, Cuba
KHBC	CM	a	250	Hilo, Hawaii
KLO	BX	a	500	Ogden, Utah
KTUL	C(5)	a	1000	Tulsa, Okla.
TGX	....	d	....	Guatemala City, Guat.
WARD	2	a	500	Brooklyn, N. Y.
WBBC	2	a	500	Brooklyn, N. Y.
WHDL	....	a	250	Olean, N. Y.
WIRE	MR(5)	a	1000	Indianapolis, Ind.
WLTH	2	a	500	New York, N. Y.
WVFW	2	a	500	Brooklyn, N. Y.

.....
Webley Edwards, Gen. Mgr.
W. D'Orr Cozzens, Ch. Eng.
Helen Lewis
.....
Abraham Haas, Ch. Eng.
Peter Testan, Ch. Eng.
W. E. McDowell, Ch. Eng.
E. Lewis
Ben Marcus
Hermann Florez, Ch. Eng.

1410 kcs. (212.6 m.)

CKFC	5	a	50	Vancouver, B. C.
CKMO	5	a	100	Vancouver, B. C.
CMCQ	....	a	200	Havana, Cuba
KFJM	(1)	a	500	Grand Forks, N. Dak.
KGNC MN(2.5)	a	a	1000	Amarillo, Texas
KMED	N	b	250	Medford, Ore.
WAAB	M(1)	a	500	Boston, Mass.
WBCM	(1)	a	500	Bay City, Mich.
WHIS	(1)	a	500	Bluefield, W. Va.
WROK	(1)	a	500	Rockford, Ill.
WSFA	C(1)	a	500	Montgomery, Ala.

A. L. Porter, Ch. Eng.
E. G. Rose, Ch. Eng.
.....
Edwin O'Brien, Ch. Eng.
W. S. Bledsoe, Ch. Eng.
D. H. Rees, Ch. Eng.
E. A. Donaher
R. H. Carpenter, Ch. Eng.
Edward L. Kitts
John C. McCloy
P. B. Duncan, Ch. Eng.

1420 kcs. (211.1 b.)

CBY	F	a	100	Toronto, Ont.
CHLN	....	z	100	Three Rivers, P. Q.
CKCA	....	a	100	Kenora, Ont.
CKGB	F	a	100	North Bay, Ont.
CMJP	....	a	200	Moron, Cuba
KABC	M(.25)	a	100	San Antonio, Tex.
KATE	(.25)	a	100	Albert Lea, Minn.
KBPS	4	a	100	Portland, Ore.
KCMC	M(.25)	a	100	Texarkana, Tex.
KDNT	D	a	100	Denton, Texas
KEUB	....	a	100	Price, Utah
KFAM	N(.25)	a	100	St. Cloud, Minn.
KFIZ	....	a	100	Fond du Lac, Wis.
KGFF	M(.25)	a	100	Shawnee, Okla.
KGIW	1	a	100	Alamosa, Colo.
KGLU	(.25)	z	100	Safford, Ariz.
KIDW	1	a	100	Lamar, Colo.
KLBM	(.25)	z	100	La Grande, Ore.
KNET	D	a	100	Palestine, Texas
KORE	M	a	100	Eugene, Ore.
KRBC	M(.25)	a	100	Abilene, Tex.

Wm. Little, Ch. Eng.
Leon Trepanier, Ch. Eng.
Edmund Tompkins, Ch. Eng.
Ed Ryan, Ch. Eng.
.....
Kenneth Hyman, Ch. Eng.
Geo. H. Church, Ch. Eng.
Fred E. Miller, Ch. Eng.
Harvey Roberston, Ch. Eng.
Bob Douglas, Eng.
Carl E. Busart, Ch. Eng.
Robert Witschen, Ch. Eng.
Wendell S. Meyers, Ch. Eng.
John Molloy, Ch. Eng.
Joe Brite, Ch. Eng.
Paul Merrill, Ch. Eng.
Jack E. Phillips, Ch. Eng.
Paul E. Walden, Ch. Eng.
.....
Frank L. Hill, Mgr.
W. W. Roberston, Ch. Eng.

KRBM	P(.25)	z	100
KRIC	M(.25)	z	100
KRLH	D	a	100
KSAN	....	a	100
KTRI	(.25)	f	100
KVAK	DP	z	100
KWAL	(.25)P	z	100
KWBG	....	a	100
KXL	(.25)	c	100
WACO	CM(.25)	c	100
WAGM	....	a	100
WAPO	N(.25)	a	100
WAZL	2	a	100
WBNO	(.25)	a	100
WCBS	(.25)	a	100
WCHV	(.25)	a	100
WEED	(.25)	a	100
WELL	B	a	100
WFMJ	DP	z	100
WGNC	(.25)P	z	100
WGPC	....	a	100
WHFC	(.25)	a	100
WHMA	D	a	100
WILM	2	a	100
WJMS	....	a	100
WLAP	(.25)	a	100
WLEU	B(.25)	a	100
WMAS	C(.25)	a	100
WMBC	(.25)	a	100
WMBH	(.25)	a	100
WMB5	(.25)	a	100
WMFJ	....	a	100
WM5D	....	a	100
WPAD	(.25)	a	100
WPAR	C	a	100
WPRP	(.25)	a	100
WSLI	(.25)	a	100

Bozeman, Mont.
Beaumont, Texas
Midland, Texas
San Francisco, Calif.
Sioux City, Iowa
Atchison, Kans.
Wallace, Idaho
Hutchinson, Kans.
Portland, Ore.
Waco, Texas
Presque Isle, Me.
Chattanooga, Tenn.
Hazleton, Pa.
New Orleans, La.
Springfield, Ill.
Charlottesville, Va.
Rocky Mount, N. C.
Battle Creek, Mich.
Youngstown, Ohio
Gastonia, N. C.
Albany, Ga.
Cicero, Ill.
Anniston, Ala.
Wilmington, Del.
Ironwood, Mich.
Lexington, Ky.
Erie, Pa.
Springfield, Mass.
Detroit, Mich.
Joplin, Mo.
Uniontown, Pa.
Daytona Beach, Fla.
Muscle Shoals City, Ala.
Paducah, Ky.
Parkersburg, W. V.
Ponce, P. R.
Jackson, Miss.

E. B. Craney, Gen. Mgr
Don Mitchell, Ch. Eng.
Robert Harmon, Ch. Eng.
Will C. Grove, Ch. Eng.
Dietrich Dirks
Chas. Weiseman, Ch. Eng.
.....
Harold Bourell, Ch. Eng.
Ralph Mifflin, Ch. Eng.
L. H. Appleman, Ch. Eng.
A. C. Hughes, Ch. Eng.
M. E. Thompson, Ch. Eng.
Edward Beisel, Prog. Dir.
W. F. Williams, Gen. Mgr.
Dick Ashenfelter, Ch. Eng.
Walter Gray, Ch. Eng.
I. G. Murphrey, Ch. Eng.
Raymond Roof, Ch. Eng.
.....
R. C. Hallett, Ch. Eng.
David Mearns, Ch. Eng.
E. Mullinax
J. E. Mathiot, Ch. Eng.
N. C. Ruddell, Mgr.
Winston L. Clark, Mgr.
Don Trow, Eng
E. G. Hewinson, Ch. Eng.
E. H. Clark, Ch. Eng.
J. C. Murphy
Charles McClane, Eng.
W. K. Ellenwood, Ch. Eng.
J. V. Sanderson, Ch. Eng.
C. G. Sims, Ch. Eng.
H. H. Lance, Ch. Eng.
.....

1430 kcs. (209.7 m.)



CMKZ	....	z	200
KECA	B(5)	a	1000
KGNF	D	a	1000
KINY	....	a	250
KSO	BM(5)	a	1000
WBNS	C(5)	a	1000
WHEC	C(1)	a	500
WHP	C(1)	a	500
WMP5	B(1)	a	500
WOKO	C(1)	a	500
XERH	?	z	500

Palma Soriano, Cuba
Los Angeles, Calif.
North Platte, Nebr.
Juneau, Alaska
De Moines, Iowa
Columbus, Ohio
Rochester, N. Y.
Harrisburg, Pa.
Memphis, Tenn.
Albany, N. Y.
Mexico, City, D. F.

Dorothy Roe
J. B. Eaves, Eng.
C. F. Heister, Ch. Eng.
Edmund Linehan
Lester Nafzger, Ch. Eng.
Maurice H. Clarke, Ch. Eng.
R. S. Duncan, Ch. Eng.
J. B. Epperson, Ch. Eng.
.....

1440 kcs. (208.2 m.)

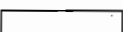


CMBY	....	a	200
HP50	....	z	....
KDFN	....	a	500
KELA	M	a	1000
KXYZ	BM	a	1000
WBIG	C	a	1000
WCBA	a	a	500
WMBD	C(5)	a	1000
WSAN	Na	a	500
XEFI	....	a	250

Havana, Cuba
Colon, Panama
Casper, Wyo.
Centralia, Wash.
Houston, Tex.
Greensboro, N. C.
Allentown, Pa.
Peoria, Ill.
Allentown, Pa.
Chihuahua, Chih.

.....
.....
Floyd Wickencamp, Ch. Eng.
Samuel Norin, Ch. Eng.
Gerald R. Chinski, Ch. Eng.
Earl Allison, Ch. Eng.
W. A. McCutcheon, Ch. Eng.
T. A. Giles, Tech. Dir.
George V. Snyder, Prog. Dir.
.....

1450 kcs. (206.8 m.)



CFCT	....	a	500
CHGS	F	f	50
CMHM	....	z	200
KGCX	....	a	1000
HRN	....	b	500
KIEM	M(1)	a	500
KTBS	N	a	1000

Victoria, B. C.
Summerside, P. E. I.
Cienfuegos, Cuba
Wolf Point, Mont.
Tegucigalpa, Honduras
Eureka, Calif.
Shreveport, La.

Don Horne, Ch. Eng.
W. R. Cannon, Ch. Eng.
.....
Harold Klimpel, Ch. Eng.
.....
Alvor Olson, Eng.
C. H. Maddox, Ch. Eng.

TGO d 200
 WAGA B(1) a 500
 WGAR C(5) a 1000
 WHOM ... a 250
 WWSR M f 1000
 XEF a 100

1460 kcs. (205.4 m.)

CMKF z 250
 KSTP R(25)X a 10000
 WJSV CX a 10000

1470 kcs. (204 m.)

CMCX z 200
 KGA BM a 5000
 WLAC C a 5000

1480 kcs. (202.6 m.)

CMHX a 200
 KOMA C a 5000
 WHIP D z 5000
 WKBW C a 5000

1490 kcs. (201.2 m.)

CMKQ z 200
 KFBK KN a 10000
 WCKY NX a 10000
 XECH ? z 250
 XEDR z 100

1500 kcs. (199.9 m.)

CJIC F a 100
 CMOX a 200
 KAWM ... a 100
 KBIX M a 100
 KBKR (.25)P z 100
 KBST M a 100
 KDAL C a 100
 KDB M(.25) a 100
 KPDA P z 100
 KGFI (.25) a 100
 KGKB M(.25) a 100
 KGKY (.25) a 100
 KNEL D a 250
 KNOW CM a 100
 KOTN D a 100
 KOVC (.25) a 100
 KPAB (.25) a 100
 KPLC (.25) a 100
 KPLT DM a 250
 KPQ M(.25) a 100
 KRNR M(.25) a 100
 KROD AP z 100
 KSAL (.25) a 100
 KSAM D z 100
 KTOH (.25)P z 100
 KUTA N a 100
 KVOE M a 100
 KWVC P z 100
 KWWEV D z 100
 KXO M a 100
 KYCA PA(.25) z 100
 KYSM (.25)N a 100
 WCNW 1(.25) a 100
 WDAN (.25) a 100
 WDNC C(.25) a 100
 WGAL (.25) a 100
 WGIL D a 250

Quezaltenango, Guat.
 Atlanta, Ga.
 Cleveland, Ohio
 Jersey City, N. J.
 Fall River, Mass.
 Juarez, Chih.

Holguin, Cuba
 St. Paul, Minn.
 Washington, D. C.

Havana, Cuba
 Spokane, Wash.
 Nashville, Tenn.

Cienfuegos, Cuba
 Oklahoma City, Okla.
 Hammond, Ind.
 Buffalo, N. Y.

Santiago, Cuba
 Sacramento, Calif.
 Covington, Ky.
 Toluca, Mex.
 Guaymas, Son.

Sault Ste. Marie, Ont.
 Havana, Cuba
 Gallup, N. Mex.
 Muskogee, Okla.
 Baker, Ore.
 Big Spring, Tex.
 Duluth, Minn.
 Santa Barbara, Calif.
 Amarillo, Texas
 Brownsville, Tex.
 Tyler, Texas
 Scottsbluff, Nebr.
 Brady, Texas
 Austin, Texas
 Pine Bluff, Ark.
 Valley City, N. Dak.
 Laredo, Tex.
 Lake Charles, La.
 Paris, Texas
 Wenatchee, Wash.
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 Prescott, Ariz.
 Mankato, Minn.
 Brooklyn, N. Y.
 Danville, Ill.
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 Lancaster, Pa.
 Galesburg, Ill.

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Hector Skiter, Ch. Eng.
 Harry R. Crow

A. G. Sparling, Ch. Eng.
 F. D. Binns, Ch. Eng.

Raymond Ramsey
 Elmer Herkner
 K. B. Hoffman, Ch. Eng.

N. D. Webster, Ch. Eng.
 C. H. Topmiller, Ch. Eng.

S. C. Cusack, Ch. Eng.
 J. D. Eubank, Ch. Eng.
 Lester Harlow, Ch. Eng.

John Casey, Ch. Eng.
 R. A. Dettman, Ch. Eng.
 R. E. Arne, Ch. Eng.
 R. E. Cannon, Ch. Eng.
 W. A. Wilson, Ch. Eng.
 J. B. Sheppard, Ch. Eng.
 Harlan Morrison, Ch. Eng.
 Marion Crawford, Ch. Eng.
 T. E. Daniels, Ch. Eng.
 J. R. Whitworth, Ch. Eng.
 Bey Greene, Ch. Eng.
 M. M. Valentine, Gen. Mgr.
 E. C. Moses, Ch. Eng.
 Weldon Jeffus, Ch. Eng.
 P. G. Richards, Eng.
 Justin B. Toles, Ch. Eng.
 E. P. Talbot, Ch. Eng.
 N. E. Vance, Ch. Eng.
 Paul Wolf, Ch. Eng.
 C. J. Fern, Jr.
 Lyle Wahlquist, Ch. Eng.
 Wallace Wiggins, Prog. Dir.

Floyd Emanuel, Ch. Eng.
 E. R. Irey, Ch. Eng.

Helen Nelson
 Arthur Faske, Ch. Eng.
 Perry W. Esten, Ch. Eng.
 K. A. Dalton
 Ernest Stanzola, Prog. Dir.
 Paul Kalfleisch, Ch. Eng.

WGKV	P	z	100	Charleston, W. Va.	Hamerk Johnson, Eng.
WHBB	....	a	100	Selma, Ala.	Winifred Powers
WJBK	(.25)	a	100	Detroit, Mich.	Russell Bennett, Ch. Eng.
WKAT	(.25)	a	100	Miami Beach, Fla.	L. Carlson
WKBB	YC(.25)	a	100	E. Dubuque, Ill.	Wm. O. Knox, Ch. Eng.
WKBV	(.25)	a	100	Richmond, Ind.	Grant Ashbacker, Mgr.
WKBZ	(.25)	a	100	Muskegon, Mich.	James Wilder, Ch. Eng.
WKEU	D	a	100	Griffin, Ga.	Alfred J. Pote, Ch. Eng.
WMEX	(.25)	a	100	Boston, Mass.	L. H. Gilbert, Ch. Eng.
WNBK	C(.25)	a	100	Binghamton, N. Y.	Neil Spencer, Ch. Eng.
WNLC	M	a	100	New London, Conn.	R. E. Jago, Ch. Eng.
WOMI	(.25)	a	100	Owensboro, Ky.	R. H. Smith
WOPI	....	a	100	Bristol Tenn.	Harvey Aderhold, Ch. Eng.
WRDW	C(.25)	a	100	Augusta, Ga.	R. L. Starr, Ch. Eng.
WRGA	(.25)	a	100	Rome, Ga.	.....
WRKL	DP	z	100	Rock Hill, S. C.	David Bain, Ch. Eng.
WRTD	B	a	100	Richmond, Va.	James R. Yost, Ch. Eng.
WSTP	(.25)	a	100	Salisbury, N. C.	.....
WSYB	....	a	100	Rutland, Vt.	J. A. Houser, Ch. Eng.
WTMC	P	z	100	Ocala, Fla.	F. S. Liggett, Ch. Eng.
WTMW	(.25)	a	100	E. St. Louis, Ill.	Percy Meade, Ch. Eng.
WWRL	1(.25)	a	100	Woodside, N. Y.	Ancil Lewis, Ch. Eng.
WWSW	(.25)	a	100	Pittsburgh, Pa.	.....
....	(.25)P	z	100	Sedalia, Mo.	

1510 kcs. (198.6 m.)

CFRC	F	a	100	Kingston, Ont.	H. H. Stewart, Ch. Eng.
CKCR	a	100	Kitchener, Ont.	Ion Hartman, Ch. Eng.

1520 kcs. (197.3 m.)

TGW	d	5000	Guatemala City, Guat.
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1530 kcs. (196 m.)

CMC	z	200	Havana, Cuba
KITE	a	1000	Kansas City, Mo.	J. D. Hollis
WBRY	M	a	1000	Waterbury, Conn.	S. E. Warner, Ch. Eng.

1550 kcs. (193.4 m.)

KPMC	M	a	1000	Bakersfield, Calif.	L. A. Schamblin, Mgr.
WQXR	a	1000	New York, N. Y.	R. D. Valentine, Ch. Eng.

1560 kcs. (192.2 m.)

CMBF	z	5000	Havana, Cuba
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1580 kcs. (189.8 m.)

CM9RT	z	200	Guines, Cuba
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1600 kcs. (187.4 m.)

CMBH	z	5000	Havana, Cuba
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TIME CONVERTER

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25c

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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

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

ALABAMA			CALIFORNIA			FLORIDA			CONNECTICUT			GEORGIA			
Anniston			Jonesboro			New London			Bridgeport			Albany			
WHMA	1420	100	KB'TM	1200	100	WNLG	1590	100M	WICC	600	500M	WGPC	1420	100	
Birmingham			Little Rock			Waterbury			Hartford			Athens			
WAPI	1140	5000 C	KARK	890	500 N	WATE	1190	100	WDRC	1330	1000 C	WGAU	1310	100	
WBRC	930	1000 R	KGHI	1200	100	WBRY	1530	1000M	WDRB	1330	1000 C	Atlanta			
WVSGN	1310	100 B	KLRA	1390	1000 C	DISTRICT OF COLUMBIA			WTIC	1040	50000 R	WAGA	1450	500 B	
Decatur			Pine Bluff			Washington			WTHT	1200	100M	WATL	1370	100	
WMFO	1370	100	KOTN	1500	100	WJVS	1460	10000 C	WTKC	1190	250M	WOL	1230	1000M	
Dothan			Siloam Springs			WJWB	1210	100	WRC	950	1000 R	WFMJ	1420	100	
WAGF	1370	250	KUOA	1260	5000	WRUF	830	5000	WJAX	900	1000 N	Gainesville			
Gadsden			Fresno			WVJH	1290	250	WJHP	1290	250	Jacksonville			
WJBY	1210	100	CALIFORNIA			WMBR	1370	100 C	WMBR	1370	100 C	Lakeland			
Huntsville			Bakersfield			Lakeland			WLAJ	1310	100 N	Miami			
WRHP	1200	100	KB'ERN	1370	100 N	WLAJ	1310	100 N	Miami	610	1000 N	WTOD	610	1000 N	
Mobile			KPMG			1310	100	1000 N	WMBF	610	1000	WQAM	560	1000 C	
WALA	1380	500 C	Berkeley			1000 N	1000 M	1000 N	WQAM	560	1000 C	Miami Beach			
WMOB	1200	100	KRE	1370	100	1000 M	1000 M	1000 N	WQAM	560	1000 C	WKAT	1500	100	
Montgomery			Beverly Hills			1000 M	1000 M	1000 N	WQAM	560	1000 C	Ocala			
WCOV	1210	100	KMPC	710	500	1000 M	1000 M	1000 N	WQAM	560	1000 C	Orlando			
WSFA	1410	500 C	Chico			1000 M	1000 M	1000 N	WQAM	560	1000 C	Tampa			
Selma			KHSL			1000 M	1000 M	1000 N	WQAM	560	1000 C	Tallahassee			
WHBB	1500	100	El Centro			1000 M	1000 M	1000 N	WQAM	560	1000 C	Tallahassee			
Muscle Shoals City			KXO			1000 M	1000 M	1000 N	WQAM	560	1000 C	Tallahassee			
WMSD	1420	100	Eureka	1500	100M	1000 M	1000 M	1000 N	WQAM	560	1000 C	Tallahassee			
Tuscaloosa			KTEH			1450	500M	1000 N	WQAM	560	1000 C	Tallahassee			
WJRD	1200	250	Fresno						WQAM	560	1000 C	Tallahassee			
ALASKA			KARM			1310	100 C		WQAM	560	1000 C	Tallahassee			
Anchorage			KMJ			580	1000 N		WQAM	560	1000 C	Tallahassee			
KFQD	780	250	Glendale						WQAM	560	1000 C	Tallahassee			
Fairbanks			KLEV			850	250		WQAM	560	1000 C	Tallahassee			
KFAR	610	1000	Long Beach						WQAM	560	1000 C	Tallahassee			
Juneau			KFOX			1250	1000		WQAM	560	1000 C	Tallahassee			
KINY	1430	250	KGER			1360	1000		WQAM	560	1000 C	Tallahassee			
Ketchikan			Los Angeles						WQAM	560	1000 C	Tallahassee			
KGBU	900	500	KECA			1430	1000 B		WQAM	560	1000 C	Tallahassee			
ARIZONA			KEEB			780	1000		WQAM	560	1000 C	Tallahassee			
Globe			KFAC			1300	1000		WQAM	560	1000 C	Tallahassee			
KWJB	1210	100	KFI			640	50000 R		WQAM	560	1000 C	Tallahassee			
Jerome			KFSG			1120	500		WQAM	560	1000 C	Tallahassee			
KCBJ	1310	100	KFVD			1000	1000		WQAM	560	1000 C	Tallahassee			
Lowell			KFWB			950	1000		WQAM	560	1000 C	Tallahassee			
KSUN	1200	100	KGFJ			1200	100		WQAM	560	1000 C	Tallahassee			
Phoenix			KHJ			900	1000M		WQAM	560	1000 C	Tallahassee			
KOY	1390	1000 C	KMTR			570	1000		WQAM	560	1000 C	Tallahassee			
KTAR	620	1000 N	KNX			1050	50000 C		WQAM	560	1000 C	Tallahassee			
Prescott			KRD			1120	500		WQAM	560	1000 C	Tallahassee			
KYCA	1500	100	Merced						WQAM	560	1000 C	Tallahassee			
Safford			KYOS			1040	250		WQAM	560	1000 C	Tallahassee			
KGLU	1420	100	Modesto						WQAM	560	1000 C	Tallahassee			
Tucson			KTRB			740	250		WQAM	560	1000 C	Tallahassee			
KTUC	1370	100 C	Monterey						WQAM	560	1000 C	Tallahassee			
KVOA	1260	1000	KDON			1210	100M		WQAM	560	1000 C	Tallahassee			
ARKANSAS			Oakland						WQAM	560	1000 C	Tallahassee			
Blytheville			KLS			1280	250		WQAM	560	1000 C	Tallahassee			
KLCN	1290	100	KLX			880	1000		WQAM	560	1000 C	Tallahassee			
El Dorado			KROW			930	1000		WQAM	560	1000 C	Tallahassee			
KELD	1370	100	Pasadena						WQAM	560	1000 C	Tallahassee			
Fort Smith			KPPC			1210	100		WQAM	560	1000 C	Tallahassee			
KFPW	2210	100	Redding						WQAM	560	1000 C	Tallahassee			
Hot Springs			KVCV			1200	100		WQAM	560	1000 C	Tallahassee			
KTHS	1060	10000 N	Sacramento						WQAM	560	1000 C	Tallahassee			
			KFBK			1490	10000 N		WQAM	560	1000 C	Tallahassee			
			KROY			1210	100 C		WQAM	560	1000 C	Tallahassee			
			San Bernardino						WQAM	560	1000 C	Tallahassee			
			KFXM			1210	100M		WQAM	560	1000 C	Tallahassee			
			San Diego						WQAM	560	1000 C	Tallahassee			
			KFSO			600	1000 B		WQAM	560	1000 C	Tallahassee			

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Columbus		
WRBL	1200	100
Griffin		
WKEU	1500	100
Mdeon		
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		
KEBC	1400	250M
Honolulu		
KGMB	1320	1000 C
KGU	750	2500 N
Lihue		
KTOH	1500	100

IDAHO

Boise		
KIDO	1350	1000 N
Idaho Falls		
KID	1320	500
Lewiston		
KRLC	1390	250
Nampa		
KFKD	1200	100
Pocatello		
KSEI	900	250 N
Twin Falls		
KTFI	1240	1000 N
Wallace		
KWAL	1420	100

ILLINOIS

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

Cicero		
WHFC	1420	100
Danville		
WDAN	1500	100
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
Rook Island		
WBFB	1240	1000
Springfield		
WCBS	1420	100
WTAX	1210	100
Tuscola		
WDZ	1020	250
Urbana		
WILL	580	5000

INDIANA

Anderson		
WBHU	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	1400	1000 R
Muncie		
WLBC	1310	100
New Albany		
WGRC	1370	250
Richmond		
WKBV	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	1000 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	1000M
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	820	50000 C
WINN	1210	100
Owensboro		
WOMI	1500	100
Paducah		
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
WJBO	1200	100
WSMB	1320	1000 R
WWL	850	50000 C
Shreveport		
KRMD	1310	100
KTBS	1450	1000 N
KWKH	1100	50000 C

MAINE

Augusta		
WRDO	1370	100M
Bangor		
WABI	1200	100
WLHZ	620	500 N
Lewiston		
WCOW	1210	100M
Portland		
WCSH	940	1000 R
WGAN	640	500
Presque Isle		
WAGM	1420	100

MARYLAND

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

MASSACHUSETTS

Boston		
WAAB	1410	500M

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

WBZZ	990	5000 B
WCOP	1120	500
WEEI	590	1000 C
WIDH	830	1000
WMEX	1500	100
WNAC	1230	1000 R
WORL	920	500
Fall River		
WSAI	1450	1000 M
Greenfield		
WHAI	1210	100 M
Hyannis		
WOCB	1210	100
Lawrence		
WLAW	680	1000
WLLH	1370	100 M
Lowell		
WLLH	1370	100
New Bedford		
WLLH	1370	100 M
Pittsfield		
WBRK	1310	100 C
Springfield		
WBZA	990	1000 B
WMAS	1420	100 C
WSPR	1140	500 M
Worcester		
WORC	1280	500 C
WTAG	580	1000 R

MICHIGAN

Battle Creek		
WELJ	1420	100 B
Bay City		
WRCM	1410	500
Calumet		
WDFD	1370	100
Detroit		
WJBC	1500	100
WJR	750	5000 C
WJBC	1420	100
WVA	920	1000 R
WXYZ	1240	1000 B
East Lansing		
WKAR	850	1000
Flint		
WDFD	1310	100 B
Grand Rapids		
WASB	1270	500 N
WOOD	1270	500 N
Ironwood		
WJMS	1420	100
Jackson		
WJMS	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		
WHLB	1370	250
Royal Oak		
WEXL	1310	50

MINNESOTA

Albert Lea			
KATE	1420	100	
Duluth			
KDAL	1500	100 C	
WEBC	1290	1000 N	
Fergus Falls			
KGDE	1200	100	
Hibbing			
WMFP	1210	100	
Mankato			
KYSM	1500	100 N	
Minneapolis			
WCCO	810	5000 C	
WDGY	1180	1000 C	
WLB	760	5000	
WTCN	1250	1000 B	
Moorhead			
KVOX	1310	100	
Northfield			
WCAL	760	5000	
Rochester			
KROC	1310	100 N	
St. Cloud			
KFAM	1420	100 N	
St. Paul			
KSTP	1460	10000 R	
WMIN	1370	100	
Virginia			
WHLB	1370	100 C	
Winona			
KWNO	1200	100	

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	
McComb			
.....	1200	100	
Meridian			
WCOC	880	1000 C	
Vicksburg			
WQBC	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	
WBB	860	1000 M	
Poplar Bluff			
KWOC	1310	100	

St. Joseph

KFEQ	680	500	
St. Louis			
KFUO	550	500	
KMOX	1090	5000 C	
KSD	550	1000 R	
KWK	1350	1000 R	
KXOK	1250	1000	
WEW	760	1000	
WIL	1200	100	
Sedalia			
.....	1500	100	
Springfield			
KGBX	1230	500 N	
KWTO	560	5000	

MONTANA

Billings			
KGHL	780	1000 N	
Bozeman			
KRBM	1420	100	
Butte			
KGIR	1340	1000 N	
Great Falls			
KFBB	1280	1000 C	
Helena			
KPFA	1210	100 N	
Kalispell			
KGEZ	1310	100	
Missoula			
KGVO	1260	1000 C	
Wolf Point			
KGCX	1450	1000	

NEBRASKA

Grand Island			
KMMJ	740	1000	
Kearney			
KGFW	1310	100	
Lincoln			
KFAB	770	10000 C	
KFOR	1210	100 C	
Norfolk			
WJAG	1060	1000	
North Platte			
KGNF	1430	1000	
Omaha			
KOIL	1260	1000 M	
KOWH	660	500	
WOW	590	1000 R	
Scottsbluff			
KGKY	1500	190	

NEVADA

Reno			
KOH	1380	500 C	

NEW HAMPSHIRE

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

NEW JERSEY

Asbury Park			
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WCAP	1280	500	
Atlantic City			
WBAB	1200	100	
WPG	1100	5000 C	
Bridgeton			
WSNJ	1210	100	
Camden			
WCAM	1280	500	
Jersey City			
WAAT	940	500	
WHOM	1450	250	
Newark			
WHBI	1250	1000	
WOR	710	5000 M	
Red Bank			
WBRB	1210	100	
Trenton			
WTNJ	1280	500	
Whippany			
W3XDD	.....	50000	
Zarephath			
WAWZ	1350	1000	

NEW MEXICO

Albuquerque			
KGGM	1230	1000	
KOB	1180	10000 N	
Carlsbad			
KLAH	1210	100	
Clovis			
KICA	1370	100	
Gallup			
KAWM	1500	100	
Hobbs			
KWGW	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			
WNEP	1500	100 C	
Brooklyn			
WARD	1400	500	
WBBC	1400	500	
WBBR	1300	1000	
WCNW	1500	100	
WVFW	1400	500	
Buffalo			
WBEN	900	1000 R	
WBNY	1370	100	
WBRB	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	
Freeport			
WGBB	1210	100	

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Jamestown		
WJTN	1210	100 B
Newburgh		
WGNY	1220	250
New York		
WABC	860	50000 C
WBIL	1100	5000
WBNX	1350	1000
WBOQ	860	50000
WEAF	680	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		
WHDL	1400	250
Pattsburgh		
WMFF	1310	100 B
Rochester		
WHAM	1150	50000 E
WHEC	1430	500 C
WSAY	1210	100
Saranac Lake		
WNBZ	1290	100
Schenectady		
WGY	790	50000 R
Syracuse		
WFBL	1360	1000 C
WSYR	570	1000 B
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		
WADD	1370	100
WWNC	570	1000
Charlotte		
WBT	1080	50000 C
WSOC	1210	100 N
Durham		
WDNC	1500	100 C
Fayetteville		
WFNC	1340	250
Gastonia		
WGNC	1420	100
Goldsboro		
WGBR	1370	100
Greensboro		
WBIG	1440	1000 C
High Point		
WMFR	1200	100
Kinston		
WTTC	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
W8XO	700	500000
Cleveland		
WCLE	610	500 M
WGAR	1450	1000 C
WHK	1390	1000 B
WTAM	1070	50000 R
Columbus		
WBNS	1430	1000 C
WCOL	1210	100 N
WHKC	640	500 M
WOSU	570	750
Dayton		
WHIO	1260	1000 C
WSMK	1380	250 C
Lima		
WLOK	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	100 M
Ardmore		
KVSO	1210	100 M
Elk City		
KASA	1210	100 M
Enid		
KCRC	1360	250 M
Muskogee		
KBIX	1500	100 M
Norman		
WNAD	1010	1000
Oklahoma City		
KOCY	1310	100
KOMA	1480	5000 C
K TOK	1370	100 M
WKY	900	1000 N
Okmulgee		
KHBG	1210	100
Ponca City		
WBBZ	1200	100 M
Shawnee		
KGFF	1420	100 M
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	100 M
Klamath Falls		
KFJI	1210	100
La Grande		
KLBM	1420	100
Marshfield		
KOOS	1200	100 M
Medford		
KMED	1410	250 N
Portland		
KALE	1300	1000 M
KBPS	1420	100
KEX	1180	5000 B
KGW	620	1000 R
KOEN	940	1000 C
KWJJ	1040	500
KXL	1420	100
Roseburg		
KRNR	1500	100 M
Salem		
KSLM	1370	100 M

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		
WHB	620	250 C
Grove City		
WSAJ	1310	100
Harrisburg		
WHP	1430	500 C
WKBO	1200	100 N
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
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	100 M
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
WNEI	1290	1000

RHODE ISLAND

Providence		
WEAN	780	1000 M

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

WJAR	980	1000 B
WPRO	630	500 C
SOUTH CAROLINA		
Anderson		
WAIM	1200	100 C
Charleston		
WCSC	1360	500 N
WTMA	1210	100
Columbia		
WCOS	1370	100
WIS	560	1000 N
Florence		
WOLS	1200	100
Greenville		
WFBC	1300	1000 N
Rook Hill		
WKKL	1500	100
Spartanburg		
WSPA	920	1000
SOUTH DAKOTA		
Aberdeen		
KABR	1390	500
Brookings		
KFDY	780	1000
Pierre		
KGFX	630	200
Rapid City		
KOBH	1370	100
WCAT	1200	100
Sioux Falls		
KELO	1200	100 N
KSOU	1110	5000 N
Vermillion		
KUSD	890	500
Yankton		
WNAX	570	1000 C
TENNESSEE		
Bristol		
WOPI	1500	100
Chattanooga		
WAPO	1420	100 N
WDOD	1280	1000 C
Jackson		
WTJS	1310	100
Johnson City		
WIHL	1200	100
Knoxville		
WNOX	1010	1000 C
WROL	1310	100 N
Memphis		
WHBQ	1370	100
WMC	780	5000 B
WMPS	1430	500 B
WREC	600	1000 C
Nashville		
WLAC	1470	5000 C
WSIX	1210	100
WSM	650	50000 N
TEXAS		
Ablilene		
KRBC	1420	100M

Amarillo		
KFDA	1500	100
KGNC	1410	1000 N
Austin		
KNOW	1500	100 C
KTBC	1120	1000
Beaumont		
KFDM	560	500 N
KRIC	1410	100M
Big Spring		
KBST	1500	100M
Brady		
KNEL	1500	250
Brownsville		
KGFI	1500	100
College Station		
WTAW	1120	500
Corpus Christi		
KRIS	1330	500 N
Corsicana		
KAND	1310	100M
Dallas		
KRLD	1040	10000 C
WFAA	800	50000 N
WRR	1280	500M
Denton		
KDNT	1420	100
Dublin		
KFPL	1310	100
El Paso		
KROD	1500	100
KTSM	1310	100 N
WDAH	1310	100
Fort Worth		
KFJZ	1370	100M
KGKO	570	1000 B
KTAT	1240	1000M
WBAP	800	50000 N
Galveston		
KLUF	1370	100M
Greenville		
KGVL	1200	100
Houston		
KPRC	920	1000 B
KTRH	1290	1000 C
KXYZ	1440	1000 B
Huntsville		
KSAM	1500	100
Kilgore		
KOCA	1210	100
Laredo		
KPAB	1500	100
Longview		
KPRO	1370	250M
Lubbock		
KFYO	1310	100M
Lufkin		
KRBA	1310	100
Midland		
KRLH	1420	100
Palestine		
KNEI	1420	100
Pampa		
KPDN	1310	100
Paris		
KPLT	1500	250M
Pecos		
KIUN	1370	100
Port Arthur		
KPAC	1260	500

San Angelo		
KGKL	1370	100
San Antonio		
KABC	1420	100M
KMAC	1370	100
KONO	1370	100
KTSA	550	1000 C
WOAI	1190	50000 N
Sherman		
KRRV	1310	250M
Temple		
KTEM	1370	250M
Texarkana		
KCMC	1420	100M
Tyler		
KGKB	1500	100M
Vernon		
KVWC	1500	100
Waco		
WACO	1420	100 C
Westaco		
KRGV	1260	1000 N
Wichita Falls		
KWET	620	250
UTAH		
Cedar City		
KSUB	1310	100
Logan		
KVNU	1200	100
Ogden		
KLO	1400	500 B
Price		
KEUB	1420	100
Provo		
....	1210	100
Salt Lake City		
KDYL	1290	1000 R
KSL	1130	50000 C
KUTA	1500	100 N
VERMONT		
Burlington		
WCAX	1200	100
Rutland		
WSYB	1500	100
St. Albans		
WQDM	1390	1000
Springfield		
WNEX	1260	1000 C
Waterbury		
WDEV	550	500
VIRGINIA		
Charlottesville		
WCHV	1420	100
Danville		
WBIM	1370	100
Fredericksburg		
....	1260	250
Harrisonburg		
WSVA	550	500
Lynchburg		
WLVA	1200	100
Newport News		
WGH	1310	100

Norfolk		
WTAR	780	5000 N
Petersburg		
WPIV	1210	100
Richmond		
WBBL	1210	100
WMBG	1350	500 R
WRNL	880	500
WRFD	1500	100 B
WRVA	1110	50000 C
Roanoke		
WDBJ	930	1000 C
WASHINGTON		
Aberdeen		
KXRO	1310	100M
Bellingham		
KVOS	1200	100M
Centralia		
KELA	1440	1000M
Everett		
KRKO	1370	50M
Longview		
KWLK	780	250
Olympia		
KGY	1210	100M
Pullman		
KWSC	1220	1000
Seattle		
KEEN	1370	100
KIRO	710	1000 C
KJR	970	5000 B
KOL	1270	1000M
KOMO	920	1000 B
KRSC	1120	250
KTW	1220	100
KXA	760	250
Spokane		
KFIO	1120	100
KFPY	890	1000 C
KGA	1470	5000 B
KHQ	590	1000 R
Tacoma		
KMO	1330	1000M
KVI	570	1000 C
Vancouver		
KVAN	880	250
Walla Walla		
KUJ	1370	100
Wenatchee		
KIT	1250	250M
Yakima		
KPQ	1500	100
WEST VIRGINIA		
Beckley		
WJLS	1210	100
Bluefield		
WHIS	1410	500
Charleston		
WCHS	580	500 C
WGKV	1500	100
Clarksburg		
WBLK	1370	100
Fairmont		
WMMN	890	1000 C
Huntington		
WSAZ	1190	1000

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

Parkersburg
 WPAR 1420 100 C
 Wheeling
 WWVA 1160 5000 C
 Williamson
 WBTH 1370 100

WISCONSIN

Eau Claire
 WEAU 1050 1000
 Fond du Lac
 KPZL 1420 100
 Green Bay
 WBWY 1200 100
 WTAQ 1330 1000 C
 Janesville
 WCLO 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
 Poynette
 WIBU 1210 100
 Racine
 WRJN 1370 100
 Rice Lake
 WJMC 1210 250
 Sheboygan
 WEBL 1300 250
 Stevens Point
 WLBL 900 5000
 Superior
 WDSM 1200 100
 Wausau
 WSAU 1370 100

WYOMING

Casper
 KDFN 1440 500
 Rock Springs
 KVR5 1370 100
 Sheridan
 KWYO 1370 100

BAHAMAS

Nassau
 ZNS 790 1000

CANADA ALBERTA

Calgary
 CFAC 930 1000 F
 CFCA 1030 10000
 CFCJ 690 100 F
 Edmonton
 CFRN 960 100 F
 CJCA 730 1000 F
 CKUA 580 500 F
 Grande Prairie
 CFGP 1200 100
 Lethbridge
 CIOC 950 100 F

BRIT. COLUMBIA

Chilliwack
 CHWK 780 100 F
 Kamloops
 CFJK 880 1000 F
 Kelowna
 CKOV 630 100 F
 Prince Rupert
 CFPF 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 F
 Victoria
 CFCT 1450 500

MANITOBA

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

NEW BRUNSWICK

Fredericton
 CFNB 550 1000 F
 Moncton
 CKCV 1370 100 F
 Saokville
 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
 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
 Kitchener
 CKCR 1510 100
 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
 CFPL 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 1420 100 F
 CFRB 690 10000 C
 CKCL 580 100 F
 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
 CBJ 1120 100 F
 Hull
 CKCH 1210 100 F
 Montreal
 CBF 910 50000 N
 CBM 960 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
 Rouyn
 CKRN 1370 100

St. Anne de la Pocatiere
 CHGB 1200 100
 Sherbrooke
 CHLT 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
 CFQC 600 1000 F
 Watrous
 CBK 540 50000
 Yorkton
 CJGX 1390 100 F

COSTA RICA

TiSUV 575 100
 Alajuela
 San Jose
 TIEP 830 3000
 TIFA 1000 250
 TIGH 725 600
 TILJ 775 450
 TILS 880 500
 TIGP 625 5000
 TIRH 950 2000
 TIRM 750 500
 TIRS 915 250
 FIX 650 1000
 TIXD 800 1000

CUBA

Bayamo
 CMKL 950 200
 Caibarien
 CMHD 1270 200
 Camaguey
 CMJA 860 200
 CMJC 1390 200
 CMJE 1230 200
 CMJF 930 200
 CMJK 1290 200
 CMJW 1070 200
 CMJX 740 200
 Cardenas
 CMGE 1370 200
 Ciego de Avila
 CMJH 1360 200
 CMJI 1130 200
 CMJO 1260 200
 Cienfuegos
 CMHJ 1160 200
 CMHM 1450 200
 CMHX 1480 200
 Cruces
 CMHK 1210 200
 Guantanamo
 CMKS 710 200
 Guines
 CMRT 1580 200
 Havana
 CMBC 1140 200
 CMBD 1260 200

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

CMBF	1560	5000
CMBG	690	200
CMBH	1600	5000
CMBL	750	200
CMBQ	1320	5000
CMB5	1170	200
CMBX	1080	200
CMBY	1440	200
CMBZ	940	200
CMC	1530	200
CMCA	1350	200
CMCB	1230	200
CMCD	630	15000
CMCF	810	5000
CMCG	1290	200
CMCJ	1110	200
CMCK	970	5000
CMCL	730	10000
CMCM	850	200
CMCO	1200	200
CMCP	1050	200
CMCQ	1410	200
CMCR	660	200
CMCU	780	200
CMCW	1380	200
CMCX	1470	200
CMCY	570	15000
CMK	720	200
CMQA	910	200
CMOX	1500	200
CMQ	1010	25000 N
CMW	550	1400
CMX	880	20000
Holguin		
CMKF	1460	250
CMKO	1280	200
Manzanillo		
CMKE	1310	...
CMKM	1080	200
Matanzas		
CMGF	1120	200
CMGH	790	200
Moron		
CMJP	1420	200
Palma Soriano		
CMKZ	1430	200
Pinar del Rio		
CMAB	1240	200
Ricocias		
CMHP	1100	200
Sagua la Grande		
CMHA	1090	200
Saneti Spiritus		
CMHB	1240	200
Santa Clara		
CMHI	1060	200
CMHW	680	200
Santiago		
CMKC	1250	200
CMKD	910	1000
CMKG	1150	200
CMKQ	1490	200
CMKR	1400	200
CMKW	750	200
CMKX	1190	200
Trinidad		
CMIT	920	200

DOMINICAN REPUBLIC

Ciudad Trujillo		
HIN	1090	740
HIX	800	800
HIT	1050	50

EL SALVADOR

San Salvador		
YSS	640	500

GUATEMALA

Guatemala City		
TGW	1520	5000
TGX	1400	...
TGI	1310	...
Quezaltenango		
TGQ	1450	200

HONDURAS

Tegucigalpa		
TRF	1450	50

MEXICO AGUASCALIENTES

Aguascalientes		
XEBI	1000	250

BAJA CALIFORNIA

Mexicali		
XEAA	750	200
XEAO	660	250
XECL	1100	1000
Rosarito Beach		
XERB	1090	150000
Tijuana		
XEBG	820	1000
XEAC	980	5000
XEC	1150	100
XELO	730	50000
XEMO	860	5000

CHIHUAHUA

Chihuahua		
XEBU	1240	50
XEBW	1340	250
XEPI	1440	250
XEM	1380	500
Juarez		
XEF	1450	100
XEFV	1210	50
XEI	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		
Villa Acuna	1310	500
XEDH	1340	200
XERA	840	250000

DISTRITO FEDERAL

Graf. Anaya		
XEDA	1220	200
Mexico City		
XEA1	1250	500
XEAL	660	1000
XEB	1030	10000
XEBS	1340	200
XEBZ	810	100
XEDP	1080	500
XEFO	940	5000
XEFP	1130	100
XEK	990	100
XEL	1150	250
XELZ	1370	100
XEN	780	1000
XEQ	730	50000
XERC	870	500
XERH	1430	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
Toluca		
XECH	1490	250

MICHOACAN

Morelia		
XEI	1370	125

NUEVO LEON

Monterrey		
XEPB	870	200
XEG	1230	250
XEH	720	250
XET	690	5000
XEX	1310	500

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
Minatitlan		
XEDW	1150	20
Orizaba		
XEXD	1340	350
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	640	12500
VOWB	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.				Windsor, Ont.		
	CBK	540	5000		CHNS	930	1000		CKMO	1410	100
	Watrous, Sask.				Halifax, N. S.				Vancouver, B. C.		
	CBL	840	50000		CHRC	580	100		CKNX	1200	100
	Toronto, Ont.				Quebec, P. Q.				Wingham, Ont.		
	CBM	960	5000		CHSJ	1120	100		CKOC	1120	500
	Montreal, P. Q.				St. John, N. B.				Hamilton, Ont.		
	CBO	880	1000		CHWK	780	100		CKOY	630	1000
	Ottawa, Ont.				Chilliwack, B. C.				Colwyn, 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.				Port William, Ont.		
	CBY	1420	100		CJCA	730	1000		CKRN	1370	100
	Toronto, Ont.				Edmonton, Alta.				Bayou, P. Q.		
	CFAC	930	1000		CJCB	1240	1000		CKSO	780	1000
	Calgary, Alta.				Sydney, N. S.				Sudbury, Ont.		
	CFAR	1370	100		CJCY	690	100		CKTB	1200	100
	Flin Flon, Man.				Calgary, Alta.				St. Catharines, Ont.		
	CFCF	600	500		CJCS	1210	50		CKUA	580	500
	Montreal, P. Q.				Stratford, Ont.				Edmonton, Alta.		
	CFCH	930	100		CJCU	1210	50		CKWX	1010	100
	North Bay, Ont.				Aklavik, N. W. T.				Vancouver, B. C.		
	CFCN	1030	10000		CJGX	1390	100		CKX	1120	1000
	Calgary, Alta.				Yorkton, Sask.				Brandon, Man.		
	CFCO	630	100		CJJC	1500	100		CKY	910	15000
	Chatham, Ont.				S. Ste. Marie, Ont.				Winnipeg, Man.		
	CFCT	1450	500		CJKL	1310	100		CMAB	1240	200
	Victoria, B. C.				North Bay, Ont.				Pinar del Rio, Cuba		
	CFCY	630	1000		CJLS	1310	100		200 MBC	1140	
	Charlottetown, P. E. I.				Yarmouth, N. S.				Havana, Cuba		
	CFGP	1200	100		CJOC	950	100		CMBD	1260	500
	Grande Prairie, Alta.				Lethbridge, Alta.				Havana, Cuba		
	CFJC	880	1000		CJOR	600	500		CMBF	1560	5000
	Kamloops, B. C.				Vancouver, B. C.				Havana, Cuba		
	CFLC	930	100		CJRC	630	1000		CMBG	690	200
	Prescott, Ont.				Winnipeg, Man.				Havana, Cuba		
	CFNB	550	1000		CJRM	540	1000		CMBH	1600	5000
	Fredericton, N. B.				Regina, Sask.				Havana, Cuba		
	CFOS	1370	100		CKAC	730	5000		CMBL	750	200
	Owen Sound, Ont.				Montreal, P. Q.				Havana, Cuba		
	CFPL	730	100		CKBI	1210	100		CMBQ	1320	5000
	London, Ont.				Prince Albert, Sask.				Havana, Cuba		
	CFPR	580	50		CKCA	1420	100		CMBS	1170	200
	Prince Rupert, B. C.				Kenora, Ont.				Havana, Cuba		
	CFQC	600	1000		CKCD	1010	100		CMBX	1080	200
	Saskatoon, Sask.				Vancouver, B. C.				Havana, Cuba		
	CFRB	690	10000		CKCH	1210	100		CMBY	1440	200
	Toronto, Ont.				Hull, P. Q.				Havana, Cuba		
	CFRC	1510	100		CKCK	1010	1000		CMBZ	940	200
	Kingston, Ont.				Regina, Sask.				Havana, Cuba		
	CFRN	960	100		CKCL	580	100		CMC	1530	200
	Edmonton, Alta.				Toronto, Ont.				Havana, Cuba		
	CHAB	1200	100		CKCO	1010	100		CMCA	1350	200
	Moose Jaw, Sask.				Ottawa, Ont.				Havana, Cuba		
	CHCK	1310	50		CKCR	1510	100		CMCB	1230	200
	Charlottetown, P. E. I.				Kitchener, Ont.				Havana, Cuba		
	CHGB	1200	100		CKCV	1310	100		CMCD	630	15000
	St. Ann, P. Q.				Quebec, P. Q.				Havana, Cuba		
	CHGS	1450	50		CKCW	1370	100		CMCF	810	5000
	Summerside, P. E. I.				Moncton, N. B.				Havana, Cuba		
	CHLN	1420	100		CKFC	1410	50		CMCG	1290	200
	Three Rivers, P. Q.				Vancouver, B. C.				Havana, Cuba		
	CHLP	1120	100		CKGB	1420	100		CMCJ	1110	200
	Montreal, P. Q.				North Bay, Ont.				Havana, Cuba		

NORTH AMERICAN B. C. STATIONS BY CALLS

CMCK	970	5000	CMJX	740	200	KARK	890	500
Havana, Cuba			Camaguey, Cuba			Little Rock, Ark.		
CMCL	730	10000	CMK	720	200	KARM	1310	160
Havana, Cuba			Havana, Cuba			Fresno, Calif.		
CMCM	850	200	CMKC	1250	200	KASA	1210	100
Havana, Cuba			Santiago, Cuba			Elk Ciy, Okla.		
CMCO	1200	200	CMKD	910	1000	KAST	1370	100
Havana, Cuba			Santiago, Cuba			Astoria, Ore.		
CMCP	1050	200	CMKE	1310	....	KATE	1420	250
Havana, Cuba			Manzanillo, Cuba			Albert Lea, Minn.		
CMCQ	1410	200	CMKF	1460	250	KAWM	1500	100
Havana, Cuba			Holguin, Cuba			Gallup, N. Mex.		
CMCR	660	200	CMKG	1150	200	KBIX	1500	100
Havana, Cuba			Santiago, Cuba			Muskogee, Okla.		
CMCU	780	200	CMKL	950	200	KBKR	1500	100
Havana, Cuba			Bayamo, Cuba			Baker, Ore.		
CMCW	1380	200	CMKM	1080	200	KBND	1310	100
Havana, Cuba			Manzanillo, Cuba			Bend, Ore.		
CMCX	1470	200	CMKO	1280	200	KBPS	1420	100
Havana, Cuba			Holguin, Cuba			Portland, Ore.		
CMCY	590	15000	CMKQ	1490	200	KBST	1500	100
Havana, Cuba			Santiago, Cuba			Big Spring, Texas		
CMGE	1370	200	CMKR	1400	200	KBTM	1200	100
Cardenas, Cuba			Santiago, Cuba			Jonesboro, Ark.		
CMGF	1120	200	CMKS	710	200	KCKN	1310	100
Matanzas, Cuba			Guantanamo, Cuba			Kansas City, Kans.		
CMGH	790	200	CMKW	770	200	KCMC	1420	100
Matanzas, Cuba			Santiago, Cuba			Texasarkana, Texas		
CMHA	1090	200	CMKX	1190	200	KCMO	1370	100
Sagua la Grande, Cuba			Santiago, Cuba			Kansas City, Mo.		
CMHB	1240	200	CMKZ	1430	200	KCRC	1360	250
Sancti Spiritus, Cuba			Palma Soriano, Cuba			Enid, Okla.		
CMHD	1270	200	CMOA	910	200	KCRJ	1310	100
Caibarien, Cuba			Havana, Cuba			Jerome, Ariz.		
CMHI	1060	200	CMOX	1500	200	KDAL	1500	100
Santa Clara, Cuba			Havana, Cuba			Duluth, Minn.		
CMHJ	1160	200	CMQ	1010	25000	KDB	1500	100
Cienfuegos, Cuba			Havana, Cuba			Santa Barbara, Calif.		
CMHK	1210	200	CMW	550	1400	KDFN	1440	500
Cruces, Cuba			Havana, Cuba			Casper, Wyo.		
CMHM	1450	200	CMX	880	20000	KDKA	960	50000
Cienfuegos, Cuba			Havana, Cuba			Pittsburgh, Pa.		
CMHP	1100	200	CM9RT	1580	200	KDLR	1210	100
Placetas, Cuba			Guines, Cuba			Devils Lake, N. D.		
CMHT	920	200	FQN	609	250	KDNT	1420	100
Trinidad, Cuba			St. Pierre, Miquelon			Denton, Texas		
CMHW	680	200	HIN	1090	740	KDON	1210	100
Santa Clara, Cuba			Ciudad Trujillo, D. R.			Monterey, Calif.		
CMHX	1480	200	HIT	1050	50	KDTH	1340	500
Cienfuegos, Cuba			Ciudad Trujillo, D. R.			Dubuque, Iowa		
CMJA	860	200	HIX	800	800	KDYL	1290	1000
Camaguey, Cuba			Ciudad Trujillo, D. R.			Salt Lake City, Utah		
CMJC	1390	200	HP50	1440	....	KECA	1430	1000
Camaguey, Cuba			Panama City, Panama			Los Angeles, Calif.		
CMJE	1230	200	HRN	1450	500	KEEN	1370	100
Camaguey, Cuba			Tegucigalpa, Hon.			Seattle, Wash.		
CMJF	930	200	KABC	1420	100	KEHE	780	1000
Camaguey, Cuba			San Antonio, Texas			Los Angeles, Calif.		
CMJH	1360	200	KABR	1390	500	KELA	1440	1000
Ciego de Avila, Cuba			Aberdeen, S. Dak.			Centralia, Wash.		
CMJI	1130	200	KADA	1200	100	KELD	1370	100
Ciego de Avila, Cuba			Ada, Okla.			El Dorado, Ark.		
CMJK	1290	200	KALB	1210	100	KELO	1200	100
Camaguey, Cuba			Alexandria, La.			Sioux Falls, S. Dak.		
CMJO	1260	200	KALE	1300	1000	KERN	1370	100
Ciego de Avila, Cuba			Portland, Ore.			Bakersfield, Calif.		
CMJP	1420	200	KAND	1310	100	KEUB	1420	100
Camaguey, Cuba			Corsicana, Texas			Price, Utah		
CMJW	1070	200	KANS	1210	400	KEX	1180	5000
Camaguey, Cuba			Wichita, Kans.			Portland, Ore.		

NORTH AMERICAN B. C. STATIONS BY CALLS

KFAB 770 10000	KFUO 550 500	KGKL 4370 100
Lincoln, Neb.	St. Louis, Mo.	San Angelo, Texas
KFAC 1300 1000	KFVD 1000 1000	KGKO 570 1000
Los Angeles, Calif.	Los Angeles, Calif.	Fort Worth, Texas
KFAM 1420 100	KFVS 1370 100	KGKY 1500 100
St. Cloud, Minn.	Cape Girardeau, Mo.	Scottsbluff, Neb.
KFAR 610 1000	KFWB 950 1000	KGLO 1210 100
Fairbanks, Alaska	Los Angeles, Calif.	Mason City, Iowa
KFBB 1280 1000	KFXD 1200 100	KGLU 1420 100
Great Falls, Mont.	Nampa, Idaho	Safford, Ariz.
KFBI 1050 5000	KFXJ 1200 100	KGMB 1320 1000
Abilene, Kans.	Grand Junction, Colo.	Honolulu, T. H.
KFBK 1490 10000	KFXM 1210 100	KGNC 1410 1000
Sacramento, Calif.	San Bernardino, Calif.	Amarillo, Texas
KFDA 1500 100	KFYO 1310 100	KGNF 1430 1000
Amarillo, Texas	Lubbock, Texas	North Platte, Neb.
KFDM 560 500	KFYR 550 1000	KGNO 1340 250
Beaumont, Texas	Bismarck, N. D.	Dodge City, Kans.
KFDY 780 1000	KGA 1470 5000	KGO 790 7500
Brookings, S. D.	Spokane, Wash.	San Francisco, Calif.
KFEL 920 500	KGB 1330 1000	KGU 750 2500
Denver, Colo.	San Diego, Calif.	Honolulu, T. H.
KFEQ 680 500	KGBU 900 500	KGVL 1200 100
St. Joseph, Mo.	Ketchikan, Alaska	Greenville, Texas
KFGQ 1370 100	KGBX 1230 500	KGVO 1260 1000
Boone, Iowa	Springfield, Mo.	Missoula, Mont.
KFH 1300 1000	KGCA 1270 100	KGW 620 1000
Wichita, Kans.	Decorah, Iowa	Portland, Ore.
KFI 640 50000	KGCU 1240 250	KGY 1210 100
Los Angeles, Calif.	Mandan, N. D.	Olympia, Wash.
KFIO 1120 100	KGCX 1450 1000	KHBC 1400 250
Spokane, Wash.	Wolf Point, Mon.	Hilo, T. H.
KFIZ 1420 100	KGDE 1200 100	KHBB 1210 100
Fond du Lac, Wis.	Fergus Falls, Minn.	Okmulgee, Okla.
KFJB 1200 100	KGDM 1100 1000	KHJ 900 1000
Marshalltown, Iowa	Stockton, Calif.	Los Angeles, Calif.
KFJI 1210 100	KGEK 1200 100	KHQ 590 1000
Klamath Falls, Ore.	Sterling, Colo.	Spokane, Wash.
KFJM 1410 500	KGER 1360 1000	KHSL 1260 250
Grand Forks, N. D.	Long Beach, Calif.	Chico, Calif.
KFJZ 1240 100	KGEZ 1310 100	KHUB 1310 250
Port Worth, Texas	Kalispell, Mont.	Watsonville, Calif.
KFKA 880 500	KGFF 1420 100	KIGA 1370 100
Greeley, Colo.	Shawnee, Okla.	Clovis, N. M.
KFKU 1220 1000	KGFI 1500 100	KID 1320 500
Lawrence, Kans.	Brownsville, Tex.	Idaho Falls, Idaho
KFNF 890 500	KGFJ 1200 100	KIDO 1350 1000
Shenandoah, Iowa	Los Angeles, Calif.	Boise, Idaho
KFOR 1210 100	KGFL 1370 100	KIDW 1420 100
Lincoln, Neb.	Roswell, N. Mex.	Lamar, Colo.
KFOX 1250 1000	KGFW 1310 100	KIEM 1450 500
Long Beach, Calif.	Kearney, Neb.	Eureka, Calif.
KFPL 1310 100	KGFX 630 200	KIEV 850 250
Dublin, Texas	Pierre, S. D.	Glendale, Calif.
KFPW 1210 100	KGGF 1010 1000	KINY 1430 250
Fort Smith, Ark.	Coffeyville, Kans.	Juneau, Alaska
KFPY 890 1000	KGGM 1230 1000	KIRO 710 1000
Spokane, Wash.	Albuquerque, N. M.	Seattle, Wash.
KFQD 780 250	KGHF 1320 500	KIT 1250 250
Anchorage, Alaska	Pueblo, Colo.	Yakima, Wash.
KFRC 610 1000	KGHI 1200 100	KITE 1530 1000
San Francisco, Calif.	Little Rock, Ark.	Kansas City, Mo.
KFRO 1370 250	KGHL 780 1000	KIUL 1210 100
Longview, Texas	Billings, Mont.	Garden City, Kans.
KFRU 630 500	KGIR 1340 1000	KIUN 1370 100
Columbia, Mo.	Butte, Mont.	Pecos, Texas
KFSD 600 1000	KGIW 1420 100	KIUP 1370 100
San Diego, Calif.	Alamosa, Colo.	Durango, Colo.
KFSG 1120 500	KGKB 1500 100	
Los Angeles, Calif.	Tyler, Texas	

NORTH AMERICAN B. C. STATIONS BY CALLS

KJBS	1070	500	KOIL	1260	1000	KRKC	1120	500
San Francisco, Calif.			Omaha, Neb.			Los Angeles, Calif.		
KJR	970	5000	KOIN	940	1000	KRKO	1370	50
Seattle, Wash.			Portland, Ore.			Everett, Wash.		
KLAH	1210	100	KOKO	1370	100	KRCL	1390	250
Charlshad, N. Mex.			La Junta, Colo.			Lewiston, Idaho		
KLBM	1420	100	KOL	1270	1000	KRDL	1040	10000
La Grande, Ore.			Seattle, Wash.			Dallas, Texas		
KLON	1290	100	KOMA	1480	5000	KRLH	1420	100
Blytheville, Ark.			Oklahoma City, Okla.			Midland, Texas		
KLO	1400	500	KOME	1310	250	KRMC	1370	100
Ogden, Utah			Tulsa, Okla.			Jamestown, N. Dak.		
KLPM	1360	500	KOMO	920	1000	KRMD	1310	100
Minot, N. D.			Seattle, Wash.			Shreveport, La.		
KLRA	1390	1000	KONO	1370	100	KRRR	1500	100
Little Rock, Ark.			San Antonio, Texas			Roseburg, Ore.		
KLS	1280	250	KOOS	1200	100	KRNT	1320	1000
Oakland, Calif.			Marshfield, Ore.			Des Moines, Iowa		
KLUF	1370	100	KORE	1420	100	KROC	1310	100
Galveston, Texas			Eugene, Ore.			Reechester, Minn.		
KLX	880	1000	KOTN	1500	100	KROD	1500	100
Oakland, Calif.			Pine Bluff, Ark.			El Paso, Texas		
KLZ	560	1000	KOVC	1500	100	KROW	930	1000
Denver, Colo.			Valley City, N. Dak.			Oakland, Calif.		
KMA	930	1000	KOWH	660	500	KROY	1210	100
Shenandoah, Iowa			Omaha, Nebr.			Sacramento, Calif.		
KMAC	1370	100	KOY	1390	1000	KRQA	1310	100
San Antonio, Texas			Phoenix, Ariz.			Santa Fe, N. Mex.		
KMBC	950	1000	KPAB	1500	100	KRRV	1310	250
Kansas City, Mo.			Laredo, Texas			Sherman, Texas		
KMED	1410	250	KPAC	1260	500	KRSC	1120	250
Medford, Ore.			Port Arthur, Texas			Seattle, Wash.		
KMJ	580	1000	KPDN	1310	100	KSAC	580	500
Presno, Calif.			Pampa, Texas			Manhattan, Kans.		
KMLB	1200	100	KPFA	1210	100	KSAL	1500	100
Monroe, La.			Helena, Mont.			Salina, Kans.		
KMMJ	740	1000	KPLC	1500	100	KSAM	1500	100
Grand Island, Neb.			Lake Charles, La.			Huntsville, Texas		
KMO	1330	1000	KFLT	1500	250	KSAN	1420	100
Tucoma, Wash.			Paris, Texas			San Francisco, Calif.		
KMOX	1090	50000	KPMC	1550	1000	KSCJ	1330	1000
St. Louis, Mo.			Bakerfield, Calif.			Sioux City, Iowa		
KMPC	710	500	KPO	680	50000	KSD	550	1000
Beverly Hills, Calif.			San Francisco, Calif.			St. Louis, Mo.		
KMTR	570	1000	KPOF	880	1000	KSEI	900	250
Los Angeles, Calif.			Denver, Colo.			Pocatello, Idaho		
KNEL	1500	250	KPPC	1210	100	KSFO	560	1000
Brady, Texas			Pasadena, Calif.			San Francisco, Calif.		
KNET	1420	100	KPQ	1500	100	KSL	1130	50000
Palestine, Texas			Wenatchee, Wash.			Salt Lake City, Utah		
KNOW	1500	100	KPRC	920	1000	KSLM	1370	100
Austin, Texas			Houston, Texas			Salon, Ore.		
KNX	1050	50000	KQV	1380	500	KSO	1430	1000
Los Angeles, Calif.			Pittsburgh, Pa.			Des Moines, Iowa		
KOA	830	50000	KQW	1010	1000	KSOO	1110	5000
Denver, Colo.			San Jose, Calif.			Sioux Falls, S. Dak.		
KOAC	550	1000	KRBA	1310	100	KSRO	1310	100
Corvallis, Ore.			Lufkin, Texas			Santa Rosa, Calif.		
KOAM	790	1000	KRBC	1420	100	KSTP	1460	10000
Pittsburg, Kans.			Ablene, Texas			St. Paul, Minn.		
KOB	1180	10000	KRBM	1420	100	KSUB	1310	100
Albuquerque, N. M.			Bozeman, Mont.			Cedar City, Utah		
KOBH	1370	100	KRE	1370	100	KSUN	1200	100
Rapid City, S. Dak.			Berkeley, Calif.			Lowell, Ariz.		
KOCA	1210	100	KRGV	1260	1000	KTAT	1240	1000
Chicago, Texas			Weslaco, Texas			Port Worth, Texas		
KOCY	1310	100	KRIC	1420	100	KTBC	1120	1000
Oklahoma City, Okla.			Beaumont, Texas			Austin, Texas		
KOH	1380	500	KRIS	1330	500	KTBS	1450	1000
Reno, Nev.			Corpus Christi, Tex.			Shreveport, La.		
			KORN	1370	100			
			Freemont, Neb.					

NORTH AMERICAN B. C. STATIONS BY CALLS

KTEM 1370 250	KVSO 1210 100	TIGH 725 600
Temple, Texas	Andmore, Okla.	San Jose, Costa Rica
KTFI 1240 1000	KWVC 1500 100	TILJ 775 450
Twin Falls, Idaho	Vernon, Texas	San Jose, Costa Rica
KTHS 1060 10000	KWAL 1420 100	TILS 880 500
Hot Springs, Ark.	Wallace, Idaho	San Jose, Costa Rica
KTKC 1190 250	KWBG 1420 100	TIPG 625 5000
Visalia, Calif.	Hutchinson, Kans.	San Jose, Costa Rica
KTMS 1220 500	KWEW 1500 100	TIRH 950 2000
Santa Barbara, Calif.	Hobbs, N. Mex.	San Jose, Costa Rica
KTOH 1500 100	KWFT 620 250	TIRM 750 500
Iihue, Hawaii	Wichita Falls, Texas	San Jose, Costa Rica
KTOK 1370 100	KWG 1200 100	TIRS 915 250
Oklahoma City, Okla.	Stockton, Calif.	San Jose, Costa Rica
KTRB 740 250	KWJB 1210 100	TIX 650 1000
Modesto, Calif.	Globe, Ariz.	San Jose, Costa Rica
KTRH 1290 1000	KWJJ 1040 500	TIXD 800 1000
Houston, Texas	Portland, Ore.	San Jose, Costa Rica
KTRI 1420 100	KWK 1350 1000	T15CV 575 100
Sloux City, Iowa	St. Louis, Mo.	Alajuela, Costa Rica
KTSA 550 1000	KWKH 1100 50000	VAS 685 2000
San Antonio, Texas	Shreveport, La.	Glauce Bay, N. S.
KTSM 1310 100	KWLC 1270 100	VOAC 1065 40
El Paso, Texas	Decorah, Iowa	St. John's Nfld.
KTSW 1370 100	KWLK 780 250	VOCM 1006 200
Emporia, Kans.	Longview, Wash.	St. John's Nfld.
KTUC 1370 100	KWNO 1200 100	VOGY 840 400
Tucson, Ariz.	Winona, Minn.	St. John's Nfld.
KTUL 1400 1000	KWOC 1310 100	VONF 640 12500
Tulsa, Okla.	Poplar Bluff, Mo.	St. John's Nfld.
KTW 1220 1000	KWOS 1310 100	VOWR 681 500
Seattle, Wash.	Jefferson City, Mo.	St. John's Nfld.
KUJ 1370 100	KWSC 1220 1000	WAAB 1410 500
Walla Walla, Wash.	Pullman, Wash.	Boston, Mass.
KUOA 1260 5000	KWTO 560 5000	WAAF 920 1000
Siloam Springs, Ark.	Springfield, Mo.	Chicago, Ill.
KUSD 890 500	KWYO 1370 100	WAAT 940 500
Yermillion, S. Dak.	Sheridan, Wyo.	Jersey City, N. J.
KUTA 1500 100	KXA 760 250	WABC 860 50000
Salt Lake City, Utah	Seattle, Wash.	New York, N. Y.
KVAK 1420 100	KXL 1420 100	WABI 1200 100
Atchison, Kans.	Portland, Ore.	Bangor, Maine
KVAN 880 250	KXO 1500 100	WABY 1370 100
Vancouver, Wash.	El Centro, Calif.	Albany, N. Y.
KVCV 1200 100	KXOK 1250 1000	WACO 1420 100
Redding, Calif.	St. Louis, Mo.	Waco, Texas
KVEC 1200 100	KXRO 1310 100	WADC 1320 1000
San Luis Obispo, Cal.	Aberdeen, Wash.	Akron, Ohio
KVGB 1370 100	KXYZ 1440 1000	WADN 1370 100
Great Bend, Kans.	Houston, Texas	Asheville, N. C.
KVI 570 1000	KYA 1230 1000	WAGA 1450 500
Tacoma, Wash.	San Francisco, Calif.	Atlanta, Ga.
KVNU 1200 100	KYCA 1500 100	WAGF 1370 250
Logan, Utah	Prescott, Ariz.	Dothan, Ala.
KVOA 1260 1000	KYOS 1040 250	WAGM 1420 100
Tucson, Ariz.	Merced, Calif.	Presque Isle, Me.
KVOD 920 500	KYSM 1500 100	WAIM 1200 100
Denver, Colo.	Mankato, Minn.	Anderson, S. C.
KVOE 1500 100	KYW 1020 10000	WAIR 1250 250
Santa Ana, Calif.	Philadelphia, Pa.	Winston-Salem, N. C.
KVOL 1310 100	TGQ 1450 200	WALA 1380 500
Lafayette, La.	Quezaltenango, Guat.	Mobile, Ala.
KVOO 1140 25000	TGW 1520 5000	WALRH 14210 100
Tulsa, Okla.	Guatemala City, Guat.	Zanesville, Ohio
KVOR 1270 1000	TGX 1400 1000	WAML 1310 100
Colo. Springs, Colo.	Guatemala City, Guat.	Laurel, Miss.
KVOS 1200 100	TGI 1310 1000	WAPI 1140 5000
Rollingham, Wash.	Guatemala City, Guat.	Birmingham, Ala.
KVOX 1310 100	TIEP 830 300	WAPQ 1420 100
Moorhead, Minn.	San Jose, Costa Rica	Chattanooga, Tenn.
KVRS 1370 100	TIFA 1000 250	KVFD 1370 100
Rock Springs, Wyo.	San Jose, Costa Rica	Fort Podge, La.

NORTH AMERICAN B. C. STATIONS BY CALLS

WARD 1400 500	WBRY 1530 1000	WCOU 1210 100
Brooklyn, N. Y.	Waterbury, Conn.	Lewiston, Maine
WASH 1270 500	WBT 1080 50000	WCOV 1210 100
Grand Rapids, Mich.	Charlotte, N. C.	Montgomery, Ala.
WATL 1370 100	WBTH 1370 100	WCPO 1200 100
Atlanta, Ga.	Williamson, W. Va.	Cincinnati, Ohio
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 1000	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
Hazelton, Pa.	Pittsburgh, Pa.	Kansas City, Mo.
WBAA 890 500	WCAL 760 5000	WDAH 1310 100
West Lafayette, Ind.	Northfield, Minn.	El Paso, Texas
WBAB 1200 100	WCAM 1280 500	WDAN 1500 100
Atlantic City, N. J.	Camden, N. J.	Danville, Ill.
WBAL 760 2500	WCAO 600 500	WDAS 1370 100
Baltimore, Md.	Baltimore, Md.	Philadelphia, Pa.
WBAL 1060 10000	WCAP 1280 500	WDAY 940 1000
Baltimore, Md.	Asbury Park, N. J.	Fargo, N. Dak.
WBAP 800 50000	WCAT 1200 100	WDBJ 930 1000
Fort Worth, Texas	Rapid City, S. Dak.	Roanoke, Va.
WBAX 1210 100	WCAU 1170 50000	WDBO 580 1000
Wilkes-Barre, Pa.	Philadelphia, Pa.	Orlando, Fla.
WBBC 1400 500	WCAX 1200 100	WDEL 1120 250
Brooklyn, N. Y.	Burlington, Vt.	Wilmington, Del.
WBBL 1210 100	WCAZ 1070 100	WDEV 550 500
Richmond, Va.	Carthage, Ill.	Waterbury, Vt.
WBBM 770 50000	WCBA 1440 500	WDGY 1180 1000
Chicago, Ill.	Allentown, Pa.	Minneapolis, Minn.
WBBR 1300 1000	WCBD 1080 5000	WDNC 1500 100
Brooklyn, N. Y.	Chicago, Ill.	Durham, N. C.
WBBZ 1200 100	WCBM 1370 100	WDOD 1280 1000
Ponca City, Okla.	Baltimore, Md.	Chattanooga, Tenn.
WBCM 1410 500	WCBS 1420 100	WDRC 1330 1000
Bay City, Mich.	Springfield, Ill.	Hartford, Conn.
WBEN 900 1000	WCCO 810 50000	WDSM 1200 100
Buffalo, N. Y.	Minneapolis, Minn.	Superior, Wis.
WBEO 1310 100	WCFL 970 5000	WDSU 1250 1000
Marquette, Mich.	Chicago, Ill.	New Orleans, La.
WBHP 1200 100	WCHS 580 500	WDWS 1370 100
Huntsville, Ala.	Charleston, W. Va.	Champaign, Ill.
WBIG 1440 1000	WCHV 1420 100	WDZ 1020 250
Greensboro, N. C.	Charlottesville, Va.	Tuscola, Ill.
WBIL 1100 5000	WCKY 1490 10000	WEAF 660 50000
New York, N. Y.	Covington, Ky.	New York, N. Y.
WBLK 1370 100	WCLE 610 500	WEAN 780 1000
Clarksburg, W. Va.	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	WCM1 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 880 100	WCOC 880 1000	WEED 1420 100
Terre Haute, Ind.	Meridan, Miss.	Rocky Mount, N. C.
WBRB 1210 100	WCOL 1210 100	WEEL 590 1000
Red Bank, N. J.	Columbus, Ohio	Boston, Mass.
WBRC 930 1000	WCOP 1120 500	WEUU 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		WELI 1310
Worcester, Mass.		WELI 1310

NORTH AMERICAN B. C. STATIONS BY CALLS

	WELL 1420	100		WGCM 1210	100		WHCC 1436	500
	Battle Creek, Mich.			Gulfport, Miss.			Rochester, N. Y.	
	WEMP 1310	100		WGES 1360	500		WHFC 1420	100
	Milwaukee, Wis.			Chicago, Ill.			Cicero, Ill.	
	WENR 870	50000		WGH 1310	100		WHIO 1260	1000
	Chicago, Ill.			Newport News, Va.			Dayton, Ohio	
	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 1220	250		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.	
	WFBF 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		WHAI 1210	100		WIBG 970	100
	Baltimore, Md.			Greenfield, Mass.			Glenside, Pa.	
	WFDL 1310	100		WHAM 1150	50000		WIBM 1370	100
	Flint, Mich.			Rochester, N. Y.			Jackson, Mich.	
	WFEA 1340	500		WHAS 320	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 1240	1000		WILL 580	5000
	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		WINN 1210	100
	Lancaster, Pa.			Memphis, Tenn.			Louisville, Ky.	
	WGAN 640	500		WHBU 1210	100		WINS 1180	1000
	Portland, Me.			Anderson, Ind.			New York, N.Y.	
	WGAR 1450	1000		WHBY 1200	100		WIOD 610	1000
	Cleveland, Ohio			Green Bay, Wis.			Miami, Fla.	
	WGAU 1310	100		WHDF 1370	100		WIP 610	1000
	Athens, Ga.			Calumet, Mich.			Philadelphia, Pa.	
	WGBB 1210	100		WHDH 830	1000		WIRE 1400	1000
	Freepport, N. Y.			Boston, Mass.			Indianapolis, Ind.	
	WGBF 630	500		WHDL 1400	250		WIS 560	1000
	Evansville, Ind.			Olean, N. Y.			Columbia, S. C.	
	WGBI 880	500		WHEB 740	250		WISN 1120	250
	Scranton, Pa.			Portsmouth, N. H.			Milwaukee, Wis.	
	WGBR 1370	100					WJAC 830	100
	Goldsboro, N. C.						Johnstown, Pa.	

NORTH AMERICAN B. C. STATIONS BY CALLS

	WOL 1230	1000		WRC 950	1000		WSNJ 1210	1000
	Washington, D. C.			Washington, D. C.			Bridgeton, N. J.	
	WOLS 1200	100		WRDO 1370	100		WSOC 1210	100
	Florence, S. C.			Augusta, Me.			Charlotte, N. C.	
	WOMI 1500	100		WRDW 1500	100		WSPA 920	1000
	Owensboro, Ky.			Augusta, Ga.			Spartanburg, S. C.	
	WOMT 1210	100		WREC 600	1000		WSPD 1340	1000
	Manitowoc, Wis.			Memphis, Tenn.			Tototo, Ohio	
	WOOD 1270	500		WREN 1220	1000		WSPR 1140	500
	Grand Rapids, Mich.			Lawrence, Kans.			Springfield, Mass.	
	WOPI 1500	100		WRGA 1500	100		WSTP 1500	100
	Bristol, Tenn.			Rome, Ga.			Salisbury, N.C.	
	WOR 710	50000		WRJN 1370	100		WSUI 880	500
	Newark, N. J.			Racine, Wis.			Iowa Ctr., Iowa	
	WORC 1280	500		WRKL 1500	100		WSUN 620	1000
	Worcester, Mass.			Rock Hill, S. C.			St. Petersburg, Fla.	
	WORK 1320	1000		WRNL 880	500		WSVA 550	500
	York, Pa.			Richmond, Va.			Harrisonburg, Va.	
	WORL 920	500		WROK 1410	500		WSVS 1370	500
	Boston, Mass.			Rockford, Ill.			Rufalo, N. Y.	
	WOSU 570	750		WROL 1310	100		WSYB 1500	100
	Columbus, Ohio			Knoxville, Tenn.			Rutland, Vt.	
	WOV 1130	1000		WRR 1280	500		WSYR 570	1000
	New York, N. Y.			Dallas, Texas			Syracuse, N. Y.	
	WOW 590	1000		WRTD 1500	100		WSYU 570	1000
	Omaha, Neb.			Richmond, Va.			Syracuse, N. Y.	
	WOWO 1160	10000		WRUF 830	5000		WTAD 900	1000
	Fort Wayne, Ind.			Gainesville, Fla.			Quincy, Ill.	
	WPAD 1420	100		WRVA 1110	50000		WTAG 580	1000
	Paducah, Ky.			Richmond, Va.			Worcester, Mass.	
	WPAR 1420	100		WSAI 1330	1000		WTAL 1310	100
	Parkersburg, W. Va.			Cincinnati, Ohio			Tallahassee, Fla.	
	WPAX 1210	100		WSAJ 1310	100		WTAM 1070	50000
	Thomasville, Ga.			Grove City, Pa.			Cleveland, Ohio	
	WPAY 1370	100		WSAL 1200	250		WTAQ 1330	1000
	Fortsouth, Ohio			Salisbury, Md.			Green Bay, Wis.	
	WPEN 920	1000		WSAN 1440	500		WTAR 780	5000
	Philadelphia, Pa.			Allentown, Pa.			Norfolk, Va.	
	WPG 1100	5000		WSAR 1450	1000		WTAW 1120	500
	Atlantic City, N. J.			Fall River, Mass.			College Station, Tex.	
	WPIC 780	250		WSAU 1370	100		WTAX 1210	100
	Sharon, Pa.			Wausau, Wis.			Springfield, Ill.	
	WPIV 1210	100		WSAV 1310	100		WTBO 800	250
	Petersburg, Va.			Savannah, Ga.			Jumberland, Md.	
	WPRA 1370	100		WSAY 1210	100		WTCN 1250	1000
	Mayaguez, P. R.			Rochester, N. Y.			Minneapolis, Minn.	
	WPRO 630	500		WSAZ 1190	1000		WTEL 1310	100
	Providence, R. I.			Huntington, W. Va.			Philadelphia, Pa.	
	WPRP 1420	100		WSB 740	50000		WTHT 1200	100
	Ponce, P. R.			Atlanta, Ga.			Hartford, Conn.	
	WPTF 680	5000		WSBC 1210	100		WTIC 1040	50000
	Raleigh, N. C.			Chicago, Ill.			Hartford, Conn.	
	WQAM 560	1000		WSBT 1360	500		WTJS 1310	100
	Miami, Fla.			South Bend, Ind.			Jackson, Tenn.	
	WQAN 880	500		WCFA 1410	500		WTMA 1210	100
	Scranton, Pa.			Montgomery, Ala.			Charleston, S. C.	
	WQBC 1360	1000		WSGN 1310	100		WTMC 1500	100
	Vicksburg, Miss.			Birmingham, Ala.			Ocala, Fla.	
	WQDM 1390	1000		WSIX 1210	100		WTMJ 620	1000
	St. Albans, Vt.			Nashville, Tenn.			Milwaukee, Wis.	
	WQXR 1550	1000		WSJS 1310	100		WTMW 1500	100
	New York, N. Y.			Winston-Salem, N. C.			East St. Louis, Ill.	
	WRAK 1370	100		WSLI 1420	100		WTNJ 1280	500
	WilliamSPORT, Pa.			Jackson, Miss.			Trenton, N. J.	
	WRAL 1210	100		WSM 650	50000		WTOC 1260	1000
	Raleigh, N. C.			Nashville, Tenn.			Savannah, Ga.	
	WRAW 1310	100		WSMB 1320	1000		WTOL 1200	100
	Reading, Pa.			New Orleans, La.			Toledo, Ohio	
	WRBL 1200	100		WVBC 1380	250		WTRC 1310	100
	Columbus, Ga.			Dayton, Ohio			Elkhart, Ind.	
	WLOL 1300	1000						
	Minneapolis, Minn.							

NORTH AMERICAN B. C. STATIONS BY CALLS

	WTRY 950	1000		XEBP 1150	250		XEK 990	100
	Troy, N. Y.			Durango, Dgo.			Mexico City, D. F.	
	WVVF 1400	500		XEBS 1340	200		XEKL 1240	500
	Brooklyn, N. Y.			Mexico City, D. F.			Leon, Guan.	
	WWAE 1200	100		XEBU 1240	50		XEL 1150	250
	Hammond, Ind.			Chihuahua, Chih.			Mexico City, D. F.	
	WWJ 920	1000		XEBW 1340	250		XELO 1150	50000
	Detroit, Mich.			Chihuahua, Chih.			Tijuana, B. Cfa.	
	WWL 850	50000		XEBX 640	250		XELZ 1370	100
	New Orleans, La.			Sabinas, Coah.			Mexico City, D. F.	
	WWNC 570	1000		XEBZ 810	100		XEM 1380	500
	Ashville, N. C.			Mexico City, D. F.			Chihuahua, Chih.	
	WWRL 1500	100		XEC 1150	100		XEME 1240	50
	Woodside, N. Y.			Tijuana, L. C.			Merida, Yuc.	
	WWSW 1500	100		XECA 1230	250		XEMO 860	5000
	Pittsburgh, Pa.			Tampico, Tam.			Tijuana, L. C.	
	WWVA 1160	5000		XECH 1490	250		XEMU 560	250
	Wheeling, W. Va.			Toluca, Mex.			Piedras Negras, Coah.	
	WXYZ 1240	1000		XECL 1100	1000		XEMX 1280	100
	Detroit, Mich.			Mexicali, B. Cfa.			Mexico City, D. F.	
	W3XDD	50000		XECZ 1370	100		XEN 780	1000
	Whippany, N. J.			San Luis Potosi, S.L.P.			Mexico City, D. F.	
	W8XO 700	500000		XED 1160	2500		XENT 910	150000
	Cincinnati, Ohio			Guadalajara, Jal.			Nuevo Laredo, Tams.	
	XEA 750	200		XEDA 1220	200		XEP 1160	500
	Mexicali, B. C.			Gral. Anaya, D. F.			Juarez, Chih.	
	XEAC 980	5000		XEDF 810	100		XEPN 730	100000
	Tijuana, B. Cfa.			Nuevo Laredo, Tams.			Piedras Negras, Coah.	
	XEAF 990	750		XEDH 1340	200		XEQ 730	50000
	Nogales, Son.			Villa Acuna, Coah.			Mexico City, D. F.	
	XEAG 1310	10		XEDP 1080	500		XERA 840	250000
	Cordoba, Ver.			Mexico City, D. F.			Villa Acuna, Coah.	
	XEAI 1250	500		XEDR 1490	100		XERB 1090	150000
	Mexico City, D. F.			Guaymas, Son.			Rosarito Beach, B. Cfa.	
	XEAL 660	1000		XEDW 1150	300		XERC 870	500
	Mexico City, D. F.			Minatitlan, Ver.			Mexico City, D. F.	
	XEAM 750	25		XEE 1210	50		XERH 1430	500
	Matamoros, Tams.			Durango, Dgo.			Mexico City, D. F.	
	XEAO 660	250		XEF 1450	100		XES 990	250
	Mexicali, B. C.			Juarez, Chih.			Tampico, Tams.	
	XEAP 1340	50		XEFB 870	200		XET 690	5000
	Obregon, Son.			Monterrey, N. L.			Monterrey, N. L.	
	XEAS 1160	100		XEFC 1340	100		XETB 1310	500
	Saltillo, Coah.			Merida, Yuc.			Torreon, Coah.	
	XEAT 1210	250		XEFE 980	250		XETH 1210	100
	Parral, Chih.			Nuevo Laredo, Tams.			Puebla, Pue.	
	XEAW 960	100000		XEFI 1440	250		XEU 1010	250
	Reynosa, Tams.			Chihuahua, Chih.			Veracruz, Ver.	
	XEB 1030	10000		XEFO 940	5000		XEW 890	100000
	Mexico City, D. F.			Mexico City, D. F.			Mexico City, D. F.	
	XEBA 1080	20		XEFQ 1010	50		XEX 1310	500
	Guzman, Jal.			Cananea, Son.			Monterrey, N. L.	
	XEBG 820	1000		XEFV 1210	50		XEXB 1270	250
	Tijuana, B. Cfa.			Juarez, Chih.			Jalapa, Ver.	
	XEBH 930	500		XEFW 1310	300		XEXD 1340	350
	Hermosillo, Sonora			Tampico, Tams.			Orizaba, Ver.	
	XEBI 1000	250		XEG 1230	250		XEXE 1270	17
	Aguascalientes, Ags.			Monterrey, N. L.			Texcoco, Mex.	
	XEBK 1080	100		XEH 720	250		XEXX 1170	1000
	Nuevo Laredo, Tams.			Monterrey, N. L.			Mexico City, D. F.	
	XEBL 1220	50		XEI 1370	125		XEZ 630	500
	Mazatlan, Sin.			Morelia, Mich.			Merida, Yuc.	
	XEBO 1310	25		XEJ 1020	1000		YSS 640	500
	Trapatato, Guan.			Juarez, Chih.			San Salvador, E. S.	
				XEJP 1130	100		ZNS 790	1000
				Mexico City, D. F.			Nassau, Bahamas	

SHORTWAVES

(Continued from page 34)

R683: Carlo Spatari, Astoria, N. Y.
 R702: A. D. Jordan, Philadelphia, Pa.
 R715: Peter Stratton, Nassau, Bahamas.
 R757: Matthew Leshner, Lawrence, Mass.
 R834: G. R. Jewell, Jr., Montgomery, Ala.
 R836: Vincent A. Longo, Detroit, Mich.
 R850: Murray Shainis, New York City.
 R874: Frank Billingsley, Jr., Ellenboro, N. C.
 R884: F. T. Coradetti, Narberth, Pa.
 R917: O. Barneson, Los Angeles, Calif.
 R937: Wm. Flynn, Dummer, Sask.
 R960: John Varga, Chicago, Ill.
 R976: James Hodgden, Westerville, Ohio.
 R984: Geo. Robertson, Winnipeg, Man.
 R1031: J. Doyle, Madison, Wis.
 R1034: Carl Martin, Atchison, Kans.
 R1045: George Nahas, Brooklyn, N. Y.
 R1067: Gene Kosolapoff, Dayton, Ohio.
 R1102: Elvyn Barker, Portland, Maine.
 Lennart Anderson, Denair, Calif.
 Arthur E. Blick, Toronto, Ont.
 Warren Dame, Saxonville, Mass.
 Ray Dessinger, Lawrence, Kans.
 Forest Fisher, Battle Creek, Mich.
 Gilbert Harris, North Adams, Mass.
 Dan Hightower, St. Petersburg, Fla.
 Cyril F. Leyman, Hawthorne, N. J.
 John J. Oskay, New Brunswick, N. J.
 Bob Parks, Vancouver, B. C.
 Albert Pickering, West Medway, Mass.
 Bob Taglauer, Covington, Ky.
 W. T. Wallace, Palo Alto, Calif.
 Pat Webb, San Antonio, Texas.
 Jack Wells, Phenix City, Ala.



● The president of the Experimenters Club, Earle S. Miller, announces a drive for new members. This club, which already numbers members in eleven countries, publishes a small bulletin in which the addresses of radio fans and swappers are printed. Further particulars (and perhaps a sample bulletin) can be obtained from Mr. Miller, Box 663, East Worcester, N. Y.

● Anthony C. Tarr of Seattle has been appointed managing editor of "QSA5", official bulletin of the International Listeners Association of Dryden, Wash., paring the bulletins for publication. In

which has been combined with the World Wide Hobby Club. Mr. Tarr has the task of editing, writing editorials and pre-addition to radio news, QSA5 contains lists of collectors and hobbyists of all kinds. Headquarters of the ILA are at Box 808, Dryden, Wash.

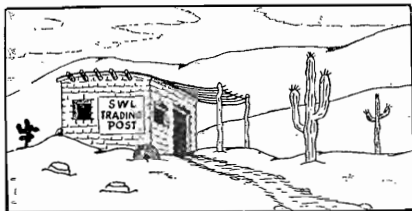
● The National Association for the Prevention of Radio Interference, with a membership of over 1,000,000 persons in nearly every country of the world, recently had the opportunity of broadcasting an account of the work done by the organization, over the nationwide CBS Network.

The president, Frank L. Carter, with the assistance of many local bodies, is conducting a militant campaign against man-made interference, and already remarkable progress has been made, notably the suppression of interference from the Long Island Railroad, and the Detroit Municipal Railway. DXers everywhere are urged to battle against man-made static. The task is a difficult one, but it can be done if all radio fans will work together for the common good. Many DXers have already written their Senators, Representatives, or Councilmen, describing their plight and requesting anti-interference legislation, and a continuous flow of such letters will no doubt result, eventually, in quieter radio reception.

● Erick R. Johnson of Perth Amboy, N. J., advises that the World DX Alliance, of which he is secretary, has absorbed the membership of the former Globe Circlers' DX Club. All correspondence for this organization should be addressed to Mr. Johnson at Box 422, Perth Amboy.

● The International Listeners' Association of Dryden, Wash. announces the winners of the SWL Exchangers Contest. The first prize went to Robert Collins of Rangeley, Maine; Merton Meade took second place, and third prize was snagged by Walter V. Scholz 2nd.

The index by call letters that usually appears on this page has been omitted this month since the names of verification signers are given in the list of North American Broadcasting Stations by Frequencies, commencing on page 57.



Jack Welsh, Kingston, Ill. (SWL cards).

Raymond Skidmore, 2311 Pasadena Ave., Detroit, Mich. (Correspond with DXers in or near New York City).

Geo. G. Canapp, 2023 Booth St., Baltimore, Md. (Correspond with users of RCA-Victor 34).

John L. Tate, 612 Halifax St., Petersburg, Va. (Correspond with owners of Sky Buddy).

Conrad J. Klank, 418 Perry St., Buffalo, N. Y. (Exchange view postcards).

Frank Billingsley, Jr., Box 206, Ellenboro, N. C. (Correspondence).

Henry C. Hendrickson, Jr., Route 1, McGregor, Iowa. (SWL cards and photos of shacks—see his shack picture in this month's Picture Gallery).

Joseph Becker, S., 415 S. 11th St., Hamilton, Ohio (SWL cards).

Edgar W. Keller, 2621 N. Fairfield Ave., Chicago, Ill. (Correspond with west coast BCB DXers).

George Cryder, Route 3, Delaware, Ohio (SWL cards and photo postcards).

Ralph Kastner, 2 Wright Ave., New Braunfels, Texas (Correspond with ham listeners).

James Hodgden, 167 Hamilton Ave., Westerville, Ohio. (Correspond with foreign listeners).

G. R. Jewell, Jr., 222 S. Court St., Montgomery, Ala. (Exchange USA stamps with foreign correspondents for their own stamps).

Ken Murphy, 3 Harvey St., St. Johnsbury, Vt. (SWL cards).

Earle Miller, Box 663, E. Worcester, N. Y. (SWL cards).

Bonnie Bernice Brooks, 404 N. Elm St., Lewistown, Ill. (SWL cards).

Austin Roquemore, Box 762, Ponca City, Okla. (SWL cards and stamps).

Robert Chase, 231 Henry St., Apt. 6, New York, N. Y. (SWL cards).

Richard Daneker, 152 E. Second St., Lansdale, Pa. (SWL cards—foreign only).

Geo. Poulain, 67 Mt. Pleasant St., Sydney, N. S., Canada (SWL cards).

Wm. Anderson, 9142 Fairview Ave., Brookfield, Ill. (SWL cards).

QUESTIONS

W. F., Longview, Tex.: My aerial is supported by iron pipes on the roof braced by guy wires set in eyebolts in the house. There is a continuous ringing sound in the house at night which is bad when things are quiet. Can I use rubber in any way?

Answer. The vibration from antenna poles has been a problem in many cases. Usually it comes from the guy wires as the wind sets them into vibration much like a piano wire that is under tension. Insulation with some sound absorbing material should prevent the vibrations from being communicated to the house itself. Insulating the poles themselves from the house roof itself with rubber sheeting might also be necessary, and a wooden block made like an insulator placed in the guys very close to their lower ends should dampen out the vibrations.

M. G. W., Port Arthur, Ont.: I understand that once you gave instructions for making a line filter to remove noises. Will this silence an automatic stoker? How should it be made?

Answer. The line filter referred to was published in RADEX some years ago. It was a small filter, useful for checking small electrical surges from lighting switches and small motors and devices. (See April 1933 RADEX). While this filter should be helpful in your case, we believe that with a large motor and device it may be necessary to filter the noise at its source. However, two coils each having 200 turns of No. 16 double-silk-covered wire wound in two layers on porcelain tubes about 1½ inches in diameter, will suffice. Each coil is connected in one wire of the power cord. A .015 mfd. bypass condenser is connected to the end of each coil (4 in all) and the opposite ends of the condensers all attached to a common ground wire. The whole unit may be assembled on a small base and placed in a metal container.

H. B. Arnold, Pa.: I have a "General" receiver. Who made it? It is A. C.-D. C. with 7 tubes and two bands. What is its intermediate frequency? How can I align it so the dial will be correct?

Answer. The "General" was made by the General Television and Radio Corp., 257 West 17th Street, New York City. The Clinton Co., 1217 W. Washington Blvd., Chicago, Ill., also have been reported as making a "General" receiver along with their "Clintons". General Motors, of Dayton, O., also made a "Little General". We think you will find this set has an I-F of 456 kilocycles. No circuit is available to us, but a good serviceman can determine the facts and properly align it.

F. L., Brooklyn, N. Y.: How can I increase the sensitivity of my Philco 91 and Majestic 130A?

Answer. New 24-A tubes replacing the older type 24 will help in the Majestic, but there are no practical replacements for the Philco 91. Check the bypass condensers in the Majestic r-f or i-f plate circuits as well as in the grid of the first r-f tube and replace if defective. Check audio coupling condensers and their connections, in the Philco.

● The Irvington Chapter elected permanent officers at their last meeting. The officers are Warren Carpenter, president; John Howe, vice-president; Wallace Howe, secretary; Margaret Bossett, treasurer. A constitution and by-laws were drawn up, and, most important, a refreshment committee appointed. Lawrence Desch, a licensed amateur, has arranged to give code lessons to all members who wish them. The members plan on DX contests in the future, as well as picnics, swims, hikes, bowling matches, and trips.

The Irvington Chapter meets on the first Monday of every month. The June 5 meeting will be held at the home of Warren Carpenter, 355 Summer Ave., Newark, N. J., and all DXers are invited to attend. There will be games galore, veries to see, "fat to chew" and refreshments to consume.

The QRM Chapter of The Radex Club gathered around the switchboard of the centralized room-to-room P. A. system of the Napa (Calif.) Union High School. This unit includes two separate RCA Model 10T receivers, an automatic phonograph and record changer, a microphone and switches which allow radio, recordings, or announcements from the principal's office to be sent to any one or all of the 36 rooms in the school. The Chapter members shown are, standing, George Danforth, Harry Dykes, Henry Ferrero, William Wendt and Lester Hein. Sitting are Richard Maus, Elwin Covey and William Castner. Elwin Covey is the president of the group.



The Brooklyn Metropolitan Chapter will hold its first general meeting at the home of George Nabas, 6637 Ovington Court, Brooklyn, at 8:30 pm on June 16. All DXers in the metropolitan area are invited to attend. There will be a demonstration of the ACR Model 111 communications receiver, and refreshments will be served.

Mr. Nabas's home is on the corner of 67th St., between 16th and 17th Avenues.

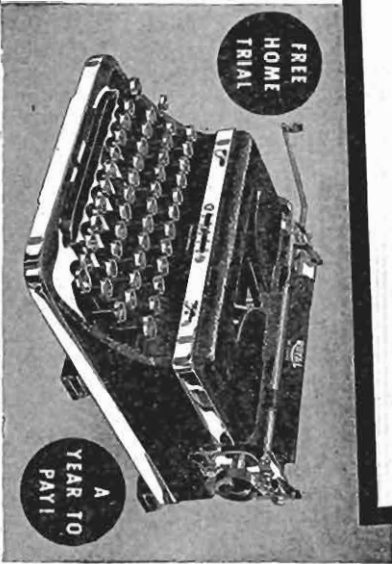




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THE DX CALENDAR

Time Is Eastern Standard

Special Programs

June 30, 7-8 pm, OAX4J on 9330 and OAX41 on 1100 kcs., Lima, Peru. (IDA).

Regular DX Programs

Every Sunday:

2-2:30 am, TG1 on 1310 and TG2 on 6190 kcs., Guatemala City, Guat.

10:15-10:45 am, CFCC, 630 kcs, Chatham, Ont. 3-5 am, XEAC, 980 kcs., Tijuana, B. Cfa.

First and Third Sunday:

2-4 am, WJBO, 1120 kcs, Baton Rouge, La.

Every Tuesday:

11:45 am-noon, W9XA, 26450 kcs, Kansas City, Mo.

Every Wednesday:

12:30 am, KOY, 1390 kcs., Phoenix, Ariz.

First and Third Wednesday:

1:45-2 pm, WTAR, 780 kcs, Norfolk, Va.

Every Thursday:

2:45-3 am, KSL, 1130 kcs, Salt Lake City, Utah. (Spatari announcements).

Every Saturday:

2:30-2:45 am, KLS, 1280 kcs., Oakland, Calif. 10:15-10:30 am, WFEU, 830 kcs. Reading, Pa.

10 pm: YN3DG, 13900 kcs., Leon, Nicaragua. (Spatari—verifies for 10c).

First day of month:

4-4:30 am, WPAY, 1370 kcs., Portsmouth, Ohio.

Last day of month:

3-5 am, KWSC, 1220 kcs., Pullman, Wash.

"This Hobby Called DXing"

An outline of the Art of Tuning and an explanation of all the things that perplex the new DXer, was given in an article titled "This Hobby Called DXing," which appeared in the January, 1939, issue of RADEX. All radio fans who wish to know how to write to radio stations, how to get verifications, how to hear distant stations and who wish to understand the names, prefixes and abbreviations used in DXing, should obtain this issue of RADEX. It is still available at the regular price of 25c per copy.

If you like RADEX why not tell your friends? When an article in this magazine strikes you as being unusually good, please tell your friends to get a copy at the newsstand, and read it.

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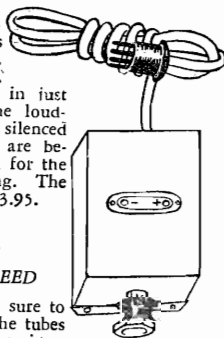
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Institute,
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