

The OCTOBER, 1933

RADIO INDEX

THE ALL-WAVE RADIO MAGAZINE



25^c

30 cents
in Canada
Including
Tax

The Beginners' Story of Radio
Importance of a Good Ground
Static-Reducing Antenna Systems
Saturday's Time on the Air
Best Time to Tune for 300 Stations

No. 72

OCTOBER 1, 1933



RADIO INDEX

Reg. U. S. Patent Office

FRED CLAYTON BUTLER

Editor and Publisher



B. FRANCIS DASHIELL
Technical Editor

PAGE TAYLOR
Short Wave Editor

TENTH YEAR

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“Betty Graham,” the rebel spy, in “Roses and Drums”

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Published Monthly Excepting July and August
See Subscription Blank on Page 80

\$1.75 per Year

25c Per Copy

THE RADEX PRESS, INC.

Publication Office, 404 No. Wesley Ave., Mount Morris, Illinois.

Editorial and Executive Office, Hanna Building, Cleveland, Ohio

Entered as second-class matter November 7, 1932, at the post office at Mount Morris, Ill. under the Act of March 3, 1879. Printed in U. S. A.

ADDRESS ALL CORRESPONDENCE TO CLEVELAND OFFICE

OCTOBER DX CALENDAR

This month we are giving a list of those stations which are on the air after midnight EST when interference begins to lessen. Time is given in EST in order to present the list of stations in their proper order. Power is given in kilowatts in parenthesis.

DAILY	
CHRC	Quebec, Que., 645 (1)
KLO	Ogden, Utah, 1400 (.5)
XKTSH	Houston, Tex., 1120 (1)
XWFBB	Indianapolis, 1230 (1)
WIP	Philadelphia, 610 (.5)
XWLAB	Louisville, 1200 (1)
XWLB	Kansas City, 1420 (1)
XWOAI	San Antonio, 1190 (50)
XWOR	Newark, N. J., 710 (5)
12:00-1:00	
CJOR	Vancouver, 1210 (.5)
XCKLW	Windsor, Ont., 540 (5)
XKABC	San Antonio, 1420 (1)
XKDKA	Pittsburgh, 980 (5)
XKFAB	Lincoln, Neb., 770 (5)
XKGHL	Billings, Mont., 950 (1)
KGIZ	Grant City, Mo., 1500 (1)
XKID	Idaho Falls, 1320 (.25)
XKLRA	Little Rock, 1390 (1)
XKLZ	Denver, Colo., 560 (1)
XKMAC	San Antonio, 1370 (1)
XKMB	Kansas City, 950 (1)
XKOH	Reno, Nev., 1380 (.5)
XKOMA	Oklahoma City, 1480 (5)
KPQ	Wenatchee, Wash., 1500 (1)
XKPRC	Houston, Tex., 920 (1)
KQW	San Jose, Cal., 1010 (.5)
KSEI	Pocatello, Idaho, 890 (25)
XKSTP	St. Paul, Minn., 1460 (25)
XKTAR	Phoenix, Ariz., 620 (.5)
XKTAT	Ft. Worth, Tex., 1240 (1)
XKTBS	Shreveport, La., 1450 (1)
XRTSA	San Antonio, 1290 (1)
XKVOR	Colorado Spgs., 1270 (1)
XKWCR	Cedar Rapids, 1420 (1)
XKWK	St. Louis, 1350 (1)
XKXRO	Aberdeen, Wn., 1310 (1)
XWCAE	Pittsburgh, 1220 (1)
XWCFE	Chicago, 970 (1.5)
XWDAF	Kansas City, 610 (1)
XWDAG	Amarillo, Tex., 1410 (1)
XWDAY	Fargo, N. D., 940 (1)
XWDSU	New Orleans, 1250 (1)
WEAN	Providence, 780 (.5)
XWEBC	Superior, Wis., 1290 (1)
WFAM	South Bend, Ind., 1200 (1)
XWFB	Syracuse, N. Y., 1360 (1)
XWFB	Baltimore, 1270 (.5)
XWGL	Ft. Wayne, Ind., 1370 (1)
XWGST	Atlanta, Ga., 890 (25)
XWHAS	Louisville, 820 (25)
XWIBA	Madison, Wis., 1280 (.5)
XWBW	Topeka, 580 (1)
XWCC	Bridgeport, 600 (25)
XWIL	St. Louis, 1200 (1)
XWJAR	Providence, 890 (.5)
XWJR	Detroit, 750 (10)
XWKBW	Buffalo, 1480 (5)
XWKRC	Cincinnati, 550 (1)
XWKY	Oklahoma City, 900 (1)
XWLAB	Nashville, 1470 (5)
XWLBW	Erie, Pa., 1260 (.5)
XWMBD	Peria, Ill., 1440 (.5)
XWMC	Memphis, 780 (.5)
XWMA	New York, 570 (.5)
XWMT	Waterloo, Iowa, 600 (.5)
XWNA	Boston, 1230 (1)
XWNAX	Yankton, S. D., 570 (1)
XWOC	Des Moines, 1000 (50)
XWHO	
WOKO	Albany, N. Y., 1430 (5)
XWOQ	Kansas City, 1300 (1)
XWOW	Omaha, Neb., 590 (1)
XWOWO	Ft. Wayne, 1160 (10)
XWPG	Atlantic City, 1100 (5)
XWRC	Washington, 950 (.5)
XWREC	Memphis, 600 (.5)
XWREN	Lawrence, Kans., 1220 (1)
XWRHM	Minneapolis, 1250 (1)
XWSB	Atlanta, Ga., 740 (5)
XWSBC	Chicago, 1210 (1)
XWSBT	South Bend, 1230 (.5)
XWSM	Nashville, 650 (50)
XWSMB	New Orleans, 1320 (.5)
WSYR	Syracuse, 570 (.25)
XWTAM	Cleveland, 1070 (50)
XWTOC	Savannah, Ga., 1260 (.5)
XWEN	Mexico City, 711 (1)
XWEO	Mexico City, 940 (5)
12:00-2:00	
CRCV	Vancouver, 1100 (.5)
XKECA	Los Angeles, 1430 (1)
KFBK	Sacramento, 1310 (1)
XKFKA	Greeley, Colo., 880 (.5)
XKGIR	Butte, Mont., 1360 (.5)
KIIT	Yakima, Wn., 1310 (1)
XKLLX	Oakland, 850 (1)
XKMO	Tacoma, 1330 (.25)
XKNX	Hollywood, 1050 (25)
XKOA	Denver, 830 (12.5)
XKREG	Santa Ana, 1500 (1)
XKSL	Salt Lake City, 1130 (50)
XKTFI	Twin Falls, Idaho, 1240 (.5)
XWABC	New York, 860 (50)
XWDA	New York, 1350 (.25)
XWGN	Chicago, 720 (25)
XWHFC	Chicago, 111, 1420 (1)
XWMAQ	Chicago, 670 (5)
XWTMJ	Milwaukee, 620 (1)
XWEAW	Reynosa, 965 (10)
12:00-3:00	
XKDB	Santa Barbara, 1500 (1)
XKDYL	Salt Lake City, 1290 (1)
XKERN	Bakersfield, 1200 (1)
XKEE	Portland, 1180 (5)
XKFAC	Los Angeles, 1300 (1)
KFBL	Everett, Wash., 1370 (.05)
XKFI	Los Angeles, 640 (50)
XKFOX	Long Beach, 1250 (1)
XKFSD	San Diego, 600 (1)
XKFWB	Hollywood, 950 (1)
XKFXM	San Bernardino, 1210 (1)
XKGA	Spokane, 1470 (5)
XKGO	San Francisco, 790 (7.5)
XKGW	Portland, Ore., 620 (1)
XKJR	Seattle, 970 (5)
XKJM	Fresno, 580 (.5)
XKMTR	Hollywood, 570 (.5)
XKOIN	Portland, Ore., 940 (1)
XKOL	Seattle, 1270 (1)
XKOMO	Seattle, 920 (1)
XKPO	San Francisco, 680 (50)
XKVI	Tacoma, 570 (.5)
XKWG	Stockton, 1200 (1)
XKYA	San Francisco, 1230 (1)
XWMA	New York, 570 (.5)
12:00-4:00	
XKFPY	Spokane, 1340 (1)
XKFR	San Francisco, 610 (1)
XKGB	San Diego, 1330 (1)
XGMB	Honolulu, 1320 (25)
KGU	Honolulu, 750 (2.5)
XKHJ	Los Angeles, 900 (1)
XKHQ	Spokane, 590 (1)
XKTAB	San Francisco, 560 (1)
XKXL	Portland, Ore., 1420 (1)
XWIND	Gary, Ind., 560 (1)
12:00-5:00	
KFQD	Anchorage, Alsk., 1230 (.25)
XKFWJ	Portland, Ore., 1060 (.5)
XWEXL	Royal Oak, 1310 (.05)
12:00-6:00	
XKGfJ	Los Angeles, 1200 (1)
XKXER	Villa Acuna, 735 (150)
XKXEF	
12:00-7:00	
XKTM	Los Angeles, 780 (.5)
12:15-4:00	
KZEG	Manila, P. I., 618.5 (1)
1:00-3:00	
XKPFV	Los Angeles, 1000 (.25)
1:00-5:00	
XWHB	Kansas City, 860 (.5)
1:00-7:00	
XKPCB	Seattle, 650 (1)
2:00-3:00	
XKFXF	Denver, 920 (.5)
3:00-5:00	
XCFCT	Victoria, 1430 (.5)
3:00-7:00	
KJBS	San Francisco, 1070 (1)
4:00-7:00	
KZRM	Manila, P. I., 618.5 (50)
SUNDAY MORNINGS	
12:00-12:30	
XWJAX	Jacksonville, 900 (1)
12:00-1:00	
CMBW	Havana, 925 (.6)
XKFFV	Cape Girardeau, 1210 (1)
XKFYR	Bismarck, 550 (1)
XWKCY	Covington, 1490 (5)
XWGLC	Hudson Falls, 1370 (.05)
XWGY	Schenectady, 790 (50)
XWHK	Cleveland, 1390 (1)
XWHP	Harrisburg, 1430 (.5)
XWLL	Urbana, Ill., 890 (25)
XWLS	Chicago, 870 (50)
XWRNY	New York 1010 (25)
XWTAG	Worcester, 580 (25)
XWWR	Woodside, 1500 (1)
XETW	Mexico City, 830 (.5)
12:00-1:30	
XWMB	Detroit, 1420 (1)
12:00-2:00	
XKALE	Portland, Ore., 1300 (.5)
XKMOX	St. Louis, 1090 (50)
XKSO	Des Moines, 1370 (1)
XWCO	Minneapolis, 810 (50)
XWVVA	Wheeling, 1160 (5)
12:00-3:00	
CMCW	Havana, 965 (1)
1:30-2:30	
CKCD	Vancouver, 1010 (1)
2:00-5:00	
XCMC	Havana, 630 (.5)
KPJM	Prescott, 1500 (1)
3:00-4:00	

CKWX Vancouver, 1010 (.1)
3:00-5:00
CKOV Kelowna, B. C., 1200 (.1)
10-AT Trail, B. C., 1155 (.025)
4:00-5:00
XEAO Mexicali, 560 (.1)
Oct. 1st only, 2:30-4:30
X10-BI Prince Albert, 1200 (.025)
Oct. 8th only, 1:00-2:00
XWWAE Hammond, 1200 (.1)
Oct. 1st-15th, 1:30-4:00
CMBL Havana, 1445 (.05)
CHAB Moose Jaw, 1200 (.4)
XFB Jala pa, Ver., 1290 (.5)
Oct. 8th-22nd, 1:00-2:00
XKUSD Vermillion, 890 (.5)
Oct. 29th, 3:00-5:00
XWFAS White Plains 1210 (.1)

MONDAY MORNINGS

12:00-12:30
WLTH Brooklyn, 1400 (.5)
12:00-1:00
KFRU Columbia, 630 (.5)
KGGC San Francisco, 1420 (.1)
KGRS Amarillo, 1410 (1)
KSOO Sioux Falls, 1110 (1)
WHN New York, 1010 (.25)
WMIL Brooklyn, 1500 (.1)
12:00-2:00
KVL Seattle, 1370 (.1)
WGES Chicago, 1360 (.5)
12:00-3:00
CMCD Havana, 1140 (.5)
1:00-2:00
KROW Oakland, 930 (.5)
1:30-2:30
CJOC Lethbridge, 580 (.1)
2:00-3:00
KFSG Los Angeles, 1120 (.5)
3:00-4:00

CFJC Kamloops, 1120 (.1)
Oct. 2nd only, 2:10-2:30
WRAK Williamsport, 1370 (1)
2:30-3:30
CHWK Chilliwack, 780 (.1)

TUESDAY MORNINGS

12:00-12:45
WBBZ Ponca City, 1200 (.1)
12:00-1:00
CHWC Regina, 1010 (.5)
KMA Shenandoah, 930 (.5)
WKBF Indianapolis, 1400 (.5)
WPAP New York, 1010 (.25)
1:00-5:00
WSUI Iowa City, 880 (.5)
4:00-4:30
WCAH Columbus, 1430 (.5)
Oct. 3rd, 5:00-5:30
WKFI Greenville, 1210 (.1)

WEDNESDAY MORNINGS

12:00-1:00
WHBL Sheboygan, 1410 (.5)
XEHL Monterrey, 1132 (.25)
1:00-1:30
WHBQ Memphis, 1370 (1)
1:00-3:00
CMCW Havana, 965 (1)
Oct. 4th, 2:00-2:30
WHBF Rock Island, 1210 (1)
2:30-3:00
WHIS Bluefield, 1410 (.25)
Oct. 11th, 2:00-3:00
WJMS Ironwood, 1420 (1)
Oct. 25th, 2:00-4:00
WMED Muscle Shoals, 1420 (1)

THURSDAY MORNINGS

12:00-1:00
KFXR Oklahoma City, 1310 (.1)

WAPI Birmingham, 1140 (5)
1:00-1:30
WRAM Wilmington, 1370 (1)
1:30-2:00
WLB Minneapolis, 1250 (1)
2:00-4:00
CMK Havana, 730 (5)
WEDC Chicago, 1210 (1)
3:00-4:00
CKWX Vancouver, 1010 (1)
Oct. 5th, 5:30-6:00
KGFF Shawnee, 1420 (1)

FRIDAY MORNINGS

12:00-1:00
KVOO Tulsa, 1140 (5)
12:00-2:00
KFEL Denver, 920 (5)
KIDO Boise, 1350 (1)
1:00-2:00
WBBX New Orleans, 1200 (1)
Oct. 27th, 4:00-5:00
KPOF Denver, 880 (.5)

SATURDAY MORNINGS

12:00-1:00
CKCK Regina, 1010 (.5)
WEBQ Harrisburg, 1210 (1)
12:00-3:00
KFJR Portland, 1300 (.5)
KRRK Los Angeles, 1120 (1)
1:00-2:00
KOIL Council Bluffs, 1260 (1)
WMBI Chicago, 1080 (5)
Oct. 7th, 2:30-3:30
10-BQ Brantford, 1200 (.015)
5:15-5:45
WGNY Chester, N. Y., 1210 (.05)
Oct. 14th, 3:15-4:00
WMBQ Brooklyn, 1500 (1)

THE MONTH'S CHANGES

FREQUENCIES

550 TISO San Jose, C. R., from 600
681 HJN Bogota, Colombia, from 690
757 XEFD Tijuana, B. C., from 855
830 XETW Mexico City, D. F., from 815
840 XFX Mexico City, D. F., from 860
977 CMGF Matanzas, Cuba, from 987
1010 CKWX Vancouver, B. C., from 730
1085 VOKW St. John's, Nfld., from 1300
1100 CMCU Havana, Cuba, from 630
1210 CFNB Fredericton, N. B., from 1030
1400 VOGY St. John's, Nfld., from 890

POWER

550 TISO San Jose, C. R., 50 to 250
681 HJN Bogota, Colombia, 2000 to 5000
730 CMK Havana, Cuba, 3150 to 5000
740 WSB Atlanta, Ga., 5000 to 50000
757 XEFD Tijuana, B. C., 300 to 5000
912 TIGR San Jose, C. R., 50 to 75
965 CMBD Havana, Cuba, 150 to 250
965 CMCW Havana, Cuba, 100 to 150
1330 WSAI Cincinnati, Ohio, 500 to 1000
1400 VOGY St. John's Nfld., 500 to 75

OWNERS

757 XEFD Tijuana, B. C., to Goodwill Broadcasting Co.
1210 KFOR Lincoln, Neb., to Howard Shuman

1210 WJBY Gadsden, Ala., to Gadsden Broadcasting Co.
1260 KVOA Tucson, Ariz., to Arizona Broadcasting Co., Inc.
1270 KVOR Colorado Springs, Colo. to S. H. Patterson
1350 WBNX New York, N. Y., to Standard Cahill Co. Inc.
1350 WCDA New York, N. Y., to Standard Cahill Co. Inc.
1350 WMSG New York, N. Y., to Standard Cahill Co Inc.

DELETED

845 XETM Matamoros, Tams.
882 TIC San Jose, C. R.
1120 CFCA Toronto, Ont.
1370 HRB Tegucigalpa, Hond.

NEW

780 XEYZ Mexico City, D. F.
800 VOAC St. John's, Nfld.
1195 H1H Santo Domingo, D. R.
1380 TGX Guatemala City, Guatemala

PERMIT TO CHANGE LOCATION

1420 KGLW Trinidad, Colo., to Alamosa, Colo.
1500 WKBY Connerville, Ind., to Richmond, Ind.

CHAINS

1400 WKBF Indianapolis, Ind., new NBC

CALLS

1200 KSUN Lowell, Ariz., formerly KIGY
1500 WCNW Brooklyn, N. Y., formerly WMIL

The BEGINNERS' STORY of RADIO

By B. FRANCIS DASHIELL

OUR Story of Radio is intended primarily for beginners. And by beginners we mean those members of that vast family of enthusiasts who tune their dials successfully and log hundreds of stations, all without an adequate knowledge of the functions of a radio set. Radio receivers, like motor cars, quite generally are operated by people who, although wishing they knew just why the thing works, have been deprived of the kind of enlightenment they seek.

It is true that libraries have dozens of radio books on their shelves. But most of these "fundamentals" and "principles" are massive works which are further complicated by mathematical and technical descriptions that mean little to him who reads and runs. The fundamentals of radio make dry reading, so dry, in fact, that the romance which has been associated with radio from the very beginning is lost. Of course, professorial writers are correct when they insist that a study of fundamentals and the connected sciences is absolutely necessary for a rather complete mastery of the theories of radio.

But, for our purposes, we may well leave the study of theories to those who live and work in radio. Let us, then, learn something of the interesting and fascinating wonders performed by this amazing marvel by taking a little sightseeing journey through the inner workings and ramifications of radio. Let us follow the radio waves from the originating studio and station to our loud speakers and see just what it is that takes place.

Consider the Miracle

Pull up your favorite chair before the radio. Snap on the switch and bring in some distant station by the mere twist of the wrist. Simple, isn't it? Yet what marvelous laws

of nature are called into play, each perfectly coordinated with the other, so that reception will take place. Listen to the instant and faithful reproduction of a musical program. Then close your eyes and imagine that, standing beside the receiver, a musician plays his instrument. His every movement will appear simultaneously with the music coming from the speaker. It does not seem possible that he actually may be half way around the earth instead. When you hear a single mellow note of a piano you must realize that the player's finger has not yet left the key. Some day television will demonstrate all this with dramatic vividness.

Still seated in your chair, suppose you imagine that you are a modern Alice approaching the Wonderland of Radio. You are entering the studio of the distant station from which your program is coming. Suppose, too, that through some legerdemain



Ethel ("Stormy Weather") Waters, famed colored songstress, with Mills' Blue Rhythm Band, on the NBC-WJZ network Wednesdays at midnight EST.

you can become a tiny bit of nothing. Step up to the studio's microphone and speak into it, take a seat on the sound wave your voice creates; hold on for dear life, for you are about to go on a ride unrivaled in all nature.

Immediately some unknown force whisks you out of the studio, along wires across miles of country to the broadcasting station. Then, through a maze of controls, tubes and coils, you rush out upon the antennas high above the station and are shot, without further ado, into space. Higher and higher you rise, passing far into the perpetual cold of space, and it seems that you will go on, and on, forever. But suddenly you are turned back toward earth, for you have met the great Heavside reflecting radio ceiling that prevents all radio signals from flying off into the depths of space. You speed down, down, and soon your own antenna, tuned to the length of the wave upon which you are riding, beckons, and you slide safely home.

Once again your carrier wave glides through another maze of tubes, coils and condensers. But this time it is your receiver that quickly amplifies and enlarges you to your normal size as you tumble from the loud speaker back into your chair. And if your journey was as much as 2,500 miles it only took one-seventieth of a second!

With the Speed of Light

The instant flight from the micro-

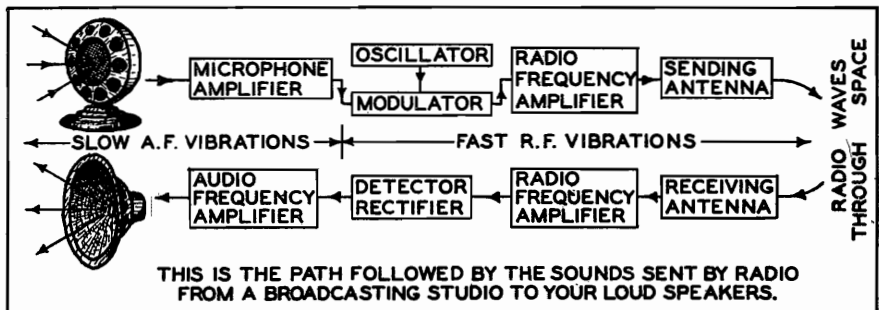
phone to your radio was made at the incredible rate of 186,000 miles per second! Such is the speed of radio. It also is the velocity of electricity and light. A radio wave, electric current or ray of light will travel around the earth in one-seventh of a second.

Vibrating sound and radio waves go to make up radio, and before music and speech can come from your loud speaker many things must take place. At the broadcasting studio sound waves pass through the air from the lips of speakers and singers, and from musical instruments, to strike the sensitive microphone and cause it to vibrate and thus vary the flow of an electric current. A microphone is nothing more than a refined type of telephone transmitter. The microphone receives sound waves from the air in much the same manner your ears enable you to hear, it is, in fact, radio's ear.

Underlying Principle

The radio transmitter takes the sound waves, converts them to a modulated or fluctuating high frequency oscillating electric current which is broadcast across the surface of the earth as a form of vibrating electromagnetic energy. The radio receiver picks up some of this energy, which is in a greatly reduced condition, and converts it back again to sound waves. The construction and action of the radio receiver is, therefore, just the reverse of the transmitter.

Every piece of metal or wire in



the world is filled with hundreds of vibrating electrical currents induced by the passing radio waves. But these waves may be sorted out by the act of tuning a radio receiver connected to the wire or antenna, and only one wave to which the receiver is made to vibrate in harmony is permitted to pass. This very weak signal will be amplified in strength; reduced from its high radio-frequency vibration rate to a much lower audible rate, amplified again with power tubes, and fed into the speaker which is made to vibrate and thus communicate those vibrations to the air so that sound may be heard by the ear.

Radio is simply a means for sending sound waves through the air without wires. The higher the rate of the electrical vibrations, or the greater their frequency, the farther the radio waves will penetrate. This is the reason why short waves, or high frequencies, carry so far. The same may be said of a steam whistle—one having a shrill, high pitch will carry farther than one that is deep and low-pitched. Radio transmission is accomplished without the medium of conducting wires, such as are necessary for the telephone and telegraph. Radio in its earlier days was spoken of as wireless telegraphy and telephony.

In order more fully to understand what makes a radio receiver work it is important that we know at least a little something about the mysterious force that makes radio possible. Radio is nothing but electricity, and next month we shall discuss electricity and magnetism and how they work in radio.

Queries

1. How fast do radio waves travel?
2. How long does it take a radio signal to travel from a station 2500 miles away?
3. What instrument first receives the sound waves?
4. What effect do the sound waves have upon the electric current?
5. Into what type current does the transmitter convert the sound waves?
6. What type current does your aerial pick up?
7. How do transmitter and receiver compare in method of operation?

8. What phenomenon prevents radio signals from flying off into space?
9. Through what changes do the radio waves pass in the receiver?
10. Which waves carry farther, the long or the short?

The second lesson in this interesting home study course in Radio, will appear in the November issue.

Radio in Japan

IN AN interesting letter to our short wave Editor, Mr. Yoshimura of Moji, Japan, gives the following information in regard to the broadcasting situation in the Island Empire:

"All Japanese broadcasting stations are under the superintendence of the Japanese Broadcasting Association (Nippon Hos Kyokai). There are 24 stations on the air at the present time and also nine new stations which should be installed during 1933 and 1934.

"Daily programs of JOAK-1 are generally relayed by all J stations excepting JOBK, JODK, JFBK, JQAK and JOAK-2 and even the first four named relay a part of the programs of JOAK-1. JOAK-2 has his own programs but no musical features, transmitting scientific, educational, foreign language courses, etc.

"As to their operating times, they transmit the relay from JOAK-1 from 6:30 a. m. to 9:45 p. m. JST in April, May, September and October while in the other months they transmit from 7:00 a. m. to 9:45 p. m. JFAK, JFBK and JQAK transmit one hour later than the other stations."

Mr. Yoshimura, who says that RADEX is no stranger in Japan as he reads it often, gives us the following station corrections:

JOJK 300 watts instead of 3000; JONK on 635 kcs. instead of 940; and JODK-1 on 610 kcs. with 10,000 watts instead of 690 and 1000. Otherwise the list of Japanese, Korean and Manchurian stations are correct as published in our world list in the Midsummer Edition.

IMPORTANCE *of a* GOOD GROUND

● ● ● *By E. O. CUTLER, Vice President Newark News Radio Club*

IT seems ridiculous to me that so many thousands of radio listeners who spend so much time DXing, pay so little attention to experimenting to determine the best ground. Undoubtedly many of your readers are perfectly contented to get a good set, build a good aerial and yet hitch a ground to a nearby radiator or water pipe without regard to simple and better alternatives in the way of outdoor grounds.

As I see it, any mass of metal planted under ground and watered and properly connected to the ground post of the set, will show radical signal strength increases with many aerials and on many frequencies. A ten-cent switch and a little wire and pipe together with two or three hours of work, are all that are required to make many a DXer happy.

The following article containing my ideas on this subject recently appeared in the Newark News.

I firmly believe that one of the most profitable diversions for those members who wish to monkey with their sets during the Summer is that of experimenting with various grounds.

Those whose homes are so situated that they can plan an outdoor ground should do so, and also run ground wires to radiators and cold water pipes (three connections in all) to switches near the receiver. I procured two double-throw switches at 10 cents each at the 5 and 10 and ran the ground wire from the set to the center of one switch and from the latter to the center of the second switch. This provides connecting posts for four different experimental grounds.

After the soil surrounding the outdoor ground has become well satur-

ated with water you will be amazed at the increase in volume of many stations. By mounting these switches on a board, near the receiver, it will be convenient to test out all grounds on various stations from one end of the dial to the other.

After a year of experimentation I have determined that a good outdoor ground is superior for all stations when an indoor aerial is used, and on all remote stations (say over 1,500 miles) with long roof aerials.

In published reports of remarkable DXing I have noticed that outdoor grounds are used. For example, RADEX, Midsummer edition, tells about the work of C. R. Caraven of Vancouver who uses an Ollie Ross ground. The issues of RADEX for February, 1931, and Midsummer, 1931, describe the Ollie Ross ground and his DX results in Vallejo, Calif.

About a month ago I set out to find a simple, cheap and easily installed pipe ground and have been very successful.

The Ollie Ross Ground

The Ollie Ross ground is a length of copper tubing about one inch in diameter by four feet long wrapped with bare copper wire this wire being soldered to the insulated lead to the receiver. The tube was buried underground with rock salt to draw dampness in dry seasons (California!).

Mr. Ross suggested (RADEX) that the U. S. standard ground be tried. This consists of an eight-foot rod or one-half inch pipe driven vertically; a hole one foot deep and one foot square is dug and five pounds of rock salt melted in the hole and the ground is driven down in its center. However, Mr. Ross also suggested that if this U. S. ground was

used a piece of aerial wire should be soldered along the entire length of the rod or pipe, the wire being soldered to the lead-in to the set.

My theory is that any type of outdoor ground, no matter how efficient it is, can be improved if means are provided to get water down to the bottom at all times and thus saturate all the earth near the metal.

Incidentally, if any one tries to solder wire on lengths of rod or pipe and then drive them into hard ground with a sledge hammer he will find that the soldering is apt to break.

Mr. Cutler's Method

My new ground consists of a five-foot length of half-inch standard iron pipe, galvanized, screw-threaded on the outside of one end. In order to provide a wedge-shaped bottom, I procured a standard brass reducer (one-half inch to one-quarter inch, pipe standards) and screwed it on to the pipe end. A four-inch length of one-quarter inch brass pipe was screwed into the reducer. This brass pipe was squeezed to a wedge shape in a vise and ground down to a chisel edge on an emery wheel.

About ten one-quarter inch holes were drilled in the pipe, at random, from the bottom up three feet.

Since the reducer is larger in diameter than the pipe, when the pipe was driven down into the ground with a sledge there was left a slight clear space outside of the pipe all the way down.

The pipe was left with about three inches projecting above the ground, so that a funnel can be inserted and water poured down at any time. The water runs out through the holes in the pipe and saturates the soil. For the first few weeks I left a cavity on the surface about six inches deep and a foot in diameter and, after filling the pipe, filled up the cavity as well. Improvements in reception were noted as the ground became thoroughly wet. A cork stopper is tied by wire to the top of the pipe.

Attaching the Wire

I soldered a length of bare copper



Sandra Phillips (left) and Peggy Keenan have been vaudevilleing with Tony Wons but now all three are back on the WABC Columbia. The duo pianists are well worth hearing (as well as seeing) Sundays at 10:45 a. m. EST and Mondays and Thursdays at 11:30 a. m.

wire on to the entire length of the pipe, but it stripped in driving, so that the lead to the set is now simply wrapped around and soldered to the top of the pipe. If I were making this ground again with iron pipe, I would drill two small holes into the pipe near the bottom in order to firmly secure the end of a bare copper wire and wind the wire around the pipe, soldering it to the top of the pipe and to the set lead. This should prevent the wire breaking away when the pipe is being driven. The reducer, being of larger diameter than the pipe, should protect the wire when the pipe is driven, but apparently soldering alone will not hold the wire under the shock of driving.

It might be better to use a length of stiff brass or copper pipe. In all
(Continued on page 79)

RADIO *from a* Box Seat

• • • *With "Betty"*

CONRAD THIBAULT, young American baritone, raised the money to pay for the first part of his musical education by working as a floorwalker in a big New York department store. In the first place, says Conrad, it was hard work just to stand around, so hard that when he came home to his furnished room at night it required real moral fiber for him to make himself drag his aching feet uptown to take a singing lesson. But he stuck it out for three reasons.

First, there was a girl back home. Before leaving his home town of Northampton, Mass., he had become engaged, and all through the early part of his career this charming girl, herself a singer, spurred him on to his best efforts.

Second, there was a choirmaster in Northampton who had seen the

possibilities in his rich baritone voice and who had urged him to try, in spite of financial hardships, to make something of his singing. And third, there was himself—his own self respect. Three people to consider, and he couldn't let any of them down.

So he worked by day, and studied by night, and at the end of the year he went back home, ready for the next step in his march upward to fame. It came in the form of a scholarship to the Curtis Institute of Music in Philadelphia, which he won in competition with other young singers who perhaps hadn't tried quite so hard to train themselves, or who hadn't the same inspirational forces behind them.

Conrad started his studies there under the great baritone, Emilio de Gogorza, famous for years in grand opera, and at the beginning of his second term he was given a contract by the Philadelphia Grand Opera Company. Then there was rejoicing in the Thibaults' small home (for he and the young lady were married before he won the scholarship).

Into Grand Opera

He continued his work at the Curtis Institute for five years, meanwhile appearing regularly with the opera company and advancing from small parts to leading roles. While in Philadelphia, Thibault also began that part of his career that later was to carry him to the heights—he started to sing in radio.

He made an immediate hit on the air, and an audition at the NBC studios in New York was arranged without any difficulty at all. So Conrad came to the big city, was heard and signed to a contract, all on the same day. It was the proudest moment in his life, the day he and his young wife had dreamed of for years during the lean times that



Conrad Thibault

go hand in hand with the start of any career. But the triumph was mixed with bitterness, for the girl he loved and had worked for never knew of it. She was taken to the hospital the day he left for New York, and died as he was on his way back to her.

In spite of this terrible loss, Conrad carried on. His years of training stood squarely behind him. They wouldn't let him quit, they had made a trooper of him. The show must go on—and it did.

The young singer fitted in almost immediately on some featured programs over NBC networks, notably the "Through the Opera Glass" series of recitals with Archer Gibson, famous organist, last year. But this was only the beginning. At present he is heard over NBC networks in three outstanding sponsored programs.

Conrad is 30 years old, well built and a keen amateur athlete, putting up a good battle at handball, tennis or swimming.

She Capitalized Trouble

It was a series of "bad breaks" that brought pretty and blonde Vera Van to radio stardom. As a baby in Marion, Ohio, where her family had lived for generations, Vera suffered from anemia, and several times the doctors despaired of her life. Finally, one doctor suggested that she be given dancing lessons for beneficial exercise. So Vera took to her toes.

Her health speedily improved. The Van family migrated to California in the hope that she might benefit from the climate. By this time, Vera had become a talented dancer, and when only seven years old she was earning a hundred dollars weekly as premiere danseuse of a child ballet. It was her early illness that resulted in her success on dancing feet.

But while she was tripping the light fantastic another "bad break" came along. She suffered a severe attack of influenza just as her mother was on the point of signing an at-



Vera Van

tractive vaudeville contract on her behalf. A stroke of ill fortune it seemed, but with her recovery came a more lucrative and desirable engagement in a musical show. Vera says her four months as ingenue with this company gave her the diversified experience that has helped her more than any other work.

Five years ago, Vera, who now is really a very healthy young lady, was stricken with spinal trouble, resulting in her inability to move her left side for several weeks. This affliction was diagnosed by the doctors as an aftermath of too much toe dancing as a youngster. She was ordered off her feet for a long rest.

From Toes to Transmitter

But, figuratively, Vera was still on her toes. Now accustomed to turning the bad breaks to her advantage, she speculated on how she might benefit from this siege. So she started singing—and by the time she was up and around, her friends had convinced her that voice was her forte.

It was to KFI, Los Angeles, that



Don Ross

she took her songs and one hour later she was signed on the dotted line.

Her next radio work was with KMTR, also on the west coast, where her singing was so well received that at the termination of her contract, KHJ, Columbia's outlet, hurriedly signed her up. All the while she was studying at school, taking voice culture and making personal appearances, including an engagement at George Olsen's Club in Culver City.

Then came her appearance on the California Melodies program, which served as the network cradle for Bing Crosby, the Boswell Sisters and John P. Medbury. Now it seems that anyone carrying a diploma from the California Melodies school finds a rosy path to success ahead—more than likely in the east.

But Vera Van came very near not making the trip to New York where she is heard on three programs each week. She was just about to sign a year's contract in Los Angeles with an orchestra, but her lawyer, who was to approve the terms, was called out of town. Vera, anxious to begin work,

was disappointed. She thought it was another tough break. When he returned, and five minutes before she was to close the contract, a telegram arrived from New York with the invitation to come east.

Vera lives with her mother in a Manhattan hotel. Her first big ambition was to be a nurse. . . Raymond Paige and Ted Fiorito are her favorite band-leaders. . . Likes horseback riding, canoeing and hiking. . . Collects all sorts of silver money. . . Also gathers toy dogs and curious vases. . . Her favorite song is "Night and Day." . . Her pet fan letter was from a young man who said: "You sing so beautifully that you are probably as ugly as sin and at least forty." She is very pretty and nineteen.

Jane Froman's Husband

Don Ross, heard over the Columbia network as the Pontiac Minstrel, was born at Osakis, Minnesota, on July 16, 1905. His father, Fred E. Ross, is a minister and his mother is the former Mary Hamm. The Ross family points with justifiable pride to its distinguished Scottish ancestry.

At an early age Don's father was transferred to a pulpit at Washington Court House, Ohio, and it was there that the baritone received his primary education. During vacations he took a job in the local theatre at \$2.00 a week. Although he served as general helper—his duties included selling tickets, acting as usher and being a prompter in the wings—his real interest was in the entertainment side and from those early days dates his ambition to be a performer.

After graduation from high school he matriculated at Ohio State University. College was no bed of roses for Don. He had to help pay his way by being a chauffeur, digging ditches and working for a roofing company. With it all he managed to receive good grades in the classroom as well as take part in several activities. He was a member of the football, baseball and basketball squads, took part in col-

lege dramatics and debating and was vice president of the Glee Club. A fellow singer was Jack Brooks. As a team he and Don were featured in several college shows. Their work was exceptionally well received by the students, who encouraged them to continue it after they left college. In a short time Brooks and Ross were known all over the country. They started with appearances in picture houses, were featured in an edition of the Greenwich Village Follies and for several seasons were on the Chicago staff of the Columbia Broadcasting System.

While on tour the harmonists played an engagement at Cincinnati and were invited to make a broadcast over a local station. They were introduced to an attractive, brown-haired girl. Soon after Don Ross formed a new partnership, this time for life. The girl was Jane Froman, now a radio star in her own right.

The team of Brooks and Ross was dissolved early this year. Jane was enjoying radio and personal appearance success in the east and Don decided to follow her to New York. The Rosses live in Garden City, a Long Island suburb of New York. Not on the air together, they attend each other's rehearsals and programs. When Don is broadcasting, he can see Jane in the control room, singing his songs along with him and nodding encouragement to him.

On their off days they swim, ride and play tennis and golf together. In the evenings they learn new songs. This winter Don and Jane will be in the Follies, their first regular joint appearance and the first radio performers to be engaged for the famous Ziegfeld production.

George Olsen's Wife

Ethel Shutta, who is heard on the Nestle's Program as a co-star with Walter O'Keefe, every Friday at 8:00 p. m. EST, over the NBC (Blue) network, has sung for the musical comedy stage, the microphone and the talking picture screen—but this is the first time she has been in an

extended radio series without her husband, George Olsen.

Miss Shutta was featured in the Ziegfeld Follies and in "Louis the Fourteenth." She had a leading role in both the stage and screen versions of "Whoopee," and she has been on many outstanding radio programs with Olsen and his music.

A daughter of stage parents, Ethel made her first public appearance when she was three, and took her first speaking part when she was eight. From then on she never was away from the stage for more than a few months at a time.

Singing came naturally to her, and she soon began to appear in musical as well as dramatic productions. By the time she was in her 'teens she was a veteran trouper. She had played all over the country. Then a vaudeville act brought her to New York and her first part in a Broadway revue. An engagement in the Follies followed, and she was on the road to fame.

Miss Shutta came to radio after her retirement from the musical comedy stage as an occasional vocalist with her husband's orchestra. Popular demand soon made her an air headliner.



Ethel Shutta

STATIC REDUCING ANTENNA SYSTEMS

• • • By B. FRANCIS DASHIELL

WHEN electric sparks are created by friction or the opening and closing of electrical contacts they radiate energy in the form of tiny radio waves which carry from a few to several hundred feet. All electrical apparatus, such as light switches, motors, utilizing brushes, street cars, trains, automobiles, elevators, circuit breakers, dial telephones, vacuum cleaners, refrigerators, fans, and other appliances, make themselves heard by producing clicks, hums, crashes, bangs and buzzes in the radio loud speaker. Motors produce a constant, grinding noise; x-ray or violet-ray machines create a loud, mushy, crackling roar.

The radio receiver picks up and amplifies this "man-made" static. The oscillations enter the receiver through the power lines, the antenna and the lead-in, or through the set itself. In the April, 1933, issue of *RADEX* (No. 68), we learned how static impulses coming over the power lines can be filtered out. But frequently static interference continues to baffle the listener. Let us, then, turn our attention toward the antenna system.

The Inevitable Static

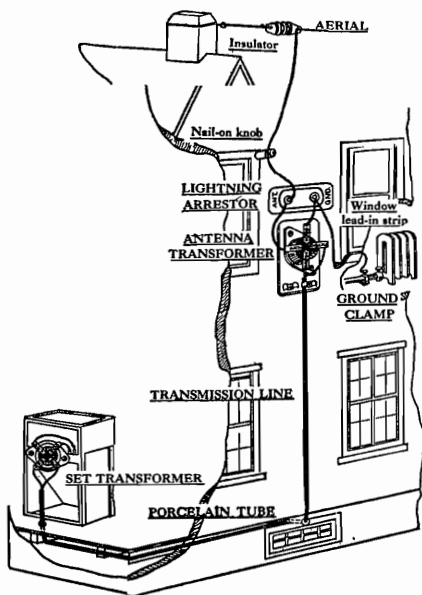
The antenna, in most all cases, is sufficiently removed from the active field of man-made static generated by devices operating within the building in which the receiver is located. We cannot expect the antenna to avoid picking up the natural atmospheric static which abounds when the weather is stormy, humid or hot. If we try to eliminate nature's static or atmospheric we at once hinder the collection of radio signals.

Since the majority of man-made static impulses cannot reach the an-

tenna because of its location high above the receiving set, it at once becomes obvious that the set itself or the lead-in wire may be at fault. But, because the modern receiver is so perfectly shielded, it seldom can be blamed for picking up noise.

Lead-in Is Susceptible

Let us, then, examine the antenna down lead. This wire drops down from the high, outside antenna and passes close to the sources of local man-made static. Tiny spark waves or oscillations easily pass into the field of the wire and their impacts create the "shock excitation" that instantly becomes the static we hear in our loud speakers.



The Philco Antenna System

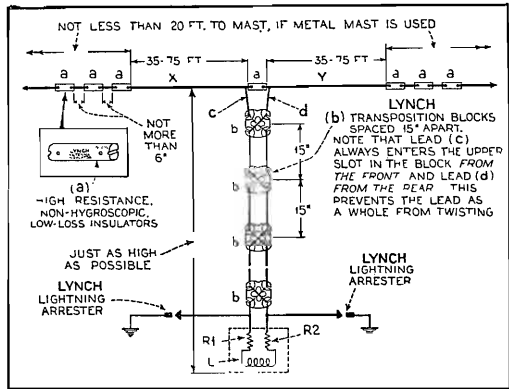
Now it is quite possible to bring the lead-in wire down past the zone of local static through a pipe or some other form of metallic shielding which will not permit radio waves to pass. And in this way the impulses of static would be prevented from reaching the wire for they would pass into the earth by way of the grounded, surrounding metal conductor or shield. But such a shield, if it happens to be rather lengthy, will sap most of the radio energy collected by the antenna because of a condenser or capacity effect set up between the insulated inner wire and the surrounding metal surface. The higher the frequencies being received the greater will be this energy loss through the long condenser.

Short waves, therefore, are very difficult to handle, and the shielding of lead-ins usually produces much signal loss. The least condenser effect in a short-wave antenna system means loss of signal strength. But success has been obtained by certain transposed down-lead systems in place of the usual shielded lead-in wire.

Shielding against static has been improved by utilizing small radio-frequency transformers for input and output together with a low impedance circuit between the antenna and receiver. Properly matched transformers at both ends of the lead-in permit the antenna to be located in the most desirable place and position, and the receiver may be installed in any location without relation to noise or proximity to the antenna.

Antenna Transformer Systems

The general principle in use by several efficient noise-reducing antenna systems now on the market is decidedly similar. A small transformer is attached to the antenna wire. Passing down from this device is a pair of twisted lead-in wires covered with a metallic braid or shield, which is grounded. At the radio end another transformer connects to the antenna and ground terminals of the set. There are some systems which do not



The Lynch Transposed Aerial

use a shield covering, but transpose the two wires continuously all along the circuit. Several transformers may be used on one lead-in so that three or four sets can be operated simultaneously on a single antenna.

Amy, Aceves and King offer their "Akaformer" outfit which consists of an antenna Akaformer and a set Akaformer joined together with a length of single-wire, flexible-braid, shielded cable. Two antenna leads are provided at the set Akaformer; one for a receiver of low impedance, and one for a high impedance set. Tobe Deutschmann's model 33 "Filterizer" consists of impedance matched units for the antenna and radio set with a Filterized shielded down-lead cable. A good match may be obtained between any aerial, the shielded cable, and a receiver of any input impedance. Two terminals on the set transformer permit this close matching.

Pacent offers their No. 341 "Radioformer" system consisting of antenna and set Radioformers and special shielded transmission cable. An additional lead permits careful matching and excellent short-wave reception. Arthur H. Lynch has produced a broadcast noise-reducing "No-Stat" system using the antenna and set transformers and shielded cable. Most of these sets are similar to the Akaformer system, and some manufac-

REPORTING

Reception in French

IN the March, 1933, issue of this magazine (No. 67) appeared a letter in Spanish to be used in reporting reception of Spanish-speaking stations. Accompanying it was the English translation. This month we present the same letter in French; for the English translation see page 19 of the issue above referred to.

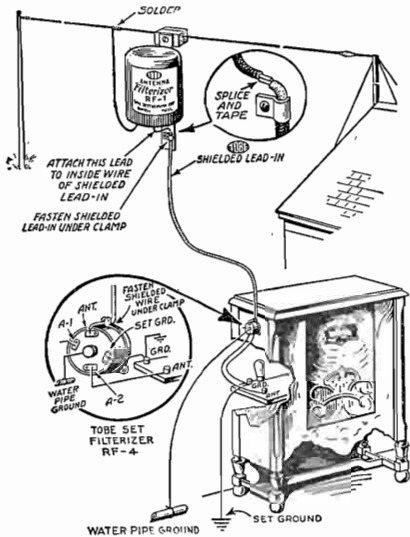
Monsieur le Ingénieur Chef
Station de Radiodiffusion (Call)
Cher Monsieur:

Je viens de m'amuser beaucoup en écoutant votre station de radiodiffusion (Call) en—kcs. Ci-dessous se trouve la liste des sélections que j'ai entendues. Voulez-vous avoir la bonté de vérifier celle-ci avec votre liste des stations, et m'adresser une vérification de ma réception.

1. Sélection d'orchestre
2. Sélection de piano
3. Sélection de violon
4. Sélection d'organe
5. Sélection de marimba.
6. Sélection d'accordéon
7. Solo vocal (Monsieur)
8. Solo vocal (Madame)
9. Choeur vocal
10. Musique classique
11. Musique populaire
12. Musique du pays
13. Musique de la danse
14. Fox trot
15. Marche
16. Valse
17. Causerie
18. Annonces de la station
19. Volume—faible
20. Volume—médium
21. Volume—fort
22. Qualité du ton—mal
23. Qualité du ton—bien
24. Conditions de l'atmosphère—bien
25. Conditions de l'atmosphère—mal
26. Musique Américaine
27. Musique Francoise
28. Guitare
29. Duo Trio
30. Le temps

Je vous remerci d'avance pour votre vérification. Dans l'espoir de vous adresser encore un rapport à l'avenir, veuillez agréer, Monsieur, mes salutations distinguées.

Friday's time on the air will appear in the November issue; Thursday's in December.



Tobe Deutschmann Transformer Aerial

turers have been licensed under the Amy, Aceves and King basic patents which are said to control the system. The older Kolster system has been described previously in RADEX (November, 1932).

The Transposed Lead-In

Some experimenters have perfected devices that do not use shielded cable. The Philco system avoids the use of metallic shielding and consists of two transformers; one, the antenna, and the other, the set transformer. A length of transposed, twisted lead-in wire is used to drop down from the antenna. A high ground close to the antenna is necessary. This Philco "Three-Purpose" system not only prevents man-made static from entering the set, but is said also to increase efficient reception and bring in many more stations. The "Staticlear" system also uses the transposed two-wire down-lead cable. Both it and the Philco work well on short waves without the need of a special transformer terminal. The Lynch "Doublet" transposed system was designed particularly for use on short waves, but it

(Continued on page 32)

EXPLORING *the* Short Wave SPECTRUM

• • • *With* PAGE TAYLOR

BECAUSE of the fact that reliable short wave reception depends upon so many different factors, it is necessary that broadcasting stations have constant and comprehensive reports from listeners so they may determine the proper frequencies antennae and operating schedules to use to obtain maximum results in transmission.

To assure these stations of a continuous stream of reports covering reception on the North American Continent, RADEX has appointed from among its readers, Official Auditors, whose duty it will be to watch the transmissions of a selected group of stations from day to day. These reports will be compiled and sent to the stations once each month. It is expected that such reports covering a period of several months can be of value to the designated stations, and of course, they will aid listeners in that they will surely result in better reception on this Continent.

From the Stations

Mr. D. R. P. Coats, Broadcasting Manager of VE9JR, kindly sends us their correct operating schedule. This station works on Sundays from 9 to 10 p.m.; on Saturdays from 9:30 to 10 a.m.; 11 to 11:30 a.m.; 12:45 to 1:15 p.m.; 7 to 8:30 p.m.; and 9 to 10:30 p.m. On the other days of the week the schedule is: 9:30 to 10 a.m.; 11 to 11:30 a.m.; 2 to 2:15 p.m.; 3:15 to 3:35 p.m. and 7 to 10:30 p.m.

Mr. Coats writes that he would be very pleased to have RADEX readers report regularly on reception from VE9JR. They may be addressed at Radió Office, 155 Royal Alexandra Hotel, Winnipeg, Manitoba, Canada.

Mr. Hermann Degwitz, owner of YV3BC, writes:

"Answering your letter, we are giv-

ing you below our latest schedule:

6134 kcs., 11 a.m. to 1:30 p.m. and 5 to 10 p.m., Caracas time.

9510 kcs., 10 to 10:30 p.m., Caracas time.

"The above is on working days, on Sundays we transmit on 6134 kcs. from 9 a.m. to 12:30 p.m. and from 3:30 to 7 p.m. Caracas time in addition to our regular transmission which starts at 8 p.m. and ends at 11 p.m.

"We are not working on 6080 kcs. any more, and we believe that in a short time we will get a new frequency assignment instead of 6134 kcs. as this wave is very near W8XX (only 6 kcs.) and results in considerable interference.

"Our address is Radiodifusora Venezuela, Bajos Pasaje Ramella,



Howard Barlow, conductor of the Columbia Symphony Orchestra, is one of the air's most popular leaders. Mondays at 10:45 p. m. EST and Wednesdays at 11:00 p. m.

Caracas, Venezuela."

Caracas time is one half hour faster than EST.

German S.W. Stations

From Herr Eppen of the Reichspostzentramt comes a letter containing accurate information about the German stations.

"The transmitters are located at Zeesen, a suburb of Berlin," he writes. "At this time two transmitters are working on various wavelengths and with different aerial systems.

"From 8 a.m. to noon, EST, one sender works on 15,200 kcs. (19.737 meters, DJB), also from 12:30 to 6:30 p.m. This same transmitter also works on 31.38 meters (DJA).

"The second transmitter works from 10 a.m. to 6 p.m. on 25.51 meters (DJD), and from 7 to 9 p.m. on 49.83 meters (DJC). Many programs are relayed from our long wave station on 1634.9 meters and also from the Berlin sender over the aforementioned wavelengths. The antenna output of these stations is 5 kw. and modulation is about 70%."

Additional information is given in a letter received from the Reichs-Rundfunk-Gesellschaft, Berlin-Charlottenburg 9, Haus des Rundfunks, Masurenallee. This letter states that DJA, 31.38 and DJC, 49.83 meters, work daily from 7 to 9 p.m. EST with news items in German, English and Spanish nightly at 8:45 p.m.

Reception reports for German broadcasting stations should be sent to the Reichs-Rundfunk-Gesellschaft at the address given above. We believe, however, that the Reichspostzentramt will continue to acknowledge communications regarding commercial or experimental stations. This organization can be addressed at Berlin-Tempelhof, Schöneberger Strasse 11-15.

In the Dominican Republic

Accurate data have been received about station HI-1-A from its owner, Mr. Rafael Western. He writes:

"This station is constructed in this

country by its owner, Mr. Rafael Western. It works on a power of 7½ watts, and according to reports is heard in the United States, Cuba, Porto Rico, Venezuela, Virgin Islands and all the Dominican territory.

"The actual hours of transmission which we have scheduled are the following: 8 to 8:30 a.m.; 12:30 to 1:30 p.m. and 8 to 9 p.m. every day." (We believe EST is indicated.)

The frequency used is given on the letter-head as 6,272 kcs. or 47.8 meters, and the address as: Estacion Radiodifusora Commercial HI-uno-A, "La Voz del Yaque," Santiago de los Caballeros, Dominican Republic.

The two League of Nations stations at Prangins, Switzerland, have changed their schedule, according to information received from C. R. Anderson, 1026 1st St., N. E., Mason City, Iowa; I. Beitman, 249 Gates Ave., Elyria, Ohio, and John Strong, 1436 Meridian Place, Washington, D. C. Stations HBP and HBL operate



"It's funny business" that takes Milton Berle, 21-year-old wise-cracker, from Broadway to the Old Gold broadcasts with Fred Waring's Pennsylvanians. You will hear him Wednesdays at 10:00 p. m. EST on the See-Bee-Ess.

now from 5 to 5:45 p.m. EST Saturdays instead of Sundays.

A Two-Way Police System

Some of our readers may be interested in the information contributed by Nathan Handler, 102 West 16th St., Bayonne, N. J. He writes that his "home town," Bayonne, has installed and is now using a short wave police radio system that works in duplex, or, as he says, "a system that works both ways, from a central station to police cars and from the cars to the station at headquarters, at the same time. The headquarters set operates with 25 watts power and the 9 police cars with 4.5 watts each. They all use the 34,600 kcs. frequency. The local police also have permission from the FRC to operate experimentally on the following frequencies: 41,000; 51,400; 60,000 and 400,000 kcs. I have not been able to find out what call letters are used. I hope you will find this information useful. This is the first time in the East that two-way communication has been tried with police radio."

These stations have experimental call letters at this time. The headquarters station is W2XEA, while the nine police cars are W2XEB, W2XEC, XED, -XEE, -XEF, -XEG, -XEH, -XGG and -XCJ. We would be interested in knowing how many of our readers are able to receive these ultra-high frequencies. 34,600 kcs. is equal to 8.6 meters. If readers are interested we will include in another issue of RADEX a list of these high frequency police transmitters. Several such stations have been licensed and should be in operation in the near future.

Caracas and Saigon

A questionnaire sent to YV1BC was returned with the information that two frequencies are used, 6112 and 11,695 kcs. with 300 watts power. The station announces as "YV1BC, Broadcasting Caracas, le habla a la nacion," and chimes are used as an interval signal. The mailing address of this station is Compañía Anónima



When the Richfield Country Club broadcasts on Mondays at 7:30 p. m. EST, listeners hear these artists. Left to right, Mary McCoy, soprano; Ernest Chappell, m. of c.; Betty Barthell, blues singer; and Jack Golden, orchestra leader. Miss McCoy, who once toured with Madame Schumann-Heink, sings light opera and semi-classical selections. Miss Barthell, throaty voiced daughter of the South, sticks to popular "blues" tunes, sung in a style all her own.

Almacén Americano, Apartado 290, Caracas. YV1BC sends an interesting 14-page booklet filled with pictures to listeners in acknowledgment of correct reports.

According to a letter received from Compagnie Générale de Télégraphie Sans Fil, P. O. Box 238, Saigon French Indo-China, two transmitters working on three wavelengths are used for telephony with Ste. Assise, France.

Mr. P. Marty of this station writes: "Station FZS works telephony with Paris, FTK, on 16.345 meters (18.342 megs.). The service commences at 1345 GMT (8:45 a. m., EST). The power in the antenna is 15 kilowatts and the frequency is stabilized by quartz crystal.

"Telephonic communication with France is also maintained on 25.02 meters (11.983 megas.) by the same transmitter, FZS.

"We also use, but more rarely, another transmitter, FZR, which works on 18.51 meters or 16.200 megas."

A letter from TGW informs us that they work on short and long wave simultaneously, as follows:

Sundays, 12 noon to 1 p. m.

Other days, 12 to 1 p. m.; 6-7 p. m. and 9-11 p. m.

Standard time is not indicated, but we believe this schedule is given in CST. The wavelength is given as 45 meters.

Despite the fact TGW consistently requests reports from their audience, we have never heard of anyone receiving a confirmation.

The Summer Logs

"We've had some swell days this summer for short wave," reports Geo. K. Glass, 1320 Cadillac Blvd., Detroit, Mich. "The old Kennedy has performed perfectly. I've never been able to get NRH but in trying for him I picked up XETE in Mexico.

"DJD and DJB have been wonderful all summer. DJA and DJC also come in regularly, but not so perfectly. GSF, GSB and EAQ get an A-1 rating. Pontoise does not line up very well though some Sundays I get them on 25.2 and 25.6. I've gotten VK2ME a few times. In general, I have been doing more listening to programs than DXing. In fact, we've danced here several times to music from DJD. They broadcast a German orchestra one evening playing 'Stormy Weather' and we just had to dance. They sure outline their programs for the following two days in fine style at 7 p. m. I've had quite a few letters from Deutscher Kurzwellsender. They are quite interesting in reports.

"I notice that sometimes GSD and DJD conflict but yesterday I could separate them perfectly. Had another session with 2ME yesterday morning. Couldn't hear them from 1 to 3. They came in very good from 5 to 9 but couldn't get them from 11:30 to 1:30.



"The Hummingbirds" are the latest trio of harmonizers to be heard on the CBS. With Ted Husing, Barbara Maurer and Leon Belasco's orchestra, they provide the talent for the Oldsmobile programs, each Tuesday and Thursday night from 10:30 to 10:45 EST. Left to right: Margaret Speaks, Katherine Cavalli and Dorothy Greeley.

I occasionally get Pontoise on 25.6 clear enough to understand if I knew enough French. YV1BC has been missing for some time for me."

"South Americans are not receivable here at this writing," advises C. R. Anderson, Mason City, Iowa. "The German, French, and English are good at times. Spain being the most consistent of the lot, but you know how inconsistent short wave reception can be, one day no foreigners being heard at all, but the next time you turn in they are all there. J1AA on 30.4 meters is now on from 6 to 7:30 a. m. daily. I often hear a Mexican in the mornings on 16.88 meters, call not yet known. A Spanish station on 30.45 meters is also heard playing American recordings and asking for any American or Mexican station to come in. I would like more information on this from anyone."

(Continued on page 33)

SICK SETS *and* Their Symptoms

... *By the* TECHNICAL EDITOR

PLEASE tell me what sort of circuit is used in the RCA R-21 receiver.

The RCA model R-21 receiver uses a 9-tube circuit, or eight tubes without counting the rectifier. It is a standard superheterodyne receiver and takes the following tubes: one -35 radio-frequency, one -27 oscillator, one -24 first detector, one -35 intermediate frequency, one -27 automatic volume control, one -27 second detector, two -47s in push-pull power output, and one -80 full-wave rectifier.

Pick-Up With RCA Victor R-74

How can I use an electric pick-up table in connection with my RCA Victor R-74 radio receiver?

This particular receiver has a grid bleeder or resistance connected from the grid return to ground of the second detector, with a 0.1 mfd. condenser shorting or by-passing the return to the cathode of this tube. Place the terminals of the pick-up across the bleeder mentioned and remove the 0.1 condenser. It may be necessary to put a .002 mfd. condenser in its place. Then shunt or by-pass the 20,000 ohm second detector cathode resistance with a 3,500 ohms resistor. This will complete the adaption of the receiver.

Changing To Short Waves

I have a Radiola AR 812 receiver that I would like to change over for short wave reception if practicable. Will you advise me how to proceed?

Although this circuit has been adapted to short wave reception there is no specific information available on the method of making the conversion. The loop must be tapped and only a small portion of it used. The tuning condensers should be reduced in capacity or value or replaced with

smaller ones. The coils shown in your circuit diagram, marked L1b, L2, L9 and L10, must be reduced in inductive values. And adjustments, alignment and the balancing of the circuit for higher frequencies is then a matter of experiment. Removal of turns of wire from the coils to shorten the wave lengths received are best determined by experimentation.

Voice Coil On Sparton 301

How can I go about cutting the speaker wires to insert a silencing switch when using headphones on my Sparton model 301?



When "The Bath Club" resumes its programs over WABC and the Columbia net, on Sunday, Oct. 1st, at 9:00 p. m. EST. Nino Martini, peer of radio tenors, will join the cast. Martini is the first singer to go from Radio to Metropolitan Opera though many have traveled in the other direction.

Two yellow wires connect the power tubes to the primary of the output transformer, and blue and red wires attach to the field magnet of the field coil. Trace the two yellow wires from the chassis to the transformer. There you will find also two additional short wires leading from the secondary of this transformer to the voice coil which is wound on the tip of the speaker cone, being somewhat free to vibrate or "float." These are the voice coil wires, and either one may be cut for the series insertion of the silencing snap switch.

Replacing Majestic Tubes

Will it be possible to make a substitution of newer tubes for the tubes now in my Majestic model 90-B receiver?

All Majestic tubes are similar, with only a very few exceptions, to standard tubes and they all may be interchanged. In your set all four of the -27 radio-frequency tubes may be replaced with 56s. However, in the interest of economy, we suggest that you purchase but one tube at a time and replace only those -27s where actual improvement may be noted by ear. If a 56 works well in each of the -27 sockets then all -27s may be replaced. No other changes are recommended.

Magnetic Speaker On A-K 55

How shall I go about attaching a magnetic speaker to my Atwater Kent 55 receiver?

We assume that you wish to attach the speaker for use simultaneously with the dynamic speaker of the set. Of the four wires in the cable from the chassis socket to the speaker the two yellow wires with a black trace through them are the voice coil leads. Cut one of these short wires and insert a single closed circuit jack in series with the cut. When a phone plug is inserted in the jack it connects the magnetic speaker in series with the dynamic speaker—both operating together. If the magnetic speaker is not desired when the dynamic speaker operates, or vice versa, use another

type of phone jack which will cut off the dynamic speaker when the magnetic speaker plug is inserted in the jack.

New Tubes In National Jr.

Do you think it would be wise for me to change over to the newer types of tubes in my National Jr. short-wave receiver?

The circuit is very critical and for this reason it is not advisable to substitute other and newer tubes for the ones now in use. The set is designed so carefully for the tubes furnished that any change will tend to throw off the extremely fine balancing of the circuits. Replace the old tubes with new ones if they are weak. Clean the set, particularly between the plates of the variable condenser, and remove all dust that tends to lower efficiency.

Radex S. W. Converter

I have been able only to procure a 30 millihenry choke for my short wave converter I am building. Will this work? Which tubes in my set are best for furnishing filament and B current?

The 30-mh choke coil will serve quite well. The values given in our May and June issues were, of course, those best calculated to work in harmony with each other. Slight variations will not matter very much. You may take the filament current from one of the -45 tubes with a wafer adapter beneath, and the plate current with another wafer beneath the -27 first audio tube. This, of course, provided your receiver is rather standard in its arrangement.

Failure Of All-Wave

I have a Brunswick 9-tube receiver with a built-in short wave attachment which gives very poor results. Can you advise me how to use this set? Also, there are two coils that came with my receiver and I do not understand how to use them.

This Brunswick receiver is a sort of all-wave set with plug-in short-wave coils. Since our available data do not give the values of the coils,

as well as some other essential information, we advise you to get in touch with Brunswick Engineers, 619 West 54th Street, New York, N. Y., who will gladly furnish you with all needed information about their receivers.

Hum in R. C. A. Set

My RCA 66 set has an objectionable hum when you sit to one side. It sounds wavy if the station tuned in is a powerful one. How can I filter this hum out of the receiver, for it begins as soon as the set is turned on?

No general statement can be made in regard to receiver hum as there are a large number of possible sources of hum. As tubes become old their emission becomes irregular and causes a hum. The improper neutralization due to shifting tubes from one socket to another may cause hum. There are other sources too numerous to mention, such as improper plate voltage, improper grid voltage, insufficient heater current, leaky or open cathode condensers, defective filter units, etc., all or any of which can only be located by a well-equipped service man and shop. Of course, there is the question of a wavy or throbbing hum caused by station interference which no set can eliminate. It comes under the heading of interfering harmonics caused by two or more station carrier waves working against each other.

In this receiver all of the -27 tubes may be replaced with 56s, but the r.f. tuning, the i.f. tuning, the neutralization, and the oscillator, must be carefully and correctly readjusted. Because of the great increase in gain in these new tubes the volume control need never be turned as high as previously. More shielding on this set is not advised as it will alter to a certain extent the circuit characteristics and possibly beyond the range of the variable adjustments within the set.

Coils And Condensers

How are coils and condensers matched up in a radio circuit? How



The "Ford Dealers of the Air," otherwise "Lum and Abner," excellent interpreters of rural community life, obviously know their "common pee-pul." On the NBC-WEAF network each Monday, Tuesday, Wednesday and Thursday at 7:30 p.m. EST. They are also on the same systems Friday nights at 10:30 with an old-time sociable.

does a condenser tune a coil of wire?

When you change continuously the capacity of a variable tuning condenser, or change the number of turns of wire on a coil, the process is called tuning. This is the method of regulating the circuit reactance. Reactance in a radio coil is its resistance to a flow of alternating current. A coil may have almost no resistance to direct current, yet present a high resistance to an alternating current. When the frequency is very high even a small coil has a great reactance.

Tuning may be accomplished through a change of condenser capacity, and this variation will balance its capacity reactance against the inductive reactance of the coil when the latter is a fixed unit, such as is the case in radio circuits. What we do by tuning the condenser is to

establish a point of resonance by creating a condition of zero reactance in the coil for the passage of a radio signal of a given frequency. No other frequencies can pass except the one to which the coil is tuned to a state of no resistance, and the circuit is said to be in tune with that certain frequency.

It can be seen, therefore, that coils must be carefully designed so they can be tuned by condensers, and that there is a definite ratio between these two units of the circuit. The coil, in a broadcast receiver, must not oppose frequencies between 545 and 1500 kilocycles which are induced in the receiving antenna, yet it must be capable of being tuned with a condenser to any frequency within that range. The usual condensers have capacities of .00035 and .0005 microfarads, or millionths of a farad. On the broadcast band with a .0005 condenser, about 50 turns of No. 28 wire on a two-inch tube will suffice, or about 65 turns for a .00035 mfd. condenser.

Freed-Eiseman Wiring

How can I identify the wires for batteries on a Freed-Eiseman, model N-89, six-tube set, so they can be attached to A and B battery eliminators?

The B 135-volts wire leads to the speaker jack and the plate of the -71 power tube in the set. The 90-volts B wire leads to one side of the primary of the second audio transformer; it also connects to —A through the by-pass fixed condenser. The B 22-volts wire connects to the primary end of the first audio transformer and then to the plate of the detector tube. The positive A wire goes to the volume control rheostat. The —A, —B and plus C wires connect to the ground and to one side of the filament terminals of all sockets. Negative C 4½ volts connects to the secondary coil of the first audio transformer (immediately following the detector tube). And C —22½ volts goes to the secondary coil of the second audio tube, thence to the grid of the last power tube, a -71 type.

New Tubes Cause Howling

My General Electric a.c. receiver uses -24 and -27 type tubes which I replaced with 56s. Poor results were had, with whistling and other noises. What should be done?

You have not indicated the model of your set, but we assume it is either H-31, H-51 or H-71, all of which use the same tube arrangements. The -27 oscillator tube in these sets cannot be replaced with 56s without readjustment and alignment of the oscillator condenser. This part of the circuit is very critical. The same applies to a lesser extent to the second detector, which is also a -27 tube. With rebalancing of the tuning condensers a 56 can be used in place of the second detector. The oscillator is the -27 tube next to the -24 at the right hand end of the chassis (looking down from the front), while the second detector is the last -27 at the left hand end of the row of tubes.

Poor Volume On RCA 46

My RCA model 46 receiver seems to fluctuate in volume for half an hour or so after being turned on. What do you suggest as a remedy?

The fluctuation appears to be due to trouble in the volume control which is a 50,000 ohms resistance that varies the voltage on the screen grids of the two r.f. tubes—type -22. It should be tested and replaced if at fault. Then there is a line voltage resistance with switch for regulating the 110-125-volt power. These resistances, which are three, each with 16 ohms resistance, may be defective. The series filament resistors, two in parallel, totalling 268 ohms, in the maroon and red wire leading to terminal 8 of the terminal strip, may need replacing.

All tubes, sockets, connections and resistors must be tested and replaced if defective. It is evident that after the set warms up the defective point expands and produces good contact. There have been cases of such variation in resistance being so difficult to

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NOVICES *and* Experts in the DX FIELD

• • • *At our Readers' Dials*

INTRIGUED by the letters from our DXers, each month sees many new hands twirling the dials for the distant station. Here is one of the most interesting pastimes or hobbies in the world, one in which not a single cent need be spent or in which a verification collection of great interest may be built up. There are no membership fees and no formalities. If you have a radio set, start tonight to see how many stations you can log with your receiver whose call you hear distinctly.

From a Beginner

"I found RADEX to be so helpful and interesting that I decided to become a DXer," states A. Rodriguez,



Fred Allen, droll funster from the Broadway musical show, brings his own company of clowns to the air as a garnishee for the Salad Bowl Revue. Allen's company includes his wife, Portland Hoffa, Roy Atwell, the twonguetister, and Jack Smart. Ferde Grofe's orchestra furnishes the music—all on the NBC-WEAF net Friday nights at 9:00 p. m. EST.

Sergeant Service Co., 28th Infantry, Fort Niagara, Youngstown, N. Y. "What are the qualifications to become a member?" Sgt. Rodriguez has a 7-tube All-Wave Silvertone super and one of the first stations he has on his new log is DJC, Zeesen, Germany, which, he says, "comes in very loud and clear, almost like a local. I got this station Tuesday night at 8:15 EDST and again Wednesday at 9:00 and she is coming in again tonight, Thursday as they announced they would. When I first picked them up, it was such a surprise to me that I didn't think it could be possible until 9:00 p. m. when they announced for the second time in German, English and Spanish." In answer to the Sergeant's question, the DX game has been covered in a number of articles in recent issues of this magazine. See What Do You Mean—DX in March, 1932; Radio DX as an Interesting Hobby, in October, 1932; Rules and Regulations of DX, in November; On Riding a Hobby, in December; and many others.

From Some Old Hands

"There is nothing I like to do better than sit by my radio in the wee, small hours and try for far-off distant signals," says Walter Dice, 714 Chess St., Bridgeville, Pa. "I have never identified any stations farther than the Pacific Coast but won't give up until I do. I do not seem to have any trouble getting California, Washington, Oregon and British Columbia but beyond that, nothing doing. I have heard signals several times on 750 kcs. which could have been KGU, Honolulu, or perhaps JOBK-1, Osaka, Japan. Also on 720 kcs. I have heard signals several times other than WGN, Chicago, but have never been able to get call letters loud enough. I

believed these latter signals to be 2YA, Wellington, N. Z. I will not *guess* I heard a certain station and until I hear the call letters and location, I will not count them.

"I did not have an outside antenna last winter because, where I was living, it was impossible to put one up. Neither did I have a ground on my set. Just a short wire run from the antenna post on the receiver to a hot air register. This, I found, made my set very selective because I was able to hear and verify on February 9th, at 7:15 p. m. EST, station CFCO on 1010 kcs. using 250 watts, with our own local KDKA using 50,000 watts at the same time on 980." Among Walter's other catches are HJN, YV1BC, KFPM, WKAQ, KFOX, KMPC, 10-BQ, CJOR and WNBW.

"Due to a difficult course in ceramics here at the University of Illinois," comments Rexford Newcomb, Jr., 605 Nevada Street, Urbana, Ills., "I was unable to do any DXing all last winter. Two weeks ago, however, I stayed up late to listen to a favorite dance program and, after its conclusion, I twirled the dials for fun and was lucky enough to get in with a bunch of stations giving frequency check program. On that night and the following, I logged 31 new stations, bringing my total log to 418. The best catch of these test programs was KGKL, 100 watts in San Angelo, Texas. This came in well despite the summer static. I received a verification from them yesterday morning to bring my total verifications up to 283.

"My pet peeve is a station that broadcasts nearly all night on some channel for months at a time and simply ruins DX on that particular channel. For instance, I can't seem to get anything but WEXL on 1310 kcs. and WNRB on 1430.

"I don't believe I have ever seen any other DXer mention the Travler set in RADEX. I have done all my DXing on a 6-tube midget set of this make which I think should constitute some kind of a record. Anyway, if any other readers are DXing with a

set like mine, I would be especially glad to correspond with them."

"Congratulations on your June issue!" writes Murray D. Bryce, Rt. 1, Royal Oak, B. C., Canada. "It is just about the swellest possible. It sure is great to see the foreigners listed in the indices. I wish you would publish such a pair of lists several times a year.

"Through RADEX I have made friends with another RADEXer, Frank Macedo of Victoria (page 18, February). I visited him, saw his set and two hundred odd veris. His log now totals about 385, fifteen ahead of me. I think it is the largest on Vancouver Island. His record is nothing short of remarkable, as his set is only a tiny two-tuber, but I don't think there is the slightest doubt about its authenticity, which is more than can be said about some of the fans.

"No doubt you have heard that the DXers on the coast have put on a



Al Goodman and his orchestra furnish the music for the Irvin S. Cobb programs, Wednesdays and Fridays at 9:00 p. m. Columbia time. Cobb isn't much of a hand to watch the clock and this makes Goodman do some fast mental calculations.

campaign to get some time for DXing on the 1200 channel by getting KGFJ, the 24-hour-a-day nuisance, to leave the air sometimes. We have been writing both the station and the FRC, but with little avail. The station has not replied. The FRC said, "There is no restriction as to the number of hours an unlimited time station may operate, regardless of classification—local, regional or cleared channel. Therefore no action may be taken by the commission to curtail the present operating schedule of station KGFJ." It is certainly too bad if nothing can be done."

Our Symbols

"Who says you can't DX in the summer?" postcards Rex Newcomb, Jr., Urbana, Ill. "I've added 48 new stations to my log since August 3rd bringing the total to 453. I don't agree with your symbols regarding verifications. I have cards from WJS, WGN, WTAM, WMAQ and KGKY whereas you list all these stations as not verifying reports of reception." One of the questions on our recent questionnaire to all stations was "Do you verify reception for your listeners upon receipt of accurate report and return postage?" When a station answers Yes or No, we have to assume they can read the English language and know what they are saying. The symbols in RADEX indicate the answers the stations themselves gave us. When we attempt to change these symbols because some listener did or did not get a verification, we get into hot water. We can only tell our readers exactly what the stations told us.

"To prove to those DXers who believe in the fallacy that DX is terrible after June 1st," remarks Karl J. Halpern, 495 E. 3rd St., Brooklyn, N. Y., "the following is a list of some of the stations I have heard testing: KTFI, KGGM, WIND, WMBO, WNBO, WHBC, WHBD, WIEH, WEXL, and numerous Pacific coast stations from 500 watts up. Every one of the above stations was heard with a minimum

of static. This summer has been exceptional in that many small stations have been testing. WIND is on every morning till 4:00 o'clock EDST, with their Old Milkman Matinee. WIEH is WMCA's short wave transmitter on 1542 kcys., a very good catch. They use between 10 and 50 watts. Can be heard in the early evenings."

"My radio log for the two years I have been DXing," reports Luther E. Grim, 505 S. Main St., Red Lion, Pa., "stands at 586, with 36 verified. About ten that I know of have been deleted since I heard them. There may be more when I check over the Canadian changes. These are all included in my log. My verification from HJN arrived sometime in May, making my second South American verification, YV1BC being the other."

Likes His New Set

"After three years' experience with several different sets," contributes Clevement Van Velsor, 1033 Sanford Ave., Irvington, N. J., "I have come into possession of a set I've always wanted—the new Scott Deluxe. I find it to be the most powerful instrument for reception I have come across. Really, it is too fine to be called merely a set or receiver; it is an instrument for reception. Even in August I can pick up every channel by 9:00 p. m. EDST. Two weeks ago I pulled in every single channel save 850 (WABC was a little too strong for that one) at 8:30 p. m. When I can get WDEL, Wilmington, at 6:00 p. m. and WHAM, Rochester, at 7 during the summer, I need not mention what I expect when winter comes. Selectivity is fully 25% better than other sets I have used. I mean by this, selectivity over the entire dial and with all stations. I have been surprised again and again by the way I can pick up distant stations which heretofore were drowned out by interference. Short wave reception is all a real fan could ask for. At present GSB is coming in as quietly and as clearly as our local WOR. Even the great amount

of ignition interference from passing cars which formerly ruined many good programs bothers me now only a little."

Radio in Cuba

J. A. Vinas, Vista Hermosa letra "L", entre S. Pedro y Pinera, Cerro, Havana, Cuba, kindly sends us the latest official list of the Cuban stations and adds: "Now for a little chat. We have few real radio fans in this island. Short wave here is in its cradle as far as fandom is concerned. There seems to be a tendency to spend all in a radio set but as little as possible on antenna, ground and accessories. On the long waves, anybody with any kind of a radio hears all of those 50,000 watters and a few 25,000 and 5,000 ones that you have up in the states and some of the big ones in Mexico, but none of the rest even those located right here in Cuba outside the Havana city limits. Tell your readers to tune in for a native program on CMCJ with the best singers of Cuban airs in the country. Also for CMCY every Sunday night from 9:00 to 11:00 EST for the best imitation of last-decade theatrical successes in Spanish."

Here is a DXer that has the courage of his convictions. Robert Rosenberger, 17 Janssen Place, Kansas City, Mo., writes: "Kindly inform all DXers that any one who will telephone WE-4882 in Kansas City, Mo., will hear LR4, Radio Splendid, Buenos Aires, via the phone between the hours of 8:00 and 9:00 p. m. any Tuesday or Wednesday evening (when conditions are half-way fair). I will promise to tune this station in at least half the time although I cannot guarantee the volume nor conditions. I receive this station so frequently that I can safely say that most people who telephone me will hear LR4 relayed on the telephone." That's a pretty big offer Robert makes and we hope conditions will be favorable if he gets any calls.

Sam Kiamie, 2357 Sampson Ave., New York City, has just purchased a Grebe model 88 super which he says

is "a wonderful little set. It is not only sensitive but gives ten-key. selectivity on local stations. Today I got a great kick out of pulling in WIBG in Glenside, Penna., only 25 watts, in the afternoon although WAAT in Jersey City and WBSO in Needham, Mass., on the two adjacent channels were also on at the same time. WIBG gave its location as Germantown and not Glenside."

"I have been DXing for five months and have logged 180 stations," records John Hawkins, Sallisaw, Okla. "My best catches are CMC, WEXL, WJTL, KTM, KTFI and KTAR. I am using a Philco Model 70, 7 tubes. I would like to correspond with a DXer on the west coast."

Foreign Programs

Should radio stations in the U. S. A. pick up and rebroadcast programs for foreign countries. This question is raised by Earl R. Roberts, 42 Burt Avenue, Newark, Ohio, who writes.

"I am now a member of the IDA of Bloomington, Illinois and have written to a number of Spanish speaking stations for DXes this fall to be dedicated to the International DX'ers Alliance and the Atlantic Radio Club. By writing these letters in Spanish, better results are obtained in receiving replies as I found out last year. So far I have sent to these stations for DXes during the months of October, November, and December 1933: PRAA, PRAG, PRAK, LR4, LR5, OAX, ZP1, HHK, CX26, CX24, CE86, CE74, EAJ1, EAJ3, Algiers, N. Africa, Rabat Morocco, La Paz, Bolivia Fecamp France, Julianehaab Greenland, and in SW to YV2AM, EAR58 and CT3AQ. Replies have been received from PRAA and CX26. The former apologized because they were unable to accept the DX and the latter stated that they would be ready to "prolong their transmission on a Saturday morning in order to facilitate the reception." The date and hour I asked for CX26 is Saturday, November 18th from 3:30 to 4:30 a.m. EST. They asked whether the

program was to be retransmitted or not but I do not know if they wanted it to be or not. I'll leave that up to them since I think WIOD Miami might retransmit it as they did HJN once last fall. I don't care much about it myself because some DXers are sure to take advantage of it and write direct to CX26 for a verification. What do you think?

"As I receive their letters of acceptance or refusal I will let you know the dates and hours of each of the programs to print in the DX column."

Tips and Other Info

Thos. C. Roberts, 1043 S. Boxelder, Casper, Wyo., sends us a clipping from a Casper newspaper regarding a completely new station now under construction for KDFN, and says: "Perhaps when this new station is completed, Mr. E. B. Watson, of Ottawa, Ont., (mentioned in the September RADEX) may be able to log them. For Mr. Watson's benefit, KDFN sometimes stays on the air on Saturday nights until 9:30 or 10:00 MST. They did this last winter on several occasions so if Mr. Watson will try sometime to tune in on them after 9:00 p. m. MST, he might succeed in logging them."

For the benefit of the brethren in "Anzacland," WBBX, Claremont, New Hampshire, will give its first DX program of the season on November 19th, from 2:00-3:00 a. m. EST. The corresponding times "on the other side" according to the RADEX Time Converter are as follows: West Australia, 3:00-4:00 p. m.; Central Australia, 4:30-5:30 p. m.; East Australia, 5:00-6:00 p. m.; and New Zealand, 6:30-7:30 p. m.; all the same day. The information comes to us from R. R. Rawstron, Claremont, who adds: "In the U. S. A. we would appreciate reports relative to tone qualities of our improved amplifying system."

"For the benefit of DXers trying to log Eastern Canadian stations," suggests Donald F. Logan, 54 Brun-

wick Street, Gruso, Nova Scotia, "you might advise them that most of these stations run the Canadian Radio Commission programs and are on until midnight, AST, or later." Mr. Logan advises us that he has been appointed Eastern Canadian representative of the New Zealand DX Radio Association and that Canadian readers who would like to join the active New Zealand club may write to him.

"I would like to hear from DXers who have a 16-tube superheterodyne Midwest radio," requests Mrs. J. Maple, 1035 S. Vermont Ave., Los Angeles, Calif., "and the success they have on the broadcast band. We are new in the radio game and have not been able to do much so far. It may be our location isn't so good. We are surrounded by about ten broadcasting stations. Just about in the center of them, and also near power lines and streetcars."

A ball game has Walter J. Dmitrzak, 337 Gibson St., Buffalo, N. Y. up in the air. "On the morning of September 1st, from 3:15 to 3:50 EDST, I heard what was positively a baseball broadcast. Whether it was a night game or a far-distant day game, I want to find out. At 3:25 the score was tied, four and four. Static prevented identification of the station which was on either 1170 or 1180 kcs. Three o'clock EDST is eleven o'clock even on the West Coast and it seems hardly likely that a night game would be played that late. Can anyone identify?"

Canadian DX Specials

The Canadian DX Relay announces the following programs: Time is a. m. EST.

- Oct. 14, 1:00-2:00, WWAE, Hammond, Ind.
3:00-4:00, WCAZ, Carthage, Ill.
4:00-5:00, CFQC, Saskatoon, Sask.
- Oct. 22, 3:00-4:00, CKCO, Ottawa, Ont.
- Oct. 29, 4:00-5:00, WWNC, Asheville, N. C.

They say this will be one of the first DX programs, if not the first, for CKCO.

A Methodical SHORT WAVE SERVICE

• • • *The "Official Auditors"*

HERETOFORE radio listeners have taken a great deal from the broadcasting stations but contributed only too little in return. RADEX has now worked out a method which we believe will be of inestimable service to the broadcasters. Under the direction of our Short Wave Editor, Page Taylor, a group of "Official Auditors" have been appointed for the short wave spectrum. It is hoped in time to have at least one Auditor in each state and in each foreign country.

Each month a group of cooperating short wave stations will be chosen by Mr. Taylor. Our Auditors will check the programs from these stations and submit reports of their reception to Mr. Taylor covering the volume and clarity of the signals, the presence of static and other interference, fading, modulation, etc., etc. These reports will be compiled and sent to each station. The engineer of the station will then have before him a composite picture of the transmission of his signals as received at many widely scattered points.

During the present month, the Auditors will concentrate on the Daventry stations: DJA, DJB, DJC, DJD; VE9JR; VK2ME, VK3ME; and EAQ. In addition to this work, the Auditors will act as official reporters of the short waves to RADEX, providing this publication with a constant supply of authentic data.

The list of Official Auditors so far been named is as follows:

California:

Glendale, A. E. Armstrong, 2021 Bonita Drive
Los Angeles, Stuart Walmsley, 1316 W.
58th Pl.

Pasadena, Gilbert Van Vranken, Jr., 2230
N. El Molino Ave.

San Francisco, Harry W. Dugdale, 3103
Jackson St.

District of Columbia:

Washington, John Strong, 1436 Meridian
Place, N. W.

Iowa:

Emmetsburg, Doyle E. Carpenter
Mason City, C. R. Anderson, 1026 1st,
N. E.

Michigan:

Ann Arbor, Richard M. Carter, 820 McKin-
ley Ave.

Detroit, George K. Glass, 1320 Cadillac Blvd.,
Apt. 205

Wyandotte, Richard Zorn, 464 Superior Blvd.

Minnesota:

Marshall, E. N.-Luken, 605 Lyons St.

New Jersey:

Union, P. J. Soper, 256 Burroughs Terrace

New York:

Brooklyn, Arthur C. Gluck, 295 Clinton Ave.
Charles A. Perdicaro, 7225 New Utrecht
Ave.

Danville, Clarence Sargent, 18 Clinton St.

OHIO:

Cincinnati, George W. Burns, 2466 Wahl
Terrace

Lima, R. W. Evans, 832 Richie Ave.

Oberlin, Robert H. Trufant, 23 S. Prospect
St.

Pennsylvania:

Pittsburgh, C. E. Gates, 514 Ivy St.

Porto Rico:

Mayaguez, Benigno Contreras, Box 74, Ma-
rina Station

Rhode Island

Providence, Roy E. Robinson, 133 Mitchell
St.

Virginia:

Richmond, W. T. R. Morris, Jr., 3219 Gar-
land Ave.

CANADA

Ontario:

London, Edward C. Houlgate, 351 Adelaide
St

Quebec:

Montreal, K. P. Williamson, Apt. 42, 1610
Sherbrooke St. W.

ELIMINATING NOISES

"Radio Noises and Their Cure" is a big 75-page book published by the Tobe Deutschmann Corp. to sell for 50 cents. It completely describes man-made noises of all kinds and prescribes the proper treatment in each case. With each year's subscription to RADEX, we will give a copy of this book free in lieu of the Map of the World with Time Converter. Be sure to specify it if desired.

KEEPING STEP *with* Radio

• • • *and the* EDITOR

JUDGING from the letters we have received, the changes in arrangement in the September issue are meeting with universal favor of our readers. Putting the time on the air in the Index by Frequencies, is a most convenient arrangement. Some readers wish that we would convert all of these times into that of Eastern Standard. While this would be a big advantage to listeners in that zone, we fear it would be very annoying to readers in the other zones. They would be forced to perform mathematical calculations all the time even for stations in their own zone. We wish we knew a happy answer to this problem but we don't. It seems fairer to give the time actually used by each station.

The first "Lesson" in Mr. Dashiell's "Beginners' Story of Radio" appears in this issue and another installment will be found in each succeeding number. It is a very difficult thing to present a highly technical subject in words which anyone can understand but we are sure our readers will have a much clearer understanding of the intricacies of Radio after completing Mr. Dashiell's "home-study course."

Next month, too, our Technical Editor will have an article on "Overhauling the Set" which will, we know, be of great interest to those who must perforce use sets a few years old. While we are glad to present these hints on modernizing the old receiver, at the same time we believe that now is the time to buy a new one. Prices will not be so low again, in all probability for many years, and every purchase now helps strengthen the wings of the blue eagle and keep the factories running. It is almost a patriotic duty at this time to buy everything one needs and can possibly afford.

Anticipating Mr. Dashiell's article, we present a letter from one reader who has made interesting changes in his set.

New Tubes in Philco

"For those who are interested," writes J. O. Challenger, Apt. 20, 5549 Queen Mary Road, Montreal, Quebec, "I have replaced all the type -24 and type -27 tubes in my Philco super-heterodyne-plus, model 112, by the new types -58 and -56 respectively. I have noted an all-round improvement notably the elimination of interference from local stations with those stations operating ten kilocycles on either side, the quieter op-

TOBE

AERIAL FILTERIZER

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STOPS RADIO NOISE

Acclaimed by Radex readers as the finest system for eliminating local man-made static and improving DX reception. Stocked by leading radio supply houses in every city.

DEMAND THE ORIGINAL

Ask your dealer or write

TOBE DEUTSCHMANN CORP.

1033 Perry St.

CANTON,

MASSACHUSETTS

eration of the set and an improvement of the tone. The above improvements appear in spite of operating with range switch set at maximum.

"The replacement of the -27 tubes by the -56 requires only the removal of the -27 and the plugging in of the -56 since the sockets for both tubes are five-prong. The -58, being a six-prong tube, cannot be inserted in the five-hole socket of the -24 so it is necessary to remove the old socket and replace by a new six-hole socket. I do not recommend the use of an adapter because it is necessary to modify the wiring for one of the tubes."

We fear not many of our readers possess Mr. Challenger's skill in making these changes and we hesitate to publish his directions for fear we may lead some owners into water over their heads. If, however, any of our readers feel that they have the skill to make these changes in wiring and sockets, we will be glad to send them the rest of Mr. Challenger's letter by mail.

From Little HIIH

An interesting letter comes to us from Domingo Dominguez, owner of Station HIIH, in San Pedro de Macoris, Dominican Republic. "This small station has only 15 watts with 420 volts and a radiation of 1.15 amperes in antenna and we work on a frequency of 1395 kilocycles. Yet in February and January we were reported heard in Chicago by Lionel F. Stetson and by many radio listeners from different parts outside of Santo Domingo. We are going to have a little on short waves and will be pleased to notify you as soon as it is ready. It will be the same as the other—15 watts, and we are almost certain that on short waves, we will obtain a much better record than on the long waves.

"This little station HIIH is almost a sister station to NRH in regard to the record with the difference that our station with such a small voltage and on such a high frequency, cannot pos-

sibly obtain a record for greater distances. I am short of money to make improvements but a number of radio listeners have helped generously and with this assistance I have been going forward slowly with this little station HIIH. If any radio listener or radio firm desires to give a present to this little station, a theme of four or five sounds will thank them; or if it is from some make of radio, we will be pleased to mention it in each broadcast when this theme is played and mention the gift and the giver."

As our readers probably know by this time, the long-awaited North American conference was a complete "flop." Practically nothing was accomplished and the conference ended in a dead-lock. Mexico asked for some thirty of the 90-odd channels and altogether the nations south of the Rio Grande and in the West Indies wanted nearly half of the available channels. Canada and the U. S. felt that the demands of our southern neighbors were so vast that there was no hope of even a compromise. Therefore the conference adjourned *sine die*. All hope of clearing up the North American air is abandoned.

Club Notes

Too late for inclusion in our roster of the DX clubs last month, comes the following information: The Atlantic Radio Club (membership not stated) was organized in the spring of 1932. The dues are \$1.50 per year (slightly higher in Canada) with an initiation fee of \$1.00 when joining. A four-page bulletin of DX information is mailed to the members every week by first class postage. Last season over one hundred programs were broadcast for the ARC by stations all over North America and many stations gave weekly broadcasts of tips and Club activities.

The Canadian DX Relay opened its new season with a special program from CHRC, Quebec, on September 9th, the news of which reached us too late to make the September issue.

KSD, St. Louis, followed on September 24th and WWAE, Hammond, Ind., will be on from 1:00 to 2:00 a. m. EST, the morning of October 14th. Other programs will follow with prizes for the correct reports received from the greatest distance. Address P. O. Box 339, Goderich, Ont.

The International Radio Society is a unique organization in that it makes no charge for membership or dues. The society has 1220 members in 42 countries, writes Leslie W. Orton, the founder, of "Kingsthorpe," Willowbank, Uxbridge, England.

Another System

"Why is it that you never mention the Southwest Broadcasting Company of Fort Worth, Texas?" asks B. L. Ahman, Jr., 3313 Westerswald Ave., Baltimore, Md. "It owns eleven stations in Texas and Oklahoma, and features Columbia programs as well as their own from Fort Worth. Some of their stations are KTAT, KTSA, KGKO, WACO, KOMO, KNOW, KGRS, KTRH, and WRR. As an authority for this I have a verification from KOMO explaining who the Southwest Broadcasting Company is, after I had heard a program by them. It seems that they deserve a designation mark as much as Don Lee or the Yankee network. Just got my first new season DX catch. WHB of Kansas City, experimenting on 1120 keys, and broadcasting a frolic on the morning of Monday, August 21st."

"Just a few words in appreciation of the Spanish report-of-reception letter, published in the March RADEX with the necessary words and phrases," writes Miss Florence Haist, Box 157 Lindenwold, N. J. "Could you please publish a French, German and Italian translation, too?" The French translation of the same letter will be found in this issue and, through the courtesy of Radexer Rudolph Kure, 3633 Vine St., (Clifton) Cincinnati, Ohio, a German translation will appear in November. Perhaps some of our readers who

write the Italian language will send us a translation in that tongue.

Canadian Gossip

"Today, August 31st, CFCA goes off the air," writes Ernest L. Near, 32 Northcliffe Blvd., Toronto, Ont. "They have been operating since March, 1922. They are Canada's pioneer station. Their reasons for signing off are that they can see no future for privately owned stations in Canada. It seems too bad they must close down but with their low power and poor frequency, they cannot compete with CRCT (formerly CKGW) as both carry identical CRC programs.

"Another old-timer to go off soon is CKCL. They have been on the air since October, 1923. CKNC and CRCT are uniting. That will leave just CFRB and CRCT in Toronto. CKCL is now badly heterodyned by XEPN."

Station CFCO in Chatham, Ontario, holds a radio fan program every Sunday morning from 9:15 to 10:15, EST. There are chats on radio reception, DX tips and other features of interest to fandom. Those of our readers who can bring this station in in daylight, will probably find much of interest on this program.

Still More Outlaws?

Pennsylvania seems to be a hotbed for unlicensed stations if all reports that reach us are any indication. Where are the inspectors for the FRC?

"While fooling around the dials the other day," reports Chas. Solomon, 752 Portland Way, Pittsburgh, Pa., "I ran into two new stations here in Pittsburgh—WWSP in the south hills of Pittsburgh and WBTC in New Kensington, Pa. WWSP came in at about 820 kcs. and WBTC at about 800. I have not been able to get any information on these stations."

Chas. L. Morgan, 800 East 179th Street, New York City, regarding whose skill with the pen, mention was recently made in RADEX, sends us

(Continued on page 80)

INTERNATIONAL CONTEST

for Foreign Stations

A DX contest for foreign stations on the broadcast band is announced by the International DX'ers Alliance, of Bloomington, Illinois, which ought to interest our Super-DX'ers. A letter from Charles A. Morrison gives the details:

Starting October 1st, the International DX'ers Alliance, will sponsor a world-wide DX Contest, to ascertain who may be able to verify the most foreign Broadcast Band stations, during the six months from Oct. 1st to Mar. 31st, inc.

All verifications must be in the hands of the judges not later than June 31, 1934.

Verifications must be from stations at least 2000 miles away, and no stations on the same continent as the DX'er will be counted. (Australia, and New Zealand being considered as one continent.)

All verifications must be approved by the contest judges. In sending verifications to the judges, return postage must be included. In the case of the indecision of a contest judge, on any particular verification, it will be referred to one of the honorary judges for settlement, the honorary judges being neutral. A complete list of judges both contest and honorary, will be announced in the September Globe Circler. For the time being refer all inquiries to Mr. Frank H. A. Johnson, 59 West 66th Street, Chicago, Ill.

The Grand Award in this contest will be a 1934 Model Custom Built All-wave LINCOLN Receiver, through the great courtesy of the Lincoln Corporation.

Second Prize will be a complete, and custom-built Ollie Ross AERIAL-GROUND Unit.

Additional Prizes for the winner in each continent will be a one year's subscription to the Globe Circler.

Special Prize of a one year's sub-

scription to RADEX will go to the member having in the opinion of the judges, the finest single verification.

Any publicity you can give the contest will be greatly appreciated by all members, and you may state that all those desiring further information, or application blanks for I. D. A. membership may obtain the same from the International DX'ers Alliance, Headquarters, at Bloomington, Illinois, or in Europe from Mr. Francis Wiseman of 90 Brighton Grove, Newcastle on Tyne, England, or in New Zealand, or Australia, from F. H. A. Barnett, of 5 Chapman St., Anderston, Dunedin, New Zealand.

Anti-Noise Antennae

(Continued from page 14)

responds well to signals in the broadcast band.

Good experimental results may be had with only a cable consisting of a pair of duplex twisted and insulated No. 18 wires. One wire is connected to the antenna and the lower end of the *same* wire hangs free close to the ground and is wrapped with tape for insulation. A connection is made at some point where it passes close to the radio set for the latter's antenna contact. The lower end of the remaining wire of the pair is grounded, and its upper end, close to the antenna, is insulated with tape and left hanging free. A ground wire is run to the receiver but carefully twisted around the short antenna connection previously arranged. The capacitive effect of the paired wires will weaken the antenna signals somewhat, of course, but the induced static noises are weakened in much greater proportion, and the noise level ratio is considerably reduced.

Exploring the Short Waves

(Continued from page 18)

Short Waves on Ships

The peculiarities of tuning the short waves from the high seas are described in a letter from T. D. Richardson, Second Engineer of the M. V. "El Aleto" of the Atlantic Refining line: "I use a Pilot Dragon 8-tube set, a. c. working from the ship's d. c. mains through a Janette rotary converter (output 150 watts, 110 volts, 60 cycle). The ship is engaged in oil transport on a regular schedule from La Libertad, Ecuador, to Philadelphia. The American short wave stations W2XAF, W1XAZ, W3XAL, W8XK and W2XE come in excellently throughout the voyage. GSB, GSA, EAQ, DJC come in on the Atlantic side of Panama at full loud speaker strength. On the Pacific side I lose EAQ and DJC but receive VK2ME splendidly and GSB is much clearer on that side. The broadcast band is hopeless in the Caribbean but fairly free of static when we are on the Ecuadorian Coast.

"The cabin fans on 110 volts d. c. cause a lot of noise in the receiver, making it necessary to stop those in adjoining cabins. This noise is only present when I am on the short wave band. I contemplate the purchase of a Scott Deluxe 12-tube set; would the fan trouble be more acute in a 12-tube set or would the Scott avoid this? There are five short wave sets aboard this ship and consequently RADEX is very popular and it certainly deserves its popularity."

All Set for H. F.

"My DXing is nothing about which to speak long or loud, as I only settled down to business in January—to find my antenna in a high noise and man-made static field," submits Ben G. Freiland, 6715 McPherson Blvd., E. E. Pittsburgh, Pa. "Using RADEX since December, I naturally came upon the article on the use of

phones and successfully attached a set of them to my new RCA R-75, following your complete information. Now with a new doublet antenna, longer and higher, and a Lynch transposed lead-in, I find myself in the hot, static summer weather. However, I prepared for that by purchasing a Pilot 4-tube s. w. converter and surprise many skeptical friends by letting them enjoy broadcasts from EAQ, YV1BC, DJB, DJD, GSB, I2RO, TI-4-NRH, Pontoise, and many other stations."

"From a letter I received from Reichs - Rundfunk - Gesellschaft, the German short wave transmitters, the other day, asking me to check their programs from August 18th to 27th, it would seem that they are to have special programs over the DJ's during that part of August," concludes W. T. R. Morris, Jr., 3219 Garland Ave., Richmond, Va. "They indicate that they would appreciate reports from s. w. enthusiasts the world over on those particular programs.

"I might add that anyone writing to the German stations must not expect a letter from them if they write but once. The German stations are desirous of corresponding with only those they are sure are interested in their stations and not in just a hurried verification."

A Home-Made Set

Mr. P. J. Soper, 256 Burroughs Terrace, Union, N. J., uses a three-tube set which he built himself. This receiver tunes from 13.5 to 5000 meters, but is most sensitive below 200 meters. It is battery operated and has an aerial 150 feet long running NE to SW. Mr. Soper writes: "Besides the broadcast stations, I have listed hundreds of commercial phones, police, airways, etc. I do not log the amateur stations. My log, without duplications, totals 329 stations. I do not log a station twice when it uses two wavelengths, unless the call signal is different for each wave used, as in the case of the Daventry stations. I do not attempt to verify all stations nor do I bother with commercial transmit-

ters. A few of the positive verifications I have are from PRADO, CM5-RY, DHC, 3ME, PLW, G5SW, T14-NRH, PHI, PCJ, CT1AA, F31CD, HRB and Rabat. The best reception of a short wave station in this locality is from DJD Germany between 5:30 and 8 p. m. There is little fading and very loud clear signals. I2RO is fair, as is GSD. GSB is very good from 7 to 8 in the evening."

A note from John Strong, 1436 Meridian place, N. W., Washington, D. C., supplies the following information: "GSF has discontinued their nightly broadcast and GSD is now used with GSB for the Canadian Zone. CP5 is a new station in La Paz, Bolivia, on 49.3 meters."

"I have been in Illinois on vacation and have been having good results," advises Doyle E. Carpenter, Emmetsburg, Iowa. "I2RO, DJB, DJD, EAQ and the Daventry stations have been very good. Heard I2RO playing good old American jazz the other night . . . have they become polluted also? Haven't heard Huizen for ages and Radio Coloniale has been missing for quite a while. I simply can't get OXY. I wonder if it's working?"

According to listeners' reports in "World Radio," OXY is being heard regularly on 49.4 meters. This station is very hard to get in the United States. They work from 2 until 6:30 p. m., EST.

Verification Troubles

"DXing has been poor this summer," writes David F. Thomas, Twenty-sixth St., Ferry Co., Proctorville, Ohio. "I have added a few good ones to my list, though, namely: VK3LR, 52 meters, 200 watts; VQ7LO, FIUI and SR1. Would like to know why TGX promises to verify reports that are correct, yet in every instance they failed to do so. They came in here one morning on a test program on 49.6 meters so loud and clear that they were rebroadcasted by a local station here. The German, French and many other countries are exceptionally nice about answering QSL's."

Roy E. Robinson, 133 Mitchell St.,

Providence, R. I., is justly proud of the results he has had with his Stewart-Warner 100 Series with built-in converter 301-A, which, he says, "sure is a great combination."

"Just now and until about the middle of September," he continues, "I am at my summer home about 15 miles from Providence and right beside a river, making ideal conditions for radio reception. My results in the city have been remarkable too. This summer I have heard VK2ME Sydney nearly every Sunday morning, real good, and VK3ME about very Saturday and Wednesday morning, quite good. To date I have logged 45 broadcast stations, 24 telephones, 42 police and 2 ships."

"In a little over a year I have logged about 100 s.w. stations throughout the world," informs Charles A. Perdicaro, 7225 New Utrecht Ave., Brooklyn, N. Y. "I am using a Majestic superhet converter Model 10 with an R. C. A. Victor Model R-90. Now for some information which I hope can be of use. All time is EST. WPFU, 2422 kcs. new police station located at Portland, Maine.

Some Tips

"W9XAA, Chicago, Ill. 49.34 meters is now back on the air from 3 to 6 p. m. daily.

"CNR, Rabat, Morocco, operates also on 37.33 meters Sundays from 2:30 to 5 p. m.

"VE9HX, Halifax, N. S., 48.98 meters, 8:30 to 11:15 a. m. and 5 to 10 p. m. daily. Address, Director, P. O. Box 998.

"HC2JSB, Guayaquil, Ecuador, now works on 90 meters, Monday, Wednesday and Friday, 8 to 11 p. m.

"HCK (formerly HC1DR), Quito, Ecuador, is on 52.65 meters from 8 to 11 p. m."

"Now for the first San Joaquin Valley report I have ever seen or heard of in a short wave magazine," comments R. M. Ballard, Visalia, Calif. "I have heard 2ME, 3ME, Rocky Point and Lawrenceville phones. I hear nothing below the 31 meter band and

(Continued on page 79)

WHAT'S ON THE AIR TONIGHT?

Fill in calls and dial numbers for those stations through which you best receive the three chains.
You can then turn quickly to the one that has the feature you want.
COLUMBIA (C).....WABC NATIONAL, Red (R)....WEAF NATIONAL, Blue (B).....WJZ

Call	Dial	Call	Dial

Call	Dial	Call	Dial

Call	Dial	Call	Dial

TIME: E Eastern; C Central; M Mountain; P Pacific.
RADEX is the only publication listing stations in alphabetical order for your convenience.
While these programs are correct at the time of going to press changes are made from time to time.

MONDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00

C — Buck Rogers, Year 2433

CKLW WAAB WABC WADC WBT WCAO WCAU
WDRG WEAN WGR WHK WJAS WJSV WKRC
WOKO

R — Viennese Ensemble—Walter Logan

CRCT KDYL KFYE KOA KPO KPRC KSD KSTP
KTBS KVOO WAPI WBAE WCAE WCSH WDAF
WDAY WEAF WIBC WFAA WFLA WGY WHO WIBA
WIOD WIS WJAR WJAX WJDX WKY WMAQ WMC
WOAI WOC WOW WRC WRVA WSAI WSB WSM
WSMB WTAG WTAM WWJ WWNC

B — Richard Himber and Ensemble

KDKA KSO KWCR WBAL WENR WHAM WJZ WLW
WMAL WREN

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

C — H-Bar-O Rangers

WAAB WABC WCAU WDRG WEAN WFBL WGR
WHEC WHK WLBZ WMAS WOKO WORC

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

B — Lowell Thomas—Today's News

CRCT KDKA WBAL WBZ WBZA WFLA WGAR
WHAM WIOD WJAX WJR WJZ WLW WSYR

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

C — Myrt and Marge

CKLW KRLD WAAB WABC WADC WBT WCAO
WCAU WDAE WDBO WDRG WEAN WFBL WGR
WHK WJAS WJSV WKRC WOKO WQAM WSPD
WTOC WWVA

B — A mos 'n' Andy

CRCT KDKA WBAL WBZ WBZA WFLA WGAR WIOD
WJZ WLW WMAL WPTF WRVA

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

C — Jack Denny's Orchestra

WABC WCAU WDRG WFBL WGR WHEC WHP
WJAS WMAS WOKO WORC WWVA

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

C — Dolph Martin's Orchestra—Travelers Quartet
WABC WCAO WCAU WDRG WEAN WFBL WFAE
WGR WHEC WHP WICC WJAS WJSV WLBZ WNAC
WOKO WORC

R — Lum and Abner

WBEN WCAE WCSH WEAF WEEI WFBR WGY
WJAR WLW WRC WTAG WTAM

B — Richfield Country Club—Grantland Rice

CRCT KDKA WBAL WBZ WBZA WHAM WJZ WMAL
WSYR

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

C — Boake Carter, Philco

CKLW WABC WBBM WBT WCAO WCAU WGR
WHK WJAS WJSV WNAC

R — The Goldbergs

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

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

C — Happy Bakers

CKLW WABC WADC WCAH WCAU WDRG WFBL
WGR WHEC WHK WKBN WJAS WKBN WMAS
WNAC WORC WSPD

R — Soconyland Sketches—Drama

WBEN WCSH WEAF WEEI WGY WJAR WTAG
WTIC

B — The Nomads

CFBC CRCT KDKA KOIL KSO KWCR KWK WBAL
WBZ WBZA WCKY WGAR WHAM WJR WJZ WLS
WMAL WREN WSYR

E-8:15 p.m., C-7:15, M-6:15, P-5:15

C — Edwin C. Hill

CKLW KMBX KMOX WABC WADC WCAO WCAU
WCCO WDRG WEAN WFBL WFBL WGN WGR
WHK WJAS WJSV WKRC WNAC WOKO WSPD

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

R — Floyd Gibbons; Victor Young

KDYL KOA KPRC KSD WBEN WCSH WDAF WEAF
WEEI WFBR WFLA WGY WHO WIOD WIS WJAR
WJAX WKY WLIT WLW WMAQ WMC WOC WOW
WRC WRVA WSB WSM WSMB WTAG WTAM WTIC
WWJ

B — Potash and Perlmutter

KDKA WBAL WCKY WGAR WHAM WJR WJZ WLS
WMAL WSYR

E-8:45 p.m., C-7:45, M-6:45, P-5:45

B — Red Davis, Dramatic Sketch

KDKA WBAL WBZ WBZA WHAM WJZ WLS WSYR

C — Kate Smith

CFRB CKLW KFAB KFH KLRA KLZ KMBC KSL
KTRH KTSB KVOB WABC WACO WADC WBIG
WBRC WBT WCAH WCAO WDAE WDBJ WDOD
WDRG WDSU WEAN WFBL WFAE WGST WHAS
WHEC WHP WICC WIP WISN WJAS WJSV WLAC
WLBW WLBZ WMBG WMT WOKO WORC WQAM
WSBT WSFA WSJS WSPD WTAQ WWVA

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

C — Evening in Paris

CKLW KLZ KMBC KMOX KOMA KSL WABC WCAO
WCAU WCCO WDSU WEAN WGN WGST WHK
WJAS WJSV WNAC

R — A. & P. Gypsies

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

B — Sinclair Minstrels

KDKA KFYE KOA KOIL KPRC KSO KSTP KTBS
KWCR KWK WAPI WBAL WBZ WBZA WDAY WIBC
WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX
WJDX WJZ WKY WLS WLW WMC WOAI WPTF
WREN WRVA WSB WSM WSMB WTMJ WWNC

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

C — Isham Jones; Lulu McConnell

CFRB CKLW KDB KERN KFBC KFPY KFRC KGB
KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD
KSL KVI KWG WAAB WABC WADC WBBM WBT
WCAH WCAO WCAU WCCO WDRG WDSU WEAN
WFBL WFBL WGR WHAS WHK WICC WJAS WJSV
WKRC WLAC WOKO WOWO WREC WSPD WTAR

R — Del Monte Ship of Joy

KDYL KOA KPRC KSD KTBS KVOO WCAE WCSH
WEAF WEEI WFAA WFBR WFLA WGY WHO WIOD
WIS WJAR WJAX WKY WLIT WMAQ WOAI WOC
WOW WRC WRVA WSAI WTAG WTAM WWJ WWNC

MONDAY—(Continued)

B — Jack Frost's Melody Moments
KDKA WBAL WENR WGAR WHAM WJRW WJZ WLW

E-10:00 p. m., C-9:00, M-8:00, P-7:00
C — Andre Kostelanetz—Gladys Rice
CFRB CKLW KFH KLZ KMBC KOMA KRLD KSL
KTRH KTSa KVOR WABC WACO WADC WBG
WBRC WBT WCAO WCAU WCCO WDAE WDBJ
WDDB WDDO WDRC WFBL WFBM WFGA WGST
WHAS WHFC WHP WISN WJAS WLAC WLBW
WMBD WMBG WODX WOKO WORC WQAM WREC
WSJS WTAR

R — Contented Program
KSD WBEN WCAE WDAF WENR WGY WHO WLW
WOC WTAM WTMJ WWJ

E-10:30 p. m., C-9:30, M-8:30, P-7:30
R — Jules Lande, Violinist
KDYL KFI KFJR KGHL KGIR KGO KOA KPRC
KSTP KVOO WBEN WCAE WWSH WDAF WFAF
WIBC WEEL WFAA WFER WGY WHO WJAR WKY
WLIT WLW WMC WOAI WOC WRC WSB WSM
WTAG WTAM WTIC WTMJ WWJ

E-10:45 p. m., C-9:45, M-8:45, P-7:45
C — Howard Barlow and Symphony Orchestra
CKLW KFH KMOX KOMA KRLD KSL KTRH KTSa
KVOR WAAB WABC WACO WADC WBG WBRC
WBT WCAO WCCO WDAE WDBJ WDDO WDRC
WDSU WFBL WFBM WFGA WGST WHAS WHFC
WHP WIBW WJAS WLAC WLBW WLBZ WMBD
WMT WODX WOKO WORC WPG WQAM WREC
WSBT WSJS WSPD
C — Myrt and Marge
KALE KDB KFRC KGB KHJ KLRA KLZ KMBC
KMJ KMOX KOIN KOL KOMA KSL KTRH WBBM
WBRC WCCO WDSU WFBM WGST WHAS WLAC
WREC WSFA

E-11:00 p. m., C-10:00, M-9:00, P-8:00
B — A mos 'n' Andy
KDYL KFI KGO KGW KHQ KOA KOIL KOMO KPRC
KSTP KTHS KWK WCKY WDAF WENR WFAA
WHAM WJR WKY WMAQ WMC WOO WPI WREN WSB
WSM WSMB WTMJ

E-11:15 p. m., C-10:15, M-9:15, P-8:15
C — Phil Regan, Tenor
CKLW KFH KMBC KOMA KSL KTRH KTSa KVOR
WABC WACO WADC WBG WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDDO WDRC WDSU
WFBL WFBM WFGA WGST WHAS WHFC WHP
WIBW WIP WJAS WKBN WLAC WLBW WLBZ
WMBD WMT WODX WOKO WORC WQAM WREC
WSBT WSJS WSPD

R — Buddy Rogers and Orchestra
WCAE WFAF WFER WFLA WIOD WIS WRC WSAI
WTAG WWNC

R — Lum and Abner
KSD WDAF WENR WHO WKBF WOC WTAM WTMJ
B — The Poet Prince

KDYL KFI KFJR KGO KGW KHQ KOA KOIL KOMO
KPRC KSO KSTP KTHS KWGR KWK WBAL WIBC
WFAA WFLA WIBA WIOD WIS WJZ WKY WMAQ
WOAI WREN WRVA WSYR WWNC

E-11:30 p. m., C-10:30, M-9:30, P-8:30
R — Jack Denny and Orchestra
WCSH WFAF WFER WJAR WRC WTAG WTIC

TUESDAY

E-6:00 p. m., C-5:00, M-4:00, P-3:00
R — Walter Logan, See Monday
B — Dick Messner and Orchestra
KOIL KSO KWCR KYW WBAL WCKY WENR WHAM
WJR WJZ WMAL WREN WSYR
C — Buck Rogers, See Monday

E-6:15 p. m., C-5:15, M-4:15, P-3:15
C — H-Bar-O Rangers, See Monday

E-6:30 p. m., C-5:30, M-4:30, P-3:30
R — Mid-Week Hymn Sing
KDYL KFJR KGIR KPO KPRC KTBS KTHS KVOO
WDAF WFAF WFAA WFI WGY WHO WIBA WIS

WJAX WJDX WMAQ WOAI WOC WRC WSAI WTAG
WWNC

B — Kathryn Newman, Coloratura Soprano
KSO KWCR WBAL WCKY WENR WHAM WJZ
WREN WSYR

E-6:45 p. m., C-5:45, M-4:45, P-3:45
C — Barney Rapp and Orchestra
CKLW KFH KLZ KMBC KOMA KSL KTRH KTSa
KVOR WAAB WABC WBBM WBG WBRC WBT
WCAO WCAU WDAE WDBJ WDDO WDRC WDSU
WFBL WFGA WGST WHAS WISN WKBN WLAC
WLBW WLBZ WMBG WMT WODX WOKO WORC
WQAM WREC WSPA WSJS WSPD WTAQ WWVA

R — Shirley Howard—Songs
KDYL KFJR KOA KPO KPRC KSD KSTP KTBS
KTHS WCKY WDAY WFAF WIBC WEEL WFAA
WFER WGY WHO WJAR WJDX WKY WMAQ WOAI
WOC WOV WSAI WSM WTAG WWJ

B — Lowell Thomas, See Monday

E-7:00 p. m., C-6:00, M-5:00, P-4:00
B — Amos 'n' Andy, See Monday
C — Myrt and Marge, See Monday

E-7:15 p. m., C-6:15, M-5:15, P-4:15
C — Dance Time
CKLW KFH KLZ KMOX KOMA KSL KTRH KTSa
KVOR WAAB WABC WACO WADC WBBM WBG
WBRC WBT WCAU WCCO WDBJ WDDO WDRC
WFBL WFGA WGST WHAS WHK WHP WISN WJAS
WKBN WLAC WLBW WMBG WODX WOKO WORC
WQAM WREC WSPA WSJS WSPD WTAQ WTAR

B — National Advisory Council on Radio in Education
KDKA KECA KEX KPSD KFJR KGA KGHL KGIR
KJR KOA KOIL KPRC KTR KTSa KTHS KVOO
KWCR KWK KYA WAPI WBAF WBZ WBZA WCKY
WFLA WIBA WIS WJDX WJZ WMAL WOAI WPI
WREN WSMB WWNC

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

C — Mills Brothers
CFRB CKLW KFAB KFH KLRA KLZ KMBC KRLD
KSL KTRH KTSa KVOR WABC WBG WBRC WBT
WCAO WCAU WDAE WDBJ WDDO WDRC WDSU
WEAN WFBL WFBM WFGA WGST WHAS WHFC
WHP WICC WISN WJAS WJSV WKBN WLAC WLBW
WLBZ WMBG WNAC WOKO WORC WQAM WREC
WSPA WSJS WSPD WTAQ WWVA
R — Lum and Abner, See Monday

E-7:45 p. m., C-6:45, M-5:45, P-4:45
R — The Goldbergs, See Monday
C — Boake Carter, See Monday
B — Don Carney's Dog Chats
KDKA KYW WBAL WBZ WBZA WCKY WGR
WHAM WJR WJZ WMAL WSYR

E-8:00 p. m., C-7:00, M-6:00, P-5:00
C — Boswell Sisters
CFRB CKLW KFAB KFH KLRA KRLD KTRH KTSa
KVOR WABC WACO WADC WBG WBRC WBT
WCAH WCAO WCAU WCCO WDDO WDSU WEAN
WFBL WFBM WFGA WGST WHK WHP WICC
WISN WJAS WJSV WKBN WLAC WLBW WLBZ
WNAC WOKO WORC WPG WQAM WREC WSBT
WSPA WSJS WSPD WTAQ WWVA

B — Eno Crime Clues
KDKA KWK WBAL WBZ WBZA WGR WHAM
WJR WJZ WLW WMAL WMAQ WREN
R — Blackstone; Sanderson-Crumit
WBEN WCAE WCSH WFAF WEEL WFI WGY WJAR
WRC WTAG WTAM WWJ

E-8:15 p. m., C-7:15, M-6:15, P-5:15
C — Singin' Sam, Barbasol Man
CKLW KMBC KMOX WABC WADC WCAO WCAU
WCCO WDRC WEAN WFBL WFBM WGN WGR
WHK WJAS WJSV WKRC WNAC WOKO WSPD

E-8:30 p. m., C-7:30, M-6:30, P-5:30
C — Voice of Experience
CKLW KMBC KMOX WABC WBBM WCAO WCAU
WDRC WEAN WGR WHAS WHK WJAS WJSV WKRC
WNAC

R — Wayne King and Orchestra
KPRC KSD KSTP WBEN WCAE WCSH WDAF
WFAF WEEL WFI WGY WHO WJAR WKY WMAQ

TUESDAY—(Continued)

WOAI WOC WOW WRC WSAI WTAG WTAM WTMJ WWJ

B — Horlick's Adventures in Health
CRCT KDKA KOIL KSO WBAL WBZ WBZA WGAR WHAM WJZ WLS WLW WREN

E-8:45 p. m., C-7:45, M-6:45, P-5:45

C — Kate Smith

CFRB CKLW KFAB KFH KLRA KMBC KRLD KSL KTRH K TSA KVOR WABC WACO WADC WBIG WBRC WBT WCAO WCAU WCCO WDAE WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHK WHP WICC WISN WJAS WJSV WKBN WLAC WLWB WLBZ WMBG WMT WNAC WOKO WORC WPG WQAM WREC WSBT WSFA WSJS WSPD WTAQ WWVA

B — The Rollickers Quartet

KDKA KDYL KOA KOIL KWCR WBAL WBZ WBZA WFLA WGAR WHAM WIOD WIS WJZ WLS WMAL WREN WSYR WWNC

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

R — Ben Bernie and Orchestra

KFYR KOA KPRC KSD KSTP WBAP WBen WCAE WCHS WDAY WEAF WEEI WFBR WFI WGY WHO WJAR WKY WLS WLW WMC WOAI WOC WOW WRC WRVA WSM WSBM WTAG WTAM WTMJ WWJ

B — Household Musical Memories

KDKA KSO KWK WBAL WBZ WBZA WENR WHAM WJR WJZ WKBF WREN WSYR

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

C — Nino Martini, Tenor

CKLW KFH KLZ KMBC KMOX KOMA KRLD KTRH KVOR WABC WACO WADC WBIG WBRC WBT WCAO WCAU WCCO WDAE WDOD WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHK WHP WIBW WISN WJAS WKBN WLAG WLWB WLBZ WMT WODX WOKO WORC WPG WQAM WSFA WSJS WSPD WTAQ

R — Texaco Fire Chief Program

KDYL KFI KFSO KFYR KGHL KGIR KGO KGW KHQ KOA KOMO KPRC KSD KSTP KTAR KTBS KWFO WBAP WBen WCAE WCHS WDAF WDAY WEAF WEEC WEEI WFBR WFI WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOC WOW WPTX WRC WRVA WSB WSM WSBM WTAG WTAM WTMJ WWJ WWNC

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

C — California Melodies

CKLW KFH KLZ KMBC KMOX KOMA KSL KTRH K TSA KVOR WAAB WABC WACO WADC WBIG WBRC WBT WCAO WCAU WCCO WDBJ WDOD WDRC WDSU WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WISN WJAS WKBN WLAC WLWB WLBZ WMBD WMBG WMT WODX WOKO WORC WQAM WREC WSJS WSPD WTAQ

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

C — Ted Husing and Leon Belasco

CKLW KDB KERN KFBK KFH KFPY KFCR KGB KHJ KLZ KMBC KMJ KMOX KOIL KOMA KSCJ KSL KTAT KTRH K TSA KVI KWG WABC WADC WBBM WBRC WBT WCAH WCAU WCCO WDRC WEAN WFBL WFBM WGST WHAD WHAS WHEC WHK WIBW WIP WJAS WJSV WKBN WKRC WLAC WLWB WMT WNAC WOKO WOWO WREC WRR

R — Madame Sylvia of Hollywood

KDYL KFI KGO KGW KHQ KOA KOMO KSD KSTP WBen WEAF WEEC WEEI WGY WHO WIBA WMAQ WOC WRC WTAG WTMJ WWJ

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

C — Light Opera Gems

CKLW KFH KLZ KMBC KMOX KOMA KSL KTRH K TSA KVOR WAAB WABC WACO WADC WBIG WBRC WBT WCAO WCCO WDAE WDBJ WDOD WDRC WDSU WFBL WFBM WFEA WGST WHAS WHEC WHP WIBW WIP WJAS WJAX WLAC WLWB WLBZ WMBG WMT WODX WOKO WORC WPG WQAM WREC WSJS WSPD

C — Myrt and Marge, See Monday

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

B — Amos 'n' Andy, See Monday

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

R — Lum and Abner, See Monday

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

B — Ernie Holst and Orchestra

CFCF KDYL KFYR KOIL KPO KSO KSTP KWCR KWK WAPI WBAL WBZ WBZA WCKY WDAY WEEC WENR WFLA WHAM WIBA WIOD WIS WJDX WJZ WMAL WMC WREN WRVA WSB WSM WSMB WSYR WWNC

C — Singin' Sam, Barbasol Man

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

E-11:45 p. m., C-10:45, M-9:45, P-8:45

B — Horlick's Adventures in Health

KDYL KFI KGO KGW KHQ KOA KOMO

E-12:00 mid., C-11:00, M-10:00, P-9:00

R — Ben Bernie and Orchestra

KFI KGO KGW KHQ KOMO

WEDNESDAY

E-6:00 p. m., C-5:00, M-4:00, P-3:00

R — Walter Logan, See Monday

C — Buck Rogers, See Monday

B — Dick Messner, See Tuesday

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

C — H-Bar-O Rangers, See Monday

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

R — Back of the News in Washington

KDYL KFYR KGHL KGIR KOA KPO KPRC KTBS KTBS KVOO WDAY WEAF WFBR WGY WHO WIBA WIS WJAR WJDX WMAQ WOAI WOC WRC WSAI WSB WSM WWJ WWNC

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

C — Ted Husing, Sport Talk

CKLW KFH KMBC KOMA KSL KTRH K TSA KVOR WAAB WABC WBIG WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDOD WDRC WDSU WEAN WFBL WFEA WGST WISN WJAS WKBN WKWB WLAC WLWB WMBG WMT WODX WOKO WORC WQAM WREC WSBT WSFA WSJS WTAQ WTOC

R — John Pierce, Tenor

KDYL KFI KFYR KPO KPRC KSD KTBS WBen WCKY WCHS WDAY WEAF WEEC WEEI WFAA WFBR WFI WGY WHO WIS WJAR WJDX WKY WMAQ WOAI WOC WOW WRC WSAI WSM WTAG WWJ

B — Lowell Thomas, See Monday

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

C — Myrt and Marge, See Monday

B — Amos 'n' Andy, See Monday

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

C — Jack Denny, See Monday

B — Ray Heatherton, Baritone

KDKA KOIL KSO KTBS KWCR KWK WBAL WCKY WENR WGAR WHAM WJR WJZ WMAL WREN

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

C — Dolph Martin, See Monday

R — Lum and Abner, See Monday

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

C — Boake Carter, See Monday

R — The Goldbergs, See Monday

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

C — Happy Bakers, See Monday

R — Chase and Sanborn Tea Program

CFCF CRCT KSD WBen WCAE WCKY WCHS WDAF WEAF WEEI WFBR WGY WHO WJAR WLIT WLS WOC WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Eno Crime Clues, See Tuesday

E-8:15 p. m., C-7:15, M-6:15, P-5:15

C — Edwin C. Hill, See Monday

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

B — Potash and Perlmutter, See Monday

E-8:45 p. m., C-7:45, M-6:45, P-5:45

B — Red Davis, See Monday

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

C — Irvin S. Cobb—Al Goodman's Orchestra

CKLW KLRA KRLD KTRH K TSA WABC WACO

WEDNESDAY—(Continued)

WADC WBIG WBRC WBT WCAH WCAO WCAU
WDAE WDBJ WDBO WDOD WDRC WDSU WEAN
WFBL WFEA WGLC WGST WHAS WHK WJAS
WJSV WKBW WKRC WLAC WLWB WMAS WMBG
WNAC WOKO WORC WOWO WQAM WREC WSFA
WSPD WTAR WTOC

R — Ferde Grofe's Orchestra
KSD KSTP WBN WCAE WCHS WDAF WFAF WEEI
WGY WJAR WLIT WMAQ WRC WTAM WTTIC WTMJ
WWJ

E-9:15 p.m., C-8:15, M-7:15, P-6:15

C — Kate Smith

CFRB CKLW KFH KLRA KLZ KMBC KRLL KSL
KTRH KTSa KFOR WABC WACO WADC WBJB
WBRC WBT WCAH WCAO WCAU WDAE WDBJ
WDOD WDRC WDSU WEAN WFBL WFBM WFEA
WGST WHEC WHP WICC WISN WJAS WJSV WLAC
WLWB WMBG WMT WNAC WOKO WORC WPG
WQAM WSBT WSFA WSJS WSPD WTAQ WWVA

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

C — Guy Lombardo and Orchestra—Burns and Allen
CKLW KLZ KMBC KMOX KOMA KRLL KSL KTRH
KTSa WABC WADC WBIG WBT WCAO WCAU
WCCO WDRC WEAN WFBL WFBM WGN WHK
WJAS WJSV WKBW WKRC WNAC WOKO WORC
WOWO WSPD

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

C — Old Gold—Fred Waring's Orchestra

CKLW KDB KERN KFBK KFH KFPY KFRC KGB
KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN
KOL KOMA KRLL KSCJ KSL KTRH KTSa KVI
KFOR KWG WABC WADC WBIG WBRC WBT
WCAH WCAO WCAU WCCO WDAE WDBJ WDBO
WDOD WDRC WDSU WEAN WFBL WFBM WFEA
WGN WGST WHAS WHEC WHK WHP WLWB WICC
WISN WJAS WJSV WKBW WKBW WKRC WLAC
WLWB WLWB WMBD WMBG WMT WNAC WNOX
WODX WOKO WORC WOWO WPG WQAM WREC
WSPD WTAR WTOC

R — Corn Cob Pipe Club

KDYL KFI KFYR KGHK KGIR KGO KGW KHQ
KOA KOMO KSD KSTP WBN WCAE WCHS WDAF
WDAY WFAF WFCB WEEI WENR WFBW WGY
WHO WIBA WJAR WLIT WLM WOC WOW WRC
WRVA WTAG WTAM WTTIC WTMJ WWJ

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

B — Music Magic—Ruth Lyon, Soprano
KSO KWCR KYW WBAL WBZ WBZA WCKY WJZ
WMAL WREN WSYR

C — Alexander Woolcott

CFRB CKLW KFH KLRA KLZ KRLL KSL KTRH
KTSa KFOR WAAB WABC WACO WADC WBIG
WBRC WBT WCAH WCAO WCAU WCCO WDAE
WDBJ WDOB WDRC WDSU WEAN WFBL WFBM
WFEA WGST WHAS WHEC WHK WHP WICC WIP
WISN WJAS WJSV WLAC WLWB WMBD WMBG
WMT WOKO WORC WQAM WSBT WSJS WSPD

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

C — Myrt and Marge, See Monday

C — Howard Barlow, See Monday

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

B — A mos 'n' Andy, See Monday

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

R — Lum and Abner, See Monday

B — Poet Prince, See Monday

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

C — Charlie Davis and Orchestra
CKLW KLRA WABC WACO WADC WBIG WBRC
WBT WCAO WCAU WDBJ WDBO WDOD WDRC
WEAN WFBL WFEA WGST WHEC WHK WHP
WICC WKBW WLAC WLWB WMBG WNAC WODX
WOKO WORC WQAM WREC WSJS WSPD WTAR
B — Jack Denny and Orchestra
KSO KWCR KWK WBAL WBZ WBZA WCKY WENR
WGAR WJZ WREN WSYR

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

C — Guy Lombardo; Burns and Allen
KBD KERN KFBK KFPY KFRC KGB KHJ KMJ
KOL KVI KWG

THURSDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00

R — Walter Logan, See Monday

C — Buok Rogers, See Monday

B — Reggie Childs and Orchestra

KOIL KSO KWCR KYW WBAL WBZ WBZA WENR
WHAM WJR WJZ WMAL WREN WSYR

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

C — H-Bar-O Rangers, See Monday

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

C — Shell Football Reporter, Ed Dooley

WAAB WABC WBIG WBT WCAU WDBJ WDRC
WEAN WFBL WFEA WHEC WHP WJAS WKBW
WLWB WMBG WNAC WOKO WORC WSJS WTAR

R — Roger Gerston and Orchestra

KFYR KOA KPRC KSD KSTP KTBS KVOO WAPI
WBEN WCKY WDAY WFAF WFCB WEEI WFAA
WFBW WFI WGY WHO WIBA WJAZ WJDX WKY
WMC WOAI WOC WOW WSAI WSB WSM WSMB
WTAG WWJ

B — Old Songs of the Church

KSO KWCR WBAL WCKY WENR WHAM WJZ
WREN WSYR

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

B — Lowell Thomas, See Monday

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

B — A mos 'n' Andy, See Monday

C — Myrt and Marge, See Monday

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

C — Dance Time, See Tuesday

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

R — Lum and Abner, See Monday

C — Mills Brothers, See Tuesday

B — Concert Footlights, Mario Cozzi

CFCE KDKA KGO KGW KOIL KOMO KPRC KSO
KSTP KTBS KTHS KWCR KWK WAPI WBAP WBZ
WBZA WCKY WHAM WIBA WIOD WIS WJDX
WJZ WMAL WOAI WREN WSMB WWNC

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

C — Boake Carter, See Monday

R — The Goldbergs, See Monday

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

R — Fleischmann Hour—Rudy Vallee

CFCE CRCT KDYL KFI KFYR KGO KGW KHQ
KOA KOMO KPRC KSD KSTP KTAR KTHS KVOO
WAPI WBAP WBN WCAE WCHS WDAF WDAY
WFAF WFCB WEEI WFBW WFI WFLA WGY WHO
WIOD WJAR WJAZ WJDX WKY WLV WMAQ
WMC WOAI WOC WOW WPTF WRG WRVA WSB
WSM WSMB WTAG WTAM WTMJ WWJ

C — Boswell Sisters, See Tuesday

E-8:15 p.m., C-7:15, M-6:15, P-5:15

C — Singin' Sam, See Tuesday

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

C — Columbia Dramatic Guild

CKLW KFAB KFH KMBC KMOX KOMA KSL KTSa
KFOR WAAB WABC WACO WADC WBIG WBRC
WBT WCAO WCAU WCCO WDAE WDBJ WDBO
WDOD WDRC WFAW WFBL WFBM WFEA WGST
WHAS WHEC WHK WHP WICC WJAS WKBN WLAC
WLVB WMBG WMT WODX WOKO WORC WQAM
WREC WSBT WSFA WSJS WSPD WTAQ WTAR
WWVA

B — Horlick's Adventures, See Tuesday

E-8:45 p.m., C-7:45, M-6:45, P-5:45

B — John L. Fogarty, Tenor

KDKA KOIL KWCR WBAL WBZ WBZA WGAR
WHAM WJZ WLS WMAL WREN WSYR

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

R — Maxwell House Show Boat

KDYL KFI KFSD KGO KGW KHQ KOA KOMO
KPRC KSD KSTP KTAR KTBS WAPI WBAP WBN
WCAE WCKY WCHS WDAF WFAF WEEI WFBW
WFI WFLA WGY WHO WIOD WIS WJAR WJAZ
WJDX WKY WMAQ WMC WOAI WOC WOW WRC
WRVA WSAI WSB WSM WSMB WTAG WTAM
WTMJ WWJ WWNC

THURSDAY—(Continued)

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

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

C — U. S. Marine Band

CKLW KFAB KFH KLZ KMBC KMOX KOMA KRLD
KSL KTSB KVR WBAC WACO WADC WBIG WBRC
WBT WCAO WCAU WDAE WDBJ WDBO WDOD
WDRC WDSU WEAN WFBL WFEA WGST WHAS
WHP WIBW WICQ WISN WJAS WJSV WKBN WLAC
WLWB WMBG WMT WNAO WOKO WQAM WSBT
WSFA WWSJ WSPD WTAQ WTAR WTOG WVVV

B — Wayne King and Orchestra

KDKA KOIL KSO KWCR KWK WBAL WBZ WBZA
WENR WGAR WHAM WJR WJZ WREN

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

C — Willard Robinson and Orchestra

CKLW KFAB KFH KLZ KMBC KMOX KOMA KRLD
KSL KTSB KVR WBAC WACO WADC WBIG WBRC
WCCO WDAE WDBJ WDBO WDOD WDRC WDSU
WFBL WFBM WFEA WGST WHAS WHK WHP
WIBW WISN WJAS WJSV WLAC WLWB WMBG
WOKO WORC WQAM WREC WSBT WSFA WWSJ
WSPD WTAQ WTOG

R — Al Jolson; Paul Whiteman's Orchestra

KDYL KFI KFJR KGO KGW KHQ KOA KOMO
KPRC KSD KSTP KTBS KTBS WAPI WBAP WBSN
WCAE WCHS WDAF WDAY WEAF WEBC WEEI
WFBR WFI WFLA WGY WHO WIBA WIOD WJZ
WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI
WOC WOW WPTF WRC WRVA WSB WSMB WTAG
WTAM WTMJ WWJ WNNC

B — Hands Across the Border

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

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

C — Ted Husing, See Tuesday

B — Echoes of Palisades—Archer Gibson, Organist

KDKA KSO KWCR KYW WBAL WBZ WBZA WCKY
WGAR WHAM WJZ WMAL WREN

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

C — Gladys Rice, Soprano

CFRB CKLW KFAB KFH KLZ KMBC KOMA KSL
KTRH KTSB KVR WAAB WABC WACO WADC
WBIG WBRC WBT WCAO WCCO WDAE WDBJ
WDBO WDOD WDRC WDSU WEAN WFBL WFBM
WFEA WGST WHAS WHEC WHP WIBW WICC
WIP WJAS WJSV WKBN WLAC WLWB WMBD
WMBG WMT WODX WOKO WORC WPG WQAM
WREC WWSJ WSPD WTOG

C — Myrt and Marge, See Monday

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

B — Amos 'n' Andy, See Monday

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

C — Phil Regan, See Monday

R — Lum and Abner, See Monday

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

B — U. S. Army Band

CFCF CRCT KDKA KDYL KFJR KOA KOIL KPO
KSO KSTP KTBS KVOO KWCR KWK WBAL WBAP
WBZ WBZA WCKY WDAY WEBC WFLA WGAR
WHAM WIBA WIOD WIS WJAX WJDX WJR WJZ
WMAL WMAQ WMC WOAI WREN WRVA WSB
WSM WSMB WNNC

R — Jack Denny, See Monday

C — Singin' Sam, See Tuesday

FRIDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00

R — Walter Logan, See Monday

B — Henry King and Orchestra

KDKA KOIL KWCR KWK WBAL WBZ WBZA WCKY
WENR WHAM WJZ WMAL WREN WSYR

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

C — H-Bar-O Rangers, See Monday

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

C — Football Reporter, See Thursday

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

C — H. V. Kaltenborn

CFRB CKLW KFH KLRA KOMA KSL KTRH KTSB
KVR WAAB WABC WBBM WBIG WBRC WBT
WCAH WCAO WCAU WCCO WDAE WDBJ WDBO
WDOD WDRC WDSU WEAN WFBL WFEA WGST
WHAS WHEC WISN WKBN WLAC WLWB WLWB
WMBG WMT WOKO WORC WQAM WREC WSFA
WWSJ WSPD WTAQ WVVV

R — Gould and Sheffner, Piano Team

KOA KPO KPRC KSD KTBS KVOO WDAY WEAF
WFI WIBA WIS WJAR WJDX WMC WOAI WOW
WRC WSAI WSB WSM WSMB WTIC WWJ WNNC

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

B — Amos 'n' Andy, See Monday

C — Myrt and Marge, See Monday

R — The Mollie Program

KSD WBEN WCAE WCHS WDAF WEAF WEEI
WFBR WGY WHO WJAR WKBF WLIT WMAQ
WOC WRC WTAG WTAM WTIC WWJ

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

C — Jack Denny, See Monday

R — Just Relax—Comedy Sketch

KDYL KGO KHQ KOA KOMO KSD KTBS KTHS
WBEN WCHS WDAY WEAF WIBA WJAR WJAX
WJDX WMAQ WMC WOAI WRC WSB WSMB WTAG
WTIC

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

B — String Symphony; Frank Black, Conductor

KDKA KDYL KFI KFJR KGO KGW KHQ KOIL
KOMO KPRC KSO KTBS KTHS KWCR KWK WBAL
WBAP WBZ WBZA WCKY WHAM WLW WIBA WIOD
WIS WJDX WJZ WMAL WMC WOAI WREN WBS
WSMB WNNC

R — Betty Boop Frolics

KSD WBEN WEAF WJAR WMAQ WTAG

C — Dolph Martin, See Monday

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

C — Boake Carter, See Monday

R — The Goldbergs, See Monday

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

R — Cities Service—Jessica Dragonette

CRCT KDYL KOA KPRC KSD KTBS KTHS KVOO
KYW WBEN WCAE WCHS WDAF WEAF WEBC
WEEI WFAA WFBM WGY WHO WJAR WKY WLIT
WQAI WOC WOW WRC WSAI WTAG WTAM WTIC
WTMJ WWJ

B — Nestle's Program with Ethel Shutta

KDKA KWK WBAL WBZ WBZA WCKY WGAR
WHAM WJR WJZ WLS WMAL WSYR

C — Happy Bakers, See Monday

E-8:15 p.m., C-7:15, M-6:15, P-5:15

C — Edwin C. Hill, See Monday

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

B — Potash and Perlmutter, See Monday

E-8:45 p.m., C-7:45, M-6:45, P-5:45

B — Red Davis, See Monday

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

R — Fred Allen's Revue

KSD WBEN WCHS WEAF WEEI WFBR WFLA
WGY WIOD WIS WJAR WJAX WLIT WLW WMAQ
WPTF WRC WRVA WTAG WTAM WTIC WWJ
WNNC

B — Phil Harris and Orchestra

KDKA KDYL KFI KGHL KGIR KGO KGW KHQ
KOA KOIL KOMO KSO KWCR KWK WAPI WBAL
WBZ WBZA WCKY WFAA WGAR WJZ WKY WLS
WMAL WOAI WREN WSB WSM WSMB WSYR

C — Irvin S. Cobb, See Wednesday

E-9:15 p.m., C-8:15, M-7:15, P-6:15

C — Threads of Happiness

CKLW KDB KERN KFBK KFH KFPY KFCR KGB
KLRA KLB KMBC KMJ KMOX KOIN KOL KOMA
KSL KTAT KTRH KTSB KVI KWG WABC WADC
WBRC WBT WCAO WCAU WCCO WDAE WDRC
WDSU WEAN WFBL WFBM WGN WGST WHAS
WHK WJAS WJSV WKBN WCRN WLAC WNAC
WOKO WORC WOWO WREC WSPD WTAR WTOG

FRIDAY—(Continued)

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

R — **Pond's Program**

KSD WBEN WCAE WCSH WDAF WFAF WENR
WFBF WGY WHO WJAR WLIT WOC WOW WRC
WSAI WTAG WTAM WVIC WWJ

B — **Armour Program with Phil Baker**

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

C — **All America Football Show**

CKLW KDB KERN KFBC KFH KFPY KFRC KGB
KHJ KLZ KMBC KMJ KMOX KOIN KOL KOMA
KRLD KSL KTRH KTSB KVI KWG WABC WACO
WADC WBBM WBT WCAH WCAO WCAU WCCO
WDRS WEAN WFBL WFBM WGR WGST WHAS
WHBC WHK WHP WIBW WJAX WJSV WKRC WLAC
WMBG WMT WNAC WOKO WORC WQAM WREC WSPA
WSJS WSPD WTAQ WWVA

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

C — **Swift Program; Olsen and Johnson**

CFRB CKLW KFH KLRA KLZ KMBC KOMA KRLD
KSL KTRH KTSB WAAB WACO WADC WBIG WBRC
WBT WCAH WCAO WCCO WDAE WDBJ WDBO
WDOD WDRS WDSU WEAN WFBM WFEA WGST
WHAS WHEC WHK WICC WISN WJAS WJSV WLWB
WLZB WMBD WMBG WMT WOKO WORC WPG
WQAM WREC WSJS WSPD

R — **First Nighter, Drama**

CRCT KDYL KFI KFSD KGO KGW KHQ KOA
KOMO KPCC KSD KSTP KTR KTBBS WAPI WBEN
WCAE WCSH WDAF WFAF WFCB WEEI WFAA
WFBF WGY WHO WJAR WKBF WKY WLIT WMAQ
WOAI WOC WOW WRC WSAI WSB WSM WSMB
WTAG WTAM WVIC WTMJ WWJ

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

B — **Mario Gozzi, Baritone**

KDKA KDYL KFI KFYP KGO KGW KHQ KOA
KOIL KOMA KSO KTBS WAPI WBAL WBZ WBZA
WCKY WDAF WEBC WFLA WHAM WIBA WIOD
WIS WJAX WJR WJZ WREN WSB WSM WSYR
WWNC

C — **Alexander Woolcott, See Wednesday**

R — **Lum and Abner's Sociable**

KSD WBEN WCAE WDAF WFAF WENR WFBF
WGY WHO WKBF WLIT WLW WOC WRC WTAM
WVIC WTMJ

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

B — **Floyd Gibbons**

KDKA KDYL KFI KFYP KGO KGW KHQ KOA
KOMO KSO KTBS WAPI WBAL WBZ WBZA WCKY
WDAF WEBC WFAA WFLA WHAM WIBA WIOD
WIS WJAX WJR WJZ WREN WSB WSM WSYR
WWNC

C — **Myrt and Marge, See Monday**

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

B — **Amos 'n' Andy, See Monday**

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

C — **Guy Lombardo and Orchestra**

CKLW KFAB KFH KLZ KMBC KMOX KSL KTRH
KTRH KTSB KVRB WABC WADC WBIG WBRC
WBT WCAO WCAU WCCO WDAE WDBJ WDBO
WDOD WDRS WEAN WFBL WFBM WFEA WGST
WHAS WHEC WHK WHP WVIC WICC WISN WJSV
WLAC WLWB WMBD WMBG WMT WNAC WODX
WOKO WORC WPG WQAM WREC WSJS WSPD
WTAQ WTRC WWVA

R — **Fred Allen's Revue**

KDYL KFI KFSD KGO KGW KHQ KOA KOMO
KTAR WDAF

SATURDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00

B — **Richard Himber, See Monday**

E-8:30 p.m., C-5:30, M-4:30, P-3:30

B — **O'Leary's Irish Minstrels**

KOIL KSO KWCR KWK WBAL WBZ WGAR WHAM
WJZ WMAL WMAQ WREN WSYR

C — **Football Reporter, See Thursday**

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

R — **Meyer Davis and Orchestra**

CRCT KSD KYW WBEN WCAE WDAF WFAF WEEI
WFBF WGY WHO WJAR WOC WSAI WTAG

C — **Frederic William Wile**

CFRB CKLW KFAB KFH KLRA KLZ KMBC KOMA
KSL KTRH KTSB KVRB WABC WACO WADC
WBBM WBIG WBRC WBT WCAH WCAO WCCO
WDAE WDBJ WDOD WDRS WDSU WEAN
WFBL WFEA WGST WHAS WHEC WHP WICC
WISN WJAS WJSV WLAC WLWB WLZB WMBG
WMT WNAC WOKO WORC WQAM WREC WSPA
WSJS WSPD WTAQ WWVA

B — **John Herrick, Baritone**

KDKA KFI KGO KGW KHQ KOA KOMO KTBS
KTHS KVOO KWCR WAPI WBAL WCKY WEBC
WFLA WGAR WIBA WIOD WIS WJAX WJDX WJZ
WMAL WMAQ WMC WOAI WRVA WSB WSM WSMB
WWNC

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

C — **Mildred Bailey, Songs**

CKLW KFH KLZ KMOX KOMA KTRH KTSB KVRB
WAAB WABC WADC WBIG WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDOD WDRS
WEAN WFBL WFEA WGST WHAS WHK WHP WICC
WISN WJAS WJSV WLAC WLWB WLZB WMBG
WMT WODX WOKO WORC WQAM WREC WSPA
WSJS WSPD WTAQ WTRC WVIC

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

R — **Jack and Lorette Clements, Songs**

KDYL KFI KGO KGW KHQ KOA KOMO KSD WBEN
WCAE WDAF WFAF WEEI WFBF WFI WGY WHO
WJAR WMAQ WOC WRC WSAI WTAG WTAM WWJ

B — **Kaltenmeyer's Kindergarten**

CFCF KFYP KOIL KSO KTBS KWCR KWK KYW
WBAL WBAP WCKY WIBA WIOD WIS WJZ WKY
WMAL WOAI WREN WSM WSMB WWNC

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

R — **Optimistic Mrs. Jones—Sketch**

KDYL KFI KGO KGW KHQ KOA KOMO WBEN
WCSH WDAF WFAF WEEI WENR WFBF WFI WGY
WJAR WOW WRC WSAI WTAG WTAM WWJ

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

C — **Connie Boswell, Songs**

CFRB CKLW KFAB KFH KLRA KOMA KRLD
KTRH KTSB KVRB WABC WACO WADC WBIG
WBRC WBT WCAH WCAO WCAU WDAE WDBJ
WDOD WDRS WDSU WEAN WFBL WFBM
WFEA WGST WHEC WHK WHP WICC WISN WJAS
WJSV WLAC WLZB WNAC WOKO WORC WQAM
WREC WSBT WSTA WSJS WSPD WTAQ WWVA

R — **Rollickers Quartet**

KSD KYW WBEN WCSH WDAF WFAF WEEI WFBF
WGY WJAR WOW WRC WTAG WTAM WWJ

E-8:15 p.m., C-7:15, M-6:15, P-5:15

R — **Sam Herman and Frank Banta**

KSD WCSH WDAF WFAF WEEI WFBF WFI WGY
WJAR WRC WTAG WTAM WWJ

C — **Casa Loma Orchestra**

CFRB CKLW KFAB KFH KLRA KOMA KRLD
KTRH KTSB KVRB WABC WADC WBIG WBRC
WBT WCAO WCAU WCCO WDBJ WDOD WDOD
WDRS WEAN WFBL WFEA WGST WHEC WHP
WICC WJAS WJSV WLAC WLWB WLZB WMBG
WNAC WODX WOKO WORC WQAM WREC WSBT
WSPA WSJS WSPD WTAQ WTRC WWVA

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

R — **Sous Les Ponts de Paris**

KSD WBEN WCSH WDAF WFAF WEEI WFBF WFI
WGY WHO WJAR WMAQ WOC WOW WRC WSAI
WTAG WTAM WWJ

E-8:45 p.m., C-7:45, M-6:45, P-5:45

B — **Annie, Judy and Zeke; Hillbilly Songs**

KDKA KOIL KSO KWCR KYW WBAL WBZ WBZA
WCKY WGAR WHAM WJR WJZ WMAL WREN
WSYR

C — **Gertrude Nielsen, Songs**

CKLW KFAB KFH KLZ KMBC KOMA KRLD KSL
KTRH KTSB KVRB WABC WADC WBIG WBRC
WBT WCAO WCAU WCCO WDAE WDBJ WDOD
WDOD WDRS WEAN WFBL WFBM WFEA WGST

SATURDAY—(Continued)

WHCC WHK WHP WIBW WICC WISN WJAS WJSV
WLAC WLWB WLWB WMBD WMBG WMT WNCW
WODX WOKO WORC WQAM WREC WWSJ WSPD
WTAQ WTRAR WTOC WWSA

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

B — Jamboree, Variety Show

KDKA KOIL KWCR KWK KYW WBAL WBZ WBZA
WCKY WGAR WHAM WJR WJZ WMAL WREN
WSYR

R — Antobal's Cubans

KSD WBEN WCAE WCSH WDAF WFAE WGY WHO
WJAR WMAQ WOC WSAI WTAG

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

R — K-7—Drama

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

C — Willard Robison and Orchestra

CFRB CKLW KFH KLRA KLZ KMBC KOMA KRLD
KSL KTRH KTSa KVOR WABC WACO WADC WBAE
WBRC WBT WCAE WCAO WCAU WCCO WDAE
WDBJ WDBO WDOD WDRC WDSU WEAN WFBL
WFBM WFEA WGST WHBC WHK WHP WICC
WISN WJAS WJSV WLAC WLWB WMBG WMT
WNAO WOKO WORC WQAM WREC WSFA WSJS
WSPD WTAQ WWSA

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

B — Mad Luke, Drama with Music

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

R — B. A. Rolfe and Orchestra

CRCT KDYL KFI KGO KGW KOA KOMO KSD
KSTP WBAP WBEN WCAE WCSH WDAF WFAE
WEEI WFBR WFI WGY WHO WJAR WJAX WLW
WMAQ WOAII WOC WOW WPTF WRC WRVA WSB
WSMB WTAG WTAM WTMJ WWJ

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

C — Singing Strings from Montreal

CKLW KLZ KMBC KMOX KOMA KSL KTRH KTSa
KVOR WAAB WABC WADC WBIG WBRC WBT
WCAO WCAU WCCO WDAE WDBJ WDBO WDOD
WDRG WEAN WFBL WFBM WFEA WGST WHAS
WHBC WHP WIBW WICC WJAS WJSV WLAC WLWB
WLWB WMBD WMBG WMT WODX WOKO WORC
WPG WQAM WREC WSJS WSPD WTOC WWSA

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

C — Jerry Freeman and Orchestra

CKLW KFAB KFH KLZ KMBC KMOX KOMA KSL
KTRH KTSa KVOR WABC WADC WBIG WBRC
WBT WCAO WCAU WCCO WDAE WDBJ WDBO
WDOD WDRC WEAN WFBL WFBM WFEA WGST
WHAS WHCC WHP WIBW WICC WJAS WJSV WLAC
WLWB WMBD WMBG WMT WODX WOKO WORC
WQAM WREC WSBT WSJS WSPD WTOC

B — The Leaders—Male Trio

KOIL KSO KWCR WBAL WCKY WHAM WJZ WLW
WMAQ WREN WSYR

R — Harry Sosnick's Orchestra

CFRC KDYL KFI KFYR KGO KGW KHQ KOA KOMO
KSD KSTP KTBS KVOO WBAP WBEN WCAE WCSH
WDAF WDAY WFAE WFBR WFI WFLA WIBA WIOD
WIS WJAR WJDX WMC WOAII WOW WRC WSB
WSMB WTAM WWJ WNNC

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

C — Charlie Davis, See Wednesday

SUNDAY

E-11:15 a.m., C-10:15, M-9:15, P-8:15

R — Major Bowes' Family

KDYL KFYR KOA KPRC KSTP KTBS KVOO WAPI
WCAE WDAF WDAY WFAE WFCB WFAA WFBR
WFLA WGY WHO WIOD WJAR WJAX WKY WMAQ
WMC WOAII WOC WRC WRVA WSAI WSMB WTAG

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

C — New World Salon Orchestra

CKLW KFH KLZ KMBC KMOX KTRH KTSa KVOR
WABC WACO WADC WBBM WBRC WCAU WCCO
WDAE WDOD WDSU WFBL WFEA WHAS WHP
WIBW WISN WJAS WKBN WLAC WLWB WMBD

WMT WOKO WORC WPG WQAM WREC WSBT
WSFA WSPD WTAQ

R — International Tid Bits

WBEN WCSH WDAF WFAE WEEI WFBR WFI WGY
WHO WJAR WOC WRC WSAI WTAG WTAM

B — Radio City Concert

CFRC CRCT KDKF KDYL KFSD KFYR KGO KHQ
KOA KOIL KOMO KPRC KSO KSTP KTAR KTBS
KVOO KWCR KWK WAPI WBAL WBAP WBZ WBZA
WCKY WDAY WFCB WENR WFLA WGAR WHAM
WIBA WIOD WIS WJAX WJDX WJR WJZ WLW
WMAL WMAQ WMC WOAII WREN WSB WSMB
WSYR

E-1:15 p.m., C-12:15, M-11:15, P-10:15

R — Sonata Recital

WBEN WCAE WDAF WFAE WEEI WENR WFBR
WFI WGY WHO WJAR WLW WOC WRC WSAI WTAG
WTAM WWJ

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

R — Russian Symphonic Choir

CFRC CRCT WBEN WCAE WCSH WDAF WFAE
WEEI WFBR WFI WGY WHO WJAR WLW WMAQ
WOC WRC WTAG WTAM WWJ

B — High Lights of the Bible

KDKA KDYL KFI KFYR KGHl KGIR KGO KGW
KOA KOIL KOMO KPRC KSO KVOO KWK WAPI
WBAL WBZ WDAY WFAE WFCB WHAM WIOD WIS
WJAX WJDX WJR WJZ WMAL WOAII WREN WRVA
WSM WSMB WSYR WNNC

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

C — John Kelvin, Tenor

CFRB CKLW KFH KLZ KMBC KSL KTRH KTSa
KVOR WABC WACO WADC WBBM WBIG WBRC
WBT WCAO WCAU WCCO WDBO WDOD WDRC
WDSU WFBL WFBM WFEA WHK WIBW WISN
WJAS WKBN WLAC WLWB WMT WOKO WORC
WQAM WSBT WSJS WSPD WTAQ WWSA

E-2:15 p.m., C-1:15, M-12:15, P-11:15

C — The Playboys

CKLW KFH KLZ KMBC KMOX KTRH KTSa KVOR
WABC WACO WADC WBBM WBRC WBT WCAO
WCAU WDOD WDRC WDSU WFBL WFBM WFEA
WHAS WIBW WISN WJAS WKBN WLAC WLWB
WMT WOKO WORC WQAM WSBT WSJS WSPD

R — Pop Concert—Walter Logan

CFRC CRCT KSD WBEN WCAE WCKY WCSH
WDAF WFAE WEEI WFBR WGY WHO WJAR WMAQ
WOC WOW WRC WSAI WTAG WTAM WWJ

E-2:30 p.m., C-1:30, M-12:30, P-11:30

C — Manhattan Moods—Do Re Mi Trio

CKLW KFH KLZ KMBC KMOX KTRH KTSa KVOR
WABC WACO WADC WBBM WBIG WBRC WBT
WCAO WCAU WCCO WDAE WDOD WDRC WDSU
WFBL WFEA WHP WIBW WISN WJAS WKBN WLAC
WLWB WMBG WMT WOKO WORC WQAM WSBT
WSJS WSPD WTAQ WWSA

B — Yeast Foamers—Jan Garber's Orchestra

KDKA KDYL KFI KFSO KFYR KGHl KGIR KGO
KGW KHQ KOA KOIL KOMO KPRC KSO KSTP
KTAR KTBS KTBS KVOO KWCR KWK KYW WAPI
WBAL WBZ WBZA WDAY WFCB WFAA WFLA
WGAR WHAM WIBA WIOD WIS WJAX WJDX WJR
WJZ WKY WLW WMAL WOAII WPTF WREN WRVA
WSB WSM WSMB WSYR WTMJ WNNC

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

C — Howard Barlow and Symphony Orchestra

CKLW KFH KLZ KMBC KMOX KTRH KTSa KVOR
WABC WACO WADC WBIG WBRC WBT WCAO
WCAU WCCO WDAE WDOD WDSU WFBL WFBM
WFEA WHAS WHP WIBW WISN WJAS WKBN
WLAC WLWB WMBD WMBG WMT WOKO WORC
WQAM WREC WSBT WSJS WSPD WTAQ

R — Wayne King and Orchestra

KDYL KFI KGO KGW KHQ KOA KOMO KPRC
KSD KSTP KVOO WBEN WCAE WCSH WFAE WEEI
WFAA WGY WHO WJDX WJR WKY WLIT WLS
WLW WMC WOAII WOC WOW WRC WSB WSM
WSMB WTAG WTAM WTMJ WWJ

B — National Opera Concert

CFRC CRCT KDKA KOIL KSO KWCR KWK WBAL
WBZ WBZA WCKY WFLA WGAR WIOD WIS WJAX
WJR WJZ WMAL WREN WRVA WSYR WNNC

SUNDAY—(Continued)

E-3:30 p.m., C-2:30, M-1:30, P-12:30

R — Radio Pulpit

KDYL KFI KFSD KFYR KGHL KGIR KGO KGW KHQ KOMO KPRC KTBS KTHS KVOO KYW WAPI WBEN WCAE WCSH WDAF WDAY WEA F WEEB WEEI WFAA WFRB WFLA WGY WIBA WIOD WIS WJAR WJAX WJDX WKY WLIT WOAI WOW WRC WRVA WSAI WSB WSM WTAG WTAM WWJ WWNC

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

R — Fiddlers Three

CFCF CRCT KDYL KFI KFSD KFYR KGO KGW KHQ KOA KOMO KSD KSTP KTAR KTBS KYW WAPI WBEN WCAE WDAF WDAY WEA F WEEB WEEI WFLA WGY WHO WIBA WIOD WIS WJAR WJDX WKY WLIT WOAI WOC WOW WRC WRVA WSAI WSB WSM WTAG WTAM WWJ WWNC

B — Gould and Shefter, Piano Duo

KDKA KOIL KWCR KWK WBAL WGAR WHAM WJZ WMAL WREN WSYR

C — Cathedral Hour

CKLW KFH KLZ KMBC KMOX KRLLD KSL KTRH KTSa KFOR WABC WADC WBIG WBRC WBT WCAO WCAU WCCO WDAE WDDO WDRC WDSU WFBL WFBM WFEA WHAS WHK WHP WISN WJAS WKBN WLAC WLWB WMBD WMBG WMT WOKO WORC WQAM WREC WSBT WSJS WSPD WTAQ

E-4:15 p.m., C-3:15, M-2:15, P-1:15

R — Wildroot—Vee and Johnny

KDYL KFI KFYR KGO KGW KHQ KOA KOMO KPRC KSTP KTBS KVOO WBEN WCAE WCSH WDAF WDAY WEA F WEEB WEEI WFAA WFRB WGY WIBA WJAR.WKY WLIT WLS WOAI WOW WRC WSAI WTAG WTAM WTMJ WWJ

B — Morin Sisters, Harmony Trio

CFCF CRCT KDKA KOIL KSO KWCR KWK KYW WBAL WBZ WBZA WCKY WFLA WGAR WHAM WIOD WJAX WJDX WJR WJZ WLW WMAL WREN WRVA WSB WSM WSYR WWNC

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

R — Temple of Song

KSD WBEN WCAE WCSH WDAF WEA F WEEI WENR WFRB WFI WGY WHO WJAR WLW WMAQ WOC WOW WRC WSAI WTAG WTAM WWJ

B — Dion Kennedy, Organist

CFCF CRCT KDKA KFSD KFYR KGO KGW KHQ KOA-KOIL KOMO KPRC KSO KSTP KTBS KVOO KWCR KWK KYW WBAL WBZ WBZA WCKY WFLA WDAY WEA F WEEB WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJR WJZ WKY WMAL WMC WOAI WREN WRVA WSM WSYR WWNC

E-5:00 p.m., C-4:00, M-3:15, P-2:00

R — Big Ben—Drama

WBEN WCAE WCSH WDAF WEA F WEEI WFRB WGY WJAR WMAQ WOW WRC WSAI WTAG WTAM WWJ

C — Willard Robison Synopsated Sermons

CKLW KFH KLZ KMBC KMOX KRLLD KTRH KTSa KFOR WABC WADC WBIG WBRC WBT WCAO WCAU WCCO WDAE WDDO WDRC WDSU WFBL WFBM WFEA WHAS WHK WHP WISN WJAS WKBN WLAC WLWB WMBD WMBG WMT WOKO WORC WQAM WREC WSBT WSFA WSJS WSPD WTAQ

B — The Friendly Hour

KDYL KFSD KFYR KGHL KGIR KGO KGW KHQ KOA KOIL KPRC KSO KSTP KTAR KTBS KVOO KWCR KWK WBAL WBZ WBZA WCFL WCKY WDAY WEEB WFLA WGY WHAM WIOD WIS WJAX WJDX WJR WJZ WKY WMAL WMC WOAI WPTF WREN WRVA WSB WSMB WSYR WWNC

E-5:15 p.m., C-4:15, M-3:15, P-2:15

C — Vera Van, Contralto

CKLW KFH KLZ KMBC KMOX KRLLD KTRH KTSa KFOR WABC WADC WBIG WBRC WBT WCAO WCAU WCCO WDAE WDDO WDRC WDSU WFBL WFBM WFEA WHAS WHK WHP WIB WISN WJAS WKBN WLAC WLWB WMBD WMBG WMT WOKO WORC WQAM WREC WSBT WSJS WSPD WTAQ

R — Paul Ash and Orchestra

CFCF CRCT WBEN WCAE WCSH WDAF WEA F

WEEI WENR WFRB WFI WGY WHO WJAR WOC WOW WRC WSAI WTAG WTAM WWJ

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

B — Eva Jessye Choir

CFCF CRCT KDYL KFI KFYR KGO KGW KHQ KOA KOIL KOMO KPRC KSO KSTP KTBS KVOO KWCR KWK KYW WAPI WBAL WBAF WBZ WBZA WCKY WDAY WEA F WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJR WJZ WKY WMAL WMC WOAI WREN WRVA WSB WSM WSMB WSYR WWNC

C — Frank Crumit and Julia Sanderson

CKLW KFH KFH KMBC KMOX KOMA WAAB WABC WADC WCAH WCAO WCAU WDRC WDSU WEAN WFBL WFBM WGR WHAS WHEC WHK WICC WJVS WMA5 WOKO WORC WSPD WTAR

E-6:00 p.m., C-5:00, M-4:00, P-3:00

C — Eddie Duchin and Orchestra

CKLW KFH KLZ KMBC KMOX KRLLD KSL KTRH KTSa KFOR WABC WADC WBBM WBIG WBRB WBT WCAU WCCO WDAE WDDO WDRC WDSU WFBL WFEA WHK WHP WIB WIP WJAS WKBN WKBW WLAC WLWB WMT WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTAQ WWVA

R — Catholic Hour

KDYL KECA KFYR KGHL KGIR KGW KOA KOMO KPO KPRC KSTP KTAR KTBS KVOO WAPI WBAF WBEN WCAE WCSH WDAF WDAY WEA F WEEB WEEI WENR WFRB WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLIT WMC WOAI WOC WOW WRC WRVA WSAI WSB WSM WSMB WTAG WTAM WWJ WWNC

B — Don Hall Trio

CFCF CRCT KDKA KOIL KSO KWCR KWK WBAL WCKY WGAR WHAM WJR WJZ WMAL WMAQ WREN

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

C — Smiling Ed McConnell

CKLW KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLLD KSL KVI KWG WAAB WABC WBBM WBT WCAH WCAU WCCO WDSU WEAN WFBL WHAS WHEC WHP WJAS WJVS WKBW WKRC WLAC WMT WOKO WQAM WSPD WTAR WWVA

B — Henri Deering, Concert Pianist

KDKA KOIL KSO KWCR KWK WCKY WENR WGAR WHAM WJR WJZ WLW WMAL WREN WSYR

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

B — Trio Romantique

KDKA KOIL KSO KWCR KWK WCKY WENR WGAR WHAM WJR WJZ WLW WMAL WREN WSYR

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

C — H. V. Kaltenborn

CKLW KFH KLRA KLZ KSL KTRH KTSa KFOR WABC WACO WADC WBIG WBRB WBT WCAH WCAO WCAU WCCO WDAE WDBJ WDDO WDRC WDSU WEAN WFBL WFBM WFEA WGST WHAS WHEC WHP WICC WIP WISN WJAS WJVS WKBN WLAC WLWB WLBS WNAO WOKO WORC WPG WQAM WREC WSBT WSFA WSJS WSPD WTAQ WWVA

B — Vincent Lopez's Orchestra; Alice Jay

KDKA KDYL KFI KFYR KGO KGW KHQ KOA KOIL KOMO KPRC KSO KSTP KTHS KWCR KWK WBAL WBZ WBZA WDAY WEA F WGAR WHAM WIBA WJDX WJR WJZ WKY WLS WLW WMAL WOAI WREN WSB WSM WSMB WSYR WTMJ

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

R — Horse Sense Philosophy—Andrew Kelly

KSD WBEN WCAE WCSH WDAF WEA F WEEI WGY WJAR WMAQ WSAI WTAG WWJ

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

C — Roses and Drums, Drama

CKLW KLRA KLZ KMBC KMOX KOMA KTAT KTRH KTSa WABC WADC WBBM WBRB WCAO WCCO WDSU WGR WGST WHAS WHK WJAS WJVS WKRC WNAO WREC WRR

B — Desert Gnat, Foreign Legion Drama

CFCF CRCT KDKA KDYL KFI KFYR KGO KGW KHQ KOA KOIL KOMO KPRC KSO KSTP KTAR KTBS KTHS KVOO KWCR KWK WAPI WBAL WBZ

SUNDAY—(Continued)

WBZA WCKY WDAY WEBC WFLA WGAR WHAM
WIBA WIOD WIS WJDX WJR WJZ WKY WLS WMAL
WMC WOAI WREN WRVA WSB WSM WSMB WSYR
WWNC

E-7:45 p.m., C-8:45, M-5:45, P-4:45

R—Fitch Program—Wendell Hall

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

C—Chicago Variety Program

CKLW KLZ KMBC KMOX KTRH KFOR WABC
WACO WADC WBBM WBIG WBRW WBT WCAO
WCAU WCCO WDOD WDRC WDSU WFBL WFBM
WFEA WHAS WHP WISN WJAS WKBN WLAC
WLBW WOKO WORC WPG WQAM WREC WJSJ

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

R—Chase and Sanborn Hour

CFCF KRCT KDYL KFI KFYZ KGO KGW KHQ
KOA KOMO KPRC KSD KSTP KTKR KTHS KVOO
WAPI WBEN WCAE WCSH WDAF WDAY WEAF
WEBC WFAA WFBR WFLA WGAR WGY WHO
WIOD WIS WJAX WJDX WKY WLIT WLW WMAQ
WMC WOAI WOC WOW WPTF WRC WRVA WSB
WSM WSMB WTAG WTAM WTIC WTMJ WWJ

B—Light Opera Nights

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

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

C—Johnny Green; Gertrude Nielsen

CKLW KFAB KFH KLRA KLZ KMBC KSL KTRH
KTSa KFOR WAAB WABC WACO WADC WBIG
WBRW WBT WCAH WCAO WCAU WCCO WDAE
WDBJ WDOD WDRC WDSU WFBL WFBM WFEA
WGST WHAS WHEC WHK WHP WICC WISN WJAS
WJSV WKBN WLAC WLBW WLBZ WOKO WORC
WQAM WREC WSFA WSJS WSPD WTAQ WWVA

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

C—Carson Robinson and Buckaroos

CFRB CKLW KLRA KLZ KMBC KSL KTRH KTSa
KFOR WAAB WABC WACO WADC WBRW WBT
WCAH WCAO WCAU WCCO WDAE WDBJ WDOD
WDRC WDSU WFBL WFBM WFEA WGST WHAS
WHEC WHK WHP WICC WISN WJAS WJSV WKBN
WLAC WLBW WLBZ WMT WOKO WORC WQAM
WREC WSFA WSJS WSPD WTAQ WWVA

R—Manhattan Merry-Go-Round

KDYL KFI KGO KGW KHQ KOA KOMO KSD WDAF
WEAF WENR WFBR WFI WGY WHO WJAR WOC
WOW WRC WSAI WTAG WTAM WTIC WWJ

B—Gulf Headliners—Revelers Quartet

KDKA KPRC KTBS KTHS KVOO WAPI WBAL WBZ
WBZA WFAA WFLA WGAR WHAM WIOD WIS
WJAX WJDX WJR WJZ WLW WMAL WMC WOAI
WPTF WRVA WSB WSM WSMB WSYR WWNC

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

R—American Album of Familiar Music

CFCF KDYL KFI KGO KGW KHQ KOA KOMO
KPRC KSD KSTP KVOO WBEN WCAE WCKY
WCSH WDAF WEAF WEEI WENR WFAA WFBR
WFI WFLA WGY WHO WIOD WJAR WJAX WJDX
WKY WMC WOAI WOC WOW WPTF WRC WRVA
WSAI WSB WSMB WTAG WTAM WTMJ WWJ

B—Jergens Program; Walter Winchell

KDKA KPRC KTBS KTHS KVOO WAPI WBAL
WBZ WBZA WFAA WFLA WGAR WHAM WIOD WIS
WJDX WJR WJZ WLW WMAL WOAI WPTF WRVA
WSB WSM WSMB WSYR WWNC

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

C—Freddy Rich; Mildred Bailey

CFRB CKLW KLRA KLZ KMBC KRLL KSL KTRH
KTSa KFOR WAAB WABC WACO WADC WBIG

WBRW WBT WCAH WCAO WCAU WCCO WDAE
WDBJ WDOD WDRC WDSU WFBM WFEA WGST
WHAS WHEC WHK WHP WICC WISN WJAS WJSV
WLAC WLBW WLBZ WMT WOKO WORC WPG
WQAM WREC WSJS WSPD

R—Col. Louis McHenry Howe

KDYL KFI KFYZ KGHl KGIR KGO KGW KHQ KOA

KOMO KPRC KSD KSTP KVOO WBEN WCAE WCSH
WDAF WDAY WEAF WEBC WFAA WFBR WFI WGY
WHO WIBA WJAR WKY WMAQ WMC WOAI WOC
WOW WRC WSAI WSB WSMB WTAG WTAM WTIC
WTMJ WWJ

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

B—Green Brothers Novelty Orchestra

CFCF KDKA KSO KWCR KWK WBAL WBZ WBZA
WCKY WFLA WGAR WHAM WIOD WIS WJAX WJR
WJZ WLW WMAQ WREN WRVA WSYR WWNC

C—Madison Singers; Ann Leaf

CFRB CKLW KLRA KLZ KMBC KRLL KSL KTRH
KTSa KFOR WAAB WABC WACO WADC WBIG
WBRW WBT WCAH WCAO WCAU WCCO WDAE
WDBJ WDOD WDRC WDSU WEAN WFBL WFBM
WFEA WGST WHAS WHP WICC WISN WJSV
WKBN WLAC WLBW WLBZ WMBD WMT WOKO
WORC WPG WQAM WREC WSJS WSPD

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

R—Sunday at Seth Parker's

CFCF KDYL KFSD KFYZ KGHl KGIR KGO KGW
KHQ KOA KOMO KPRC KSD KSTP KATR KTBS
KYW WAPI WBEN WCAE WCSH WDAF WDAY
WEAF WEBC WEEI WFAA WFBR WFI WFLA WGY
WHO WIBA WIOD WIS WJAR WJAX WJDX WMC
WOAI WOC WOW WPTF WRC WRVA WSAI WSB
WSM WSMB WTAG WTAM WTMJ WWJ WWNC

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

C—Guy Lombardo and Orchestra

CKLW KFH KLZ KMBC KMOX KSL KTRH KTSa
KFOR WABC WACO WADC WBIG WBRW WBT
WCAO WCCO WDAE WDBJ WDOD WDRC WDSU
WFBL WFBM WFEA WHAS WHEC WHP WLBW
WIP WISN WJAS WKBN WLAC WLBW WMBD WMT
WOKO WQAM WREC WSBT WSJS WSPD



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CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Standard

CONCERTS

Howard Barlow, 10:45 p.m., Mon., Wed., Fri., C.
Concert Footlights, 7:30 p.m., Thursday, B.
Jules Lande, 10:30 p.m., Monday, R.
Light Opera, 8:00 p.m., Sunday, B.
Light Opera Gems, 10:45 p.m., Tuesday, C.
Walter Logan, 2:15 p.m., Sun.; 6:00 p.m., daily, except Sat. and Sun., R.
National Opera, 3:00 p.m., Sunday, B.
New World Salon, 12:30 p.m., Sunday, C.
Radio City, 12:30 p.m., Sunday, B.
Russian Symphonic Choir, 1:30 p.m., Sunday, R.
Sonata Recital, 1:15 p.m., Sunday, R.
Sous les Ponts de Paris, 8:30 p.m., Saturday, R.
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Temple of Song, 4:30 p.m., Sunday, R.
Trio Romantique, 6:45 p.m., Sunday, B.

DANCE BANDS

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Leon Belasco, 10:30 p.m., Tues. and Thurs.; 10:15 p.m., Sat., C.
Ben Bernie, 9:00 and 12:00 p.m., Tuesday, R.
Casa Loma, 11:30 p.m., Mon.; 8:15 p.m., Sat., C.
Reggie Childs, 6:00 p.m., Thursday, B.
Charlie Davis, 11:30 p.m., Wed., Thurs. and Sat., C.
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Jack Denny, 11:30 p.m., Mon. and Thurs., R.; 11:30 p.m., Wed., B.; 7:15 p.m., Mon., Wed., Fri., C.
Eddie Duchin, 6:00 p.m., Sunday, C.
Jerry Freeman, 11:30 p.m., Sun.; 11:00 p.m., Sat., C.
Jan Garber, 2:30 p.m., Sunday, B.
Roger Gerston, 6:30 p.m., Thursday, R.
Al Goodman, 9:00 p.m., Wed. and Fri., C.
Green Brothers, 10:30 p.m., Sunday, B.
Johnny Green, 8:30 p.m., Sunday, C.
Ferde Grofe, 9:00 p.m., Wed.: 9:00 and 11:30 p.m., Fri., R.
Phil Harris, 9:00 p.m., Friday, B.
Richard Himber, 6:00 p.m., Mon. and Sat., B.
Ernie Holst, 7:15 p.m., Wed., R.; 11:30 p.m., Tues., B.
Israh Jones, 9:30 p.m., Monday, C.
Henry King, 6:00 p.m., Friday, B.
Wayne King, 3:00 p.m., Sun.; 8:30 p.m., Tues., R.; 9:30 p.m., Thurs., B.
Guy Lombardo, 11:00 p.m., Sun.: 9:30 p.m., and 12:30 a.m., Wed.: 11:30 p.m., Fri., C.
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George Olsen, 8:00 p.m., Wednesday, R.
Freddie Rich, 10:00 p.m., Sunday, C.
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Buddy Rogers, 11:15 p.m., Monday, R.
B. A. Rolfe, 10:00 p.m., Saturday, R.
Harry Sosnick, 11:00 p.m., Saturday, R.
Rudy Vallee, 8:00 p.m., Thursday, R.
Fred Waring, 10:00 p.m., Wednesday, C.
Frank Westphal, 9:00 p.m., Tuesday, C.
Paul Whiteman, 10:00 p.m., Thursday, R.

DIALOG

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Just Relax, 7:15 p.m., Friday, R.

Lum and Abner, 7:30 and 11:15 p.m., Mon., Tues., Wed. and Thurs.; 10:30 p.m., Fri., R.
Lulu McConnell, 9:30 p.m., Monday, C.
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DRAMA

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Myrt and Marge, 7:00 and 10:45 p.m., Daily, except Saturday and Sunday, C.
Buck Rogers, 6:00 p.m., Mon., Tues., Wed., Thurs., C.
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PIANO AND ORGAN

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Archer Gibson, 10:30 p.m., Thursday, B.
Gould and Sheffner, 6:45 p.m., Fri., R.; 4:00 p.m., Sun., B.
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POPULAR PROGRAMS

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California Melodies, 10:00 p.m., Tuesday, C.
Chase and Sanborn, 8:00 p.m., Sun.; 8:00 p.m., Wed., R.
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Fiddlers Three, 4:00 p.m., Sunday, R.
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Jack Frost's Melody, 9:30 p.m., Monday, B.
Gulf Headliners, 9:00 p.m., Sunday, B.
Household Musical, 9:00 p.m., Tuesday, B.
Jamboree, 9:00 p.m., Saturday, B.
Kaltenmeyer's Kindergarten, 7:30 p.m., Saturday, B.
Lum and Abner Sociable, 10:30 p.m., Friday, R.
Manhattan Merry-Go-Round, 9:00 p.m., Sunday, R.
Maxwell House Show Boat, 9:00 p.m., Thursday, R.
Molle Program, 7:00 p.m., Friday, R.
Nestle's Chocolateers, 8:00 p.m., Friday, B.
Old Gold, 10:00 p.m., Wednesday, C.
Pond's Players, 9:30 p.m., Friday, R.
Richfield Country Club, 7:30 p.m., Monday, B.
Singing Strings, 10:30 p.m., Saturday, C.
Texaco Program, 9:30 p.m., Tuesday, R.
Yeast Foamers, 2:30 p.m., Sunday, B.
Threads of Happiness, 9:15 p.m., Friday, C.

RELIGIOUS

Cathedral Hour, 4:00 p.m., Sunday, C.
Catholic Hour, 6:00 p.m., Sunday, R.
Church of the Air, 1:00 p.m., Sunday, C.

Friendly Hour, 5:00 p.m., Sunday, B.
 High Lights of the Bible, 1:30 p.m., Sunday, B.
 Mid-week Hymn Sing, 6:30 p.m., Tuesday, R.
 Old Songs of Church, 6:30 p.m., Thursday, B.
 Seth Parker, 10:45 p.m., Sunday, R.
 Radio Pulpit, 3:30 p.m., Sunday, R.

SINGERS

Annie, Judy and Zeke, 8:45 p.m., Saturday, B.
 Mildred Bailey, 10:00 p.m., Sun.; 7:15 p.m., Sat., C.
 Betty Barthell, 9:30 p.m., Saturday, C.
 Connie Boswell, 8:00 p.m., Saturday, C.
 Boswell Sisters, 8:00 p.m., Tues. and Thurs., C.
 Jack and Loretta Clemens, 7:30 p.m., Saturday, R.
 Mario Cozzi, 7:30 p.m., Thurs.; 10:30 p.m., Fri., B.
 Do Re Mi Trio, 2:30 and 10:00 p.m., Sunday, C.
 Jessica Dragonette, 8:00 p.m., Friday, R.
 Evan Evans, 10:00 p.m., Mon.; 10:45 p.m., Friday, C.
 John Fogarty, 8:45 p.m., Thursday, B.
 Tito Guizar, 9:30 p.m., Sun.; 6:45 p.m., Sat., C.
 Gypsy Nina, 7:00 p.m., Tuesday, C.
 Don Ifall Trio, 6:00 p.m., Sunday, B.
 Wendell Hall, 7:45 p.m., Sunday, R.
 Annette Hanshaw, 9:00 p.m., Thursday, R.
 Happy Bakers, 8:00 p.m., Mon., Wed., Fri., C.
 Ray Heatherton, 7:15 p.m., Wednesday, B.
 John Herrick, 7:00 p.m., Saturday, B.
 Eva Jessye Choir, 5:30 p.m., Sunday, B.
 Al Jolson, 10:00 p.m., Thursday, R.
 Alice Joy, 7:00 p.m., Sunday, B.
 John Kelvin, 2:00 p.m., Sunday, C.
 Jeannie Lang, 7:15 p.m., Mon., Wed., Fri., C.
 Little Jack Little, 10:30 p.m., Mon.; 11:15 p.m., Tues., C.
 Ruth Lyon, 10:30 p.m., Wednesday, B.
 Madison Singers, 10:30 p.m., Sunday, C.
 Major, Sharp and Minor, 10:30 p.m., Sunday, B.
 Nino Martini, 9:30 p.m., Tuesday, C.
 Mills Brothers, 7:30 p.m., Tues. and Thurs., C.
 Morin Sisters, 4:15 p.m., Sunday, B.
 Frank Munn, 9:30 p.m., Sunday, R.
 Kathryn Newman, 6:30 p.m., Tuesday, B.
 Gertrude Niesen, 8:30 p.m., Sun.; 8:45 p.m., Sat., C.
 O'Leary's Irish Minstrels, 6:30 p.m., Saturday, B.

Phil Regan, 11:15 p.m., Monday and Thursday, C.
 Revelers Quartet, 9:00 p.m., Sunday, B.
 Gladys Rice, 10:00 p.m., Mon.; 10:45 p.m., Thurs., C.
 Harry Richman, 10:00 p.m., Wednesday, C.
 Carson Robison, 9:00 p.m., Sunday, C.
 Rollickers Quartet, 8:00 p.m., Sat., R; 8:45 p.m., Tues., B.
 Baby Rose Marie, 7:15 p.m., Monday, B.
 Lanny Ross, 9:00 p.m., Thursday, R.
 Sanderson-Crumit, 8:00 p.m., Tues., R; 5:30 p.m., Sun., C.
 Ethel Shutta, 8:00 p.m., Friday, B.
 Sinclair Minstrels, 9:00 p.m., Monday, B.
 Singin' Sam, 8:15 and 11:30 p.m., Tues. and Thurs., C.
 Smiling Ed McConnell, 6:30 p.m., Sunday, C.
 Kate Smith, 8:45 p.m., Mon. and Tues.; 9:15 p.m., Wednesday, C.
 Conrad Thibault, 9:00 p.m., Wednesday, R.
 Vera Van, 5:15 p.m., Sun.; 11:15 p.m., Wed. and Fri., C.
 Vee and Johnny, 4:15 p.m., Sunday, R.

TALKS

All America Football Show, 9:30 p.m., Friday, C.
 Don Carney's Dog Chats, 7:45 p.m., Tuesday, B.
 Boake Carter, 7:45 p.m., daily, except Sat. and Sun., C.
 Irvin S. Cobb, 9:00 p.m., Wednesday and Friday, C.
 Football Reporter, 6:30 p.m., Thurs., Fri. and Sat., C.
 Floyd Gibbons, 8:30 p.m., Mon., R; 10:45 p.m., Fri., B.
 William Hard, 6:30 p.m., Wednesday, R.
 Edwin C. Hill, 8:15 p.m., Mon., Wed. and Fri., C.
 Horlick's Health, 8:30 p.m., Tues. and Thurs., B.
 Col. Louis McHenry Howe, 10:00 p.m., Sunday, R.
 Ted Husing, 10:30 p.m., Tues. and Thurs.; 6:45 p.m., Wednesday, C.
 H. V. Kaltenborn, 7:00 p.m., Sunday; 6:45 p.m., Friday, C.
 Andrew F. Kelly, 7:15 p.m., Sunday, R.
 Poet Prince, 11:15 p.m., Monday and Wednesday, B.
 Radio in Education, 7:15 p.m., Tuesday, B.
 Grantland Rice, 7:30 p.m., Monday, B.
 Madame Sylvia, 10:30 p.m., Tuesday, R.
 Lowell Thomas, 6:45 p.m., daily, except Sat. and Sun., B.
 Voice of Experience, 8:30 p.m., Tuesday, C.
 Frederic William Wile, 7:00 p.m., Saturday, C.
 Walter Winchell, 9:30 p.m., Sunday, B.
 Alexander Woolcott, 10:30 p.m., Wednesday and Friday, C.

KEY TO SYMBOLS

As Shown in the Index by
 Frequencies and Dial Numbers

Frequency is given in kilocycles; wavelength in meters. Night power is shown in watts in third column. Daytime power is shown in parenthesis in fourth column in kilowatts, thus (25) indicating 250 watts. Some stations outside the United States use a "split frequency." Their exact frequency is shown in fourth column. Time Zones: A—Atlantic, E—Eastern, C—Central, M—Mountain, P—Pacific, L—Local. A. M. time is shown in light face type.

Second Column Symbols

- a Verifies reception for return postage.
- b Verifies only occasionally.
- c Does not verify.
- d Verification 10c; letter 25c.
- e Sends Ekko stamp for 10c.
- f Sends Ekko stamp for 5c.
- g Sends Ekko stamp for postage.
- h Sends own station stamp for 10c.
- i Sends own station stamp for 5c.
- j Sends own station stamp for postage.
- k Has no stamps.
- z No information available.

Fourth Column Symbols

- A Amalgamated Broadcasting System.
- B National "Blue" network.
- C Columbia network.
- D Daytime only.
- Dn Daytime with occasional evening hours.
- E Trans-Canada network.
- F Canadian Radio Brdgst. Commission.
- G All Canadian networks.

- H Yankee network.
- J Orange network.
- K Michigan network.
- L Canadian Pacific Ry. network.
- M Central Canada network.
- N National "Red" and "Blue" networks.
- P Has construction permit only.
- Q Great Lakes network.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
- T Don Lee System.
- U Dixie network.
- V Maritime Broadcasting network.
- W All-Florida network.
- W Curtis-Indiana network.
- X Has permit to increase power.
- Y Has permit to change location.
- Z Has permit to change frequency.

a-b-c. Small letters show stations using same transmitter
 1-2-3. Figures denote stations sharing time.
 No information.

INDEX BY FREQUENCIES AND DIAL NUMBERS
With Saturday's Time on the Air

540 kilocycles 555.2 meters 53 1/2 54

XCKLW ae 500 C Windsor, Ont. E-7:00-1:00
XKEY z 105 546.8 Merida, Yuc.

550 kilocycles 545.1 meters 54 1/2 55

KFDY ae 500 1 (1) Brookings, S. D. C-12:30-2:00
XKFUO ae 500 2 (1) St. Louis, Mo. C
XKFYR ah 1000 1N (2.5) Bismarck, N. D. C-7:00-12:30; 2:00-mid.
KOAC ak 1000 Corvallis, Ore. P-6:30-4:00; 6:30-9:00
XKSD ak 500 2R St. Louis, Mo. C
TISO ak 250 San Jose, C. R. C-1:00-11:00
WDEV ae 500 D Waterbury, Vt. E-7:30-10:00; 11:30-2:00; 3:00-7:00
WGR ae 1000 C Buffalo, N. Y. E-7:30-mid.
XWKRC ak 1000 C Cincinnati, Ohio. E-7:00-1:00

560 kilocycles 535.4 meters 55 1/2 56

KFDM ak 500 (1) Beaumont, Texas. C-7:00-10:00
KGIZ ak 500 D Springfield, Mo. C-7:00-7:00
XKLZ ak 1000 C Denver, Colo. M-6:45-11:30
XKTAB ak 1000 San Francisco, Calif. P-7:00-1:00
WFI ae 500 1R Philadelphia, Pa. E-6:45-9:00; 9:45-11:00; 1:00-2:00; 3:00-4:30; 6:00-mid.
XWIND ak 1000 C Gary, Ind. C-5:30-3:30
WLIT ak 500 1R Philadelphia, Pa. E-9:00-9:45; 11:00-1:00; 2:00-3:00; 4:30-6:00
WNOX ak 1000 C (2) Knoxville, Tenn. C
WQAM ae 1000 CW Miami, Fla. E-7:15-mid.
XEAO ak 100 (.15) Mexicali, B. C. P-8:00-10:00

570 kilocycles 526.0 meters 56 1/2 57

XKGO ak 250 (.5) Wichita Falls, Texas. C-7:00-10:00
XKMTR ak 500 Hollywood, Calif. P-6:00-12:15
XKVI ak 500 Tacoma, Wash. P-6:00-mid.
XKBEN ae 500 1C Youngstown, Ohio. E-7:30-1:00
XWMCA ak 500 New York, N. Y. E-8:00-1:00
XWNAX ak 1000 C Yankton, S. D. C-6:00-mid.
WOSU ae 750 1 (1) Columbus, Ohio. E-1:00-mid.
XWSYR ak 250 B Syracuse, N. Y. E-7:30-1:00
XWWNC ae 1000 N Asheville, N. C. E-8:00-1:00

580 kilocycles 516.9 meters 57 1/2 58

CHMA ak 250 S Edmonton, Alta.
CKCL aj 100 M Toronto, Ont. E-8:00-11:30 (CFCL)
CKUA ak 500 F Edmonton, Alta. M
CRCA ak 500 F Moncton, N. B. A-12:30-2:00; 8:00-mid.
HIX ah 1500 Santo Domingo, D. R. E-Silent
XKMJ ak 500 CT Fresno, Calif. P-7:00-mid.
XKSAC ak 500 2 (1) Manhattan, Kans. C-8:00-9:00; 12:30-1:30
WDBO ae 250 CW Orlando, Fla. E-7:00-mid.
XWBW ae 1000 C2 Topeka, Kans. C-6:00-mid.
WOBW ak 250 (.5) Charleston, W. Va. E-8:00-mid.
WTAG ae 250 R (.5) Worcester, Mass. E-8:00-1:00
XWEPN ak 7500 585 Piedras Negras, Coah. C-6:00-8:00; 11:00-1:00; 7:00-11:00

590 kilocycles 508.2 meters 58 1/2 59

CMW ae 1400 Havana, Cuba. E
XKHQ ak 1000 N (2.5) Spokane, Wash. P-7:00-1:00
XWEEI ak 1000 R Boston, Mass. E
WKZO ae 1000 DK Kalamazoo, Mich. E-7:00-7:00
XWVW ae 1000 R Omaha, Neb. C-7:00-10:00; 10:45-mid.

600 kilocycles 499.7 meters 59 1/2 60-

XCFCF ae 500 F Montreal, Que. E-7:30-mid.
XKFOQ ck 250 Anchorage, Alaska. L-6:00-mid.
XKFSO ak 1000 N San Diego, Calif. P-7:30-mid.
WCAC ae 250 2 Storrs, Conn. E-Silent
WCAO ae 250 C Baltimore, Md. E-7:00-mid.
WICC ae 250 2 CH (.5) Bridgeport, Conn. E-7:45-1:00
XWMT af 500 C Waterloo, Iowa. C-6:00-mid.
XWREC ak 500 C (1) Memphis, Tenn. C-6:30-mid.

610 kilocycles 491.5 meters 60 1/2 61-

XKFERC ae 1000 CT San Francisco, Calif. P-7:00-1:00
KZEG ak 1000 618.5 Manila, P. I. L-7:30-12:15; 1:15-5:00

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With Saturday's Time on the Air

KCYS.
710
DIAL

KZRM	ak	5000	618.5	Manila, P. I.	L-6:30-7:30; 12:15-1:15; 5:10-mid.
TIXA	z	7.5	614	San Jose, C. R.	
XWDAF	ak	1000	R	Kansas City, Mo.	C-7:56-12:30
WIP	ae	500	C	Philadelphia, Pa.	E-8:30-12:30
XWJAY	ak	500	D	Cleveland, Ohio.	E
XKETR	z	1000	Mexico City, D. F.	C-9:00-noon; 1:00-4:00; 5:00-11:00

620 kilocycles 483.6 meters

6	1		
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XKGW	ae	1000	NJ	Portland, Ore.	P-7:00-mid.
XKTAR	ae	500	NJ (1)	Phoenix, Ariz.	M-7:00-11:15
WFLA	ae	1000	Na (2.5)	Clearwater, Fla.	E-7:30-mid.
WLBZ	ak	500	C	Bangor, Maine.	E
WSUN	ae	1000	Na (2.5)	St. Petersburg, Fla.	E-7:30-mid.
XWTMJ	ae	1000	N (2.5)	Milwaukee, Wis.	C-6:45-1:00

630 kilocycles 475.9 meters

6	2		
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CFCY	ae	500	FVE	Charlottetown, P. E. I.	A-12:00-1:30; 6:00-11:30
CJGX	ck	500	F	Yorkton, Sask.	C-8:30-9:15; 10:30-noon; 7:30-9:30
CKTB	z	1000	P	St. Catharines, Ont.	E
CMQ	z	500	2	Havana, Cuba.	E
XKFRU	ak	500	1	Columbia, Mo.	C-6:00-9:00; 2:00-sunset; 7:00-10:00
KGFX	z	200	D	Pierre, S. D.	C
XWGBF	ae	500	1	Evansville, Ind.	C
WMAL	ak	250	B (5)	Washington, D. C.	E-6:45-mid.
XWOS	ak	500	ID	Jefferson City, Mo.	C-9:00-2:00
XETF	ak	500	.....	Veracruz, Ver.	C
XEZ	z	500	Merida, Yuc.	C
XFG	z	2000	638.3	Mexico City, D. F.	C

640 kilocycles 468.5 meters

6	3		
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CHRC	ak	100	FZ645	Quebec, Que.	E-9:00-12:30
CKCR	ak	100	M645	Kitchener, Ont.	E-10:00-1:30; 4:00-11:00
XKFI	ak	50000	1N	Los Angeles, Calif.	P-6:30-mid.
XWAIU	ae	500	1	Columbus, Ohio.	E-6:15-5:30
XWOI	ae	5000	D	Ames, Iowa.	C-6:30-2:00

650 kilocycles 461.3 meters

6	4		
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XKPCB	ae	100	Seattle, Wash.	P-5:30-sunset; 10:00-4:00
XWSM	aej	50000	N	Nashville, Tenn.	C-6:30-mid.

660 kilocycles 454.3 meters

6	5		
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TIGP	z	75	666	San Jose, C. R.	
XWAAW	af	500	D	Omaha, Neb.	C-6:00-sunset
XWEAF	ak	50000	R	New York, N. Y.	E-8:00-1:00

670 kilocycles 447.5 meters

6	6		
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XWMAQ	ck	5000	N	Chicago, Ill.	C-7:30-1:00
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680 kilocycles 440.9 meters

6	7		
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XCMAF	ak	1000	Havana, Cuba.	E-5:30-11:00
HJN	ak	500	681	Bogota, Colombia.	L-Noon-1:30; 8:00-11:00
XKFEQ	ae	2500	D	St. Joseph, Mo.	C-8:45-9:30; 11:00-11:30; noon-1:30
XKPO	ak	50000	N	San Francisco, Calif.	P-7:30-mid.
VAS	z	2000	685	Glace Bay, N. S.	A-1:00-1:15; 1:00-1:15
XWPTF	ae	1000	DnN	Raleigh, N. C.	E-7:30-sunset

690 kilocycles 434.5 meters

6	8		
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CFAC	ak	500	1	Calgary, Alta.	M
XCFRB	ak	10000	C	Toronto, Ont.	E-8:00-mid.
CJCJ	ak	500	1	Calgary, Alta.	M
NAA	ak	1000	Arlington, Va.	E-11:55-noon; 9:55-10:00
XET	ck	500	Monterrey, N. L.	C-Noon-2:00; 4:00-10:00

700 kilocycles 428.3 meters

6	9		
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XWLW	ak	5000	N	Cincinnati, Ohio.	E-6:30-3:00
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710 kilocycles 422.3 meters

7	0		
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XKMPC	ae	500	Dn	Beverly Hills, Calif.	P-6:45-12:30
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CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

With Saturday's Time on the Air

TIFB	z	30	714	San Jose, C. R.	C—6:00-10:00
XWOR	ak	5000	.....	Newark, N. J.	E—6:45-12:30
XEN	ak	1000	711	Mexico City, D. F.	C—9:00-noon; 1:00-4:00; 5:00-mid.

720 kilocycles 416.4 meters 71 71

XWGN	ck	25000	C	Chicago, Ill.	C—7:00-1:30
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730 kilocycles 410.7 meters 72 72

CFPL	z	100	London, Ont.	E 7:30 AM 4:30-10:30 PM
X CJCA	ah	500	F	Edmonton, Alta.	M
X CKAC	ak	5000	CF	Montreal, Que.	E—7:30-11:30
CMK	ae	3150	.....	Havana, Cuba.	E—11:00-1:00; 7:00-mid.
X XEF-					
X XER	ak	150000	735	Villa Acuna, Coah.	C—7:15-5:00

740 kilocycles 405.2 meters 73 73

X KMMJ	ae	1000	D	Clay Center, Neb.	C—5:00-sunset
		250	D	Portsmouth, N. H.	E—8:30-1:30; 3:30-7:45
X WSB	ah	50000	NX	Atlanta, Ga.	C—6:55-mid.

750 kilocycles 399.8 meters 74 74

KGU	aj	2500	N	Honolulu, T. H.	L—6:30-10:30
X WJR	ak	10000	B	Detroit, Mich.	E—7:00-1:00
X EAN	ae	5000	.....	Juarez, Chih.	M
X XEFD	ak	5000	757	Tijuana, B. C.	P—7:00-3:00

760 kilocycles 394.5 meters 75 75

X KXA	ae	250	(.5)	Seattle, Wash.	P
X WBAL	ae	10000	BSy	Baltimore, Md.	(See 1060 Kcys.)
X WEW	ae	1000	D	St. Louis, Mo.	C—7:30-6:00
X WJZ	ck	50000	BSy	New York, N. Y.	E—8:00-1:00

770 kilocycles 389.4 meters 76 76

X KFAB	ae	5000	CSy	Lincoln, Neb.	C—5:00-6:45; 9:00-mid.
X WBBM	ae	25000	CSy	Chicago, Ill.	C

780 kilocycles 384.4 meters 77 77

CHWK	ak	100	F	Chilliwack, B. C.	P—9:00-10:00; 12:00-1:00; 5:30-8:30
CJCS	ak	500	(1) P	Sudbury, Ont.	E—8:00-mid.
CKPR	ak	100	FE	Fort William, Ont.	E
CMBS	ag	200	1 (.15)	Havana, Cuba.	E—10:00-noon; 3:30-6:00
CMCO	z	1000	1	Havana, Cuba.	E
KELW	ae	500	2	Burbank, Calif.	P—10:00-1:00; 5:00-8:00; 4:00-6:00
X KTM	ae	500	2 (1)	Los Angeles, Calif.	P—6:00-10:00; 1:00-5:00; 8:00-4:00
WEAN	ae	500	CH	Providence, R. I.	E—7:30-1:00
X WMC	ak	500	N (1)	Memphis, Tenn.	C—7:00-mid.
X WTAR	ae	500	C	Norfolk, Va.	E—7:00-mid.
XEP	z	1000	.....	Mexico City, D. F.	C
X EYZ	z	10000	.....	Mexico City, D. F.	C

790 kilocycles 379.5 meters 78 78

X CMJK	ak	500	.....	Camaguey, Cuba.	E—11:30-12:30; 5:00-11:00
X KGO	ak	7500	N	San Francisco, Calif.	P—7:00-mid.
X WGY	ak	50000	R	Schenectady, N. Y.	E—6:45-1:00

800 kilocycles 374.8 meters 79 79

VOAC	z	40	.....	St. John's, Newfoundland.	L
X WBAP	ak	50000	Na	Fort Worth, Texas.	C—6:30-7:00; 8:30-10:30; 12:30-3:00; 5:30-6:30; 7:00-10:00
X WFAA	ak	50000	Na	Dallas, Texas.	C—7:00-8:30; 10:30-12:30; 3:00-5:30; 6:30-7:00; 10:00-mid.
X XFC	z	350	805	Aguascalientes, Ags.	

810 kilocycles 370.2 meters 80 80

VOAS	ak	100	.....	St. John's, Nfld.	L—11:00-12:30; 7:45-9:30
X WCCO	ae	50000	C	Minneapolis, Minn.	C—7:00-1:00
X WNYC	ak	500	N	New York, N. Y.	E—10:00-7:30

820 kilocycles 365.6 meters 81 81

CMGC	z	30	Matanzas, Cuba.	E
X WHAS	aj	25000	C	Louisville, Ky.	C—7:00-mid.

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With Saturday's Time on the Air

830 kilocycles 361.2 meters 82

CMGA	z	100	834	Colon, Cuba.	E			
XKOA	ak	12500	N	Denver, Colo.	M-7:00-mid.			
TIEA	z	7.5	833	San Jose, C. R.	L			
WEEU	ak	1000	D	Reading, Pa.	E-8:00-6:15			
WHDH	ae	1000	Dn	Boston, Mass.	E-7:00-sunset in Denver			
XWRUF	ae	5000	Dn	Gainesville, Fla.	E-8:00-7:15			
XETW	dk	500	.....	Mexico City, D. F.	C-Noon-mid.			

840 kilocycles 356.9 meters 83

CJOC	ak	100	F	Lethbridge, Alta.	M-7:30-8:00			
CMC	ae	500	.....	Havana, Cuba.	E-10:30-11:30; 8:00-11:00			
XFX	ak	500	.....	Mexico City, D. F.	C-7:00-11:00; 8:00-10:00			

KCYS.

900

DIAL

850 kilocycles 352.7 meters 84

KIEV	ak	100	D	Glendale, Calif.	P-6:00-sunset			
XKWKH	ae	10000	1	Shreveport, La.	C			
XWWL	ae	10000	1Dn	New Orleans, La.	C-8:00-8:30			

860 kilocycles 348.6 meters 85

TIVL	z	30	869	San Jose, C. R.	C-11:00-1:00; 7:00-10:00			
XWABC	ae	50000	C	New York, N. Y.	E-7:30-2:00 (WBOQ)			
XWHB	ae	500	D	Kansas City, Mo.	C-6:00-5:45			
XETH	ak	100	.....	Puebla, Pue.	C-8:30-11:00; 1:00-3:00; 7:00-mid.			

870 kilocycles 344.6 meters 86

XWENR	ak	50000	Na	Chicago, Ill.	C			
XWLS	ae	50000	Na	Chicago, Ill.	C-5:30-9:15; 10:45-2:30; 6:00-mid.			
XEAD	z	250	875	Mexico City, D. F.	C			

880 kilocycles 340.7 meters 87

CJCB	ak	50	.....	Sydney, N. S.	A-10:00-11:00; noon-2:00; 5:00-10:00			
XCJRM	z	500	.....	Moose Jaw, Sask.	C			
CJRW	ak	500	F	Fleming, Sask.	C-8:00-9:00; 10:00-10:45; 1:00-1:15; 2:15-2:30; 5:30-7:30; 8:00-9:30			
CRCO	z	500	F	Ottawa, Ont.	E			
XFKA	ak	500	2 (1)	Greeley, Colo.	M-6:00-7:30; 9:00-2:30; 4:30-6:00; 7:30-mid.			
KLX	ak	500	.....	Oakland, Calif.	P-8:00-11:00			
XKPF	ae	500	2	Denver, Colo.	M-7:30-9:00; 2:30-4:30; 6:00-7:30			
WCOC	ae	500	(1)	Meridian, Miss.	C-7:30-2:00; 5:00-10:30			
WGBI	ae	250	1	Scranton, Pa.	E-9:30-12:30; 1:30-4:30; 5:30-11:00			
WQAN	ae	250	1	Scranton, Pa.	E-9:00-9:30; 12:30-1:30; 4:30-5:30			
XWSUJ	ae	500	.....	Iowa City, Iowa.	C-9:00-10:00; 6:00-7:10			
YV2BC	z	100	882	Caracas, Venez.	L			

890 kilocycles 336.9 meters 88

CFQC	z	500	Z	Saskatoon, Sask.	C			
CHML	aei	50	M	Hamilton, Ont.	E-8:00-11:00			
CMCF	ak	250	1	Havana, Cuba.	E-5:00-8:00			
CMX	ae	1000	1	Havana, Cuba.	E-Noon-2:00; 8:00-11:00			
FARK	ak	250	.....	Little Rock, Ark.	C-7:00-2:00; 4:30-9:30			
XKFNF	ak	500	2 (1)	Shenandoah, Iowa.	C-5:00-10:30; 11:00-5:00; 6:00-11:00			
KSEL	ck	250	(.5)	Pocatello, Idaho.	M-7:30-11:00			
XKUSD	ae	500	2	Vermillion, S. D.	C-Silent			
XWGST	aeH	250	C (.5)	Atlanta, Ga.	C-7:00-mid.			
XWILL	ak	250	2 (.5)	Urbana, Ill.	C-11:00-12:15; 11:00-mid.			
WJAR	ae	500	R	Providence, R. I.	E-8:00-1:00			
XWMMN	ae	250	(.5)	Fairmont, W. Va.	E-7:00-9:30			
XETU	z	100	.....	Pachuca, Hdo.				

900 kilocycles 333.1 meters 89

KGBU	ak	500	.....	Ketchikan, Alaska.	L			
XKHJ	ae	1000	CT	Los Angeles, Calif.	P-7:00-1:00			
VOWR	ak	500	S	St. John's, Nfld.	L-11:00-6:30			
XWBEN	ae	1000	R	Buffalo, N. Y.	E-6:45-1:00			
XWJAX	aeH	1000	N	Jacksonville, Fla.	E-7:00-12:30			
XWKY	ak	1000	N	Oklahoma City, Okla.	C-6:45-mid.			
XWLBL	ae	2500	D	Stevens Point, Wis.	C-8:00-sunset			

CUT OUT ON DOTTED LINES

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910 kilocycles 329.6 meters 90

CFRC	ak	100	915	Kingston, Ont.	E			
XCKY	ak	5000	Winnipeg, Man.	C-8:30-4:00; 6:00-11:00			
TIGR	z	75	911	San Jose, C. R.	C-6:30-10:00			
XZEW	ak	5000	.....	Mexico City, D. F.	C			

920 kilocycles 325.9 meters 91

CMBW	ak	600	925	Havana, Cuba.	E-6:00-11:00			
CMDE	z	150	925	Havana, Cuba.	E			
HHK	ae	1000	.....	Port-au-Prince, Haiti.	E-Silent			
XKFEL	ak	500	1	Denver, Colo.	M-6:30-8:30; 10:00-12:30; 3:00-4:30; 6:00-7:30			
XKFXF	ae	500	1	Denver, Colo.	M-7:30-10:00; 7:30-1:00			
XKOMO	ak	1000	N	Seattle, Wash.	P-6:55-mid.			
XKPRC	ae	1000	N (2.5)	Houston, Texas.	C-6:30-mid.			
XWAAF	ak	500	D	Chicago, Ill.	C-6:00-sunset			
WBSO	ae	500	D	Babson Park, Mass.	E-8:30-5:15			
XWWJ	ae	1000	R	Detroit, Mich.	E-7:30-mid.			

930 kilocycles 322.4 meters 92

CFCH	ak	100	F	North Bay, Ont.	E-Noon-1:30; 5:30-mid.			
CFLC	ae	100	FG	Prescott, Ont.	E-8:00-10:00, noon-2:00; 5:00-7:30			
XCKPC	ak	100	FG	Preston, Ont.	E-6:45-mid.			
CKX	ak	500	.....	Brandon, Man.	C			
CMJF	z	200	.....	Camaguey, Cuba.	E			
XKFWI	ak	500	1	San Francisco, Calif.	P			
XKGBZ	ak	500	2 (1)	York, Neb.	C			
XKMA	ak	500	2 (1)	Shenandoah, Iowa.	C-6:00-7:30; 9:30-11:00, 12:30-2:00; 3:30-5:00; 6:30-8:30			
XKROW	ak	500	1 (1)	Oakland, Calif.	P-8:00-9:00; 1:00-6:00; 7:30-11:00			
XWBRC	ak	500	C (1)	Birmingham, Ala.	C-7:00-11:00			
XWDBJ	ae	250	C (.5)	Roanoke, Va.	E-8:00-mid.			
WIBG	ae	25	D	Glenside, Pa.	E-9:00-sunset.			

940 kilocycles 319.0 meters 93

XKOIN	ak	1000	CT	Portland, Ore.	P-6:30-mid.			
WAAT	ae	300	D	Jersey City, N. J.	E-6:00-6:00			
WCHS	ae	1000	R (2.5)	Portland, Maine.	E-8:00-mid.			
XWDAY	ae	1000	N	Fargo, N. D.	C-7:00-mid.			
XWFIW	ak	1000	Y	Hopkinsville, Ky.	C-5:00-7:45, 11:30-1:00; 6:30-9:30			
XWHA	ak	1000	D	Madison, Wis.	C-8:00-sunset			
XWFO	ak	5000	.....	Mexico City, D. F.	C-1:00-3:00; 6:25-mid. (XEO)			

950 kilocycles 315.6 meters 94

CMHD	dk	500	(.25)	Caibarien, Cuba.	E-8:00-9:00			
XKFWB	ak	1000	.....	Hollywood, Calif.	P-7:30-12:30			
XKGHL	ak	1000	NJ (2.5)	Billings, Mont.	M-8:00-11:00			
XKMBC	ak	1000	C	Kansas City, Mo.	C-6:00-mid.			
XKRC	ae	500	R	Washington, D. C.	E-6:30-1:00			

960 kilocycles 312.3 meters 95

CMBD	z	250	965	Havana, Cuba.	E-6:00-11:00			
CMCW	ak	150	965	Havana, Cuba.	E-12:01-6:00; 1:00-3:00			
CMJL	z	50	.....	Camaguey, Cuba.				
CRCT	z	5000	NF	Toronto, Ont.	E			
XXEAW	ak	10000	965	Reynosa, Tams.	C-5:00-1:00			
YVIBC	ak	5000	.....	Caracas, Venez.	L-11:00-1:30; 5:30-10:15			

970 kilocycles 309.1 meters 96

CMGF	ak	100	977	Matanzas, Cuba.	E-3:00-5:00; 8:00-10:30			
XKJR	z	5000	N	Seattle, Wash.	P-6:55-mid.			
XWCFL	ae	1500	BX	Chicago, Ill.	C-7:00-mid.			

980 kilocycles 303.9 meters 97

XKDKA	ak	50000	B	Pittsburgh, Pa.	E-7:00-1:00			
XEAE	ak	800	.....	Tijuana, B. C.	P-9:00-mid.			

990 kilocycles 302.8 meters 98

TITV	z	7.5	999	San Jose, C. R.	C-3:00-5:00; 7:00-11:00			
XWBZ	ak	25000	BSy	Boston, Mass.	E			
XWBZA	ak	1000	BSy	Springfield, Mass.	E			
WJEM	z	500	D	Tupelo, Miss.	C			
XXEK	ak	100	Mexico City, D. F.	C-11:00-4:00; 6:00-2:00			

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1000 kilocycles 299.8 meters

99	100
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XKFVD	ae	250	Dn	Los Angeles, Calif.	P-6:30-sunset; 10:00-mid.
XWHO					
XWOC	ak	50000	R	Des Moines, Iowa.	C-7:00-mid.
WORK	ak	1000	D	York, Pa.	E-8:00-6:45
XEA	ak	250	.....	Guadalajara, Jal.	C-8:30-9:00; 6:00-11:00
XEC	z	50	.....	Toluca, D. F.	C
XEFE	z	100	.....	Nuevo Laredo, Tams.	C
XEFJ	ak	100	.....	Monterrey, N. L.	C-11:00-2:00; 7:00-10:00
XEF5	ak	40	.....	Queretaro, Qro.	C-8:00-10:00
XEL	ak	40	Saltillo, Coah.	C-10:30-1:00; 6:00-9:00

1010 kilocycles 296.9 meters

100		
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XCHWC	ae	500	3F	Regina, Sask.	M-7:00-9:00; 10:00-11:00, noon-1:00; 3:30-11:00
CKCD	ak	100	Vancouver, B. C.	P-7:30-11:30
CKCK	ak	500	3F	Regina, Sask.	M-9:00-10:00, 11:00-noon, 1:00-3:30
CKCO	z	100	.....	Ottawa, Ont.	E
CKIC	ak	50	.....	Wolfville, N. S.	A-6:00-7:00
XCKOC	ae	500	FZ	Hamilton, Ont.	E-7:45-11:30
XCKWX	ach	100	LZ	Vancouver, B. C.	P-7:00-7:30; 11:30-1:00
CMBZ	ak	150	.....	Havana, Cuba.	E-11:00-1:00; 4:00-6:00; 8:30-11:00
CMJO	ak	50	.....	Ciego de Avila, Cuba.	E-9:00-1:00; 6:00-10:00
XKGGF	ak	500	2 (1)	Coffeyville, Kans.	C-7:30-2:00; 5:00-10:30
KQW	ae	500	.....	San Jose, Calif.	P-7:00-8:00, 9:00-3:00; 4:30-10:00
TIGA	z	30	1014	Cartago, C. R.	
WHN	ae	250	1	New York, N. Y.	E-1:30-4:00
WIS	ae	500	N (1)	Columbia, S. C.	E-8:00-mid.
XWNAD	ae	500	2	Norman, Okla.	C-Silent
WPAP	ae	250	1	New York, N. Y.	E-4:00-8:00
WQAO	ae	250	1	New York, N. Y.	E-Silent
XWRNY	ae	250	1	New York, N. Y.	E-9:30-1:00; 8:00-1:00
XEJ	ak	500	1015	Juarez, Chih.	C
XXEU	ak	100	Veracruz, Ver.	C-7:00-9:00; 10:00-2:00; 5:00-11:00

KCYS.
1070
DIAL

1020 kilocycles 293.9 meters

101		
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XKYW	ae	10000	N	Chicago, Ill.	C-8:00-1:00
WRAX	ak	250	D	Philadelphia, Pa.	E-7:00-7:00
XSES	dk	250	Tampico, Tams.	C-10:00-2:30; 5:00-10:00

1030 kilocycles 291.1 meters

102		
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XCFBO	z	500	St. John, N. B.	A
XCFCN	ak	10000	Calgary, Alta.	M
CKNC	ak	500	F	Toronto, Ont.	E-8:00-11:00
CMHI	ak	250	1037	Santa Clara, Cuba.	E-11:00-noon, 8:00-9:00
CKMKC	z	150	1034	Santiago, Cuba.	E
XXEB	ak	10000	Mexico City, D. F.	C-10:00-10:00

1040 kilocycles 288.3 meters

103		
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CMGH	ak	15	Matanzas, Cuba.	E-2:00-3:00; 5:00-6:00; 7:30-8:30
XKRLD	ae	10000	1C	Dallas, Texas.	C
XKTHS	ae	10000	1N	Hot Springs, Ark.	C
WESG	ak	1000	D	Elmira, N. Y.	E-8:00-7:00
XWKAR	ak	1000	D	East Lansing, Mich.	E

1050 kilocycles 285.5 meters

104		
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CHNS	ae	500	FL	Halifax, N. S.	A-8:00-1:30; 6:00-mid.
CMJG	z	50	Camaguey, Cuba.	E
XKFBI	ak	5000	Dn	Abilene, Kans.	C-6:00-sunset
XKNX	ak	25000	Hollywood, Calif.	P-6:45-11:00
XEFC	ak	100	Merida, Yuc.	C-11:00-noon

1060 kilocycles 282.8 meters

105		
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XKWJJ	ak	500	Portland, Ore.	P-6:00-8:00; 9:00-2:00
XWBAL	ae	10000	1B	Baltimore, Md.	E-3:00-mid.
XWJAG	ak	1000	D	Norfolk, Neb.	C-6:45-sunset
XWTIC	ak	50000	1R	Hartford, Conn.	E

1070 kilocycles 280.2 meters

106		
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CMBG	z	225	Havana, Cuba.	E
CMCB	ak	150	Havana, Cuba.	E

CUT OUT ON DOTTED LINES

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With Saturday's Time on the Air

KJBS ae 100 D
 *WCAZ ae 50 D
 *WDZ ak 100 D
 *W7AM ck 5000 R
 XEG z 500 1075

San Francisco, Calif. P-12:01-sunset
 Carthage, Ill. C
 Tuscola, Ill. C-8:00-4:00
 Cleveland, Ohio. E-6:30-1:00
 Mexico City, D. F. C-(Mail returned)

1080 kilocycles 277.6 meters

107			
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VOKW z 30 1085
 *WBT ae 25000 CU
 *WCBD ae 5000 1Dn
 *WMBI ae 5000 1Dn

St. John's, Nfld. L
 Charlotte, N. C. E-7:00-mid.
 Zion, Ill. C-7:30-10:30; 1:30-sunset
 Chicago, Ill. C-7:00-7:30; 10:30-1:30; 2:30-4:00

1090 kilocycles 275.1 meters

108			
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*KMOX ak 5000 C
 XEAI z 100

St. Louis, Mo. C-6:30-1:00
 Mexico City, D. F. (All mail returned)

1100 kilocycles 272.6 meters

109			
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*CMCU ak 500
 *CRCV ak 500 F
 *KGDm ak 250 D
 *TRCA ak 500
 *WLWL ae 5000 1
 *WPG ak 5000 1C

Havana, Cuba. E-Noon-6:00
 Vancouver, B. C. P-6:00-7:30
 Stockton, Calif. P-6:00-6:30
 San Jose, C. R. C-11:00-1:00; 5:00-10:30
 New York, N. Y. E-6:00-8:00
 Atlantic City, N. J. E-9:00-6:00; 8:00-1:00

1110 kilocycles 270.1 meters

110			
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*KSOO ae 1000 Dn (2.5)
 *WRVA ae 5000 N
 XENT ak 15000 1115

Sioux Falls, S. D. C-6:00-6:30
 Richmond, Va. E-7:00-mid.
 Nuevo Laredo, Tams. C-6:00-8:00; 10:00-2:00; 5:00-10:00

1120 kilocycles 267.7 meters

111-			
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CHGS ae 100 F
 CHLP z 100
 KFIO ae 100 D
 *KFSG ag 500 a
 *KRKD ae 500 a
 KRSC ak 100 D
 *KTRH z 1000 2C
 WDEL ak 250 (.5)A
 WHAD ak 250 1C
 *WISN ak 250 1
 WTAW ae 500 2

Summerside, P. E. I. A-7:30-8:45; 10:30-2:00; 4:30-7:30; 9:00-11:00
 Montreal, Que. E-9:00-mid.
 Spokane, Wash. P-7:00-sunset
 Los Angeles, Calif. P-6:30-7:15; 7:30-mid.
 Los Angeles, Calif. P-7:45-7:30
 Seattle, Wash. P-6:45-6:30
 Houston, Texas. C-6:30-11:30
 Wilmington, Del. E-9:00-10:00
 Milwaukee, Wis. C-9:30-10:15; 8:30-9:30
 Milwaukee, Wis. C
 College Station, Texas. C-Silent

1130 kilocycles 265.3 meters

112-			
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*KSL ae 50000 C
 *WJJD ae 20000 Dn
 *WOV ag 1000 D
 *XEH ak 250 1132

Salt Lake City, Utah. M-6:45-mid.
 Chicago, Ill. C-6:30-10:00
 New York, N. Y. E-8:00-6:00
 Monterrey, N. L. C-8:00-1:30; 4:00-10:30

1140 kilocycles 263.0 meters

113			
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CMBJ z 500
 *CMCD ah 500 (.25)
 *KVOO ae 5000 1N
 *WAPI ae 5000 1N

Havana, Cuba. E
 Havana, Cuba. E-Noon-11:30
 Tulsa, Okla. C-6:30-7:00; 9:00-mid.
 Birmingham, Ala. C-6:00-9:00

1150 kilocycles 260.7 meters

114			
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CMJH ak 50
 *WHAM ae 25000 B
 XED ak 500 1155
 10-AT ak 25 1155

Ciego de Avila, Cuba. E-8:00-8:30; 10:00-3:00; 5:30-10:30
 Rochester, N. Y. E-8:00-1:00
 Guadalajara, Jal. C-Noon-3:30; 7:00-mid.
 Trail, B. C. P-9:30-9:00

1160 kilocycles 258.5 meters

115		116	
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*WOWO ae 10000 1C
 *WVVA ae 5000 1C

Fort Wayne, Ind. C-8:30-5:45
 Wheeling, W. Va. E-6:30-2:00

1170 kilocycles 256.3 meters

116			
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CMJE z 50 1175
 *WCAU ae 50000 C

Camaguey, Cuba. E.
 Philadelphia, Pa. E-8:00-1:00

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With Saturday's Time on the Air

1180 kilocycles 254.1 meters 117

CMBN	ak	150	1185	Havana, Cuba.	E—Noon-2:00; 4:00-6:00; 7:00-10:00
CMCJ	ak	500	1185	Havana, Cuba.	E
HLJK	z	15000	.....	Santo Domingo, D. R.	
XKEX	ak	5000	2N	Portland, Ore.	P—7:00-5:30; 8:00-mid.
XKOB	ae	10000	2	Albuquerque, N. M.	M—Noon-1:00; 5:00-9:00
XWGDY	ak	1000	Dn	Minneapolis, Minn.	C—6:30-8:15
WINS	ae	500	.....	New York, N. Y.	E—6:00-7:30
WMAZ	ak	500	.....	Macon, Ga.	E—7:30-3:00; 5:00-8:15
XETA	z	250	.....	Mexico City, D. F.	

1190 kilocycles 252.0 meters 118

CMHJ	ae	60	.....	Cienfuegos, Cuba.	E—11:00-2:00; 6:00-9:00
HIH	z	15	1195	Santo Domingo, D. R.	E—12:30-2:30; 6:30-8:30
VONF	ak	400	1195	St. John's, Nfld.	L—Noon-2:00; 6:00-9:00
XWOAI	ae	50000	N	San Antonio, Texas.	C—6:30-11:30
XWSAZ	ak	1000	.....	Huntington, W. Va.	E—8:00-8:00

1200 kilocycles 249.9 meters 119-

CHAB	ak	25	F	Moose Jaw, Sask.	M—5:30-10:00
CKOV	ak	100	F	Kelowna, B. C.	P
CKTB	ae	100	GP	St. Catharines, Ont.	E
CMGB	z	30	1205	Matanzas, Cuba.	E
XKBTM	ak	100	D	Paragould, Ark.	C—7:30-1:30; 2:30-5:30
XKERN	ak	100	CT	Bakersfield, Calif.	P—7:00-mid.
XKFJB	ak	100	(25)	Marshalltown, Iowa.	C—6:00-9:00; noon-3:00; 6:00-9:00
KFWF	ak	100	5	St. Louis, Mo.	C
KFXD	ae	100	.....	Nampa, Idaho.	M—7:00-9:00
KFXJ	ak	100	.....	Grand Junction, Colo.	M
XKGE	ak	100	(25)	Fergus Falls, Minn.	C—7:00-9:00
XKGFJ	ae	100	.....	Yuma, Colo.	M—11:30-1:30
XKGHI	ak	100	(25)	Los Angeles, Calif.	P—24 hours
KGYO	ak	100	.....	Little Rock, Ark.	C—7:00-1:00; 4:00-10:00
KMLB	ak	100	.....	Missoula, Mont.	M—8:00-8:30
KSUN	ae	100	D	Monroe, La.	C
KVOS	ak	100	.....	Lowell, Ariz.	M—Sunrise-sunset
XKWG	ae	100	.....	Bellingham, Wash.	P—7:00-10:00
WABI	ak	100	CP	Stockton, Calif.	P—7:00-mid.
XWBBX	ak	100	.....	Bangor, Maine.	E—9:00-2:00; 6:00-10:00
XWBBZ	ak	100	1	New Orleans, La.	C—Noon-5:00; 8:00-11:00
XWBHS	z	100	4	Ponca City, Okla.	C—6:30-9:45
XWCAT	ak	100	D	Huntsville, Ala.	C
WCAX	ak	100	.....	Rapid City, S. D.	C
WCLO	ak	100	.....	Burlington, Vt.	E—Noon-1:00
WCOD	ak	100	3	Janesville, Wis.	C—7:30-2:00; 5:00-8:30
WFAM	ak	100	8C	Harrisburg, Pa.	E—7:00-10:00; 2:00-5:00; 7:00-11:00
WFBC	ak	100	4 (25)	South Bend, Ind.	C—6:30-mid.
WFBE	ak	100	(25)	Greenville, S. C.	E—7:30-2:30; 5:30-10:30
XWHBC	ak	100	2	Cincinnati, Ohio.	E—7:00-11:30
XWHBY	ak	100	.....	Canton, Ohio.	E—7:00-9:00; noon-3:00; 6:00-9:00
WIBX	ae	100	(3)	Green Bay, Wis.	C—7:30-9:45
XWIL	ak	100	5 (25)	Utica, N. Y.	E—8:00-11:00
XWJBC	ae	100	6	St. Louis, Mo.	C—7:00-mid.
XWJBL	ae	100	6	LaSalle, Ill.	C—8:00-9:00; 10:00-12:30; 3:00-6:30
XWJBW	ak	100	1	Decatur, Ill.	C—6:30-8:00; 9:00-10:00; 12:30-3:00; 6:30-10:00
XWJCK	ae	100	3	New Orleans, La.	C—8:00-noon; 5:00-8:00
XWJLAP	ae	100	(25)	Lancaster, Pa.	E—11:00-3:00; 6:00-8:00
XWNBO	ae	100	2	Louisville, Ky.	C—7:30-11:30
XWNBW	z	10	(1)	Silverhaven, Pa.	E—9:00-noon; 3:00-6:00; 9:00-mid.
XWPHR	ak	100	(25)	Carbondale, Pa.	E
WRBL	z	100	.....	Petersburg, Va.	E—8:00-5:00; 6:00-9:00
XWVAE	ae	100	8	Columbus, Ga.	C—7:00-11:00
YV3BC	ak	1000	.....	Hammond, Ind.	C—7:00-8:30; 11:00-1:00; 4:00-7:00; 8:00-mid.
10-AK	ak	15	.....	Caracas, Venez.	L—11:00-2:00; 5:00-10:30
X10-BI	ak	25	.....	Stratford, Ont.	E—Noon-1:00; 5:30-7:00
10-BP	ak	25	.....	Prince Albert, Sask.	M
10-BQ	ak	15	.....	Wingham, Ont.	E—Silent
10-BU	z	15	.....	Brantford, Ont.	E—(1:00-8:00)
				Canora, Sask.	C

KCYS.
1210
DIAL

CUT OUT ON DOTTED LINES

1210 kilocycles 247.8 meters 120-

XCFCO	ak	100	FL	Chatham, Ont.	E—7:15-10:00
CFNB	ae	500	FE	Fredericton, N. B.	A—8:30-9:30; 12:30-2:00; 7:30-10:00
CHNC	ak	100	PF	New Carlisle, Que.	A—1:00-mid.
CJOR	ak	500	Vancouver, B. C.	P—7:30-10:30
CKCH	z	100	Hull, Que.	E

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With Saturday's Time on the Air

CKMC	ak	100	Cobalt, Ont.	E
KASA	ak	100	Elk City, Okla.	C—6:30-1:30; 5:00-7:00
KDLR	ak	100	.....	Devils Lake, N. D.	C—8:00-2:15; 6:00-8:00
KFJL	ak	100	.....	Klamath Falls, Ore.	P—8:30-9:00
KFOR	ak	100	(.25)	Lincoln, Neb.	C—7:00-10:00
KFPV	ak	100	.....	Fort Smith, Ark.	C—7:00-2:00; 5:00-10:00
XKFVS	ae	100	6	Cape Girardeau, Mo.	C—9:00-noon; 4:00-7:30; 9:00-mid.
XKFVM	ak	100	9	San Bernardino, Calif.	P—6:00-mid.
XKGR	ak	100	.....	Watertown, S. D.	C
KGY	ak	100	.....	Olympia, Wash.	P—7:00-mid.
KIEM	ak	100	.....	Eureka, Calif.	P—7:45-sunset
KPPC	ak	50	9	Pasadena, Calif.	P—Silent
KWEA	z	100	.....	Shreveport, La.	C
KWV	z	100	.....	Hilo, Hawaii.	L
XWALR	ae	100	.....	Zanesville, Ohio.	E
WBAX	ae	100	1	Wilkes Barre, Pa.	E
WBBL	ak	100	7S	Richmond, Va.	E—Silent
XWBS	ak	100	2	Springfield, Ill.	C—11:15-3:00; 6:45-8:30
WCRW	ae	100	4	Chicago, Ill.	C—11:00-2:00; 5:00-7:00
XWEBQ	ae	100	6	Harrisburg, Ill.	C—6:00-9:00; noon-4:00; 7:30-9:00
XWEDC	ae	100	4	Chicago, Ill.	C—8:30-10:00; 3:30-5:00; 7:00-8:00; 10:00-11:00; mid-2:00
XWFAS	ak	100	3	White Plains, N. Y.	E—9:00-11:30; 3:00-5:00; 7:00-10:00
WGBB	ae	100	3	Freeport, N. Y.	E—Silent
XWGCM	ae	100	(.25)	Mississippi City, Mass.	C—Silent until Dec. 29
WGNV	ak	50	.....	Chester, N. Y.	E
XWHBF	ak	100	.....	Rock Island, Ill.	C—7:30-10:00
WHBU	ah	100	.....	Anderson, Ind.	C—7:00-10:00
XWHET	ak	100	D	Troy, Ala.	C—9:00-sunset
XWIBU	ae	100	.....	Poynette, Wis.	C
WJBI	ak	100	3	Red Bank, N. J.	E—5:00-7:00
XWJBY	ak	100	.....	Gadsden, Ala.	C—9:00-9:00
WJEJ	ah	100	D	Hagerstown, Md.	E—7:00-1:00; 4:00-7:45
XWJW	ak	100	.....	Akron, Ohio.	E—9:00-11:30
WKFI	ak	100	.....	Greenville, Miss.	C—7:00-7:00
WKOK	ak	100	1P	Sunbury, Pa.	E
WMBG	ak	100	7C	Richmond, Va.	E—7:00-mid.
XWOCL	ak	50	.....	Jamestown, N. Y.	E—Noon-mid.
XWOMT	ae	100	.....	Manitowoc, Wis.	C
WPRO	ak	100	CH	Providence, R. I.	E—9:00-2:00; 4:00-11:15
WQDX	ae	100	.....	Thomasville, Ga.	E—8:00-9:00
XWSBC	ae	100	4	Chicago, Ill.	C—6:00-8:30; 10:00-11:00; 2:00-3:30; 8:00-10:00; 11:00-mid.
XWSEN	ak	100	.....	Columbus, Ohio.	E—8:00-mid.
WSIX	ak	100	.....	Springfield, Tenn.	C—6:00-4:00; 6:00-9:00
WSOC	ae	100	Y	Gastonia, N. C.	E
XWTAX	ae	100	2	Springfield, Ill.	C
XEX	z	500	Mexico City, D. F.	(All mail returned)

1220 kilocycles 245.8 meters

120 1/2	
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CMHK	ak	50	1225	Cruces, Cuba.	E—10:00-11:30
XKFKU	ae	500	a	Lawrence, Kans.	C—2:30-3:00; 6:00-6:15
KTW	ak	1000	S2	Seattle, Wash.	P—Silent
XKWSC	ae	1000	2(2)	Pullman, Wash.	P—Noon-2:30; 4:30-8:00
WCAD	ak	500	D	Canton, N. Y.	E—12:30-1:30
XWCAE	ae	1000	R	Pittsburgh, Pa.	E—6:45-1:00
XWDAE	ae	1000	CW	Tampa, Fla.	E—8:00-mid.
XWREN	ak	1000	Ba	Lawrence, Kas.	C—7:00-mid.

1230 kilocycles 243.8 meters

12 1/2	15 3/4
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CMBY	z	250	2	Havana, Cuba.	E
CMCA	z	150	2	Havana, Cuba.	E
XKGGM	ak	250	(.5)	Albuquerque, N. M.	M—6:00-noon; 4:00-8:00
XKYA	ae	1000	N	San Francisco, Calif.	P—7:30-mid.
XWFBM	ae	1000	1C	Indianapolis, Ind.	C—7:30-3:00; 5:30-11:30
XWNC	ak	1000	CH	Boston, Mass.	E—6:30-1:00
XWSBT	ak	500	1C	South Bend, Ind.	C—6:30-mid.

1240 kilocycles 241.8 meters

122 1/2	
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CMAB	z	20	1249	Pinar del Rio, Cuba.	E
CMJN	z	50	Camaguey, Cuba.	E
KGCU	ak	250	1	Mandan, N. D.	M—Noon-5:00; 6:45-9:00
KLPM	ak	250	1	Minot, N. D.	C—7:00-1:00; 6:00-7:45
XKTAT	ak	1000	.....	Fort Worth, Texas.	C—7:00-mid.
XKTFI	ae	1000	.....	Twin Falls, Idaho.	M—6:00-mid.
XWKAQ	ae	1000	San Juan, P. R.	A—12:15-3:15; 6:30-10:00
XWXYZ	ak	1000	K	Detroit, Mich.	E—7:30-mid.

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1250 kilocycles 239.9 meters 123 1/2

XKFOX	ae	1000	Long Beach, Calif.	P-6:00-mid.
XWAAM	ae	1000	1 (2.5)	Newark, N. J.	E-7:00-9:00, 10:00-noon, 2:00-4:30; 6:00-9:00
XWAL	ah	1000	2	Northfield, Minn.	C-9:45-10:15, 8:00-10:00
XWDSU	ak	1000	C	New Orleans, La.	C-7:00-11:45
XWGCP	ak	250	1	Newark, N. J.	E-2:00-5:00; 8:00-10:00
XWLB	ak	1000	2	Minneapolis, Minn.	C-2:00-5:00
XWODA	z	1000	1	Paterson, N. J.	E
XWRHM	ak	1000	2	Minneapolis, Minn.	C-6:15-9:45, 10:35-mid.
XFEA	z	500	.....	Mexico City, D. F.	C

1260 kilocycles 238.0 meters 124 1/2

XKOIL	ak	1000	B	Council Bluffs, Iowa.	C-6:00-1:00
XKRGV	ae	500	1	Harlingen, Texas.	C-7:00-9:30; 12:30-3:30
XKUOA	ak	1000	.....	Fayetteville, Ark.	C-7:00-6:30
XKVOA	ak	500	.....	Tucson, Ariz.	M-6:00-9:00; noon-3:00; 6:00-9:00
XKWWG	z	500	1	Brownsville, Texas.	C
XWLBW	ae	500	C(1)	Erie, Pa.	E-8:00-1:00
XWNBX	ak	250	D	Springfield, Vt.	E-9:00-1:00
XWTOC	ae	500	C	Savannah, Ga.	E-7:00-1:00
XFEA	ak	250	.....	Chihuahua, Chih.	C-1:00-3:00; 8:00-10:30

1270 kilocycles 236.1 meters 125 1/2

CMBC	ae	150	1	Havana, Cuba.	E
CMCP	z	150	1	Havana, Cuba.	E
XKGA	ak	100	2D	Decorah, Iowa.	C-8:30-9:45; 10:45-11:30; 12:30-2:30
XKOL	ae	1000	CT	Seattle, Wash.	P-6:45-mid.
XKQVOR	ae	1000	C	Colorado Springs, Colo.	M-7:00-11:00
XKWLW	ak	100	2D	Decorah, Iowa.	C-7:30-8:30; 9:45-10:45; 11:30-12:30; 2:30-3:30
XWASH	ak	500	Ka	Grand Rapids, Mich.	E-7:00-mid.
XWFBR	ae	500	R	Baltimore, Md.	E-7:10-1:00
XWJDX	ae	1000	N	Jackson, Miss.	C-7:00-11:00
XWOOD	ak	500	Ka	Grand Rapids, Mich.	E-7:00-mid.

1280 kilocycles 234.2 meters 126 1/2

CMJJ	ak	45	.....	Ciego de Avila, Cuba.	E
XKFB	ae	1000	(2.5)	Great Falls, Mont.	M-8:00-3:00; 5:00-10:00
XWCAM	ae	500	1	Camden, N. J.	E-Silent
XWCAP	ae	500	1	Asbury Park, N. J.	E-9:00-1:00; 2:00-5:00; 8:00-mid.
XWDOB	ae	1000	C(2.5)	Chattanooga, Tenn.	C-7:00-11:00
XWIBA	ae	500	N(1)	Madison, Wis.	C-7:30-mid.
XWORC	ak	500	CH	Worcester, Mass.	E-8:00-mid.
XWRR	ak	500	C	Dallas, Texas.	C-7:00-11:00
WTNJ	ak	500	1A	Trenton, N. J.	E-1:00-2:00; 5:00-8:00
XEFW	ak	70	.....	Tampico, Tams.	C-8:00-10:00; noon-2:00; 5:00-6:00; 7:00-10:00

KCYS.

1310

DIAL

1290 kilocycles 232.4 meters 127 1/2

CMHL	ak	20	.....	Cienfuegos, Cuba.	E-10:00-noon; 6:00-9:00
XKDYL	ae	1000	NJ	Salt Lake City, Utah.	M-6:30-1:00
XKLCN	z	100	D	Blytheville, Ark.	C
XKTSA	ak	1000	C	San Antonio, Texas.	C-7:00-mid.
XWBC	ae	1000	N(2.5)	Superior, Wis.	C-7:00-mid.
XWJAS	ak	1000	C(2.5)	Pittsburgh, Pa.	E-7:30-12:30
XWNBZ	z	50	D	Saranac Lake, N. Y.	E
XEAC	z	100	1295	San Luis Potosi, S. L. P.	
XFB	ak	500	.....	Jalapa, Ver.	C-8:00-9:00; 1:00-2:30; 8:00-11:30

1300 kilocycles 230.6 meters 128 1/2 130-

CMKJ	z	20	.....	Guantanamo, Cuba.	E
XKALE	ak	500	3CT	Portland, Ore.	P-7:00-10:30; 2:30-5:00; 6:00-7:00; 8:00-11:00
XKFAC	ae	1000	.....	Los Angeles, Calif.	P-7:00-mid.
XKFH	ak	1000	C2	Wichita, Kans.	C-7:00-8:30; 9:00-11:00; 11:30-2:00; 3:00-10:00
XKFJR	ag	500	3	Portland, Ore.	P-10:30-2:30; 5:00-6:00
XWBBR	aej	1000	1	Brooklyn, N. Y.	E-Silent
XWEVD	ak	500	1	New York, N. Y.	E-8:00-6:00
XWFB	ae	1000	1	New York, N. Y.	E-9:00-10:00; noon-3:00; 9:00-10:00
XWHAZ	ae	500	1	Troy, N. Y.	E-Silent
XWIOD	ae	1000	N	Miami, Fla.	E-7:15-mid.
XWQO	ae	1000	2	Kansas City, Mo.	C-6:00-7:00; 8:35-9:05; 11:00-11:30; 2:00-3:00; 10:00-11:00

1310 kilocycles 228.9 meters 129 1/2

CFJC	ak	100	FLE	Kamloops, B. C.	P-7:30-10:30; noon-2:00; 6:00-9:00
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CUT OUT ON DOTTED LINES

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With Saturday's Time on the Air

CHCK	ak	100	Charlottetown, P. E. I.	A—Noon-1:30; 5:00-9:00
KCCV	ak	50	.....	Quebec, Que.	E—Noon-2:00; 6:30-8:00
KCRJ	ak	100	D	Jerome, Ariz.	M—7:30-9:30; noon-1:00; 4:30-6:00
KFBK	ak	100	C	Sacramento, Calif.	P—7:00-11:00
XKFGQ	ak	100	7	Boone, Iowa.	C
XKFPL	ak	100	.....	Dublin, Texas.	C—6:30-8:30; 9:00-3:15; 7:00-10:45
KFPM	ae	15	.....	Greenville, Texas.	C—7:45-9:00; 12:30-2:45; 6:00-8:30
XKFXR	ak	100	(25)	Oklahoma City, Okla.	C—7:30-2:00; 4:30-11:00
XKFYO	ak	100	(25)	Lubbock, Texas.	C—7:00-2:00; 4:00-10:00
XKGBX	ak	100	.....	Springfield, Mo.	C
KGCX	ak	100	(25)	Wolf Point, Mont.	M—7:30-9:00; 11:30-3:00; 6:00-7:00
KGEZ	aj	100	.....	Kalispell, Mont.	M—8:00-9:00
KGFV	ak	100	.....	Kearney, Neb.	C—7:00-9:00
KIFH	z	100	.....	Juneau, Alaska.	L
KIT	ak	100	.....	Yakima, Wash.	P—7:00-11:00
KMED	ck	100	.....	Medford, Ore.	P—8:00-8:00
XKRMD	ak	100	.....	Shreveport, La.	C—7:00-1:00; 5:00-8:00
KTSM	ak	100	a	El Paso, Texas.	M—7:00-1:30; 3:00-10:00
KXRO	ak	100	.....	Aberdeen, Wash.	P—7:30-10:00
XWAML	ak	100	.....	Laurel, Miss.	C—7:00-10:00; 11:00-2:00; 4:00-9:30
XWBEO	ae	100	.....	Marquette, Mich.	C—9:30-1:15; 5:00-7:00
XWBOW	ak	100	.....	Terre Haute, Ind.	C—7:00-mid.
WBRE	ak	100	.....	Wilkes Barre, Pa.	E—8:00-9:45
XWCLS	ae	100	b	Joliet, Ill.	C—Silent
WDAH	ck	100	Sa	El Paso, Texas.	M
XWBR	aej	100	Q (.25)	Buffalo, N. Y.	E—7:00-1:00
XWEXL	ak	50	.....	Royal Oak, Mich.	E—7:30-mid.
XWFBG	ae	100	3	Altoona, Mich.	E—10:30-2:30; 6:15-9:15
XWDFD	ak	100	K	Flint, Mich.	E—7:00-mid.
XWGAL	ae	100	5	Lancaster, Pa.	E—9:30-2:30; 4:30-10:15
WGH	ae	100	.....	Newport News, Va.	E—7:00-1:00; 5:00-mid.
XWHAT	ak	100	4	Philadelphia, Pa.	E—9:00-11:30; 1:00-4:00; 9:00-mid.
XWIAS	ak	100	7	Ottumwa, Iowa.	C
XWJAC	ae	100	3	Johnstown, Pa.	E—9:00-10:30; 4:30-6:15; 9:15-10:15
XWKBB	ae	100	b	Joliet, Ill.	C
XWKBC	ak	100	.....	Birmingham, Ala.	C—7:00-10:00
WLBC	ak	50	6	Muncie, Ind.	C—7:00-10:00
XWMBQ	ak	100	.....	Auburn, N. Y.	E—9:00-9:00
XWNBH	ae	100	(25)	New Bedford, Mass.	E—8:00-2:00; 4:00-10:00
WOL	ae	100	A	Washington, D. C.	E—7:00-1:00; 3:00-9:00
WRAW	ak	100	5	Reading, Pa.	E—7:00-9:30
WROL	ak	100	.....	Knoxville, Tenn.	C—7:00-1:00; 4:00-11:00
WSAJ	ae	100	.....	Grove City, Pa.	E—Irregular
WSJS	ak	100	C	Winston-Salem, N. C.	E—7:45-mid.
WTEL	ah	100	4	Philadelphia, Pa.	E—7:00-9:00; 11:30-1:00; 4:00-9:00
WTJS	ak	100	(25)	Jackson, Tenn.	C—7:00-2:00; 4:00-10:00
WTRC	ak	50	6 (.1)	Elkhart, Ind.	C—6:00-7:30
XEFB	ak	100	1315	Monterrey, N. L.	C—11:00-2:00; 6:00-mid.
XEI	ak	250	Morelia, Mich.	C—2:00-3:30; 9:00-10:00

1320 kilocycles 227.1 meters

130 1/2	
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CMCY	ak	500	1325	Havana, Cuba.	E
XKGFH	ak	250	(.5)	Pueblo, Colo.	M—6:30-9:30
XKGBM	ak	250	C	Honolulu, T. H.	L—6:00-11:00
XKID	ae	250	(.5)	Idaho Falls, Idaho.	M—6:00-11:00
XWADC	ae	1000	C	Akron, Ohio.	E—8:00-mid.
XWSMB	ak	500	N	New Orleans, La.	C—7:00-mid.

1330 kilocycles 225.4 meters

131 1/2	133
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XKGB	agj	1000	CT	San Diego, Calif.	P—7:00-1:00
XKMO	ak	250	Tacoma, Wash.	P—6:45-11:00
XKSCJ	aj	1000	1C (2.5)	Sioux City, Iowa.	C—7:30-11:00
WDRG	ae	500	CH	Hartford, Conn.	E—8:00-mid.
XWSAI	ak	1000	R (2.5)	Cincinnati, Ohio.	E—8:00-mid.
XWTAQ	ae	1000	1C	Eau Claire, Wis.	C—7:00-8:00
XEQ	z	500	Mexico City, D. F.	

1340 kilocycles 223.7 meters

132 1/2	
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XKFPY	ak	1000	C	Spokane, Wash.	P—6:45-mid.
XKGDY	ak	250	Huron, S. D.	C
XKGOA	ak	250	Dodge City, Kans.	C—6:30-10:00
XWCO	ae	500	.....	Pensacola, Fla.	E—9:00-10:00
WLEC	z	250	(.5)	Portland, Maine.	E—(Mail returned)
XWSPD	ae	1000	C	Toledo, Ohio.	E—7:00-1:00

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1350 kilocycles 222.1 meters 135

KIDO	ak	1000	Boise, Idaho.	M—8:00-8:00
XKWK	ak	1000	B	St. Louis, Mo.	C—7:00-mid.
TGW	ak	500	.....	Guatemala City, Gua.	L—Noon-1:00; 6:00-7:00; 9:00-11:00
XWAWZ	ae	250	1	Zarephath, N. J.	E—7:45-8:45; 5:00-6:30
WBXN	ae	250	1a A	New York, N. Y.	E—6:00-7:30; 9:00-1:00
WCDA	ae	250	1a	New York, N. Y.	E—9:00-5:00; 6:30-2:00
XWBHC	ae	500	D	Charlottesville, Va.	E
WMSG	ae	250	1a	New York, N. Y.	E—1:00-5:00

1360 kilocycles 220.4 meters 136

CMIP	ak	75	.....	Moron, Cuba.	E—10:00-noon; 8:00-10:00
XKGER	ak	1000	.....	Long Beach, Calif.	P—6:00-1:00
XKGIJ	ak	500	N (1)	Butte, Mont.	M—7:00-mid.
XWCSC	ae	500	.....	Charleston, S. C.	E—8:00-10:30; noon-2:00; 7:00-10:00
XWFBL	ak	1000	C (2.5)	Syracuse, N. Y.	E—8:00-1:00
XWGES	ae	500	.....	Chicago, Ill.	C—5:45-11:00; 5:00-7:00; 11:00-2:00
XWQBC	ak	500	.....	Vicksburg, Miss.	C

1370 kilocycles 218.8 meters 135 1/2

CMCN	z	250	1375	Havana, Cuba.	E
CMCR	ak	150	1375	Havana, Cuba.	E—Noon-1:00; 4:00-6:00; 8:00-9:00
CMGE	z	30	1375	Gardenas, Cuba.	E
XKCRK	ak	100	2(,25)	Enid, Okla.	C—6:00-9:00; 11:00-2:00; 5:00-7:45; 10:00-mid.
KFBF	ae	50	3	Everett, Wash.	P—9:00-noon; 3:00-6:00; 9:00-mid.
KFJM	ak	100	.....	Grand Forks, N. D.	C—7:00-9:00
XKFJZ	ae	100	.....	Fort Worth, Texas.	C—7:00-11:00
XKGAR	ae	100	(,25)	Tucson, Ariz.	M—7:00-9:00
XKGFJ	bk	100	2	Oklahoma City, Okla.	C
XKGLF	ak	100	4	Roswell, N. M.	M—6:00-9:30; 2:00-7:30
XKGLK	ak	100	.....	San Angelo, Texas.	C—8:00-4:30; 6:00-10:00
KICA	ak	100	4	Clovis, N. M.	M—9:30-2:00; 7:30-9:30
KLUF	z	100	.....	Galveston, Texas.	C
XKMAC	ak	100	5	San Antonio, Texas.	C—7:00-8:30; 10:00-11:00; noon-1:30; 4:00-6:00; 7:00-8:00; 10:00-12:30
KONO	ak	100	5	San Antonio, Texas.	C—6:00-7:00; 8:00-10:00; 11:00-noon; 1:30-4:00; 6:00-7:00; 8:00-10:00
KOOS	ae	100	.....	Marshfield, Ore.	P—7:00-9:00
KRE	ak	100	.....	Berkeley, Calif.	P—6:30-9:30; noon-3:00; 6:00-9:00
XKSO	ak	100	B(,25)	Des Moines, Iowa.	C—6:30-1:00
KUJ	ak	100	.....	Walla Walla, Wash.	P—6:45-9:00
XKVL	ak	100	3	Seattle, Wash.	P—6:00-9:00; noon-3:00; 6:00-9:00
XKWKC	z	100	.....	Kansas City, Mo.	C
WBTM	ak	100	7	Danville, Va.	E—11:00-1:00; 6:30-10:00
WCBM	ae	100	(,25)A	Baltimore, Md.	E
XWDAS	ae	100	(,25)	Philadelphia, Pa.	E—9:00-11:00
XWGL	ae	100	C	Fort Wayne, Ind.	C—6:30-mid.
XWGLC	ak	100	C	Hudson Falls, N. Y.	E—7:30-1:00
XWHBD	ak	100	.....	Mount Orab, Ohio.	E—8:00-11:30; noon-9:00
WHBO	ak	100	.....	Memphis, Tenn.	C—7:55-2:00; 4:00-10:30
XWHDF	ak	100	(,25)	Calumet, Mich.	E—7:00-9:00; 11:30-1:30; 5:30-8:30
XWIBM	ae	100	IK	Jackson, Mich.	E—7:30-9:00
XWIBK	ae	50	1	Detroit, Mich.	E—7:00-sunset; 9:00-mid.
XWJTL	ae	100	.....	Atlanta, Ga.	E
WLEY	ak	100	(,25)	Lexington, Mass.	E—Noon-3:00; 6:00-9:00
XWLVA	ck	100	7	Lynchburg, Va.	E—7:00-11:00; 1:00-6:30
WMBR	ak	100	.....	Tampa, Fla.	E—7:00-9:30
XWPPE	ak	100	.....	Hattiesburg, Miss.	C
WQDM	ae	100	D	St. Albans, Vt.	E
WRAK	ak	100	.....	Williamsport, Pa.	E—8:30-3:00; 5:00-10:30
XWRAM	ak	100	.....	Wilmington, N. C.	E—7:30-mid.
WRDO	ae	100	.....	Augusta, Maine.	E—9:00-1:00; 4:30-8:30
WRJN	ae	100	.....	Racine, Wis.	C—9:00-2:30; 4:00-10:30
WSVS	ak	50	D	Buffalo, N. Y.	E—8:30-10:00
XXEFP	ae	100	.....	Juarez, Chih.	C—9:00-3:00; 5:00-11:00
XEFZ	ae	100	.....	Mexico City, D. F.	C

1380 kilocycles 217.3 meters 136 1/2

CMJC	z	150	1382	Camaguey, Cuba.	E
XKOH	ak	500	C	Reno, Nev.	P—8:00-10:00
KOV	ak	500	2	Pittsburgh, Pa.	E—7:00-10:00
TGZ	z	75	.....	Guatemala City, Guat.	
XKWBH	ae	1060	C	LaCrosse, Wis.	C—7:30-10:00
XWSMK	ak	200	2	Dayton, Ohio.	E—7:00-8:00; 10:00-mid.
XETB	z	125	Torreon, Coah.	

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ON DOTTED LINES

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With Saturday's Time on the Air

1390 kilocycles 215.7 meters 137 1/2

XKLRA	ae	1000	C	Little Rock, Ark.	C-7:00-mid.
KOY	ae	500	(1)	Phoenix, Ariz.	M
XWFK	ae	1000	C(2.5)	Cleveland, Ohio.	E-7:00-1:00

1400 kilocycles 214.2 meters 138 1/2

KLO	ah	500	C	Ogden, Utah.	M-8:30-10:30
KOCW	z	250	(.5)	Tulsa, Okla.	C
VOGY	ak	75		St. John's, Nfld.	L-10:30-11:30; 1:00-2:00; 6:15-8:00
WARD	ak	500	2	Brooklyn, N. Y.	E
XWBAA	z	500	1	Lafayette, Ind.	C-Silent
XWBBC	ae	500	2	Brooklyn, N. Y.	E-7:00-11:00; 7:30-9:00
XWFOX	ak	500	2	Brooklyn, N. Y.	E
XWBEF	ak	500	1N	Indianapolis, Ind.	C-6:00-mid.
XWLTH	ak	500	2	Brooklyn, N. Y.	E-11:00-1:30; 6:00-7:30

1410 kilocycles 212.6 meters 139 1/2

CKFC	ak	50	5	Vancouver, B. C.	P-3:00-4:30
XCKMO	z	100	5	Vancouver, B. C.	P
CMCH	ak	50		Havana, Cuba.	E
CMCM	z	15		Havana, Cuba.	E
XKFLV	ak	500	4	Rockford, Ill.	C-10:00-12:30; 3:00-6:00; 8:00-10:45
KGRS	ae	1000	1	Amarillo, Texas.	C-6:00-8:00; 10:00-12:30; 3:00-4:30; 6:00-7:30; 9:00-10:00
WAAB	ae	500	CH	Boston, Mass.	E-8:30-mid.
XWBCM	ae	500	K	Bay City, Mich.	E-8:00-mid.
XWDAG	ae	1000	1	Amarillo, Texas.	C-8:00-10:00; 12:30-3:00; 4:30-6:00; 7:30-9:00; 10:00-mid.
XWHBL	ae	500	4	Sheboygan, Wis.	C-7:00-10:00; 12:30-3:00; 6:00-8:00
XWHIS	ak	250	2	Bluefield, W. Va.	E-7:00-9:00; noon-3:00; 6:00-8:00
XWODX	ae	500	3C	Mobile, Ala.	C-7:00-6:15; 7:45-10:30
XWBEK	ae	250	2	Roanoke, Va.	E
XWSFA	ck	500	3C	Montgomery, Ala.	C-6:00-7:45

1420 kilocycles 211.1 meters 140

XKABC	ak	100		San Antonio, Texas.	C-6:00-mid.
KBPS	aj	100	4	Portland, Ore.	P-Silent
XKCMC	ak	100		Texarkana, Ark.	C-7:00-2:00; 4:00-9:00
KFIZ	ak	100		Fond du Lac, Wis.	C-10:00-1:00; 4:00-10:00
XKGFJ	ak	100		Shawnee, Okla.	C-7:30-3:00; 5:00-9:00
XKGGC	ak	100		San Francisco, Calif.	P-9:00-1:00; 4:00-9:00
XKGIW	ak	100	1Y	Trinidad, Colo.	M
KGIX	ak	100		Las Vegas, Nev.	M
KICK	z	100		Carter Lake, Iowa.	C
KIDW	z	100	1	Lamar, Colo.	M-8:00-10:00; 7:00-10:00
KORE	ae	100		Eugene, Ore.	P-7:45-9:00
KUMA	ak	100		Yuma, Ariz.	M-7:00-9:00; 11:00-2:00; 6:00-10:00
XKWCR	ak	100	B(.25)	Cedar Rapids, Iowa.	C-6:30-mid.
XKXCL	ae	100	4	Portland, Ore.	P-24 hours
XWACO	ak	100	C	Waco, Texas.	C-8:00-2:00; 5:00-10:30
WAGM	ae	100		Presque Isle, Maine.	E-11:00-1:00; 4:00-7:00
WAMC	ae	100		Anniston, Ala.	C-7:00-9:00
XWAZL	ak	100	2	Hazleton, Pa.	E-11:00-9:00
WEED	ak	100	DP	Greenville, N. C.	E-9:00-6:00
XWEHS	ak	100	a	Cicero, Ill.	C-4:00-6:00
WELL	ak	50		Battle Creek, Mich.	E-9:00-9:30
XWENC	ak	100	D	Americus, Ga.	C-7:00-6:15
WHDL	ae	100	D	Tupper Lake, N. Y.	E
XWHFC	ae	100	a	Cicero, Ill.	C-7:00-1:30; 6:00-1:00
XWILM	aj	100	2	Wilmington, Del.	E-7:00-11:00; 2:00-5:00; 9:00-mid.
WJBO	z	100	DY	New Orleans, La.	C
WJMS	ak	100		Ironwood, Mich.	C-7:30-1:30; 4:30-7:00
XWKBI	ak	100	a	Cicero, Ill.	C-1:30-4:00
WLBK	ak	100		Kansas City, Kans.	C-7:00-11:00
WMAS	ak	100	CH(.25)	Springfield, Mass.	E-8:00-mid.
XWMBC	ag	100	(.25)	Detroit, Mich.	E-7:30-1:30
XWMBH	ak	100	(.25)	Joplin, Mo.	C-7:30-2:00; 6:00-10:00
XWMBD	ak	100	D	Muscle Shoals, Ala.	C-7:00-10:00
XWPAD	ak	100		Paducah, Ky.	C
XWSPA	ae	100	(.25)	Spartanburg, S. C.	E-7:30-2:00; 4:00-9:30
WTBO	ae	100	(.25)	Cumberland, Md.	E-9:00-7:00

1430 kilocycles 209.7 meters 141

XCFCT	ae	50		Victoria, B. C.	P-8:00-12:30; 6:00-8:00; mid.-2:00
XKECA	ak	1000	N	Los Angeles, Calif.	P-7:00-11:00
KGNF	ak	500	D	North Platte, Neb.	C-7:00-sunset

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With Saturday's Time on the Air

WBAK	ak	500	1 (1)	Harrisburg, Pa.	E		
XWCAH	ae	500	1C	Columbus, Ohio.	E—8:00-mid.		
WFEE	ae	500	CH	Manchester, N. H.	E—7:30-11:00		
XWHEC	ae	500	C	Rochester, N. Y.	E		
XWHP	ak	500	1C(1)	Harrisburg, Pa.	E—8:30-10:30; 11:30-1:00		
XWNBR	ae	500	.....	Memphis, Tenn.	C—8:00-1:00; 3:00-10:00		
XWOKO	ae	500	C	Albany, N. Y.	E—7:30-1:00		

1440 kilocycles 208.2 meters 142 143 1/2

CMBK	z	15	1445	Havana, Cuba.	E		
CMBL	ak	200	1445	Havana, Cuba.	E—Noon-1:00; 8:00-10:00		
KDFN	ak	500	.....	Casper, Wyo.	M—7:30-2:00; 3:30-9:00		
KLS	ae	250	D	Oakland, Calif.	P—8:00-sunset		
KXYZ	ak	250	.....	Houston, Texas.	C—6:30-1:00; 2:30-11:00		
TIFS	z	7.5	1441	Cartago, C. R.	L		
WBIG	ae	500	C(1)	Greensboro, N. C.	E—8:00-11:00		
XWCBA	aj	250	a	Allentown, Pa.	E—7:30-mid.		
XWSMD	ae	500	3C(1)	Peoria, Ill.	C—6:00-11:00; 8:00-mid.		
XWSAN	aj	250	a	Allentown, Pa.	E—7:30-mid.		
XWTAD	ak	500	3	Quincy, Ill.	C—11:00-8:00		

1450 kilocycles 206.8 meters 143

XKTBS	ck	1000	N	Shreveport, La.	C—7:00-mid.		
TIEP	z	7.5	.....	San Jose, C. R.	L		
XWGAR	ak	500	B(1)	Cleveland, Ohio.	E—6:00-1:00		
XWHOM	ae	250	.....	Jersey City, N. J.	E—8:00-mid.		
WSAR	ae	250	.....	Fall River, Mass.	E—8:00-3:30; 5:00-10:00		
XWTFI	ak	500	.....	Athens, Ga.	E—8:00-9:00		
XEAB	ak	7.5	.....	Nuevo Laredo, Tams.	C—10:00-3:00; 4:00-5:00		

1460 kilocycles 205.4 meters 144

XKSTP	ae	25000	(N10)	St. Paul, Minn.	C—6:45-12:30		
XWJSV	ak	10000	C	Washington, D. C.	E—6:30-mid.		

1470 kilocycles 204.0 meters 145

XKGA	ak	5000	N	Spokane, Wash.	P—6:00-mid.		
XWLAC	ae	5000	C	Nashville, Tenn.	C—7:00-mid.		

1480 kilocycles 202.6 meters 146

XKOMA	ak	5000	C	Oklahoma City, Okla.	C—6:30-mid.		
XWKBW	ae	5000	C	Buffalo, N. Y.	E—10:00-1:00		

1490 kilocycles 201.2 meters 147 148

XWCKY	ae	5000	BY	Covington, Ky.	E—7:00-1:00		
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1500 kilocycles 199.9 meters 148 149

CRCS	z	100	Chicoutimi, Que.			
XKDB	ak	100	CT	Santa Barbara, Calif.	P—7:30-mid.		
XKGF1	ak	100	(.25)	Corpus Christi, Tex.	C—7:00-3:00; 6:00-10:00		
XKGFK	ak	100	.....	Moorhead, Minn.	C—8:00-9:00		
XKGBK	ak	100	.....	Tyler, Texas.	C—8:00-10:00; noon-2:00; 5:00-6:00; 7:30-9:00		
XKGGY	ck	100	.....	Scottsbluff, Neb.	M—9:00-1:30; 5:30-9:00		
XKNOW	ak	100	.....	Austin, Texas.	C—7:30-2:00; 4:00-10:00		
KPJM	ak	100	.....	Prescott, Ariz.	M—7:00-8:00		
KPO	aj	100	.....	Wenatchee, Wash.	P—7:00-10:00		
KREG	ak	100	.....	Santa Ana, Calif.	P—9:00-11:00		
KXO	al	100	.....	El Centro, Calif.	P—7:00-2:00; 4:00-9:00		
WCNW	ak	100	1	Brooklyn, N. Y.	E—3:00-9:00		
WFDV	ak	100	.....	Rome, Ga.	C—7:00-10:00; noon-3:00; 6:00-9:00		
WHEF	z	100	P(.25)	Kosciusko, Miss.	C		
WKBV	z	100	Y	Connerville, Ind.	C		
WKWB	ak	100	.....	Ludington, Mich.	E—9:00-9:00		
XWKEU	ak	100	.....	LaGrange, Ga.	C—10:00-noon; 3:00-6:00		
WMBQ	ae	100	1	Brooklyn, N. Y.	E—9:00-11:00		
WMPC	ak	100	.....	Lapeer, Mich.	E—Silent		
XWNBF	ae	100	.....	Binghamton, N. Y.	E—7:30-10:00		
XWOP1	ae	100	.....	Bristol, Tenn.	E—3:00-10:00		
XWPN	ck	100	(.25)A	Philadelphia, Pa.	E—7:30-10:00		
XWRDW	ae	100	.....	Augusta, Ga.	E		
WSYB	ae	100	.....	Rutland, Vt.	E—10:00-1:00; 5:00-9:00		
XWWRL	ak	100	1	Woodside, N. Y.	E—8:00-9:00; 11:00-3:00; 9:00-2:00		
XWWSW	ae	100	(.25)	Pittsburgh, Pa.	E—8:00-mid.		

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INDEX BY LOCATIONS

Frequency in kilocycles in second column. Night power in watts in third column. Network affiliations in fourth column: C Columbia, R National Red, B National Blue, N National Red and Blue. A Amalgamated.

ALABAMA				Hollywood				Storrs				Chicago								
Anniston				XKFWB	950	1000		WCAC	600	250		XKYW	1020	10000	N					
WAMC	1420	100		XKMTR	570	500		DELAWARE				XWAAF	920	500						
Birmingham				XKNX	1050	25000		Wilmington				XWBBM	770	25000	C					
XWAPI	X1140	5000	N	Long Beach				WDEL	1120	250	A	XWCFL	970	1500	B					
WBRC	X930	500	C	XKFOX	1250	1000		XWILM	1420	100		XWCRW	1210	100						
XWKBC	X1310	100		XKGER	1360	1000		DISTRICT OF COLUMBIA				XWEDC	1210	100						
Gadsden				Los Angeles				Washington				XWENR	870	50000	N					
XWJBY	X1210	100		XKECA	1430	1000	N	XWJSV	1460	10000	C	XWGN	1360	500						
Huntsville				XKFCAC	1300	1000		WMAL	630	250	B	XWJJD	1130	20000						
XWBHS	X1200	100		XKFI	640	50000	N	WOL	1310	100	A	XWLS	870	50000	N					
Mobile				XKFSG	1120	500		XWRC	950	500	R	XWMAQ	670	5000	N					
WODX	1410	500	C	XKFVD	1000	250		FLORIDA				XWMBI	1080	5000						
Montgomery				XKGFJ	1200	100		Clearwater				XWBSB	1210	100						
XWSFA	X1410	500	C	XKHJ	900	1000	C	WFLA	620	1000	N	Cicero								
Muscle Shoals				XKRRK	1120	500		XWRUF	830	5000		XWEHS	1420	100						
WMED	1420	100		XKTM	780	500		Jacksonville				XWHFC	1420	100						
Troy				Oakland				Miami				XWKBI	1420	100						
XWHEH	X1210	100		KLS	1440	250		XWJAX	900	1000	N	Decatur								
ALASKA				XKLX	880	1000		Orlando				XWJBL	1200	100						
Anchorage				XKROW	930	500		WDBO	580	250	C	Harrisburg								
KFQD	600	250		Pasadena				St. Petersburg				XWEBQ	1210	100						
Juneau				KPPC	1210	50		WSUN	620	1000	N	Joliet								
KIFH	1310	100		Sacramento				Tampa				XWCLS	1310	100						
Ketchikan				KFBK	1310	100	C	WDAE	1220	1000	C	XWKBB	1310	100						
KGBU	900	500		San Bernardino				WMBR				LaSalle								
ARIZONA				XKFSM	1210	100		WFLA				XWJBC	1200	100						
Jerome				San Diego				WWSB				Peoria								
KCRJ	1310	100		XKFRS	600	1000	N	Augusta				XWMBD	1440	500	C					
Lowell				XKGB	1330	1000	C	WRDW	1500	100		Quincy								
KSUN	1200	100		San Francisco				Columbus				XWTAD	1440	500						
Phoenix				XKFRJ	610	1000	C	WRBL	1200	100		Rockford								
KOY	1390	500		XKFWJ	930	500		LaGrange				XKFLV	1410	500						
XKTAR	620	500	N	XKGGC	1420	100		WKEU	1500	100		Rock Island								
Prescott				XKGO	700	7500	N	Macon				XWHBF	1210	100						
KPJM	1500	100		XKJBS	1070	100		WMAZ	1180	500		Springfield								
Tucson				XKKPO	680	50000	N	Rome				XWCBS	1210	100						
XKGAR	1370	100		XKKTAB	560	1000		WFDV	1500	100		XWTAX	1210	100						
KVOA	1260	500		XKYA	1230	1000	N	Savannah				XWDS	1070	100						
Yuma				San Jose				Thomasville				Tuscola								
KUMA	1420	100		KW	1010	500		WQDX	1210	100		XWZ	1070	100						
ARKANSAS				Santa Ana				WWSB				Urbana								
Blytheville				KREG	1500	100		WFDV				XWILL	890	250						
KLCN	1290	100		Santa Barbara				Savannah				XWZ	1070	100						
Fayetteville				XKDB	1500	100	C	Savannah				XWZ	1070	100						
KUOA	1260	1000		Stockton				WFDV				XWILL	890	250						
Fort Smith				KGDM	1100	250		WFDV				XWILL	890	250						
KFPW	1210	100		XKWG	1200	100	C	WFDV				XWILL	890	250						
Hot Springs				COLORADO				WFDV				XWILL	890	250						
XKTHS	1040	10000	N	Colorado Springs				WFDV				XWILL	890	250						
Little Rock				XKVOR	1270	1000	C	WFDV				XWILL	890	250						
KARK	890	250		Denver				WFDV				XWILL	890	250						
XKGH	1200	100		XKFEL	920	500		WFDV				XWILL	890	250						
XKLRA	1390	1000	C	XKFXF	920	500		WFDV				XWILL	890	250						
Paragould				XKLZ	560	1000	C	WFDV				XWILL	890	250						
XKBTM	1200	100		XKOA	830	12500	N	WFDV				XWILL	890	250						
Texarkana				XKPOF	880	500		WFDV				XWILL	890	250						
XKCMC	1420	100		Grand Junction				WFDV				XWILL	890	250						
CALIFORNIA				KFXJ	1200	100		WFDV				XWILL	890	250						
Bakersfield				Greeley				WFDV				XWILL	890	250						
XKERN	1200	100	C	XKFKA	880	500		WFDV				XWILL	890	250						
Berkeley				Lamar				WFDV				XWILL	890	250						
KRE	1370	100		XKIDW	1420	100		WFDV				XWILL	890	250						
Beverly Hills				Pueblo				WFDV				XWILL	890	250						
XKMPC	710	500		XKGFH	1320	250		WFDV				XWILL	890	250						
Burbank				Trinidad				WFDV				XWILL	890	250						
KELW	780	500		XKGIW	1420	100		WFDV				XWILL	890	250						
El Centro				Yuma				WFDV				XWILL	890	250						
KXO	1500	100		XKEG	1200	100		WFDV				XWILL	890	250						
Eureka				CONNECTICUT				WFDV				XWILL	890	250						
KIEM	1210	100		Bridgeport				WFDV				XWILL	890	250						
Fresno				WICC	600	250	C	WFDV				XWILL	890	250						
XKMJ	580	500	C	Hartford				WFDV				XWILL	890	250						
Glendale				WDRC	1330	500	C	WFDV				XWILL	890	250						
KIEV	850	100		XWTIC	1060	50000	R	WFDV				XWILL	890	250						

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Boone	WLEC 1340 250	Northfield	Scottsbluff
XKFGQ 1310 100	Presque Isle	XWAL 1250 1000	XKGGY 1500 100
Carter Lake	WAGM 1420 100	St. Paul	York
KICK 1420 100	MARYLAND	XKSTP 1460 25000 N	XKGBZ 930 500
Cedar Rapids	Baltimore	MISSISSIPPI	NEVADA
XKWCR 1420 100 B	XWBAL 1060 10000 B	Greenville	Las Vegas
Council Bluffs	WCAO 600 250 C	WKFI 1210 100	KGIX 1420 100
XKOIL 1260 1000 B	WCBM 1370 100 A	XWFBH 1370 100	XKOH 1380 500 C
Decorah	XWFBR 1270 500 R	Jackson	NEW HAMPSHIRE
KGCA 1270 100	Cumberland	XWJDX 1270 1000 N	Manchester
KWLC 1270 100	WTBO 1420 100	Wosciusko	WFEA 1430 500 C
Des Moines	Hagerstown	WHEF 1500 100	Portsmouth
XKSO 1370 100 B	WJEJ 1210 100	Laurel	WHEB 740 250
XWOC- 1000 50000 R	MASSACHUSETTS	XWAML 1310 100	NEW JERSEY
XWHO	Babson Park	Meridian	Asbury Park
Iowa City	WBSO 920 500	WCOC 880 500	WCAP 1280 500
XWSUI 880 500	Boston	Mississippi City	Atlantic City
Marshalltown	WAAB 1410 500 C	XWGCX 1210 100	XWPG 1100 5000 C
XKFJB 1200 100	WBZ 990 25000 B	Tupelo	Camden
Ottumwa	XWEEI 590 1000 R	XWJEM 990 500	WCAM 1280 500
XWIAS 1310 100	WHDH 830 1000	Vicksburg	Jersey City
Shenandoah	XWNAC 1230 1000 C	WQBC 1360 500	WAAT 940 300
XKFNF 890 500	Fall River	MISSOURI	XWHOM 1450 250
XKMA 930 500	WSAR 1450 250	Cape Girardeau	Newark
Sioux City	Lexington	XKFSV 1210 100	XWAAM 1250 1000
XKSCJ 1330 1000 C	WLEY 1370 100	Columbia	WGCP 1250 250
Waterloo	XWNBH 1310 100	XKFRU 630 500	XWOR 710 5000
XWMT 600 500 C	Springfield	Jefferson City	Paterson
KANSAS	XWBZA 990 1000 B	XWOS 630 500	WODA 1250 1000
Abilene	WMAS 1420 100 C	Joplin	Red Bank
XKFBI 1050 5000	Worcester	WMBH 1420 100	WJBI 1210 100
Coffeyville	WORC 1280 500 C	Kansas City	Trenton
XKGGF 1010 500	WTAG 580 250 R	KMBC 950 1000 C	WTNJ 1280 500 A
Dodge City	MICHIGAN	KWKK 1370 100	Zarephath
XKGN0 1340 250	Battle Creek	WDAF 610 1000 R	XWAWZ 1350 250
Kansas City	XWELL 1420 50	WHB 860 500	NEW MEXICO
WLBF 1420 100	Bay City	XWQQ 1300 1000	Albuquerque
Lawrence	XWBCM 1410 500	St. Joseph	XKGGM 1230 250
XKFKU 1220 500	Calumet	XKFEQ 680 2500	XKOB 1180 10000
XWREN 1220 1000 B	XWHDH 1370 100	St. Louis	Clovis
Manhattan	WJBK 1870 50	KFUO 550 500	KICA 1370 100
XKSAC 580 500	WJR 750 10000 B	KFWF 1200 100	Roswell
Topeka	WMCB 1420 100	KMOX 1090 5000 C	XKGL 1370 100
XWIBW 580 1000 C	WWJ 920 1000 R	KSD 550 500 R	NEW YORK
Wichita	XWYZ 1240 1000	KWK 1350 1000 B	Albany
XKFH 1300 1000 C	WX YZ 1240 1000	XWEL 760 1000	WOKO 1430 500 C
KENTUCKY	East Lansing	WIL 1200 100	Auburn
Covington	XWKR 1040 1000	Springfield	XWMO 1310 100
XWCKY 1490 5000 B	Flint	XKGBX 1310 100	Binghamton
Hopkinsville	WFDH 1310 100	KGIZ 560 500	XWNB 1500 100
XWFTW 940 1000	Grand Rapids	MONTANA	Brooklyn
Louisville	WASH 1270 500	Billings	WARD 1400 500
XWHAS 820 25000 C	WOOD 1270 500	XKGLH 950 1000 N	XWBBC 1400 500
Paducah	Ironwood	XKGR 1360 500 N	XWBBR 1300 1000
XWLP 1200 100	WJMS 1420 100	Great Falls	WCNW 1500 100
WPAD 1420 100	Jackson	XKFBB 1280 1000	WFOX 1400 500
LOUISIANA	WIBM 1370 100	Kalispell	XWLTH 1400 500
Monroe	Kalamazoo	KGEZ 1310 100	WMBQ 1500 100
KMLB 1200 100	WKZO 590 1000	Missoula	Buffalo
New Orleans	Lapeer	KGVO 1200 100	XWBN 900 1000 R
WBBX 1200 100	WMPC 1500 100	Wolf Point	XWEBR 1310 100
XWDSU 1250 1000 C	Ludington	KGKX 1310 100	XWGR 550 1000 C
WJBO 1420 100	WKBZ 1500 100	NEBRASKA	XWKBW 1480 5000 C
XWIBW 1200 100	Marquette	Clay Center	WSVS 1370 50
XWSMB 1320 500 N	XWBE0 1310 100	KMMJ 740 1000	Canton
XWLB 850 10000	Royal Oak	XKearney	WCAD 1220 500
Shreveport	XWEXL 1310 50	KGFW 1310 100	Chester
XKRMD 1310 100	MINNESOTA	Lincoln	WGNV 1210 50
XKTBS 1450 1000 N	Fergus Falls	XKFAB 770 5000 C	Elmira
KWEA 1210 100	KGDE 1200 100	KFOR 1210 100	WESG 1040 1000
XKWKH 850 10000	Minneapolis	Norfolk	Freeport
MAINE	WCCO 810 50000 C	XWJAG 1060 1000	WGBB 1210 100
Augusta	XWDGY 1180 1000	North Platte	Hudson Falls
WRDO 1370 100	WLB 1250 1000	KGNF 1430 500	WGLC 1370 100 C
Bangor	XWRHM 1250 1000	Omaha	Jamestown
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 WCD A 1350 250
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 XWEVD 1300 500
 WFAB 1300 1000
 WHN 1010 250
 WINS 1180 500
 XWJZ 760 50000 B
 XWLWL 1100 5000
 XWMCA 570 500
 XWMSG 1350 250
 XWNYC 810 500
 XWOV 1130 1000
 WPAP 1010 250
 WQAO 1010 250
 XWRNY 1010 250
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Greenville
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Devils Lake
 KDLR 1210 100
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 XWDAY 940 1000 N
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Mandan
 XKGCC 1240 250
Minot
 XKLPM 1240 250
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 XWADC 1320 1000 C
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Canton
 XWHBC 1200 100
Cincinnati
 WFBE 1200 100
 XWKRC 550 1000 C
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 XWGAR 1450 500 B
 XWHK 1390 1000 C
 XWJAY 610 500
 XWTAM 1070 50000 R
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 XWAUJ 640 500
 XWCAH 1430 500 C
 XWOSU 570 750
 XWSUN 1210 100
Dayton
 XWSMK 1380 200
Mount Orab
 XWHBD 1370 100
Toledo
 XWSPD 1340 1000 C
Youngstown
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Zanesville
 XWALR 1210 100
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Elk City
 KASA 1210 100
Enid
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Norman
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Oklahoma City
 XKFXR 1310 100
 XKFGF 1370 100
 XKOMA 1480 5000 C
 XWKY 900 1000 N
Ponca City
 XWBBZ 1200 100
Shawnee
 XKGFF 1420 100
Tulsa
 KOCV 1400 250
 XKVOO 1140 5000 N
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Corvallis
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Eugene
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Klamath Falls
 KFJI 1210 100
Marshfield
 KOOS 1370 100
Medford
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Portland
 KALE 1300 500 C
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 XKEX 1180 5000 N
 XKFJR 1300 500
 XKGW 620 1000 N
 XKOIN 940 1000 C
 XKWJJ 1060 500
 XKXL 1420 100
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 XWJSN 1440 250
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Erie
 XWLBW 1260 500 C
Glenside
 WBG 930 25
Grove City
 XWSAJ 1310 100
Harrisburg
 WBAK 1430 1000
 WCOD 1200 100
 XWHP 1430 500 C

Hazleton
 XWAZL 1420 100
Johnstown
 WJAC 1310 100
Lancaster
 XWGL 1310 100
 WKJC 1200 100
Philadelphia
 XWCAU 1170 50000 C
 XWDAS 1370 100
 WFI 560 500 R
 WHAT 1310 100
 WIP 610 500 C
 WLIT 560 500 R
 WPEN 1500 100 A
 WRAX 1020 250
 WTEL 1310 100
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 XKDKA 980 50000 B
 KOV 1380 500
 XWCAE 1220 1000 R
 XWJAS 1290 1000 C
 XWWSW 1500 100
Reading
 WEEU 830 1000
 WRAW 1310 100
Scranton
 WGBI 880 250
 WQAN 880 250
Silverhaven
 XWNBO 1200 100
Sunbury
 WKOK 1210 100
Wilkes-Barre
 WBAX 1210 100
 WBRE 1310 100
Williamsport
 WRAK 1370 100
York
 WORK 1000 1000
PHILIPPINES
Cebu
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Manila
 KZEG 618.5 1000
 KZKA 1110 1000
 KZRM 618.5 50000
PORTO RICO
San Juan
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Providence
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 WJAR 890 500 R
 WPRO 1210 100 C
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Charleston
 XWCSC 1360 500
Columbia
 WIS 1010 500 N
Greenville
 WFBG 1200 100
Spartanburg
 XWSPA 1420 100
SOUTH DAKOTA
Brookings
 KFDY 550 500
Huron
 KGDY 1340 250
Pierre
 KGFY 630 200
Rapid City
 XWCAT 1200 100
Sioux Falls
 XKSOO 1110 1000
Vermillion
 XKUSD 890 500

Watertown
 XKGCGR 1210 100
Yankee
 XWNAX 570 1000 C
TENNESSEE
Bristol
 XWOPI 1500 100
Chattanooga
 XWDOD 1280 1000 C
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 WTJS 1310 100
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 WNOX 560 1000 C
 WROL 1310 100
Memphis
 WHBQ 1370 100
 WMC 780 500 N
 XWNBR 1430 500
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Springfield
 WSIX 1210 100
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Amarillo
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 KFD M 560 500
Brownsville
 KWWG 1260 500
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 WTAW 1120 500
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 XGFI 1500 100
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 XKRLD 1040 10000 C
 XWFAA 800 50000 N
 XWRR 1280 500 C
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 XKFPL 1310 100
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 XKFJZ 1370 100
 XKTAT 1240 1000
 XWBAP 800 50000 N
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Greenville
 KPFM 1310 15
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 XKPRC 920 1000 N
 XKTRH 1120 1000 C
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 XKGKL 1370 100
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 XKABC 1420 100
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 XWACO 1420 100 C
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UTAH
Ogden
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 X KDSL 1290 1000 N
 X KSL 1130 5000 C

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Burlington
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Rutland
 WSYB 1500 100
St. Albans
 WQDM 1370 100
Springfield
 WNBX 1260 250
Waterbury
 WDEV 550 500

VIRGINIA

Arlington
 NAA 690 1000
Charlottesville
 X WEHC 1350 500
Danville
 WBTM 1370 100
Lynchburg
 X WLVA 1370 100
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 WGH 1310 100
Norfolk
 X WTAR 780 500 C
Petersburg
 X WPHR 1200 100
Richmond
 WBBL 1210 100
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 X WRVA 1110 5000 N
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 X WDBJ 930 250 C
 X WRBX 1410 250

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Bellingham
 KVOS 1200 100
Everett
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 KGY 1210 100
Pullman
 X KWSC 1220 1000
Seattle
 X KJR 970 5000 N
 KOL 1270 1000 C
 X KOMO 920 1000 N
 X KPCB 650 100
 KRSC 1120 100
 KTWV 1220 1000
 X KVL 1370 100
 X KXA 760 250
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 KFIO 1120 100
 X KFPY 1340 1000 C
 X KFGA 1470 5000 N
 X KHQ 590 1000 N

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 X KMO 1330 250
 X KVI 570 500 C
Walla Walla
 KUJ 1370 100
Wenatchee
 KPQ 1500 100
Yakima
 KIT 1310 100

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 X WHIS 1410 250
Charleston
 WOBV 580 250
Fairmont
 X WMMN 890 250

Huntington
 X WSAZ 1190 1000
Wheeling
 X WVVVA 1160 5000 C

WISCONSIN

Eau Claire
 X WTAQ 1330 1000 C
Fond du Lac
 KFIZ 1420 100
Green Bay
 X WHBY 1200 100
Janesville
 X WCLO 1200 100
LaCrosse
 X WKBH 1380 1000 C
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 X WHA 940 1000
 X WIBA 1280 500 N
Manitowoc
 X WMT 1210 100
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 X WHAD 1120 250 C
 X WISN 1120 250 C
 X WTMJ 620 1000 N
Poynette
 X WIBU 1210 100
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 WRJN 1370 100
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 X WHBL 1410 500
Stevens Point
 X WLBL 900 2500
Superior
 X WBCB 1290 1000 N

WYOMING

Casper
 KDFN 1440 500

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 X CFCN 1030 10000
 CJCJ 690 500
Edmonton
 CHMA 580 250
 X CJCA 730 500
 CKUA 580 500
Lethridge
 CJOC 840 100

BRT. COLUMBIA

Chilliwack
 CHWK 780 100
Kamloops
 CFJC 1310 100
Kelowna
 CKOV 1200 100
Trail
 10-AT 1155 25
Vancouver
 CJOR 1210 500
 CKCD 1010 100
 CKFC 1410 50
 XCKMO 1410 100
 XCKWX 1010 100
 CRVC 1100 500
Victoria
 XCFST 1430 50

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Winnipeg
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Moncton
 CRCA 580 500

St. John
 XCFBO 1030 500
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Sydney
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Wolfville
 CKIC 1010 50

ONTARIO

Brantford
 10-BQ 1200 15
Chatham
 XCFCO 1210 100
Cobalt
 CKMC 1210 100
Fort William
 CKPR 780 100
Hamilton
 CHM 890 50
 XCKOC 1010 500
Kingston
 CFCR 915 100
Kitchener
 CKCR 645 100
London
 CFPL 730 100
North Bay
 CFCR 930 100
Ottawa
 CKCO 1010 100
 CRCO 880 500
Prescott
 CFLC 930 100
Preston
 XCKPC 930 100
St. Catharines
 CKTB 1200 100
Stratford
 10-AK 1200 15
Sudbury
 CJCS 780 500
Toronto

XCFRB 690 10000 C
 CKCL 580 100
 CRCT 960 5000 N
 CKNC 1030 500

Windsor

CKLW 540 5000 C
 10-BP 1200 25

PRINCE EDWARD ISLAND

Charlottetown
 CFCY 630 500
 CHCK 1310 100
Summerside
 CHGS 1120 100

QUEBEC

Chicoutimi
 CRCS 1500 100
Hull
 CKCH 1210 100
Montreal
 XCFCF 600 500 N
 CHLP 1120 100
 XCKAC 730 5000 C

New Carlisle

CHNC 1210 100
Quebec
 CHRC 645 100
 CKCV 1310 50

SASKATCHEWAN

Canora
 10-BU 1200 15
Fleming
 CJRW 880 500

Moose Jaw
 CHAB 1200 25
Prince Albert
 CJRM 880 500
 X10-BI 1200 25

Regina

XCHVC 1010 500
 CKCK 1010 500
Saskatoon
 CFQC 890 500
Yorkton
 CJGX 630 500

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 VOAC 800 40
 VOAS 810 100
 VOGY 1400 75
 VOKW 1085 30
 VONF 1195 400
 VOWR 900 500

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 TIFS 1441 7.5
 TIGA 1014 30

San Jose

TICR 912 75
 TIEA 833 7.5
 TIEP 1450 7.5
 TIFB 714 30
 TIGP 666 75
 TIRCA 1100 500
 TISO 550 250
 TITV 999 7.5
 TIVL 869 30
 TIXA 614 7.5

GUATEMALA

Guatemala City
 TGW 1350 500
 TGX 1380 75

EL SALVADOR

San Salvador
 RUS 664 500

MEXICO

AGUASCALIENTES

Aguascalientes
 X XFC 805 350

BAJA CALIFORNIA

Mexicali
 XEAE 1000 50
 XEAO 560 100

X XEFD 757 5000

CHIHUAHUA

Chihuahua
 XEPI 1260 250

Juarez
 XEAN 750 5000
 XEFV 1370 100
 XEJ 1015 500

COAHUILA

Piedras Negras
 X XEPN 585 75000

Saltillo
 XEL 1000 40

Torreón
 XETB 1380 125

Villa Acuna
 X XER- 735 150000

X XEF

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SHORT WAVE RELAY BROADCASTING STATIONS

Grouped According to Network Programs Transmitted

Frequency in megacycles in first column, wavelength in meters in second column, schedule in third column, time being EST. The location of the broadcast band station is given in parentheses following the geographical location of the short wave transmitter.

COLUMBIA BROADCASTING SYSTEM

W2XE-WABC, Wayne, N. J. (New York, N. Y.)	15.258 19.65 11 a.m. to 1 p.m.
	11.823 25.36 3 p.m. to 5 p.m.
	6.116 49.02 6 to 11 p.m.
W3XAU-WCAU, Byberry, Pa. (Philadelphia, Pa.)	9.585 31.28 11 a.m. to 5 p.m.
	6.057 49.50 7 p.m. to midnight

NATIONAL "RED" NETWORK

W1XAL-WEBL, Boston, Mass. (Boston, Mass.)	11.794 25.42 Irregular
	6.040 49.64 Irregular
W2XAD-WGY, Schenectady, N. Y. (Schenectady, N. Y.)	15.320 19.57 Sun., 2 to 4 p.m.; Mon., Wed., Fri., 2 to 3 p.m.
W2XAF-WGY, Schenectady, N. Y. (Schenectady, N. Y.)	9.530 31.46 7 to 10 p.m.
W9XAA-WCFI, Chicago, Ill. (Chicago, Ill.)	17.780 16.86 Very Irregular
	11.840 25.35 Irregular
	6.076 49.34 3 to 6 p.m.

NATIONAL "BLUE" NETWORK

W1XAZ-WBZ-WBZA, Millis, Mass. (Boston and Springfield, Mass.)	9.560 31.36 6 a.m. to midnight
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W3XAL-WJZ, Boundbrook, N. J. (New York, N. Y.)	17.772 16.87 1:30 to 6:30 p.m., except Sat.
	6.066 49.17 Sat. day, 3 p.m. to midnight
W3XAL-WJZ, Boundbrook, N. J. (New York, N. Y.)	6.421 46.69 Irregular
W8XK-KDKA, Saxonburg, Pa. (Pittsburgh, Pa.)	21.451 13.93 7 a.m. to 2 p.m.
	15.204 19.72 10 a.m. to 4:15 p.m.
	11.870 25.25 4:30 to 10 p.m.
	6.140 48.83 4:30 p.m. to 12:30 a.m.

NATIONAL "RED" AND "BLUE" NETWORK

VE9DR-CFCF, Montreal, Quebec (Montreal, Quebec)	6.005 49.93 Sun., noon to 11:15 p.m. Other days, 7:30 a.m. to midnight
VE9GW-CRCT, Bowmanville, Ont. (Toronto, Ontario)	6.092 49.22 Sat., 4 p.m. to midnight; Sun., 11 a.m. to 9 p.m.; Mon. and Thurs. 8 a.m. to noon; Thurs. and Fri., 4 to 8 p.m.
W4XB-WIOD, Miami Beach, Fla. (Miami Beach, Fla.)	6.036 49.67 Irregular
W8XAL-WLW, Mason, Ohio (Cincinnati, Ohio)	6.060 49.48 Irregular
W9XF-WENR, Downer's Grove, Ill. (Chicago, Ill.)	6.100 49.15 Sat., silent; Sun., 1 to 2:30 p.m., 4:30 to 7 p.m., 9 p.m. to 2 a.m.; other days, 4:30 to 8 p.m., 9:30 p.m. to 2 a.m.

INDEX BY CALL LETTERS

CFAC 690 500 Calgary, Alta. Calgary Herald.	CKCD 1010 100 Vancouver, B. C. Vancouver Daily Province.
CFBO 1030 500 St. John, N. B. C. A. Munro, Ltd.	CKGH 1210 100 Hull, Que. Dr. J. L. Chabot.
CFCF 600 500 Montreal, Que. Canadian Marconi Co.	CKGK 1010 500 Regina, Sask. Leader-Post, Ltd.
CFCH 930 100 North Bay, Ont. Northern Broadcasting Co., Ltd.	CKCL 580 100 Toronto, Ont. Dominion Battery Co., Ltd.
CFCN 1030 10000 Calgary, Alta. W. W. Grant & H. G. Love.	CKGO 1010 100 Ottawa, Ont. Dr. G. M. Geldert.
CFCO 1210 100 Chatham, Ont. John Beardall.	CKCR 645 100 Kitchener, Ont. William C. Mitchell and G. Liddle.
CFCT 1430 50 Victoria, B. C. Victoria Broadcasting Assn.	CKCV 1310 50 Quebec, Que. Vandry, Inc.
CFCY 630 500 Charlottetown, P. E. I. Island Radio Broadcasting Co., Ltd.	CKFC 1410 50 Vancouver, B. C. Radio Service Engineers, Ltd.
CFJC 1310 100 Kamloops, B. C. Review Publishing Co., Ltd.	CKIA 1010 50 Wolfville, N. S. Acadia University.
CFLC 930 100 Prescott, Ont. Radio Assn. of Prescott.	CKLW 540 5000 Windsor, Ont. Western Ontario Broadcasting Co., Ltd.
CFNB 1210 500 Fredericton, N. B. James S. Neill & Sons, Ltd.	CKMC 1210 100 Cobalt, Ont. R. L. MacAdam.
CFPL 730 100 London, Ont. Free Press & Printing Co., Ltd.	CKMO 1410 100 Vancouver, B. C. Sprott-Shaw Radio Co.
CFQC 890 500 Saskatoon, Sask. Electric Shop, Ltd.	CKNC 1030 500 Toronto, Ont. Canadian National Carbon Co., Ltd.
CFRB 690 10000 Toronto, Ont. Canadian Radio Corp., Ltd.	CKOC 1010 500 Hamilton, Ont. Wentworth Radio Broadcasting Co., Ltd.
CFRC 915 100 Kingston, Ont. Queens University.	CKOV 1200 100 Kelowna, B. C. Okanagan Broadcasters, Ltd., Box 243.
CHAB 1200 25 Moose Jaw, Sask. Moose Jaw Radio Assn.	CKPC 930 100 Preston, Ont. Cyrus Dolph.
CHCK 1310 100 Charlottetown, P. E. I. J. A. Gesner.	CKPR 780 100 Fort William, Ont. Dougall Motor Co., Ltd.
CHGS 1120 100 Summerside, P. E. I. R. T. Holman, Ltd.	CKTB 1200 100 St. Catharines, Ont. E. T. Sandell.
CHLP 1120 100 Montreal, Que. La Patrie Publishing Co., Ltd.	CKUA 580 500 Edmonton, Alta. University of Alberta.
CHMA 580 250 Edmonton, Alta. Christian and Missionary Alliance.	CKWX 1010 100 Vancouver, B. C. Western Broadcasting Co., Ltd.
CHML 890 50 Hamilton, Ont. Maple Leaf Radio Co., Ltd.	CKX 930 500 Brandon, Man. Manitoba Telephone System.
CHNC 1210 100 New Carlisle, Que. Dr. Charles Houde.	CKY 910 5000 Winnipeg, Man. Manitoba Telephone System.
CHNS 1050 500 Halifax, N. S. Maritime Broadcasting Co., Ltd.	CMAB 1249 20 Pinar del Rio, Cuba. Jose Silveira, Marti No. 101.
CHRC 645 100 Quebec, Que. CHRC, Ltd.	CMAF 680 1000 Havana, Cuba. International Broadcasting Co., Miramar.
CHWC 1010 500 Regina, Sask. R. H. Williams & Sons, Ltd.	CMBC 1270 150 Havana, Cuba. Domingo Fernandez, Maximo Gomez No. 139.
CHWK 780 100 Chilliwack, B. C. Chilliwack Broadcasting Co., Ltd.	CMBD 965 230 Havana, Cuba. Luis Perez Garcia, Enamorados y Flores.
CJCA 730 500 Edmonton, Alta. Edmonton Journal, Ltd.	CMBG 1070 225 Havana, Cuba. John L. Stowers, Hospital No. 100
CJCB 880 50 Sydney, N. S. Nathanson's Radio Headquarters.	CMBJ 1140 500 Havana, Cuba. Emilio Perera, Consulado y Virtudes.
CJCJ 690 500 Calgary, Alta. Albertan Publishing Co., Ltd.	CMBK 1445 15 Havana, Cuba. Alberto Alvarez, Paula y Oficios.
CJCS 780 500 Sudbury, Ont. George McLeod Cootes	CMBL 1445 200 Havana, Cuba. Julio C. Hidalgo, Vedado.
CJGX 630 500 Yorkton, Sask. Winnipeg Grain Exchange.	CMBN 1185 150 Havana, Cuba. G. de Sequeira, Agrimonte No. 32
CJOC 840 100 Lethbridge, Alta. H. R. Carson, Ltd.	CMBS 780 200 Havana, Cuba. Enrique Artalejo, Calzada y H. St.
CJOR 1210 500 Vancouver, B. C. G. C. Chandler.	CMBW 925 600 Havana, Cuba. Alvarez, Moris y Cia, Obrapia No. 13.
CJRM 880 500 Moose Jaw, Sask. James Richardson & Sons, Ltd.	CMBY 1230 250 Havana, Cuba. Callejas-Estefani, Principe No. 33.
CJRW 880 500 Fleming, Sask. James Richardson & Sons, Ltd.	CMBZ 1010 150 Havana, Cuba. Manuel y G. Salas, San Rafael No. 14.
CKAC 730 5000 Montreal, Que. LaPresse Publishing Co., Ltd.	CMC 840 500 Havana, Cuba. Radio Corp. of Cuba.

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	CMCA 1230 150 Havana, Cuba. Manuel Cruz, Ave. de Italia No. 102.				CMJP 1360 75 Moron, Cuba. Cesar Canall, Callejas No. 28.
	CMCB 1070 150 Havana, Cuba. Metropolitan-Radio de Cuba.				CMK 730 5000 Havana, Cuba. National Broadcasting Co. of Cuba.
	CMCD 1140 500 Havana, Cuba. Angel Bertematy.				CMKC 1034 150 Santiago, Cuba. Pinol Batlle y Co.
	CMCF 890 250 Havana, Cuba. Raoul Karman.				CMKJ 1300 20 Guantnamo, Cuba. Luis Morlote, East Giro 11.
	CMCH 1410 50 Havana, Cuba. Wifredo y Humberto Fontanals Sanchez.				CMQ 630 500 Havana, Cuba. Jose Fernandez, 25 Numero 445.
	CMCJ 1185 500 Havana, Cuba. Rafael Rodriguez, Estevez No. 4.				CMW 590 1400 Havana, Cuba. Troncoso y Gil, Paseo de Marti 103.
	CMCM 1410 15 Havana, Cuba. Aurelio Balino, Belas Coain No. 639.				CMX 890 1000 Havana, Cuba. Casa "Lavin," Ave. de la Republica 99A.
	CMCN 1375 250 Havana, Cuba. Antonio Ginard, Reina y Ave. Buen Retiroe				CRCA 580 500 Moncton, N. B. Canadian Radio Broadcasting Commission.
	CMCP 1270 150 Havana, Cuba. Jose A. Yaniz				CRCO 880 500 Ottawa, Ont. Canadian Radio Broadcasting Commission
	CMCQ 780 1000 Havana, Cuba. Andres Martinez, Vista Alegre No. 80.				CRCS 1500 100 Chicoutimi, Que. Canadian Radio Broadcasting Commission.
	CMCR 1375 150 Havana, Cuba. Aurelio Hernandez.				CRCT 960 5000 Toronto, Ont. Canadian Radio Broadcasting Commission.
	CMCU 1100 500 Havana, Cuba. Jorge Garcia Serra.				CRCV 1100 500 Vancouver, B. C. Canadian Radio Broadcasting Commission.
	CMCW 965 150 Havana, Cuba. Vilarino y Cervantes.				HHK 920 1000 Port-au-Prince, Haiti. Haitian Government.
	CMCY 1325 500 Havana, Cuba. Manuel D. Autran, Ave. deLa Pdt s.215.				HIH 1395 15 San Pedro de M., D. R. Domingo Dominguez
	CMDE 925 150 Havana, Cuba. Radio Aerial Ad.				HIJ 1195 15 Santo Domingo, D. R. Tuto Baez, Hostos 34
	CMGA 834 100 Colon, Cuba. L. Valdes Figueroa, Marti No. 19.				HIJK 1180 15000 Santo Domingo, D. R.
	CMGB 1205 30 Matanzas, Cuba. Jose Anorga, Magdalena No. 1.				HIX 580 1500 Santo Domingo, D. R. J. R. Saladin, Director General
	CMGC 820 30 Matanzas, Cuba. Oscar S. Mechoso, Independencia No. 56.				HJN 681 500 Bogota, Colombia Government of Colombia, National Library.
	CMGE 1375 30 Cardenas, Cuba. Genaro Sebater, Cespedes No. 180.				KABC 1420 100 San Antonio, Texas. Alamo Broadcasting Co., Inc.
	CMGF 977 100 Matanzas, Cuba. Bernabe R. de la Torre.				KALE 1300 500 Portland, Ore. Kale, Inc., New Heathman Hotel
	CMGH 1040 15 Matanzas, Cuba. Octavio y Julio Alvarez.				KARK 890 250 Little Rock, Ark. Arkansas Radio & Equipment Co.
	CMHD 950 500 Caibarien, Cuba. Manuel Alvarez, M. Escobar 17.				KASA 1210 100 Elk City, Okla. E. M. Woody, Casa Grande Hotel.
	CMHI 1037 250 Santa Clara, Cuba. Lavis y Paz.				KBPS 1420 100 Portland, Ore. Benson Polytechnic School
	CMHJ 1190 60 Cienfuegos, Cuba. Victorino Lopez Hontanon.				KBTM 1200 100 Paragould, Ark. Jay P. Beard.
	CMHK 1225 50 Cruces, Cuba. Virgilio Villaneuva Fernandez.				KCMC 1420 100 Texarkana, Ark. M. P. Mims, Box 865.
	CMHL 1290 20 Cienfuegos, Cuba. Oscar Zayas, San Carlos 143.				KCRC 1370 100 Enid, Okla. Enid Radiophone Co.
	CMJC 1382 150 Camaguey, Cuba. Feliciano Isaac, Cisneros y G. Gomez.				KGRJ 1310 100 Jerome, Ariz. Chas. C. Robinson, Drawer D.
	CMJE 1175 50 Camaguey, Cuba. Manuel Fernandez, Plaza de Maceo.				KDB 1500 100 Santa Barbara, Calif. Santa Barbara Broadcasters, Ltd.
	CMJF 930 200 Camaguey, Cuba. John L. Stowers, Hotel Plaza.				KDFN 1440 500 Casper, Wyo. Donald Lewis Hathaway.
	CMJG 1050 50 Camaguey, Cuba. Jose Antonio Lefran, Martires 133.				KDKA 980 50000 Pittsburgh, Pa. Westinghouse Electric & Mfg. Co.
	CMJH 1150 50 Ciego de Avila, Cuba. Luis Marauri Mendosa.				KDLR 1210 100 Devils Lake, N. D. KDLR, Inc., 1025 3rd Street.
	CMJI 1280 45 Ciego de Avila, Cuba. Gilberto Gessa Lopez, Independencia 95.				KDYL 1290 1000 Salt Lake City, Utah. Intermountain Broadcasting Corp.
	CMJK 790 500 Camaguey, Cuba. Compania Cubana Nacional de Radio S. A.				KECA 1430 1000 Los Angeles, Calif. Earle C. Anthony, Inc.
	CMJL 960 50 Camaguey, Cuba. Enrique Artime, Cuba No. 27.				KELW 780 500 Burbank, Calif. Magnolia Park, Ltd., 3702 Magnolia
	CMJN 1240 50 Camaguey, Cuba. Ernesto de Ugarriza, Martires 11.				KERN 1200 100 Bakersfield, Calif. Bee Bakersfield Broadcasting Co.
	CMJO 1010 50 Ciego de Avila, Cuba. Jose M. Rey, C. Central & Maceo.				KEX 1180 5000 Portland, Ore. National Broadcasting Co.

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	KFAB 770 5000 Lincoln, Neb. KFAB Broadcasting Co.		KFVD 1000 250 Los Angeles, Calif. E. L. Cord, 645 S. Mariposa.
	KFAC 1300 1000 Los Angeles, Calif. E. L. Cord, 645 So. Mariposa.		KFVS 1210 100 Cape Girardeau, Mo. Oscar C. Hirsch, Box 275.
	KFBB 1280 1000 Great Falls, Mont. Buttrey Broadcast, Inc.		KFWB 950 1000 Hollywood, Calif. Warner Bros. Motion Pictures, Inc.
	KFBI 1050 5000 Abilene, Kans. Farmers & Bankers Life Ins. Co.		KFWF 1200 100 St. Louis, Mo. St. Louis Truth Center, Inc.
	KFBK 1310 100 Sacramento, Calif. James McClatchy Publishing Co.		KFWI 930 500 San Francisco, Calif. Radio Entertainments, Ltd.
	KFBL 1370 50 Everett, Wash. Leese Bros., 2814 Rucker Ave.		KFXD 1200 100 Nampa, Idaho. Frank E. Hurt, 1024 12th Ave., S.
	KFDM 560 500 Beaumont, Texas. Sabine Broadcasting Co.		KFXF 920 500 Denver, Colo. Colorado Radio Corp.
	KFDY 550 500 Brookings, S. D. South Dakota State College.		KFXJ 1200 100 Grand Jct., Colo. Western Slope Broadcasting Co.
	KFEL 920 500 Denver, Colo. Eugene P. O'Fallon, Inc.		KFXM 1210 100 San Bernardino, Calif. Lee Bros. Broadcasting Co.
	KFEQ 680 2500 St. Joseph, Mo. Scroggin & Co. Bank		KFXR 1310 100 Oklahoma City, Okla. Exchange Avenue Baptist Church.
	KFGQ 1310 100 Boone, Iowa. Boone Biblical College.		KFYO 1310 100 Lubbock, Texas. Kirksey Bros., Hotel Lubbock.
	KFH 1300 1000 Wichita, Kans. Radio Station KFH Co.		KFYR 550 1000 Bismarck, N. D. Mayer Broadcasting Co.
	KFI 640 50000 Los Angeles, Calif. Earle C. Anthony, Inc.		KGA 1470 5000 Spokane, Wash. Northwest Broadcasting Co., Inc.
	KFIO 1120 100 Spokane, Wash. Spokane Broadcasting Corp.		KGAR 1370 100 Tucson, Ariz. Tucson Motor Service Co.
	KFIZ 1420 100 Fond du Lac, Wis. Reporter Printing Co.		KGB 1330 1000 San Diego, Calif. Don Lee Broadcasting System
X	KFJB 1200 100 Marshalltown, Iowa. Marshall Electric Co.		KGBU 900 500 Ketchikan, Alaska. Alaska Radio & Service Co., Inc.
	KFJI 1210 100 Klamath Falls, Ore. KFJI Broadcasters, Inc., Willard Hotel.	X	KGBX 1310 100 Springfield, Mo. KGBX, Inc.
	KFJM 1370 100 Grand Forks, N. D. University of North Dakota.		KGBZ 930 500 York, Neb. Dr. Geo. R. Miller, 715 Grant Ave.
	KFJR 1300 500 Portland, Ore. Ashley C. Dixon-KFJR, Inc.		KGCA 1270 100 Decorah, Iowa Charles W. Greenley
	KFJZ 1370 100 Fort Worth, Texas. Fort Worth Broadcasters, Inc.		KGCR 1210 100 Watertown, S. D. Greater Kampeka Radio Corp.
	KFKA 880 500 Greeley, Colo. Mid-Western Radio Corp.		KGCU 1240 250 Mandan, N. D. Mandan Radio Assn.
	KFKU 1220 500 Lawrence, Kans. University of Kansas.		KGCX 1310 100 Wolf Point, Mont. E. E. Krebsbach.
X	KFLV 1410 500 Rockford, Ill. Rockford Broadcasters, Inc.	X	KGDE 1200 100 Fergus Falls, Minn. C. L. Jaren.
	KFNF 890 500 Shenandoah, Iowa. Henry Field Co.		KGDM 1180 250 Stockton, Calif. E. F. Peffer, 42 S. Calif. St.
	KFOR 1210 100 Lincoln, Neb. Howard Shuman		KGDY 1340 250 Huron, S. D. Voice of S. D., Inc., 347 Dakota Ave.
	KFOX 1250 1000 Long Beach, Calif. Nicholas & Warinner, Inc.		KGEK 1200 100 Yuma, Colo. Elmer G. Beebler, 109 W. 2nd St.
	KFPL 1310 100 Dublin, Texas. C. C. Baxter, Box 176		KGER 1360 1000 Long Beach, Calif. Consolidated Broadcasting Co.
	KFPM 1310 15 Greenville, Texas. New Furniture Co.		KGEZ 1310 100 Kalispell, Mont. Donald C. Treloar, Box 1.
	KFPW 1210 100 Fort Smith, Ark. Southwestern Hotel Co.	X	KGFF 1420 100 Shawnee, Okla. KGFF Broadcasting Co., Inc.
X	KFPY 1340 1000 Spokane, Wash. Symons Broadcasting Co.		KGFG 1370 100 Oklahoma City, Okla. Oklahoma Broadcasting Co., 1113 N. Broadway.
	KFQD 600 250 Anchorage, Alaska Anchorage Radio Club, Inc.		KGFI 1500 100 Corpus Christi, Texas. Eagle Broadcasting Co., Inc.
	KFRC 610 1000 San Francisco, Calif. Don Lee, Inc.		KGfJ 1200 100 Los Angeles, Calif. Ben S. McGlashan, 1417 S. Figueroa.
	KFRU 630 500 Columbia, Mo. KFRU, Inc., 9th and Elm Sts.		KGFK 1500 100 Moorhead, Minn. Red River Broadcasting Co., Inc.
	KFSD 600 1000 San Diego, Calif. Airfan Radio Corp., Ltd.	X	KGFL 1370 100 Roswell, N. M. KGFL, Inc., 507 N. Main St.
	KFSG 1120 500 Los Angeles, Calif. Echo Park Evangelistic Assn.		KGFW 1310 100 Kearney, Neb. Central Nebraska Broadcasting Corp.
X	KFUO 550 500 St. Louis, Mo. Evangelical Lutheran Church.		KGFX 630 200 Pierre, S. D. Dana McNeil, 510 Summit Ave.

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	KGCC 1420 100 San Francisco, Calif. Golden Gate Broadcasting Co.		KLCN 1290 100 Blytheville, Ark. C. L. Lintzenich, Main and Division St.
	KGQF 1010 500 Coffeyville, Kans. Hugh J. Powell and Stanley Platz.		KLO 1400 500 Ogden, Utah. Interstate Broadcasting Co.
	KGQM 1230 250 Albuquerque, N. M. New Mexico Broadcasting Co.		KLPM 1240 250 Minot, N. D. John B. Cooley.
X	KGHF 1320 250 Pueblo, Colo. C. P. Ritchie & Geo. J. Ikelman		KLRA 1390 1000 Little Rock, Ark. Arkansas Broadcasting Co.
X	KGHI 1200 100 Little Rock, Ark. Lloyd Judd Co., Marion Hotel.		KLS 1440 250 Oakland, Calif. Warner Bros., 2201 Telegraph Ave.
	KGHL 950 1000 Billings, Mont. Northwestern Auto Supply Co.		KLUF 1370 100 Galveston, Texas. Geo. R. Clough, 3327 Ave. P.
	KGIR 1360 500 Butte, Mont. KGIR, Inc., 121 W. Broadway.	X	KLX 880 1000 Oakland, Calif. Tribune Publishing Co.
X	KGIW 1420 100 Trinidad, Colo. Leonard E. Wilson, 326 N. Commercial		KLZ 560 1000 Denver, Colo. Reynolds Radio Co., Inc.
	KGIX 1420 100 Las Vegas, Nev. J. M. Heaton, Box 656.		KMA 930 500 Shenandoah, Iowa. Earl E. May Seed & Nursery Co.
	KGIZ 560 500 Springfield, Mo. Grant City Park Corp.		KMAC 1370 100 San Antonio, Texas. W. W. McAllister, Blue Bonnet Hotel.
	KGKB 1600 100 Tyler, Texas. East Texas Broadcasting Co.		KMBC 950 1000 Kansas City, Mo. Midland Broadcasting Co.
	KGKL 1370 100 San Angelo, Texas. KGKL, Inc., St. Angelo Hotel.		KMED 1310 100 Medford, Ore. Mrs. W. J. Virgin, Sparta Bldg.
	KGKO 570 250 Wichita Falls, Texas. Wichita Falls Broadcasting Co.		KMJ 580 500 Fresno, Calif. James McClatchy Co.
X	KGKY 1500 100 Scottsbluff, Neb. Hilliard Co., Inc., 1517½ Broadway.		KMLB 1200 100 Monroe, La. Liners Broadcasting Station, Inc.
	KGMB 1320 250 Honolulu, T. H. Honolulu Broadcasting Co., 119 Merchant St.		KMMJ 740 1000 Clay Center, Neb. The M. M. Johnson Co.
	KGNF 1430 500 North Platte, Neb. Great Plains Broadcasting Co.		KMO 1330 250 Tacoma, Wash. KMO, Inc., Hotel Winthrop.
	KGNO 1340 250 Dodge City, Kans. KGNO Broadcasting Station		KMOX 1090 50000 St. Louis, Mo. The Voice of St. Louis, Inc.
	KGQ 790 7500 San Francisco, Calif. National Broadcasting Co., Inc.		KMPC 710 500 Beverly Hills, Calif. Beverly Hills Broadcas'ing Corp.
	KGRS 1410 1000 Amarillo, Texas. E. B. Gish, Bellaire Park.	X	KMTR 570 500 Hollywood, Calif. KMTR Radio Corp., 915 N. Formosa Ave.
	KGU 760 2500 Honolulu, T. H. Advertiser Publishing Co., Ltd.	X	KNOW 1500 100 Austin, Texas. Southwest Broadcasting Co.
	KGVO 1200 100 Missoula, Mont. Mosbys, Inc., 240 N. Higgins.		KNX 1050 25000 Hollywood, Calif. Western Broadcast Co., Inc.
	KGW 620 1000 Portland, Ore. Oregonian Publishing Co.		KOA 830 12,500 Denver, Colo. General Electric Co., 1370 Krameria St.
	KGY 1210 100 Olympia, Wash. KGY, Inc., 11th and Capitol Way.		KOAC 550 1000 Corvallis, Ore. Oregon State Agricultural College.
	KHJ 900 1000 Los Angeles, Calif. Don Lee Broadcasting System.		KOB 1180 10000 Albuquerque, N. M. Albuquerque Journal, Box 667.
	KHQ 590 1000 Spokane, Wash. Louis Wasmer, Inc.		KOCW 1400 250 Tulsa, Okla. J. T. Griffin.
	KICA 1370 100 Clovis, N. M. Southwest Broadcasting Co.		KOH 1380 500 Reno, Nev. The Bee, Inc.
	KICK 1420 100 Carter Lake, Iowa. Red Oak Radio Corp.	X	KOIL 1260 1000 Council Bluffs, Iowa. Mona Motor Oil Co.
	KID 1320 250 Idaho Falls, Idaho. KID Broadcasting Co., Inc.		KOIN 940 1000 Portland, Ore. KOIN, Inc., New Heathman Hotel.
	KIDO 1350 1000 Boise, Idaho. C. G. Phillips & Frank L. Hill.		KOL 1270 1000 Seattle, Wash. Seattle Broadcasting Co.
X	KIDW 1420 100 Lamar, Colo. Lamar Broadcasting Co., Box 688		KOMA 1480 5000 Oklahoma City, Okla. National Radio Manufacturing Co.
	KIEM 1210 100 Eureka, Calif. Harold H. Hanseth, Vance Hotel.		KOMO 920 1000 Seattle, Wash. Fishers Blend Station, Inc.
	KIEV 850 100 Glendale, Calif. Cannon System, Ltd., Glendale Hotel.		KONO 1370 100 San Antonio, Texas. Merion Broadcasting Co., St. Anthony Hotel.
	KIFH 1310 100 Juneau, Alaska Juneau Broadcasting Co.		KOOS 1370 100 Marshfield, Ore. H. H. Hanseth, Hall Bldg.
	KIT 1310 100 Yakima, Wash. Valley Broadcasters, Inc.		KORE 1420 100 Eugene, Ore. Frank L. Hill and Curtis G. Phillips.
	KJBS 1070 100 San Francisco, Calif. Julius Brunton & Sons Co.		KOY 1390 500 Phoenix, Ariz. Nielsen Radio & Sporting Goods Co.
	KJR 970 5000 Seattle, Wash. Fishers Blend Station, Inc.		KPCB 650 100 Seattle, Wash. Queen City Broadcasting Co.

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	KPJM 1500 100 Prescott, Ariz. Frank Mauthe, Box 852
	KPO 680 50000 San Francisco, Calif. National Broadcasting Co., Inc.
	KPOF 880 500 Denver, Colo. Pillar Of Fire, 1845 Champa St.
	KPPC 1210 50 Pasadena, Calif. Pasadena Presbyterian Church.
	KPQ 1500 100 Wenatchee, Wash. Westcoast Broadcasting Co.
	KPRC 920 1000 Houston, Texas. Houston Printing Co.
	KQV 1380 500 Pittsburgh, Pa. KQV Broadcasting Co., Investment Bldg.
	KQW 1010 500 San Jose, Calif. Pacific Agricultural Foundation, Ltd.
	KRE 1370 100 Berkeley, Calif. First Congregational Church.
	KREG 1600 100 Santa Ana, Calif. The Voice of the Orange Empire, Inc.
	KRGV 1260 500 Harlingen, Texas. KRGV, Inc.
	KRKD 1120 500 Los Angeles, Calif. Fireside Broadcasting Corp.
	KRLD 1040 10000 Dallas, Texas. KRLD Radio Corp., Adolphus Hotel.
	KRMD 1310 100 Shreveport, La. Radio Station KRMD, Inc.
	KROW 930 500 Oakland, Calif. Educational Broadcasting Corp.
	KRSC 1120 100 Seattle, Wash. Radio Sales Corp., Washington Athletic Club.
	KSAC 580 500 Manhattan, Kans. State College of Agriculture.
	KSCJ 1330 1000 Sioux City, Iowa. Perkins Bros. Co., 415 Douglas St.
X	KSD 550 500 St. Louis, Mo. Pulitzer Publishing Co.
	KSEI 890 250 Pocatello, Idaho. Radio Service Corp., 141 S. 6th Ave.
	KSL 1130 50000 Salt Lake City, Utah. Radio Service Corp. of Utah.
	KSO 1370 100 Des Moines, Iowa. Des Moines Register & Tribune.
	KSOO 1110 1000 Sioux Falls, S. D. Jos. Henkin, 1613 S. Duluth Ave.
X	KSTP 1460 25000 St. Paul, Minn. National Battery Broadcasting Co.
	KSUN 1200 100 Lowell, Ariz. Copper Electrical Co.
X	KTAB 560 1000 San Francisco, Calif. Associated Broadcasters, Inc.
	KTAR 620 500 Phoenix, Ariz. KTAR Broadcasting Co.
	KTAT 1240 1000 Fort Worth, Texas. Southwest Broadcasting Co.
	KTBS 1450 1000 Shreveport, La. Tri-State Broadcasting System.
	KTFI 1240 1000 Twin Falls, Idaho. Radio Broadcasting Corp.
	KTHS 1040 10000 Hot Springs, Ark. Chamber of Commerce.
	KTM 780 500 Los Angeles, Calif. Pickwick Broadcasting Corp., Ltd.
	KTRH 1120 1000 Houston, Texas. KTRH Broadcasting Co., Rice Hotel.
	KTSA 1290 1000 San Antonio, Texas. Southwest Broadcasting Co.
	KTSM 1310 100 El Paso, Texas. Tri-State Broadcasting Co., Inc.
	KTW 1220 1000 Seattle, Wash. First Presbyterian Church.

	KUJ 1370 100 Walla Walla, Wash. KUJ, Inc., Marcus Whitman Hotel.
	KUMA 1420 100 Yuma, Ariz. Dr. A. H. Schermann, Box 267.
	KUOA 1260 1000 Fayetteville, Ark. KUOA, Inc., Washington Hotel.
	KUSD 890 500 Vermillion, S. D. University of South Dakota.
X	KVI 570 500 Tacoma, Wash. Puget Sound Broadcasting Co., Tacoma Hotel.
	KVL 1370 100 Seattle, Wash. KVL, Inc., 5th and Virginia St.
	KVOA 1260 500 Tucson, Ariz. Arizona Broadcasting Co., Inc.
	KVOO 1140 9800 Tulsa, Okla. Southwestern Sales Corp.
	KVOR 1270 1000 Colorado Springs, Colo. S. H. Patterson
	KVOS 1200 100 Bellingham, Wash. KVOS, Inc., Bellingham Hotel.
	KWCR 1420 100 Cedar Rapids, Iowa. Cedar Rapids Broadcast Co.
	KWEE 1210 100 Shreveport, La. Hello World Broadcasting Corp.
	KWFF 1210 100 Hilo, Hawaii Hilo Broadcasting Co., Ltd.
	KWG 1200 100 Stockton, Calif. McClatchy Newspapers, Inc.
	KWJJ 1060 500 Portland, Ore. KWJJ Broadcast Co., Inc., 328 Salmon St.
	KWK 1350 1000 St. Louis, Mo. Thomas Patrick, Inc., Hotel Chase.
	KWKC 1370 100 Kansas City, Mo. Wilson Duncan Broadcasting Co.
	KWKH 850 10000 Shreveport, La. Hello World Broadcasting Corp.
	KWLC 1270 100 Decorah, Iowa. Luther College.
	KWSC 1220 1000 Pullman, Wash. State College of Washington.
	KWWG 1260 500 Brownsville, Texas. Frank P. Jackson.
	KXA 760 250 Seattle, Wash. American Radio Tel. Co., 218 Bigelow Bldg.
	KXL 1420 100 Portland, Ore. KXL Broadcasters, 269 Pine St.
	KXO 1500 100 El Centro, Calif. E. R. Irey and F. M. Bowles.
	KXRO 1310 100 Aberdeen, Wash. KXRO, Inc., Hotel Morek.
	KXYZ 1440 250 Houston, Texas. Harris County Broadcast Co.
	KYA 1230 1000 San Francisco, Calif. Pacific Broadcasting Corp.
	KYW 1020 10000 Chicago, Ill. Westinghouse Elec. & Mfg. Co.
	KZRM 618.5 50000 Manila, P. I. Erlanger and Galingier, Inc. (KZEG)
	NAA 690 1000 Arlington, Va. United States Navy.
	RUS 664 500 San Salvador, E. S. Republic of El Salvador.
	TGW 1350 500 Guatemala, Gua. Gobierno de Guatemala.
	TGX 1380 75 Guatemala City
	TICR 912 75 San Jose, C. R. Government of Costa Rica.
	TIEA 833 7.5 San Jose, C. R.
	TIEP 1450 7.5 San Jose, C. R.

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	TIFB	714	30	San Jose, C. R.		WBAK	1430	1000	Harrisburg, Pa. Commonwealth of Pennsylvania.
	TIFS	1441	7.5	Cartago, C. R.		WBAL	1060	10000	Baltimore, Md. Consolidated Gas, Elec. Light & Power Co.
	TIGA	1014	30	Cartago, C. R.		WBAP	800	50000	Fort Worth, Texas. Carter Publications, Inc.
	TIGP	666	75	San Jose, C. R.		WBAX	1210	100	Wilkes-Barre, Pa. John H. Stenger, Jr., 70 S. Main St.
	TIRCA	1100	500	San Jose, C. R. Perry Girton, Apt. 225.	X	WBBC	1400	500	Brooklyn, N. Y. Brooklyn Broadcasting Corp.
	TISO	550	250	San Jose, C. R. P. F. Saborio, Apt. 1354	X	WBBL	1210	100	Richmond, Va. Grace Covenant Presbyterian Church.
	TITV	999	7.5	San Jose, C. R.	X	WBBM	770	25000	Chicago, Ill. WBBM Broadcasting Corp., Wrigley Bldg.
	TIVL	869	30	San Jose, C. R.		WBBR	1300	1000	Brooklyn, N. Y. Peoples Pulpit Assn.
	TIXA	614	7.5	San Jose, C. R.		WBBX	1200	100	New Orleans, La. Samuel D. Reeks, Marbere Hotel.
	VAS	685	2000	Glace Bay, N. S. Canadian Marconi Co., Ltd.	X	WBZZ	1200	100	Ponca City, Okla. C. L. Carrell.
	VOAC	800	40	St. John's, Nfld.	X	WBCM	1410	500	Bay City, Mich. James E. Davidson, Hotel Wenonah.
	VOAS	810	100	St. John's, N. F. Ayre & Sons, Ltd.		WBEN	900	1000	Buffalo, N. Y. WBEN, Inc. (Buffalo Evening News.)
	VOGY	1400	75	St. John's, N. F. Newfoundland Broadcasting Co.	X	WBEO	1310	100	Marquette, Mich. Lake Superior Broadcasting Co., Inc.
	VOKW	1085	30	St. John's, N. F. Cyril L. Parkins.		WBHS	1200	100	Huntsville, Ala. Radio Station WBHS, Inc.
	VONF	1195	400	St. John's, N. F. Dominion Broadcasting Co., Ltd., Box 1355.		WBIG	1440	500	Greensboro, N. C. North Carolina Broadcasting Co., Inc.
	VOWR	900	500	St. John's, N. F. Wesley United Church, Box 157.		WBNX	1350	250	New York, N. Y. Standard Cahill Co., Inc.
	WAAB	1410	500	Boston, Mass. Bay State Broadcasting Corp., 1 Winter Pl.		WBOQ	860	50000	New York, N. Y. Atlantic Broadcasting Corp.
X	WAAF	920	500	Chicago, Ill. Chicago Daily Drivers Journal.	X	WBOW	1310	100	Terre Haute, Ind. Banks of Wabash, Inc., 24½ S. 6th.
	WAAM	1250	1000	Newark, N. J. WODAAM Corp., 1060 Broad St.		WBRC	930	500	Birmingham, Ala. Birmingham Broadcasting Co., Inc.
	WAAT	940	300	Jersey City, N. J. Bremer Broadcasting Corp., 50 Journal Sq.		WBRE	1310	100	Wilkes-Barre, Pa. Louis G. Baltimore, 16 N. Main.
	WAAW	660	500	Omaha, Neb. Omaha Grain Exchange.		WBSO	920	500	Babson Park, Mass. Broadcasting Service Organization, Inc.
	WABC	860	50000	New York, N. Y. Atlantic Broadcasting Corp.		WBT	1080	25000	Charlotte, N. C. Station WBT, Inc., Wilder Bldg.
	WABI	1200	100	Bangor, Maine. First Universalist Society.		WBTM	1370	100	Danville, Va. Piedmont Broadcasting Corp.
X	WACO	1420	100	Waco, Texas. Southwest Broadcasting Co.		WBZ	990	25000	Boston, Mass. Westinghouse Elec. & Mfg. Co.
	WADC	1320	1000	Akron, Ohio. Allen T. Simmons, P. O. Box 29.		WBZA	990	1000	Springfield, Mass. Westinghouse Elec. & Mfg. Co.
	WAGM	1420	100	Presque Isle, Me. Aroostook Broadcasting Corp.		WCAC	600	250	Storrs, Conn. Connecticut Agricultural College.
	WAIU	640	500	Columbus, Ohio. Associated Radiocasting Corp.		WCAD	1220	500	Canton, N. Y. St. Lawrence University.
	WALR	1210	100	Zanesville, Ohio. WALR Broadcasting Corp.		WCAE	1220	1000	Pittsburgh, Pa. WCAE, Inc., Sun-Telegraph.
	WAMC	1420	100	Anniston, Ala. R. C. Hammett, 1200 Noble St.		WCAH	1430	500	Columbus, Ohio. International Bible Students Assn.
	WAML	1310	100	Laurel, Miss. Southland Radio Corp.	X	WCAL	1250	1000	Northfield, Minn. St. Olaf College.
	WAPI	1140	5000	Birmingham, Ala. WAPI Broadcasting Corp.		WCAM	1280	500	Camden, N. J. City of Camden, City Hall.
	WARD	1400	500	Brooklyn, N. Y. United States Broadcasting Corp.		WCAO	600	250	Baltimore, Md. Monumental Radio Co.
	WASH	1270	500	Grand Rapids, Mich. Kunsky-Trendle Broadcasting Corp.		WCAP	1280	500	Asbury Park, N. J. Radio Industries Broadcast Co.
	WAWZ	1350	250	Zarephath, N. J. Pillar of Fire.		WCAT	1200	100	Rapid City, S. D. South Dakota State School of Mines.
	WAZL	1420	100	Hazleton, Pa. Hazleton Broadcasting Service, Inc.		WCAU	1170	50000	Philadelphia, Pa. WCAU Broadcasting Co., 1622 Chestnut.
	WBAA	1400	500	West Lafayette, Ind. Purdue University.		WCAX	1200	100	Burlington, Vt. Burlington Daily News, Inc.

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X	WCAZ 1070 50 Carthage, Ill. Superior Broadcasting Service, Inc.
	WCBA 1440 250 Allentown, Pa. B. Bryan Musselman, 39-41 10th St.
	WCBD 1080 5000 Zion, Ill. Wilbur Glenn Voliva.
	WCBM 1370 100 Baltimore, Md. Baltimore Broadcasting Corp.
	WCBS 1210 100 Springfield, Ill. WCBS, Inc., 208½ S. 5th.
	WCCO 810 50000 Minneapolis, Minn. Northwestern Broadcasting, Inc.
	WCDA 1350 250 New York, N. Y. Standard Cahill Co., Inc.
	WCFL 970 1500 Chicago, Ill. Chicago Federation of Labor.
	WCKY 1490 5000 Covington, Ky. L. B. Wilson, Inc.
	WCLO 1200 100 Janesville, Wis. WCLO Radio Corp.
	WCLS 1310 100 Joliet, Ill. WCLS, Inc., 301 E. Jefferson St.
	WCNW 1500 100 Brooklyn, N. Y. Arthur Faske, 1525 Pitkin Ave.
	WCOA 1340 500 Pensacola, Fla. Pensacola Broadcasting Co.
	WCOC 880 500 Meridian, Miss. Mississippi Broadcasting Co., Inc.
	WCOD 1200 100 Harrisburg, Pa. Keystone Broadcasting Corp.
	WCRW 1210 100 Chicago, Ill. Clinton R. White, 2756 Pine Grove Ave.
	WCSC 1360 500 Charleston, S. C. South Carolina Broadcasting Co., Inc.
	WCSH 940 1000 Portland, Me. Congress Square Hotel Co., 157 High.
	WDAE 1220 1000 Tampa, Fla. Tampa Publishing Co., Tampa Terrace.
	WDAF 610 1000 Kansas City, Mo. Kansas City Star Co.
	WDAG 1410 1000 Amarillo, Texas. National Radio & Broadcasting Corp.
	WDAH 1310 100 El Paso, Texas. Tri-State Broadcasting Co., Inc.
	WDAS 1370 100 Philadelphia, Pa. WDAS Broadstg. Co., Inc., Broadwood Hotel.
	WDAY 940 1000 Fargo, N. D. WDAY, Inc., Black Bldg., 118 Broadway.
	WDBJ 930 250 Roanoke, Va. Times World Corp., 122 W. Church Ave.
	WDBO 580 250 Orlando, Fla. Orlando Broadcasting Co., Inc.
	WDEL 1120 250 Wilmington, Del. WDEL, Inc., 10th and King Sts.
	WDEV 550 500 Waterbury, Vt. Harry C. Whitehill, Stowe St.
	WDGY 1180 1000 Minneapolis, Minn. Dr. Geo. W. Young, 909 W. Broadway.
	WDOD 1280 1000 Chattanooga, Tenn. WDOD Broadcasting Corp., Hotel Patten.
	WDRG 1330 500 Hartford, Conn. WDRG, Inc., Corning Bldg., 11 Asylum St.
	WDSU 1250 1000 New Orleans, La. Jos. H. Uhalt, On Hotel DeSoto.
X	WDZ 1070 100 Tuscola, Ill. James L. Bush.
	WEAF 680 50000 New York, N. Y. National Broadcasting Co., Inc.
	WEAN 780 500 Providence, R. I. Shepard Broadcasting Service, Inc.
X	WEBC 1290 1000 Superior, Wis. Head of the Lakes Broadcasting Co.

	WEBQ 1210 100 Harrisburg, Ill. Harrisburg Broadcasting Co.
X	WEBR 1310 100 Buffalo, N. Y. Howell Broadcasting Co., Inc., 735 Main.
	WEDC 1210 100 Chicago, Ill. Emil Denemark, 3860 Ogden Ave.
	WEED 1420 100 Greenville, N. C. Wm. Avera Wynne.
	WEEI 590 1000 Boston, Mass. Edison Elec. Illuminating Co.
	WEEU 930 1000 Reading, Pa. Berks Broadcasting Co., 533 Penn.
X	WEHC 1350 500 Charlottesville, Va. Community Brdcast. Corp.
	WEHS 1420 100 Cicero, Ill. WEHS, Inc., 6138 W. 22nd St.
	WELL 1420 50 Battle Creek, Mich. Enquirer News Co., 7 N. McCamy St.
	WENG 1420 100 Americus, Ga. Americus Broadcast Corp.
	WENR 870 50000 Chicago, Ill. Great Lakes Broadcasting Co.
	WESG 1040 1000 Elmira, N. Y. Elmira Star Gazette, Inc.
	WEVD 1300 500 New York, N. Y. Jewish Daily Forward, Hotel Claridge.
	WEW 760 1000 St. Louis, Mo. St. Louis University, 221 N. Grand Blvd
	WEXL 1310 50 Royal Oak, Mich. Royal Oak Broadcasting Co.
	WFAA 800 50000 Dallas, Texas. Morning News and Journal
	WFAB 1300 1000 New York, N. Y. Fifth Avenue Broadcasting Corp.
	WFAM 1200 100 South Bend, Ind. South Bend Tribune, 200 W. Colfax.
	WFAS 1210 100 White Plains, N. Y. Westchester Broadcasting Corp.
	WFBC 1200 100 Greenville, S. C. Greenville News-Piedmont Co.
	WFBE 1200 100 Cincinnati, Ohio. WFBE, Inc., Hotel Sinton.
	WFBG 1310 100 Altoona, Pa. Gable Broadcasting Co. 12th Av. & 13th St.
	WFBL 1360 1000 Syracuse, N. Y. Onondaga Radio Broadcasting Corp.
	WFBM 1230 1000 Indianapolis, Ind. Indianapolis Power & Light Co.
	WFRB 1270 500 Baltimore, Md. Baltimore Radio Show, Inc.
	WFDL 1310 100 Flint, Mich. Flint Broadcasting Co.
	WFDV 1500 100 Rome, Ga. Rome Broadcasting Corp., 10.3rd Ave.
	WFEA 1430 500 Manchester, N. H. New Hampshire Broadcasting Co.
	WFI 560 500 Philadelphia, Pa. WFI Broadcasting Co., 801 Market.
	WFIW 940 1000 Hopkinsville, Ky. WFIW, Inc., 8th and Main Sts.
	WFLA 620 1000 Clearwater, Fla. Florida West Coast Broadcasting Co., Inc.
	WFOX 1400 500 Brooklyn, N. Y. Paramount Broadcasting Co., 1 Nevins St.
	WGAL 1310 100 Lancaster, Pa. WGAL, Inc., 8 W. King St.
	WGAR 1450 500 Cleveland, Ohio. WGAR Broadcasting Co., Hotel Statler.
	WGBB 1210 100 Freeport, N. Y. H. H. Carman, 64 S. Grove St.
	WGBF 630 500 Evansville, Ind. Evansville On the Air, Inc.

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	WGBI 880 250 Scranton, Pa. Scranton Broadcasters, Inc.		WHN 1010 250 New York, N. Y. Marcus Loew Booking Agency.
	WGCM 1210 100 Mississippi City, Miss. Great Southern Land Co., Gulfport, Miss.		WHOM 1450 250 Jersey City, N. J. New Jersey Broadcasting Corp.
	WGCP 1250 250 Newark, N. J. May Radio Broadcasting Co.		WHP 1430 500 Harrisburg, Pa. WHP, Inc., Harrisburg Telegraph.
	WGES 1360 500 Chicago, Ill. Oak Leaves Broadcasting Station, Inc.		WIAS 1310 100 Ottumwa, Iowa. Iowa Broadcasting Co., Hotel Ottumwa.
	WGH 1310 100 Newport News, Va. Hampton Roads Broadcasting Corp.		WIBA 1280 500 Madison, Wis. Badger Broadcasting Co., Inc.
	WGL 1370 100 Fort Wayne, Ind. F. C. Zieg, 213 W. Main St.		WIBG 930 25 Glenside, Pa. WIBG, Inc., Keswick Bldg.
	WGLC 1370 100 Hudson Falls, N. Y. O. T. Griffin & G. F. Bissell.	X	WIBM 1370 100 Jackson, Mich WIBM, Inc., Osego Hotel.
	WGN 720 25000 Chicago, Ill. WGN, Inc., Tribune Tower.		WIBU 1210 100 Paynette, Wis. Wm. C. Forrest, R. F. D. No. 3.
	WGNV 1210 50 Chester, N. Y. Peter Goelet (Orange County).		WIBW 580 1000 Topeka, Kans. Topeka Broadcasting Assn. Inc.
	WGR 550 1000 Buffalo, N. Y. Buffalo Broadcasting Corp.		WIBX 1200 100 Utica, N. Y. WIBX, Inc., 1st Natl. Bank Bldg.
	WGST 890 250 Atlanta, Ga. Georgia School of Technology.		WICC 600 250 Bridgeport, Conn. Shepard Broadcasting Service, Inc.
	WGY 790 50000 Schenectady, N. Y. National Broadcasting Co., Inc.	X	WIL 1200 100 St. Louis, Mo. Missouri Broadcasting Corp.
X	WHA 940 1000 Madison, Wis. University of Wisconsin.		WILL 890 250 Urbana, Ill. University of Illinois.
X	WHAD 1120 250 Milwaukee, Wis. Marquette University.		WILM 1420 100 Wilmington, Del. Delaware Broadcasting Co., Inc.
	WHAM 1150 25000 Rochester, N. Y. Stromberg-Carlson Tel. Mig. Co.	X	WIND 560 1000 Gary, Ind. Johnson-Kennedy Broadcasting Corp.
	WHAS 820 25000 Louisville, Ky. Courier Journal & Louisville Times.		WINS 1180 500 New York, N. Y. American Radio News Corp.
	WHAT 1310 100 Philadelphia, Pa. Curtis-Martin Newspapers, Inc.		WIOD 1300 1000 Miami, Fla. Isle of Dreams Broadcasting Corp.
	WHAZ 1300 500 Troy, N. Y. Rensselaer Polytechnic Institute.		WIP 610 500 Philadelphia, Pa. Pennsylvania Broadcasting Co.
	WHB 860 500 Kansas City, Mo. WHB Broadcasting Co., Scarritt Bldg.		WIS 1010 500 Columbia, S. C. Station WIS, Inc., 1811 Main St.
X	WHBC 1200 100 Canton, Ohio. Edw. P. Graham, 319 Tusc. St., W.	X	WISN 1120 250 Milwaukee, Wis. American Radio News Corp.
X	WHBD 1370 100 Mount Orab, Ohio. F. P. Moler.		WJAC 1310 100 Johnstown, Pa. WJAC, Inc., Tribune Bldg. Annex.
	WHBF 1210 100 Rock Island, Ill. Rock Island Broadcasting Co.		WJAG 1060 1000 Norfolk, Neb. Norfolk Daily News.
X	WHBL 1410 500 Sheboygan, Wis. Press Publishing Co.		WJAR 890 500 Providence, R. I. Outl'et Co., Weybossett St.
	WHBQ 1370 100 Memphis, Tenn. Broadcasting Sta. WNBQ, Inc., Hotel Claridge.		WJAS 1290 1000 Pittsburgh, Pa. Pittsburgh Radio Supply House.
	WHBU 1210 100 Anderson, Ind. Anderson Broadcasting Corp.		WJAX 900 1000 Jacksonville, Fla. City of Jacksonville.
	WHBY 1200 100 Green Bay, Wis. WHBY, Inc., Bellin Bldg.		WJAY 610 500 Cleveland, Ohio. Cleveland Radio Broadcasting Corp.
	WHDF 1370 100 Calumet, Mich. Upper Michigan Broadcasting Co.		WJBC 1200 100 LaSalle, Ill. Kaskaskia Broadcasting Co.
	WHDH 830 1000 Boston, Mass. Matheson Radio Co., 62 Boylston.		WJBI 1210 100 Red Bank, N. J. Monmouth Broadcasting Co., Inc.
	WHDL 1420 100 Tupper Lake, N. Y. Tupper Lake Broadcasting Co.		WJBK 1370 50 Detroit, Mich. James F. Hopkins, Inc., Curtis Bldg.
	WHEB 740 250 Portsmouth, N. H. Granite State Broadcasting Corp.		WJBL 1200 100 Decatur, Ill. Commodore Broadcasting, Inc.
	WHEC 1430 500 Rochester, N. Y. WHEC, Inc., 40 Franklin St.		WJO 1420 100 New Orleans, La. Baton Rouge Broadcasting Co., Inc.
	WHEF 1500 100 Kosciusko, Miss. Attala Milling & Produce Co.		WJBW 1200 100 New Orleans, La. C. C. Carlson, 2743 Dumaine St.
	WHET 1210 100 Troy, Ala. Troy Broadcasting Co.		WJBY 1210 100 Gadsden, Ala. Gadsden Broadcasting Co., 112 N. 8th St.
	WHFC 1420 100 Cicero, Ill. WHFC, Inc., 6138 W. 22nd St.		WJBX 1270 1000 Jackson, Miss. Lamar Life Insurance Co.
X	WHIS 1410 250 Bluefield, W. Va. Daily Telegraph Printing Co., Inc.		WJEJ 1210 100 Hagerstown, Md. Hagerstown Broadcasting Co., Inc.
	WHK 1390 1000 Cleveland, Ohio. Radio Air Service Corp.		WJEM 990 500 Tupelo, Miss. Britt A. Rogers, Jr.

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	WJJD 1130 20000 Chicago, Ill. WJJD, Inc., 201 N. Wells St.		WLS 870 50000 Chicago, Ill. Agricultural Broadcasting Co.
	WJMS 1420 100 Ironwood, Mich. WJMS, Inc., St. James Hotel.		WLTH 1400 500 Brooklyn, N. Y. Voice of Brooklyn, Inc.
	WJR 750 10000 Detroit, Mich. WJR, Inc., Fisher Bldg.		WLVA 1370 100 Lynchburg, Va. Lynchburg Broadcasting Corp.
	WJSV 1460 10000 Washington, D. C. Old Dominion Broadcasting Co.		WLW 700 50000 Cincinnati, Ohio. Crosley Radio Corp.
	WJTL 1370 100 Atlanta, Ga. Oglethorpe University.		WLWL 1100 5000 New York, N. Y. Missionary Society of St. Paul.
	WJW 1210 100 Akron, Ohio. WJW, Inc., 41 S. High St.		WMAL 630 250 Washington, D. C. National Broadcasting Co., Inc.
	WJZ 760 50000 New York, N. Y. National Broadcasting Co., Inc.		WMAQ 670 5000 Chicago, Ill. National Broadcasting Co., Inc.
	WKAQ 1240 1000 San Juan, P. R. Radio Corp. of Porto Rico.		WMAS 1420 100 Springfield, Mass. WMAS, Inc., Hotel Stonehaven.
X	WKAR 1040 1000 East Lansing, Mich. Michigan State College.		WMAZ 1180 500 Macon, Ga. Southeastern Broadcasting Co.
X	WKBB 1310 100 Joliet, Ill. Richard W. Hoffman, Joliet Natl. Bank Bldg.		WMBC 1420 100 Detroit, Mich. Michigan Broadcasting Co.
	WKBC 1310 100 Birmingham, Ala. R. B. Broyles, Tutwiler Hotel.		WMBD 1440 500 Peoria, Ill. Peoria Broadcasting Co.
	WKBF 1400 500 Indianapolis, Ind. Indianapolis Broadcasting, Inc.		WMBG 1210 100 Richmond, Va. Havens and Martin, Inc.
	WKBH 1380 1000 LaCrosse, Wis. WKBH, Inc., 409 Main St.		WMBH 1420 100 Joplin, Mo. W. M. Robertson.
	WKBI 1420 100 Cicero, Ill. WKBI, Inc., 6138 W. 22nd St.		WMBI 1080 5000 Chicago, Ill. Moody Bible Institute.
	WKBN 570 500 Youngstown, Ohio. WKBN Broadcasting Corp.		WMBO 1310 100 Auburn, N. Y. WMBO, Inc., Metcalf Bldg.
	WKBV 1500 100 Connersville, Ind. Wm. O. Knox, Box 286		WMBQ 1500 100 Brooklyn, N. Y. Paul J. Gollhofer, 95 Leonard St.
	WKBW 1480 5000 Buffalo, N. Y. Buffalo Broadcasting Corp.		WMBR 1370 100 Tampa, Fla. F. J. Reynolds, 907 Florida Ave.
	WKBZ 1500 100 Ludington, Mich. Karl L. Ashbaeker & Sons.		WMC 780 500 Memphis, Tenn. Commercial Appeal, Inc., Hotel Gayoso.
	WKEU 1500 100 LaGrange, Ga. Radio Station WKEU, 906 Hill St.		WMCA 570 500 New York, N. Y. Knickerbocker Broadcasting Co.
	WKFI 1210 100 Greenville, Miss. J. Pat Scully, Box 302.		WMED 1420 100 Muscle Shoals, Ala. Kathryn Jones.
	WKJC 1200 100 Lancaster, Pa. Lancaster Broadcasting Service, Inc.		WMMN 890 250 Fairmont, W. Va. A. M. Rowe, Inc., 325 Main St.
	WKOK 1210 100 Sunbury, Pa. Sunbury Broadcasting Co.		WMPC 1500 100 Lapeer, Mich. First Methodist Protestant Church.
	WKRC 550 1000 Cincinnati, Ohio. WKRC, Inc., Hotel Alms.		WMSG 1350 250 New York, N. Y. Standard Cahill Co., Inc.
X	WKY 900 1000 Oklahoma City, Okla. Oklahoma Publishing Co.		WMT 600 500 Waterloo, Iowa. Waterloo Broadcasting Co.
	WKZO 590 1000 Kalamazoo, Mich. John E. Fetzer, Burdick Hotel.		WNAC 1230 1000 Boston, Mass. Shepard Broadcasting Service, Inc.
	WLAC 1470 5000 Nashville, Tenn. Life & Casualty Insurance Co.		WNAD 1010 500 Norman, Okla. University of Oklahoma.
	WLAP 1200 100 Louisville, Ky. American Broadcasting Corp. of Ky.		WNAX 570 1000 Yankton, S. D. The House of Gurney, Inc., 2nd and Capital St.
X	WLB 1250 1000 Minneapolis, Minn. University of Minnesota.		WNBH 1500 100 Binghamton, N. Y. Howitt-Wood Radio Co., Inc.
	WLBC 1310 50 Muncie, Ind. D. A. Burton, Anthony Bldg.		WNBH 1310 100 New Bedford, Mass. New Bedford Broadcasting Co.
	WLBK 1420 100 Kansas City, Kans. WLBK Broadcasting Co., Huron Bldg.		WNBO 1200 100 Silver Haven, Pa. John Brownlee Spriggs. (Washington, Pa.)
X	WLBL 900 2500 Stevens Point, Wis. Wisconsin Dept. of Agriculture and Markets.		WNBZ 1430 500 Memphis, Tenn. Memphis Broadcasting Co., Hotel DeVoy.
	WLBW 1260 500 Erie, Pa. Broadcasters of Pennsylvania, Inc.		WNBW 1200 10 Carbondale, Pa. WNBW, Inc., 50 Main St., N.
	WLBZ 620 500 Bangor, Me. Maine Broadcasting Co., Inc., 100 Main.		WNBX 1260 250 Springfield, Vt. WNBX Broadcasting Corp., 39 Main St.
	WLEC 1340 250 Portland, Me. Casco Bay Broadcasting Co.		WNBZ 1290 50 Saranac Lake, N. Y. Smith & Mace, 70 Broadway.
	WLEY 1370 100 Lexington, Mass. Albert S. Moffat		WNOX 560 1000 Knoxville, Tenn. WNOX, Inc.
	WLIT 560 500 Philadelphia, Pa. Lit Bros. Broadcasting System, Inc.		WNYC 810 500 New York, N. Y. Dept. of Plant and Structures.

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	WOAI 1190 50000 San Antonio, Texas. Southern Equipment Co., 1038 Navarro.				WRAM 1370 100 Wilmington, N. C. Wilmington Radio Assn., Princess St.
	WOBU 580 250 Charleston, W. Va. WOBU, Inc., Ruffner Hotel.				WRAW 1310 100 Reading, Pa. Reading Broadcasting Co., 533 Penn St.
	WOC- 1000 50000 Des Moines, Iowa.				WRAX 1020 250 Philadelphia, Pa. WRAX Broadcasting Co., 217 S. Broad St.
	WHO Central Broadcastg. Co., 914 Walnut St. A. E. Newton, 840 N. Main St.				WRBL 1200 100 Columbus, Ga. WRBL Radio Station, Inc.
	WOCL 1210 50 Jamestown, N. Y. A. E. Newton, 840 N. Main St.			X X	WRBX 1410 250 Roanoke, Va. Richmond Development Corp.
	WODA 1250 1000 Paterson, N. J. WODAAM Corp., 115 Ellison St.				WRC 950 500 Washington, D. C. National Broadcasting Co., Inc.
	WODX 1410 500 Mobile, Ala. Mobile Broadcasting Corp., Battle House.				WRDO 1370 100 Augusta, Me. WRDO, Inc., Augusta House.
	WOI 840 5000 Ames, Iowa. Iowa State College.				WRDW 1500 100 Augusta, Ga. Virgil V. Evans Co., 309 8th St.
	WOKO 1430 500 Albany, N. Y. WOKO, Inc., Hotel Ten Eyck.				WREC 600 500 Memphis, Tenn. WREC, Inc., Hotel Peabody.
	WOL 1310 100 Washington, D. C. American Broadcasting Co., Annapolis Hotel.				WREN 1220 1000 Lawrence, Kans. Jenny Wren Co., 8th and Vermont St.
	WOMT 1210 100 Manitowish, Wis. Francis M. Kadow, Box 326.				WRHM 1250 1000 Minneapolis, Minn. Minnesota Broadcasting Corp., 115 E. Grant.
X	WOOD 1270 500 Grand Rapids, Mich. Kunsky-Trendle Broadcasting Corp.				WRJM 1370 100 Racine, Wis. Racine Broadcasting Corp., Hotel Racine.
	WOPI 1500 100 Bristol, Tenn. Radiophone Broadcasting Station WOPI, Inc.				WRNY 1010 250 New York, N. Y. Marcus Loew Booking Agency.
	WOQ 1300 1000 Kansas City, Mo. Unity School of Christianity.				WROL 1310 100 Knoxville, Tenn. Stuart Broadcasting Corp., 524 S. Gay.
	WOR 710 5000 Newark, N. J. Bamberger Broadcasting Service, Inc.				WRR 1280 500 Dallas, Texas. City of Dallas, Hilton Hotel.
	WORC 1280 500 Worcester, Mass. Alfred F. Kleindienst, 60 Franklin St.				WRUF 830 5000 Gainesville, Fla. State University.
	WORK 1000 1000 York, Pa. York Broadcasting Co., 15 S. Beaver St.				WRVA 1110 5000 Richmond, Va. Larus & Bro. Co., Inc., 22nd and Gary St.
	WOS 630 500 Jefferson City, Mo. State Highway Control, Cap tol Bldg.				WSAI 1330 1000 Cincinnati, Ohio. Crosley Radio Corp., 1329 Arkrington.
	WOSU 570 750 Columbus, Ohio. Ohio State University.				WSAJ 1310 100 Grove City, Pa. Grove City College.
	WOV 1130 1000 New York, N. Y. International Broadcasting Corp.			X	WSAN 1440 250 Allentown, Pa. WSAN, Inc., 39 10th St.
	WOW 590 1000 Omaha, Neb. Woodmen of the World, 4th and Farnam.				WSAR 1450 250 Fall River, Mass. Doughty & Welch Electric Co., Inc.
	WOWO 1160 10000 Fort Wayne, Ind. Main Auto Supply Co., 213 W. Main.				WSAZ 1190 1000 Huntington, W. Va. WSAZ, Inc., 929½ 4th Ave.
	WPAD 1420 100 Paducah, Ky. Paducah Broadcasting Co., Inc.				WSB 740 50000 Atlanta, Ga. Atlanta Journal, 7 N. Forsyth St.
	WPAP 1010 250 New York, N. Y. Marcus Loew Booking Agency.				WSBC 1210 100 Chicago, Ill. Gene T. Dyer, 1258 S. Michigan Ave.
	WPEN 1500 100 Philadelphia, Pa. William Penn Broadcasting Co.				WSBT 1230 500 South Bend, Ind. South Bend Tribune.
	WPFB 1370 100 Hattiesburg, Miss. Hattiesburg Broadcasting Co., Box 530.				WSEN 1210 100 Columbus, Ohio. Columbus Broadcasting Corp., 144 S. High.
	WPG 1100 5000 Atlantic City, N. J. Columbia Broadcasting System.				WSFA 1410 500 Montgomery, Ala. Montgomery Brdg. Co., Inc. Jeff. Dav. H'l.
	WPHR 1200 100 Petersburg, Va. WLBG, Inc., Medical Arts Bldg.			X	WSIX 1210 100 Springfield, Tenn. 638 Tire & Vulcanizing Co.
	WPRO 1210 100 Providence, R. I. Cherry & Webb Broadcasting Co., 15 Chestnut.				WSJS 1310 100 Winston-Salem, N. C. Winston-Salem Journal Co., 416 N. Marshall.
	WPTF 680 5000 Raleigh, N. C. Durham Life Insurance Co.				WSM 650 50000 Nashville, Tenn. National Life & Accident Insurance Co.
	WQAM 560 1000 Miami, Fla. Miami Broadcasting Co., Inc., 327 N. E. 1st Ave.				WSMB 1320 500 New Orleans, La. WSMB, Inc., Maison Blanche Bldg.
	WQAN 880 250 Scranton, Pa. Scranton Times, 149 Penn Ave.				WSMK 1380 200 Dayton, Ohio. S. M. Krohn, Jr., 4th and Main St.
	WQAO 1010 250 New York, N. Y. Marcus Loew Booking Agency.				WSOC 1210 100 Gastonia, N. C. WSOC, Inc., Box 730.
	WQBC 1360 500 Vicksburg, Miss. Delta Broadcasting Co., Hotel Vicksburg.				WSPA 1420 100 Spartanburg, S. C. Virgil V. Evans, Ravenel and Avant St.
	WQDM 1370 100 St. Albans, Vt. A. J. St. Antoine and E. J. Regan.				WSPD 1340 1000 Toledo, Ohio. Toledo Broadcasting Co., 505 Jefferson
	WQDX 1210 100 Thomasville, Ga. Stevens Luke, 135 E. Jackson St.				WSUI 880 500 Iowa City, Iowa. State University of Iowa.
	WRAK 1370 100 Williamsport, Pa. WRAK, Inc., 244 W. 4th St.				

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WSUN 620 1000 St. Petersburg, Fla.
Florida Westcoast Broadcasting Co., Inc.

WVS 1370 50 Buffalo, N. Y.
Seneca Vocational High School.

WSYB 1500 100 Rutland, Vt.
Philip Weiss Music Co., 80 West St.

WSYR 570 250 Syracuse, N. Y.
Central New York Broadcasting Corp.

WTAD 1440 500 Quincy, Ill.
Illinois Broadcasting Corp., State and 6th.

WTAG 580 250 Worcester, Mass.
Worcester Telegram Publishing Co.

WTAM 1070 50000 Cleveland, Ohio.
National Broadcasting Co., Inc.

WTAQ 1330 1000 Eau Claire, Wis.
Gillette Rubber Co., Hotel Eau Claire.

WTAR 780 500 Norfolk, Va.
WTAR Radio Corp., Wainwright Bldg.

WTAW 1120 500 College Station, Texas.
Agricultural and Mechanical College.

WTAX 1210 100 Springfield, Ill.
WTAX, Inc., 416 E. Capitol Ave.

WTBO 1420 100 Cumberland, Md.
Associated Broadcasting Corp., Box 794.

WTEL 1310 100 Philadelphia, Pa.
Foulkrod Radio Engineering Co., Inc.

WTFI 1450 500 Athens, Ga.
Liberty Broadcasting Co., Costa Bldg.

WTIC 1060 50000 Hartford, Conn.
Travelers Broadcasting Service Corp.

WTJS 1310 100 Jackson, Tenn.
Sun Publishing Co., Sun Bldg.

WTMJ 620 1000 Milwaukee, Wis.
The Journal Co., 333 W. State St.

WTNJ 1280 500 Trenton, N. J.
Trenton Broadcasting Co., Stacy Trent Hotel.

WTOC 1260 500 Savannah, Ga.
Savannah Broadcasting Co., Inc., DeSoto Hotel.

WTRC 1310 50 Elkhart, Ind.
Truth Radio Corp., Hotel Elkhart.

WWAE 1200 100 Hammond, Ind.
Hammond Calumet Broadcasting Corp.

WWJ 920 1000 Detroit, Mich.
Evening News Assn., 616 Lafayette Blvd.

WWL 850 100000 New Orleans, La.
Loyola University, Roosevelt Hotel.

WWNC 570 1000 Asheville, N. C.
Citizen Broadcasting Co., Inc., Flatiron Bldg.

WWRL 1500 100 Woodside, N. Y.
Long Island Broadcasting Corp.

WWSW 1500 100 Pittsburgh, Pa.
Walker & Downing Radio Corp.

WWVA 1160 5000 Wheeling, W. Va.
West Virginia Broadcasting Corp.

WXYZ 1240 1000 Detroit, Mich.
Kunsky-Trendle Broadcasting Corp.

XEA 1000 250 Guadalajara, Jal.
Alberto Palos Souza.

XEAB 1450 7.5 Nuevo Laredo, Tams.
Horacio Mattei A. y Humberto Garcia.

XEAC 1295 100 San Luis Potosi, S.L.P.
Francisco de P. Cabrera.

XEAD 875 250 Mexico City, D. F.
Julio Zetina Osorio.

XEAE 1000 50 Mexicali, B. C.

XEAI 1090 100 Mexico City, D. F.
Carlos Gonzales Caballero.

XEAN 750 5000 Juarez, Chih.
Radio Difusora Nacional S. A.

XEAO 560 100 Mexicali, B. C.
Luis L. Castro.

XEAW 965 10000 Reynosa, Tams.
Internacional Broadcasting Co., S. A.

XEB 1030 10000 Mexico City, D. F.
El Buen Tono, S. A., Buen Tono No. 6.

XEG 1000 50 Toluca, D. F.
Jesus R. Benavides.

XED 1155 500 Guadalajara, Jal.
Radiofonografica de Guadalajara, S. A.

XEF 735 150000 Villa Acuna, Coah.
Compania Radiodifusora de Acuna, S. A.

XEFA 1250 500 Mexico City, D. F.
Eduardo Limon Segui.

XEFB 1315 100 Monterrey, N. L.
Jesus Quintanilla.

XEFC 1050 100 Merida, Yuc.
J. Molina Font.

XEFD 757 5000 Tijuana, B. C.
Goodwill Broadcasting Co.(Box 1441 San Diego)

XEFE 1000 100 Laredo, Tams.
Rafael T. Carranza.

XEFI 1260 250 Chihuahua, Chih.
Feliciano Lopez Isles, Ap. 157.

XEFJ 1000 100 Monterrey, N. L.
R. Junco de la Vega.

XEFO 940 5000 Mexico City, D. F.
Partido Nacional Revolucionario.

XEFS 1000 40 Queretaro, Qro.
Salvador Sanchez.

XEFV 1370 100 Juarez, Chih.
J. Onofre Meza.

XEFW 1280 70 Tampico, Tams.
J. Expedito Martinez.

XEFZ 1370 100 Mexico City, D. F.
Jose Onofre Meza.

XEG 1075 500 Mexico City, D. F.
Ricardo Gonzales Montero.

XEH 1132 250 Monterrey, N. L.
Tarnava y Cia, P. Mier 215.

XEI 1310 250 Morelia, Mich.
Carlos Gutierrez M.

XEJ 1015 500 Juarez, Chih.
Juan G. Buttner and Leo Allande.

XEK 990 100 Mexico City, D. F.
Arturo Martinez. Jalapa No. 51

XEL 1000 40 Saltillo, Coah.
Antonio Garza Castro.

XEN 711 1000 Mexico City, D. F.
Cerveceria Modelo S. A.

XENT 1115 150000 Nuevo Laredo, Tams.
Cia Industrial Universal S. A.

XEO 940 5000 Mexico City, D. F.
Partido Nacional Revolucionario.

XEP 780 500 Mexico City, D. F.
Cia Difusora de Mexico S. A.

XEPN 585 75000 Piedras Negras, Coah
Piedras Negras Broadcasting Co.

XEQ 1330 500 Mexico City, D. F.

XER 735 150000 Villa Acuna, Coah.
Compania Radiodifusora de Acuna, S. A.

XES 1020 250 Tampico, Tams.
Fernando Sada, Hotel Inglaterra.

XET 690 500 Monterrey, N. L.
Cadena Radiodifusora Mexicana, S. A.

XETA 1180 250 Mexico City, D. F.
Manuel Espanozo Tagle.

XETB 1380 125 Torreon, Coah.
Jose A. Berumen.

XETF 630 500 Veracruz, Ver.
Manuel Angel Fernandez.

XETH 860 100 Puebla, Pue.
Ramon Huerta G.

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XETR	610	1000	Mexico City, D. F. Cia Difusora Mexicana S. A.
XETU	890	100	Pachuca, Hdgo. Rodrigo Manriquez.
XETW	830	500	Mexico City, D. F. Rafael M. Pena, Gante 4, 3er piso
XEU	1010	100	Veracruz, Ver. Fernando Pazos Sosa.
XEW	910	5000	Mexico City, D. F. Cadena Radiodifusora Mexicana S. A.
XEX	1210	500	Mexico City, D. F. "Excelsior" Cia Editorial S. A.
XEY	546.8	10	Merida, Yuc. Partido Socialista del Surest.
XEYZ	780	10000	Mexico City, D. F. Radiodifusora Continental S. A.
XEZ	630	500	Merida, Yuc.
XFB	1290	500	Jalapa, Ver. Gobierno del Estado de Veracruz.
XFC	805	350	Aguascalientes, Ags. Gobierno del Estado de Aguascalientes.
XFG	638.3	2000	Mexico City, D. F. Secretaria de Guerra y Marina.

XFO	940	5000	Mexico City, D. F. National Revolucionario Party.
AFX	840	500	Mexico City, D. F. Secretaria de Educacion Publica.
YV1BC	960	5000	Caracas, Venez. Cia Ama Alamacen Americana.
YV2BC	882	100	Caracas, Venez.
YV3BC	1200	1000	Caracas, Venez. Degwitz & Sibless.
10-AK	1200	15	Stratford, Ont. M. I. Higgins, 151 Ontario St.
10-AT	1155	25	Trail, B. C. Trail Amateur Radio Assn
10-BI	1200	25	Prince Albert, Sask. Prince Albert Radio Club.
10-BP	1200	25	Wingham, Ont. W. T. Cruickshank.
10-BQ	1200	15	Brantford, Ont. Tom and Harold Brown.
10-BU	1200	15	Canora, Sask. Canora Radio Assn.

Symptoms of Sick Sets

(Continued from page 22)

locate that every joint in the circuit had to be resoldered before the trouble ceased.

Connecting S. W. Converter

How can I go about connecting an Audiola short-wave converter to my Colonial model 32 AC receiver?

The converter has four leads. One goes to a large prong on the -80 rectifier tube in your receiver, which is the high voltage side. This provides the necessary plate potential for your tubes in the converter. One prong only of the -80 is the proper one to connect to, and you must experiment with both prongs to locate the proper one. Be careful of the high voltage!

One wire of the converter, through a small condenser, next connects to the antenna terminal of the receiver; another wire connects to the ground terminal. The antenna wire connects to your converter. The wire leading to the antenna of the Colonial set from the converter must be as short and direct as possible without close contact with other wires.

The Colonial set is a tuned radio frequency circuit and is not as powerful as a superheterodyne. But the converter turns it into a short-wave superheterodyne. Short wave tuning is complicated, and we suggest you follow short wave articles in RADEX, particularly the one in May RADEX dealing with tuning problems.

Changing Tubes

Will it be practicable to change the older tubes in my Radiola 82 over to the newer 56 and 57 types of tubes?

We do not believe the improvement in volume will be remarkable, but there will be some other advantages if certain of the tubes are changed. The first tube, a -24, can be replaced with a 57. While the two intermediate-frequency tubes could be replaced with 57s, tuning and adjustments would be necessary. Since there is no first audio amplifier in this circuit there is no position where a 56 tube can be used, unless in the second detector (-27), and that would be a mere experiment because of the critical adjustments in the tuning of that tube.

Now is your opportunity to buy a high grade world globe for a low price. See back cover.

One Hundred Best

Short Wave Stations

Arranged Alphabetically

Stations marked with an asterisk (*) will not verify. Frequencies are given in megacycles. Times are given in Eastern Standard.

- *British Ships, 13.220, 8.831, 4.174
 *CEC, Chile, 19.678, 15.855
 CGA, Canada, 13.296, 9.340
 CNR, Morocco, 12.820
 CTIAA, Portugal, 9.592. Tues. and Fri., 4:30 to 7:00 p. m.
 DAF, Germany, 12.394
 DFB, Germany, 17.512
 DIQ, Germany, 10.285
 DJA, Germany, 9.552. 7 to 9 p.m.
 DJB, Germany, 15.190. 8 a.m. to 6:30 p.m.
 DJC, Germany, 6.017. 7 to 9 p.m.
 DJD, Germany, 11.753. 10 a.m. to 6 p.m.
 EAO, Spain, 9.862. 5:30 to 7 p.m. daily and 1-3 p.m. Sat.
 EHY, Spain, 10.164
 FTM, France, 19.282
 FZS, Indo-China, 11.983
 *German Ships, 13.135, 10.163, 8.328, 4.174
 GAS, England, 18.304
 GBB, England, 13.500
 GBS, England, 12.148
 GBW, England, 14.450
 GSA, England, 6.050. 1 to 5:30 p.m.
 GSB, England, 9.510. 10:30 a.m. to 12:30 p.m.; 3 to 5:30 p.m.; 6 to 8 p.m.
 GSC, England, 9.585
 GSD, England, 11.750. 1 to 5:30 p.m.; 11:30 p.m. to 1:30 a.m.
 GSE, England, 11.865
 GSF, England, 15.140. 6 to 8 a.m.; 8:30 a.m. to 12:30 p.m.; 1 to 3 p.m.; 11:30 p.m. to 1:30 a.m.
 GSG, England, 17.770. 6 to 8 a.m.; 8:30 to 10:30 a.m.
 HBL, Switzerland, 9.580. Sat., 5 to 5:45 p.m.
 HBP, Switzerland, 7.872. Sat., 5 to 5:45 p.m.
 HI-1-A, Santo Domingo, 6.272. 8-8:30 a.m.; 12:30-1:30 p.m.; 8-9 p.m.
 *HJB, Colombia, 14.930
 *HJY, Colombia, 18.444
 HJ1ABB, Colombia, 5.793. 8-10 p.m. daily
 HJ2ABA, Colombia, 5.879. 7:30 to 10 p.m.
 HJ4ABB, Colombia, 7.139. Sat., 11 p.m. to Mid.; Sun. 3-5 p.m.; Wed., 8-10 p.m.
 HJ4ABE, Colombia, 5.879. Mon., Wed., Fri., 7:30-9:30 p.m.
 HSP, Siam, 17.719
 HVJ, Vatican City, 15.120
 IAC, Italy, 12.785
 IZRO, Italy, 11.800. 11:30 a.m. to 12:30 p.m.; 1:15 to 6 p.m.
 J1AA, Japan, 9.862. 5 to 8 a.m.
 KAY, Philippines, 14.980
 KAZ, Philippines, 9.990
 *KKP, Hawaii, 16.024
 LSN, Argentina, 9.895
 LSX, Argentina, 10.345
 LSY, Argentina, 18.116
 *OCI, Peru, 18.670
 OXY, Denmark, 9.520. 2 to 6:30 p.m.
 PHI, Holland, 17.761. 8-10 a.m. Mon., Tues., and Fri.; 8 to 10:30 a.m. Sat. and Sun.
 PLV, Java, 9.410
 Pontoise, France, 15.234. 8-11 a.m.
 11.898. 11:30 a.m. to 1:15 p.m.
 11.711. 3-5 p.m. and 6-11 p.m.
 *PPU, Brazil, 19.270
 PRADO, Ecuador, 6.618. Thursday, 9-11 p.m.
 *PSF, Brazil, 14.682
 Rabat, Morocco, 12.820. Sun, 7:30 to 9 a.m.
 8.218. Sun, 2:30 to 5 p.m.
 *RFX, Panama, 14.545
 TGA, Guatemala, 14.545
 TIR, Costa Rica, 14.545
 TI4NRH, Costa Rica, 9.670. 6:30 to 7:30 p.m.
 *VE9CS, Canada, 8 to 10 p.m.
 VE9DR, Canada, 6.005. 7:30 a.m. to Midnight; Sun., noon to 11:15 p.m.
 VE9GW, Canada, 6.092. Mon., Tues. 8 a.m. to noon; Thurs., Fri. 4-8 p.m.; Sat. 4 p.m. to midnight; Sun. 11 a.m. to 9 p.m.
 VE9HX, Canada, 6.110. 8:30-11:30 a.m.; 5-10 p.m.
 VE9JR, Canada, 11.710. For Schedule, see S. W. News Section
 VK2ME, Australia, 10.520.
 9.585. Sunday, 12:30-2:30 a.m.; 4:30-8:30 a.m.; 9:30-11:30 a.m.
 Wed., 5-6:30 a.m.; Sat., 5-7 a.m.
 VK3ME, Australia, 9.503.
 VPB, Bahamas, 4.513
 VVZ, India, 17.533
 *WEA, U. S. A., 10.601
 *WEF, U. S. A., 9.488
 *WNC, U. S. A., 15.055
 W2XAD, U. S. A., 15.320. Mon., Wed., Fri., 3-4 p.m.; Sun, 2-4 p.m.
 W1XAL, U. S. A., 6.040. Sat., 6-7 p.m.; Sun., 7:30-9:30 p.m.; other days, 9-10 p.m.
 W2XAF, U. S. A., 9.530. 7 p.m. to 1 a.m.
 W2XE, U. S. A., 15.253. 11 a.m. to 1 p.m.
 11.823. 3 to 5 p.m.
 6.116. 6 to 11 p.m.
 W3XAL, U. S. A., 17.772. 12:30 to 6:30 p.m. except Sat.
 6.096. 3 p.m. to midnight; Saturday
 W3XAU, U. S. A., 9.585. 11 a.m. to 5 p.m.
 6.057. 7 p.m. to midnight
 W3XL, U. S. A., 6.421. Irregular
 W8XK, U. S. A., 21.451. 7 a.m. to 2 p.m.
 15.204. 10 a.m. to 4:15 p.m.
 11.870. 4:30-10 p.m.
 6.140. 4:30 p.m. to 12:30 a.m.
 W9XAA, U. S. A., 6.076. 3 to 6 p.m.
 W9XF, U. S. A., 6.100. Silent Sat.; Sun, 1-2:30 p.m.; 4:30-7 p.m.; 9 p.m. to 2 a.m.; other days, 4:30-8 p.m.; 9:30 p.m. to 2 a.m.
 XAM, Mexico, 11.187
 XETE, Mexico, 9.600. 2:30-5 p.m.; 6:30 p.m. to midnight
 *YNA, Nicaragua, 14.480. Phones Hialeah.
 *YVQ, Venezuela, 13.337. Phones Hialeah
 *YVR, Venezuela, 18.296 and 9.168
 YV1BC, Venezuela, 6.112. 5:15 to 10 p.m.
 YV2AM, Venezuela, 14.102. Sun. 6:30 to 11:30 a.m.
 YV3BC, Venezuela, 9.510. 9:30 to 10 p.m.
 6.134. 10:30 a.m. to 1 p.m. and 4:30-9:30 p.m.; Sun., 8:30 a.m. to noon and 3-6:30 p.m.
 *ZFA, Bermuda, 5.045
 *ZFB, Bermuda, 10.060

Next month, with 400 stations cooperating, the special DX programs commence in earnest. Watch for the November DX Calendar.

One Hundred Best

Short Wave Stations

By Frequencies and Wave Lengths

Submitted by our readers as being most regularly received. First column gives frequency in megacycles (for kilocycles read the decimal point as a comma) and the second column, wavelengths in meters.

For complete lists of short wave stations see the following issues of this magazine:

September: Foreign stations arranged by countries.

November: American stations by States.

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

April: Complete list by frequencies and wave lengths.

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

Broadcast, B.	Phone, P.						
4.174	71.82	*British Ships	P	11.725	25.57	PHI, Huizen, Holland	B
4.174	71.82	*German Ships	P	11.750	25.51	GSD, Daventry, England	B
4.283	70.00	Italian Ships	P	11.753	25.51	DJD, Zeesen, Germany	B
4.513	66.43	VPN, Nassau, Bahamas	P	11.800	25.40	I2R0, Rome, Italy	B
4.753	63.08	*W00, Ocean Gate, N. J.	P	11.823	25.36	W2XE, Wayne, N. J.	B
5.045	59.42	*ZFA, Hamilton, Bermuda	P	11.865	25.27	GSE, Daventry, England	B
5.793	51.75	HJ1ABB, Barranquilla, Colombia	B	11.870	25.25	W8XX, Pittsburgh, Pa.	B
5.879	51.00	HJ2ABA, Tunja, Colombia	B	11.898	25.20	Pontoise, France	B
5.879	51.00	HJ4ABE, Medellin, Colombia	B	11.983	25.02	FZS, Saigon, Indo-China	P
6.005	49.93	VE9DR, Montreal, Quebec	B	12.148	24.68	GBS, Rugby, England	P
6.017	49.83	DJC, Zeesen, Germany	B	12.394	24.19	DAF, Norden, Germany	P
6.040	49.64	W1XAL, Boston, Mass.	B	12.785	23.45	IAC, Coltano, Italy	P
6.050	49.56	GSA, Daventry, England	B	12.820	23.38	CNR, Rabat, Morocco	P
6.057	49.50	W3XAU, Philadelphia, Pa.	B	12.820	23.38	Rabat, Morocco	B
6.074	49.39	*VE9CS, Vancouver, B. C.	B	13.135	23.00	*German Ships	P
6.076	49.34	W9XAA, Chicago, Ill.	B	13.220	22.68	*British Ships	P
6.092	49.22	VE9GW, Bowmansville, Ont.	B	13.296	22.55	CGA, Drummondville, Quebec	P
6.096	49.17	W3XAL, Boundbrook, N. J.	B	13.337	22.48	*YVQ, Maracay, Venezuela	P
6.100	49.15	W9XF, Chicago, Ill.	B	13.500	22.09	GBB, Rugby, England	P
6.110	49.07	VE9HX, Halifax, N. S.	B	14.102	21.26	YV2AM, Maracaibo, Venezuela	B
6.112	49.10	YV1BC, Caracas, Venezuela	B	14.450	20.75	GBW, Rugby, England	P
6.116	49.02	W2XE, Wayne, N. J.	B	14.480	20.70	*YNA, Managua, Nicaragua	P
6.134	48.87	YV3BC, Caracas, Venezuela	B	14.545	20.69	*RXF, Panama City, Panama	P
6.272	47.80	HI-1-A, Santiago de los Caballeros, Dominican Republic	B	14.545	20.69	TGA, Guatemala City, Guatemala	P
6.421	46.69	W3XL, Boundbrook, N. J.	B	14.545	20.69	TIR, Cartago, Costa Rica	P
6.618	45.31	PRADO, Riobamba, Ecuador	B	14.682	20.42	*PSF, Rio de Janeiro, Brazil	P
7.139	42.00	HJ4AB, Manizales, Colombia	B	14.930	20.08	*HJB, Bogota, Colombia	P
7.872	38.47	HBP, Prangins, Switzerland	B	14.980	20.01	KAY, Manila, Philippines	P
8.218	36.36	Rabat, Morocco	B	15.055	19.91	*WNC, Hialeah, Florida	P
9.168	32.70	*YVR, Maracay, Venezuela	P	15.120	19.83	HVJ, Vatican City	B
9.410	31.86	PLV, Bandoeng, Java	P	15.140	19.81	GSF, Daventry, England	B
9.488	31.60	*WEF, Rocky Point, N. Y.	P	15.190	19.73	DJB, Zeesen, Germany	B
9.503	31.55	VK3ME, Melbourne, Australia	B	15.204	19.72	W8XX, Pittsburgh, Pa.	B
9.510	31.53	GSB, Daventry, England	B	15.234	19.68	Pontoise, France	B
9.510	31.52	YV3BC, Caracas, Venezuela	B	15.258	19.65	W2XE, Wayne, N. J.	B
9.520	31.49	OXY, Skamlebaek, Denmark	B	15.320	19.57	W2XAD, Schenectady, N. Y.	B
9.530	31.46	W2XAF, Schenectady, N. Y.	B	15.855	18.91	*CEC, Santiago, Chile	P
9.552	31.38	DJA, Zeesen, Germany	B	16.024	18.71	*KKP, Kahuku, Hawaii	P
9.580	31.30	HBL, Prangins, Switzerland	B	17.512	17.12	DFB, Nauen, Germany	P
9.585	31.28	GSC, Daventry, England	B	17.533	17.10	VWZ, Poona, India	P
9.585	31.28	VK2ME, Sydney, Australia	B	17.580	17.05	*British Ships	P
9.592	31.25	CTIAA, Lisbon, Portugal	B	17.719	16.92	HSP, Bangkok, Siam	P
9.600	31.23	XBTE, Mexico City, D. F.	B	17.761	16.88	PHI, Huizen, Holland	B
9.670	31.00	TI4NRH, Heredia, Costa Rica	B	17.770	16.88	GSB, Daventry, England	B
9.862	30.40	EAQ, Madrid, Spain	B	17.772	16.87	W3XAL, Boundbrook, N. J.	B
9.862	30.40	JI AA, Tokyo, Japan	B	18.116	16.55	LSY, Buenos Aires, Argentina	B
9.895	30.30	LSN, Buenos Aires, Argentina	P	18.296	16.39	*YVR, Maracay, Venezuela	P
9.990	30.01	KAZ, Manila, P. I.	P	18.304	16.38	GAS, Rugby, England	P
10.060	29.80	*ZFB, Hamilton, Bermuda	P	18.444	16.25	*HJV, Bogota, Colombia	P
10.164	29.79	EHY, Madrid, Spain	P	18.670	16.06	*OCL, Lima, Peru	P
10.285	29.15	DIQ, Zeesen, Germany	Ex.	19.270	15.57	*PPU, Rio de Janeiro, Brazil	P
10.345	28.98	LSX, Buenos Aires, Argentina	Exp.	19.282	15.55	FTM, Ste. Assise, France	P
10.520	28.50	VK2ME, Sydney, Australia	P	19.678	15.24	*CEC, Santiago, Chile	P
10.601	28.28	*WEA, Rocky Point, N. Y.	P	19.684	15.23	EAQ, Madrid, Spain	P
11.187	26.80	XAM, Merida, Yucatan	P	21.020	14.27	LSN, Buenos Aires, Argentina	P
11.710	25.60	VE9JR, Winnipeg, Man.	B	21.069	14.23	*PSA, Rio de Janeiro, Brazil	P
11.711	25.60	Pontoise, France	B	21.470	13.96	GSH, Daventry, England	B
				21.451	13.93	W8XX, Pittsburgh, Pa.	B

Exploring the Short Waves

(Continued from page 34)

results above are very poor. There are lots of signals I cannot tune in. Give us Valley s.w. fans a break and some help."

R. W. Evans, 832 Richie Ave., Lima, Ohio, reports several new stations he is hearing. "XETE in Mexico City runs from 5:30 to past midnight on 9600 kcs.," he writes. "Programs of XETE are rebroadcast from XEPE on 600, which must be a new one also. VE9HX relays CHNS on 6100 kcs. in the late afternoons, sometimes up till 11 p. m. EST."

The May issue, No. 69, contained the slogans and names of buildings used by stations in announcements, mail addresses, etc.

The June issue, No. 70, contained in the Index by Frequencies, all the broadcasting stations of the world.

The September issue, No. 71, contained a list of 300 stations with time they are to be checked monthly. Also Sunday's time on the air for all stations.

A few back copies left: price 25c each.

The Ground is Important

(Continued from page 7)

cases, however, the reducer or another wedge-shaped affair, larger in diameter than the pipe, should be attached to the lower end—to facilitate driving and to provide circulation space for water.

Moisture is Necessary

I maintain that the Ollie Ross, the U. S. Standard, or any kind of rod or pipe ground—no matter how good—can be improved by providing means to wet the soil all the way down.

This ground is much superior to the radiator and cold water pipe grounds, with indoor and short outdoor aerials. There is little choice between grounds for powerful local stations with long roof aerials. I have had no opportunity to check with long roof aerials and distant stations. The outdoor ground is better with WHAS and the Chicago stations. It is handy for installing lightning arrestors outside.

(Concluded on page 80)

That's What Our Readers Say

"We are certainly delighted to know that part of the prize money was used to renew your subscription to RADEX. We think it is the finest and most complete radio magazine published today."—Radio Station CFCO, Chatham, Ontario, in a letter to F. W. A. Barnett, 5 Chapman St., Anderston, Dunedin, New Zealand.

"After you have used RADEX once, it would seem an impossibility to DX without it. We recommend RADEX to our members as the *one and only* authentic radio publication."—Henry P. Allen, Vice President, Atlantic Radio Club, 513 City Line, Oak Lane, Philadelphia.

"I find RADEX invaluable when doing DX work—as a matter of fact, I could not do DX work without it."

—Robert Mumford, Brighton Villa, 47, Sydney Parade, County Dublin, Irish Free State.

"Thank you for your splendid magazine. It is a real radio guide. Have been reading RADEX about a year now and do not miss a copy."—Sergeant Wm. Senkewich, Co. F, 16th Infantry, Ft. Jay, N. Y.

"I have read almost every radio magazine on the market but I have never seen one that came as near being perfect as RADEX."—Dolphus Whitten, Jr., Gurdon, Arkansas.

"In my opinion it is the greatest book of its kind. I'll have RADEX as long as I have the money to buy it."—Wallace Archambeau, Ironwood, Mich.

This pipe ground is cheap and can be planted in a very small space, close to the house, and again I say to the members, try it out this Summer with radiator and cold water pipe grounds also available. You are due for surprises!

Keeping Step with Radio

(Continued from page 31)

a letter he received from a reader in New Zealand, Chas. G. Forbes, Grant Road, Woodville, N. Z. The letter is an interesting one regarding radio in our Antipodes. Mr. Forbes, who is a journalist in Woodville, would like to exchange cards with other readers. Mr. Morgan also sends us samples of the hand-illustrated verifications he is now sending to stations heard. Attractively drawn in ink and in colors, Mr. Morgan's verifications will constitute a most unusual and valuable collection.

George W. Burns, 2466 Wahl Terrace, Cincinnati, Ohio, sends us a clipping from the Tombstone (Ari-

zona) Epitaph regarding a new station, KSUN, to be installed at Bisbee, Ariz., by the Copper Electric Company, the owners of the new KIGY at Lowell, Ariz. Who can give us the details?

Robert Base, 4105 Alto Road, Baltimore, Md., sends us a photograph of his Scott set and some of his verifications which we are sorry we are unable to reproduce. He has a business-like DX outfit.

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Four pages; printed on fine Bristol board so entries may be erased and kept up-to-date.

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Price, 10 cents each, two for 15c, four for a quarter

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7:00			
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12:00			

Actual size 5 x 7 inches

RADEX RADIO MAP of the WORLD

Showing all Countries and their Principal Cities
with Call Letters and Time Zones of each Country

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TIME CONVERTER

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PRICE
25¢

DIRECTIONS—Turn the desired hour, either A.M. or P.M., in the sector marked "TODAY" opposite your own zone and the current time in all other zones in the world will be shown. It will also be indicated which of the other zones are "Yesterday" and which are "Tomorrow." The position of daylight darkness and dawn is graphically shown. Or, if you desire to tune in a New Zealand program, turn the hour of the program (say 9:00 a.m.) to the New Zealand sector and you will find that it is 4:30 A.M. some day in Eastern Standard Zone or 11 P.M. yesterday in Hawaii.

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Just turn the dial to the time in your zone and—Presto! Change—there is the time for every other place in the world.

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Only a Quarter Postpaid to any country.

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A wonderful addition to the radio set and a big help to the children in the home. Only with a globe can you get a true picture of the relative position of one country to another.

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