

THE NOVEMBER, 1934

13

# RADIO INDEX

THE ALL-WAVE RADIO MAGAZINE



25<sup>c</sup>

Reallocation in Cuba  
Noise-Reducing Aerials  
Saturday's Time on the Air  
Tuning Short Waves  
on Your Broadcast Set

No. 83

N. S. E.

# NOW

## A PERFECT PHONE ADAPTER

*Without "B" Batteries*

A new model of this device has been produced which does not require the use of "B" batteries to provide grid bias IF

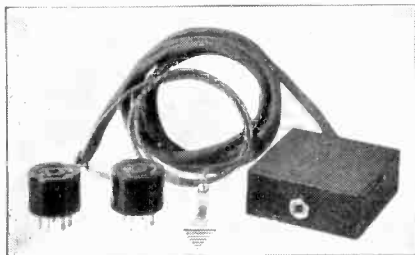
- (a) Your receiver has two power tubes (of any type) in push-pull.
- (b) Your receiver has one power tube of the pentrode type (such as 47, 42, 43, 58, 2A5, 59, etc.).

### *To Install:*

The Perfect Phone Adapter requires no change in the wiring of a set and does not affect its load or balance. Simply remove the power tube or tubes, insert the small socket adapter, replace the tube, attach the little clip to a ground and the Adapter is installed.

### *To Operate:*

Insert the two tips of your phone cords in a phone-plug. Push the plug in the jack in the little box; the signals are automatically transferred to the phones and the speaker is silenced. Pull out the plug and the set is back in speaker operation.



### PRICES

Perfect Phone Adapter, postpaid .....	\$ 3.95
Adapter with 2000-ohm Phones and Plug .....	6.70
Adapter with Plug and 24000 - ohm feather- weight phones (made especially for sensitive work) .....	12.50

This is the only practical method of using headphones with modern sets. Equip your receiver and enjoy your radio while the rest of the family sleep.

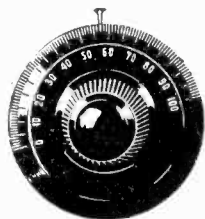
When ordering give make and model of your receiver and number and type of power tubes. It will help us if you can send diagram of your set.

## RADIO PARTS CO.

1401 Prospect Ave.

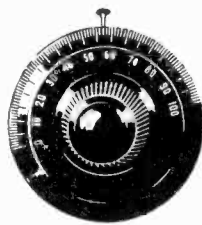
Cleveland, Ohio

November 1, 1934



# RADIO INDEX

Reg. U. S. Patent Office



FRED CLAYTON BUTLER  
*Editor and Publisher*

B. FRANCIS DASHIELL  
*Technical Editor*

PAGE TAYLOR  
*Short Wave Editor*

ELEVENTH YEAR

NUMBER 83

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*Lovely Singer of Ballads*

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# THE NOVEMBER DX CALENDAR

of frequency checks and special programs for distant listeners arranged by the stations outside of their regular hours. All time is EST so that programs may be arranged in order.

<b>DAILY</b>									
12:00-12:05	VAB	685	2000	Glacé Bay	3:40-4:00	WMBO	1310 100	Auburn	
12:00-1:00	WFLA	620	1000	Clearwater	3:45-4:00	KUJ	1370 100	Walla Walla	
	WMC	780	1000	Memphis	3:50-4:10	WGLC	1370 100	Hudson Falls	
12:00-6:00	KFAC	1300	100	Los Angeles		WBAX	1210 100	Wilkes-Barre	
12:00-8:00	KJBS	1070	10	San Francisco	4:00-4:20	WCAD	1220 500	Canton	
1:00-7:00	WEDC	1210	100	Chicago		KPQ	1500 100	Winatchee	
5:30-7:00	WSPA	1420	100	Spartanburg	4:10-4:30	WBBL	1210 100	Richmond	
6:00-7:00	KFBI	1050	5000	Ablene		KGBU	900 500	Ketchikan	
					4:20-4:40	WNBZ	1290 50	Saranac Lake	
						WBRE	1310 100	Wilkes-Barre	
<b>Sunday Mornings</b>						KGVO	1200 100	Missoula	
<b>October 28</b>						WNBO	1200 100	Washington	
3:30-4:30	CJLS	1310	100	Yarmouth	4:30-4:50	KOOS	1200 250	Marshfield	
<b>Oct. 28, Nov. 11, 25</b>						WRAW	1310 100	Reading	
2:00-5:00	VOGY	840	400	St. John's	4:40-5:00	KGY	1210 100	Olympia	
<b>November 4</b>						4:50-5:10	WAAT	940 300	Jersey City
2:00-3:30	KVOA	1260	500	Tucson		KRKO	1370 50	Everett	
3:00-3:20	KLCN	1290	100	Blytheville	5:00-5:20	WSYR	570 250	Syracuse	
3:30-3:50	KXYZ	1440	250	Houston		KFXD	1200 100	Nampa	
3:50-4:10	KITUL	1400	250	Tulsa	5:10-5:30	KVL	1370 100	Seattle	
4:00-4:20	KPAC	1260	500	Pt. Arthur	5:20-5:40	KGEZ	1310 100	Kalispell	
4:10-4:30	KGDY	1340	250	Huron	5:30-5:50	KUJ	1370 100	Walla Walla	
4:20-4:40	KRGV	1260	500	Weslaco	5:40-6:10	KGCX	1310 100	Wolf Point	
4:50-5:10	KARX	890	250	Little Rock	5:50-6:10	KFKD	780 250	Anchorage	
5:00-5:20	KGKO	570	600	Wichita Falls	6:00-6:20	KSEI	900 250	Pocatello	
5:20-5:40	WNAD	1010	500	Norman	6:10-6:30	KVOS	1200 100	Bellingham	
5:40-6:00	KUOA	1260	1000	Fayetteville	6:20-6:40	KIT	1310 100	Yakima	
<b>November 11</b>						6:30-6:50	KRRC	1120 100	Seattle
2:00-3:00	KFJZ	1370	100	Ft. Worth	6:40-7:00	KXRO	1310 100	Aberdeen	
3:00-4:00	WOS	630	500	Jefferson City	6:50-7:10	KFIO	1120 100	Spokane	
	HIX	1270	1000	Santo Domingo	7:00-7:20	KFJI	1210 100	Klamath Falls	
5:30-6:30	4-BC	1145	750	Brisbane	7:10-7:30	KMED	1310 100	Medford	
<b>November 18</b>						7:20-7:40	KORE	1420 100	Eugene
1:01-1:09	CFCY	630	500	Charlottetown					
1:00-6:00	WWAE	1200	100	Hammond	1:01-1:09	CFCY	630 500	Charlottetown	
3:00-4:00	KDB	1500	100	Santa Barbara	3:01-3:09	CHSJ	1120 100	St. John	
	KYA	1230	1000	San Francisco	12:00-3:00	WCNW	1500 100	Brooklyn	
3:00-5:00	WHAZ	1300	500	Troy	1:00-2:30	KXEX	1310 125	Monterrey	
<b>November 18, 25</b>						2:30-4:30	CKMO	1410 100	Vancouver
2:00-5:00	WMMN	890	250	Fairmont	4:30-5:00	WNBO	1200 100	Washington	
<b>November 25</b>									
11:00-11:30	XEB	1030	10000	Mexico City	<b>Tuesday Mornings</b>				
1:00-1:30	WKY	900	1000	Oklahoma City	<b>November 6</b>				
1:00-2:00	CMJP	1360	75	Moron	2:00-2:20	WQDX	1210 100	Thomasville	
2:00-3:00	KGEK	1200	100	Yuma	2:10-2:30	WBHS	1200 100	Huntsville	
2:30-4:30	KCBI	1210	100	Prince Albert	2:20-2:40	WHBQ	1370 100	Memphis	
5:00-6:00	WMBR	1370	100	Jacksonville	2:30-2:50	WEED	1420 100	Rocky Mount	
<b>November 4, 11, 18, 25</b>						2:40-3:00	WOPI	1500 100	Bristol
10:00-1:00	CMBX	1425	250	Havana	2:50-3:10	WSMB	1320 500	New Orleans	
12:00-1:00	WGAR	1450	500	Cleveland	3:00-3:20	WNBR	1370 100	Jacksonville	
12:00-2:00	WGES	1360	500	Chicago	3:10-3:30	WNRA	1420 100	Muscle Shoals	
12:00-3:00	CMCD	955	150	Havana	3:20-3:40	WSJS	1310 100	Winston-Salem	
1:00-1:15	KOMA	1480	5000	Oklahoma City	3:30-3:50	WHEF	1500 100	Kosciusko	
3:00-5:00	CKOV	630	100	Kelowna	3:40-4:00	KMLB	1200 100	Monroe	
	CFCT	1450	50	Victoria	3:50-4:10	WAGF	1370 100	Dothan	
4:00-5:00	CFJC	880	100	Kamloops	4:00-4:20	WKFI	1210 100	Greenwood	
<b>Monday Mornings</b>						KWG	1200 100	Stockton	
<b>October 29</b>						WTJS	1310 100	Jackson	
2:00-2:15	WAVE	940	1000	Louisville	4:10-4:30	KPJM	1500 100	Prescott	
<b>November 5</b>						4:20-4:40	WFFB	1370 100	Hattiesburg
1:00-2:00	CMJP	1360	75	Moron		KERN	1370 100	Bakersfield	
1:00-2:20	WCNW	1500	100	Brooklyn	4:30-4:50	WGFC	1420 100	Albany	
	WJAC	1310	100	Johnstown		KXO	1500 100	El Centro	
2:10-2:30	WFAS	1210	100	White Plains	4:40-5:00	WBNO	1200 100	New Orleans	
	WRAC	1370	100	Williamsport		KIEM	1210 100	Eureka	
2:20-2:40	WNBZ	1500	100	Binghamton	4:50-5:10	WROL	1310 100	Knoxville	
	WCHS	580	500	Charleston		KLS	1440 250	Oakland	
2:30-2:50	WAGM	1420	100	Presque Isle	5:00-5:20	WDNC	1500 100	Durham	
	WBTM	1370	100	Danville		KGIX	1420 100	Las Vegas	
2:40-3:00	WLVA	1200	100	Lynchburg	5:10-5:30	WJBW	1200 100	New Orleans	
2:50-3:10	WHDL	1420	100	Tupper Lake		KGMB	1320 250	Honolulu	
	WHAT	1310	100	Philadelphia	5:20-5:40	WAML	1310 100	Laurel	
3:00-3:20	WCAX	1200	100	Burlington		KRE	1370 100	Berkeley	
3:10-3:30	WSYB	1500	100	Rutland	5:30-5:50	WSIX	1210 100	Springfield	
	WTEL	1310	100	Philadelphia		KGU	750 2500	Honolulu	
3:20-3:40	WIBX	1200	100	Utica					
3:30-3:50	WQDM	1370	100	St. Albans					
	WKOK	1210	100	Sunbury					

(Continued on page 4)

# The BEGINNERS' STORY of RADIO

PART TWELVE

All-Wave Receivers and S. W. Converters

• • • By B. FRANCIS DASHIELL

**T**HE ideal method for reception of short waves, particularly the very shortest, would require one to operate a number of separate short-wave receivers, each tuning between resonant limits of about 30 meters. In this manner it would be possible to use a small radio frequency transformer of limited range without resorting to the plug-in arrangement described in Chapter Eleven. The variable condenser would easily tune such a small coil, and congested signals would be spread out over a wide range on the tuning dial. A better tuning movement could thus be obtained, and many more stations on the short waves would be logged.

The trend, however, except in commercial and amateur stations where efficiency is the watchword, is not to make use of a number of receivers, but to combine every channel of the wave-band spectrum into a single, easily manipulated unit. This is why the *all-wave* receiver has become so popular. It embraces, within its tuning limits, all of the short-wave band and the broadcast band as well. Some receivers tune into the long-wave band in addition to the short and broadcast waves. This tuning is for European reception where many stations broadcast on the higher waves. Sets capable of tuning in waves from 5 to 2,000 meters (60,000 to 150 kilocycles) are now available.

## The All-Wave Receiver

The all-wave receiver is simply a standard type of radio set, either of tuned-radio-frequency or superheterodyne principles. The latter is in al-

most universal use. There is nothing of a mysterious nature about its design and construction. The only real difference is the tuning range, which, in this case, covers a far wider scope than the ordinary broadcast receiver.

In previous discussions we studied a tuned-radio-frequency receiver and a superheterodyne set in Chapters Nine and Ten. But these receivers were capable only of responding to signals in the broadcast band—between 200 and 550 meters. This range was the limit of resonance for the r.f. coils and transformers used in the receivers. A single coil, in this case, was used to cover the entire wave band.

But, as we learned in Chapter Eleven, the short waves, between 200 and 10 meters in length, cannot be received through a single coil or r.f. transformer. That is why the short-wave receiver shown in Chapter Eleven required a number of interchangeable r.f. coils or transformers, each of which covered a definite wave band. The resonant range of a r.f. coil to high-frequency alternating currents becomes more and more limited as the waves become *shorter*.

## Several Coils Required

This fact is easily understood by a study of the coils used to cover certain wave lengths and plugged into the short-wave receiver shown in Chapter Eleven. With all the information given in that, and several preceding chapters, concerning resonance, induction, and the tuning of coils carrying radio-frequency currents, the reader should be able readily to understand why a single coil of wire, wound into a radio-frequency transformer, cannot present perfect conductivity to *all* fre-

5:40-6:00	KGAR	1370	100	Tucson	3:00-3:15	KREG	1500	100	Santa Ana
5:50-6:10	KCRJ	1310	100	Jerome	3:00-3:20	WRDW	1500	100	Augusta
6:00-6:20	KGDM	1100	250	Stockton		WBHY	1200	100	Green Bay
6:10-6:30	KSUN	1200	100	Lowell		WDAH	1310	100	El Paso
6:20-6:40	KTRB	740	250	Modesto	3:10-3:30	WKAQ	1240	1000	San Juan
		<b>November 13</b>				WJMS	1420	100	Ironwood
4:00-5:00	CJLS	1310	100	Yarmouth		KLUF	1370	100	Galveston
		<b>November 20</b>			3:20-3:40	WCFS	1360	500	Charleston
3:01-3:09	CHSJ	1120	100	St. John		WEDC	1210	100	Chicago
		<b>Wednesday Mornings</b>				KTSM	1310	100	El Paso
		<b>November 7</b>			3:30-3:50	WBGH	1440	500	Greensboro
1:00-2:00	KFYR	550	1000	Bismarck		KGEL	1370	100	San Angelo
1:30-2:00	WBBL	1410	500	Sheboygan	3:40-4:00	WCOA	1340	500	Pensacola
1:30-2:30	WBBR	880	500	Iowa City		WSEC	1210	100	Chicago
2:00-2:20	WBUR	1310	100	Buffalo		KFPM	1310	15	Greenville
2:10-2:30	WFEN	920	100	Philadelphia	3:50-4:10	WQBC	1360	500	Vicksburg
2:20-2:40	WBAJ	1310	100	Grove City		KFJZ	1420	100	Fondu du Lac
2:20-2:50	WHIS	1410	250	Bluefield		KMAC	1370	100	San Antonio
2:30-2:50	WFBG	1310	100	Altoona	4:00-4:20	WDBO	580	250	Orlando
2:50-3:10	WPHR	880	100	Petersburg		WBEQ	1210	100	Harrisburg
3:00-3:20	WDAS	1370	100	Philadelphia	4:10-4:30	KFYO	1310	100	Lubbock
	WKBB	1500	100	East DuBuque		WNBR	1430	500	Memphis
3:10-3:30	WRRX	1410	250	Roanoke		WMPC	1200	100	Lapeer
	WHCC	1200	100	Canton	4:20-4:40	KONO	1370	100	San Antonio
	KGIW	1420	100	Alamosa		WQAM	560	1000	Miami
3:20-3:40	WMBH	1210	100	Richmond	4:30-4:50	WHBF	1210	100	Rock Island
	WTRC	1310	50	Elkhart		WDAE	1220	1000	Tampa
	KICA	1370	100	Clovis		WKBZ	1500	100	Muskegon
3:30-3:50	WBCM	1410	500	Bay City	4:40-5:00	KFJM	1370	100	Grand Forks
	KGHI	1200	100	Little Rock		WJEM	990	500	Tupelo
	WSVS	1370	50	Buffalo	4:50-5:10	WCBS	1210	100	Springfield
3:40-4:00	WGH	1310	100	Newport News		WCOC	880	500	Meridian
	WGBF	630	500	Evansville		WKBV	1500	100	Richmond
	KIDW	1420	100	Lamar		KFGQ	1370	100	Boone
3:50-4:10	WOGL	1210	50	Jamestown	5:00-5:20	WTAX	1210	100	Springfield
	WROK	1410	500	Rockford		KGBX	1310	100	Springfield
	KBTM	1200	100	Jonesboro	5:10-5:30	WTCC	1260	1000	Savannah
4:00-4:20	WQAN	880	250	Scranton		WHBD	1370	100	Mount Orab
	WBOW	1310	100	Terre Haute	5:20-5:40	KCMC	1420	100	Texasiana
	KFBB	1280	1000	Great Falls		WHBU	1210	100	Anderson
4:10-4:30	WHEC	1430	500	Rochester	5:30-5:50	WBHM	1370	100	Jackson
	WOSU	570	750	Columbus		KGFF	1420	100	Shawnee
	KGFL	1370	100	Roswell	5:40-6:00	WOMT	1210	100	Manitowoc
4:20-4:40	WSAZ	1190	1000	Huntington		KNOW	1500	100	Austin
	WBEQ	1310	100	Marquette			<b>November 8</b>		
4:30-4:50	WGAL	1500	100	Lancaster	3:00-3:30	KSO	1320	250	Des Moines
	WKBN	570	500	Youngstown			<b>November 15</b>		
	WCAL	1250	1000	Northfield	1:00-1:30	WDNC	1500	100	Durham
4:40-5:00	WCAZ	1070	100	Carthage	5:00-5:10	KFNF	890	500	Shenandoah
	KFJB	1200	100	Marshalltown			<b>November 22</b>		
4:50-5:10	WKBF	1400	500	Indianapolis	2:00-3:00	VESEK	1195	10	Montmagny
	WACO	1420	100	Waco			<b>November 29</b>		
5:00-5:20	WDZ	1070	100	Tuscola	12:00-6:00	WNRH	1310	100	New Bedford
	KGDE	1200	100	Fergus Falls	3:15-3:45	KFH	1300	1000	Whelita
5:10-5:30	WLBL	900	2500	Stevens Point	5:30-6:00	WRAW	1310	100	Reading
	WLB	1250	1000	Minneapolis			<b>November 1, 8, 15, 22, 29</b>		
5:20-5:40	WBAA	1400	500	W. Lafayette	12:00-3:00	WCNW	1500	100	Brooklyn
	WIL	1200	100	St. Louis	3:00-4:00	XEFI	720	250	Chiluhua
5:30-5:50	WTAD	1440	500	Quincy			<b>Friday Mornings</b>		
	KGHF	1320	250	Pueblo			<b>November 2</b>		
5:40-6:00	WXYZ	1240	1000	Detroit	3:00-3:20	WJW	1210	100	Akron
		<b>November 21</b>				KRMD	1310	100	Shreveport
2:00-2:30	KWTO	560	1000	Springfield	3:10-3:30	WPAD	1420	100	Paducah
3:00-3:30	KSO	1320	250	Des Moines		KOTN	1500	100	Pine Bluff
3:00-5:00	WOPI	1500	100	Bristol	3:20-3:40	WSEN	1210	100	Columbus
		<b>November 28</b>			3:30-3:50	WELL	1420	50	Battle Creek
5:30-5:45	WFBG	1310	100	Altoona		KGEK	1200	100	Sterling
		<b>November 14, 21, 28</b>			3:40-4:00	WALR	1210	100	Zanesville
2:00-2:30	WROK	1410	500	Rockford		KFPL	1310	100	Dublin
		<b>November 7, 14, 21, 28</b>			3:50-4:10	WMBC	1420	100	Detroit
10:00-1:00	CMBX	1425	250	Havana		WCAT	1200	100	Rapid City
2:30-4:30	CKMO	1410	100	Vancouver	4:00-4:20	WDFD	1310	100	Flint
6:00-6:30	WASH	1270	500	Grand Rapids		KGCV	1240	250	Mandan
		<b>Thursday Mornings</b>			4:10-4:30	WFBE	1200	100	Cincinnati
		<b>November 1</b>				KWYO	1370	100	Sheridan
2:00-2:20	WSOC	1210	100	Charlotte	4:20-4:40	WGAR	1450	500	Cleveland
2:10-2:30	WSPA	1420	100	Spartanburg		KLPM	1240	250	Minot
2:20-2:40	WFBC	1300	250	Greenville	4:30-4:40	WCLO	1200	100	Janesville
2:30-2:50	WSGN	1310	100	Birmingham		KGFG	1370	100	Oklahoma City
2:30-3:30	CHWK	780	100	Chilliwack	4:40-5:00	WCLS	1310	100	Joliet
2:40-3:00	WJBO	1420	100	Baton Rouge		KABC	1420	100	San Antonio
2:50-3:10	WGCM	1210	100	Gulfport	4:50-5:10	WJBL	1200	100	Decatur
						KFJZ	1370	100	Fort Worth

(Continued on page 51)

quencies of alternating currents between 30,000 and 545 kilocycles—the range of the standard all-wave radio receiver.

For that reason the plug-in system was originated, using coils similar to the types described in Chapter Eleven. If a larger coil is added to the series required to cover the short-wave band, then the broadcast band, too, can be covered. This was the beginning of the all-wave idea. There is no limit to the number and sizes of the additional coil or coils that can be plugged into the set so that signals of *any* wave length can be heard. But, in this type of construction, the outstanding drawback is that, while the r.f. coils are interchangeable, the variable condensers used for tuning are fixed capacity limits.

Thus the two important features of a tuned-radio-frequency circuit (capacity and inductance) are not maintained with a balanced ratio when the coils are shifted for the reception of signals over the different wave bands. To make this scientifically correct it would be necessary also to change the condensers in size.

#### Small Tuning Condensers

To make this a little more clear, perhaps, we should remember that a variable condenser of small size and capacity calls for a greater interleaving of the plates in order to increase its total capacity. On the other hand a large condenser calls for a very slight movement of its rotor plates in order to reach the capacity obtained by the larger movement of a small condenser.

When short waves are tuned in, a small coil and a small variable condenser are necessary. But, as the waves become longer, larger coils and larger condenser capacities are needed. Now, if a large tuning condenser is used, a very slight movement is required to tune a small coil. And a greater movement is required to reach the larger capacities needed to tune a larger coil to a longer wave length.

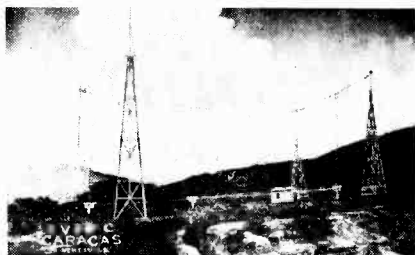
But if we use a small tuning con-

denser for a small r.f. coil, so as to obtain fine shades of tuning or capacity adjustment needed for separating the short waves, the condenser capacity would be far too small to tune the large coils used for reception of the longer waves in the broadcast band.

#### All-Wave Tuning Difficulties

These things, then, will explain to the reader why inequalities exist in the so-called all-wave tuning circuit. The all-wave receiver, quite naturally, will favor certain wave bands, where the inductances of the coils and the capacities of the condensers blend together in the proper ratio so as to tune in certain stations with perfect resonance. Outside of these favorable portions of the dial the set will not operate as nicely on the remaining wave bands. All this is to be expected, for the best all-wave receiver that can be made will prove unsatisfactory unless its variable condenser and r.f. coil values balance so as to maintain a proper ratio throughout the tuning limits. The proper design and maintenance of these two important circuits is necessary if the all-wave receiver is to work equally as well throughout its short and broad-cast-wave range. This problem has been admirably met in most all-wave radio sets.

Let us, first, return for a moment to the simple short-wave receiver described in Chapter Eleven. If the coils and condensers used should be given less inductance and capacity, then the



*Here we have the antenna equipment of Radiodifusora Venezuela, YV3RC, Caracas, which transmits on a frequency of 6.150 megacycles. YV3RC is quite generally received throughout North America.*

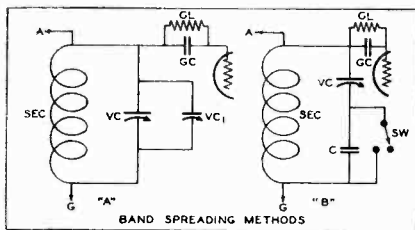
tuning range of each plug-in unit would be lessened, but the tuning and separation of stations would not be so exacting. The dial movement would then be greater between otherwise "hair-line" separated stations. In other words we would *spread* out the stations farther apart on the dial.

### Band Spreading

The average coil or r.f. transformer covers so much of the wave band that extremely slow and careful tuning is required to bring in a station. But it is possible to spread out *any* portion of the short-wave band—some portion, for instance, where far-away stations are congested and hard to separate. The method of spreading out some portion of the wave band is called *band spreading*.

The band-spread method makes it easier to locate and tune distant stations. It does not, of course, add to the sensitivity of the set; it merely makes tuning easier and not so sharp by creating a certain portion of the tuning scale that can be tuned with small units of capacity, just as if the set were built with the small coils and condensers previously mentioned as being the ideal short-wave receiver.

At "A", of this chapter, the second-



dary winding of the plug-in r.f. coil that was used in the short-wave receiver shown in "C" of Chapter Eleven, will be seen, but the remainder of the circuit is not indicated. The band spreading operation is confined entirely to the tuning coil and its condenser. The tuning condenser (VC) is shown in "A".

### The Additional Condenser

The band-spread method shown at "A" is the most simple arrangement known, and it is quite efficient and satisfactory. A small variable condenser, having one-third the capacity of the larger tuning condenser (VC) is shunted across the latter. The small condenser is shown at VC1. This is all that is necessary in order to introduce the band spreading operation to the basic short-wave set described in Chapter Eleven.

If VC is set at zero capacity, and the tuning of the secondary coil is accomplished by turning VC1, then the latter condenser will tune one-third of the wave length limits of VC. Not all the stations tuned in with VC can be heard but those that are picked up will be spaced three times as far apart on the dial of VC1 as when on the dial of VC. Thus the stations are separated, as that particular wave-band is spread out around the dial.

Now, if VC is set at one-third of its capacity and the short-wave set tuned by VC1, it will respond to stations usually heard between the one-third and two-thirds capacity setting of VC. They will be spaced three times as far apart on the dial. If VC is set at two-thirds capacity, and the tuning done by VC1, then the stations usually heard between two-thirds and full capacity of VC will be heard, and again they will be three times as far apart on the dial of VC1, covering the dial from end to end.

### Another Scheme

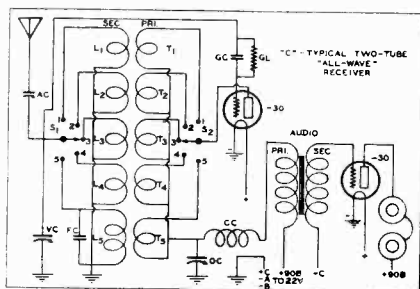
All tuning, in the band-spread system, is done by the small condenser VC1, *after* VC has been set stationary so as to select the desired portion of the wave band covered by the particular plug-in coil being used. The principal difficulty is in setting both VC and VC1 to the proper relationship so that a station which has been previously logged can again be located. There are several schemes for band spreading, but the one shown at "A" is the most widely used.



In order to eliminate the use of the variable condenser VC, with its tuning requirements, the method shown at "B" may be used. A small, fixed condenser (C) is connected in *series* with the tuning condenser VC. It is shunted with a switch so it can be cut in or out of the circuit at will. It is known that if two condensers are connected in series the capacity of both will be greatly reduced. The capacity of C, in our short-wave circuit, should be about .0005 (50 mmfds.) mfd. Now, when C is in the circuit, VC will have the capacity of a much smaller condenser, and stations tuned in by it will be more widely separated on the dial of VC.

### All-Wave Coils

The plug-in system, which can also be used in any all-wave set, is not in general favor because of the necessity for manual manipulation of the r.f. coils when changing from one wave band to another. This system, however, is the ideal arrangement for perfect short-wave reception. Modern all-wave sets do not use the plug-in method but have a permanent installation of coils. They can be cut in and out of the circuit at will simply by turning a small switch. Of course, there is some loss of energy because of the *dead ends* of the coils and connections. However, in the newer types of all-wave sets the dead-end loss is held down to such a small minimum that it is not a serious matter.



At "C" is shown the circuit of a typ-

ical all-wave receiver. It does not use the plug-in method, but switches the various coils in and out by means of two switches operated simultaneously by a single knob. The individual r.f. transformers or coils used in this small all-wave set are the same plug-in coils described in Chapter Eleven and used in that short-wave set. The circuit, too, is identical. There is no difference between the two circuits except that the coils are permanent and connected at will by means of switches. An additional r.f. coil is used to cover the broadcast band.

### The Broadcast R. F. Coil

However, the coils wound for the short-wave receiver were made only to cover the short-wave bands up to 200 meters. Provision must be made to cover the broadcast band as well, so an additional coil is wound for the 200 to 550 meters band. Since this coil is tuned by the variable condenser VC, which is too small in capacity fully to tune the coil, a small fixed condenser, FC, of about .0001 mfd. capacity, is shunted across the broadcast coil, L<sub>b</sub>, as a permanent feature. The antenna condenser AC is not needed when the broadcast band is being used. The coil used for the broadcast band should have 80 turns of wire on the secondary and 22 turns on the primary, wound to the same specifications given in the previous chapter.

An all-wave receiver having many tubes and a superheterodyne circuit becomes very complicated. Several sets of coils are needed so as to cover all the wave bands. If the reader will consider the superheterodyne circuit shown at "C" in Chapter Ten, and then apply in his mind the many coils indicated at "C" in this chapter to all the radio-frequency and oscillator circuits, he will obtain some idea of the circuit of a modern multi-tube all-wave receiver. All of the coils, antenna, radio-frequency and oscillator circuits, require simultaneous shifting with a single switch-knob in one operation when changing from one wave band to another.

## Short-Wave Converter

It is possible to utilize any broadcast superheterodyne or tuned-radio-frequency receiver when listening to the short waves. In order to tune below 200 meters we must connect a separate unit to our standard broadcast receiver. This unit is called a *short-wave converter*.

Next to a carefully built all-wave receiver for efficiency comes the short-wave converter. It is merely a small short-wave set. But it contains an oscillator which is used to produce local radio-frequency oscillations that are mixed with the high-frequency short-wave signals coming in from the antenna. The mixing of these two different frequencies creates a *lower* frequency, which, if the converter has been properly designed, will fall within the tuning range of the broadcast receiver. The action of the oscillator and the production of these beat frequencies was described in detail in Chapter Ten.

The converter takes the incoming short-wave signals, mixes them with the locally produced r.f. oscillations, and passes the resulting beat frequency to the broadcast receiver. This output, since it is a beat frequency, has a lower frequency that is within the range of the broadcast set—200 to 550 meters. In other words, the converter *converts* the short-wave radio signals to longer wave signals so they can be applied to the broadcast receiver just

as if they were broadcast station signals. The broadcast receiver, however, must be tuned to the output frequency of the converter. It requires no further tuning or adjustment except for volume. All signal tuning is controlled by the converter dials.

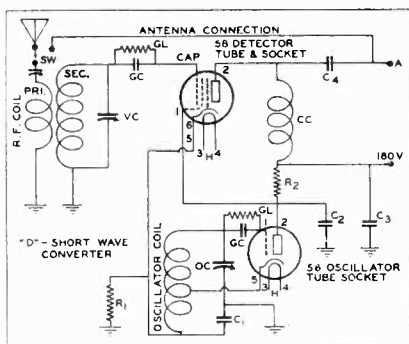
### Typical Converter Circuit

At "D" is shown the circuit of a short-wave converter. As in the typical all-wave circuit, shown at "C", the r.f. coils used are those described for the short-wave receiver illustrated in Chapter Eleven. Either the plug-in method or the all-wave scheme can be used for changing the coils. Of course, the broadcast coil will not be required in the converter. In the converter circuit it will be noted, however, that a different arrangement is used. The tickler winding of the r.f. coils becomes the antenna primary of the converter circuit.

An oscillator must also be added. And a series of oscillator coil units must be made, one for each of the different r.f. coils illustrated and described in "D" of Chapter Eleven. The oscillator coils are wound on similar forms. The oscillator coil to be used with the 10-20 meters r.f. coil, has 4 turns with a tap taken off  $1\frac{1}{3}$  turns from the *bottom*. For the 20-40 meters coil wind on 8 turns with a tapped connection taken  $2\frac{2}{3}$  turns from the bottom; for the 40-80 meters oscillator coil wind on 18 turns with a tap taken off at 6 turns from the bottom; and for the 80-200 meters oscillator coil wind on 40 turns with a tap taken 15 turns from the bottom.

One contact of the socket that is used to hold the plug-in oscillator coils connects to the tap on the coil and to the cathode of the oscillator tube. This is shown in "D". Only three prongs of the coil base and three contacts of the socket are used. The output of the converter connects to the antenna terminal of the broadcast receiver. The filaments of the converter tubes may be heated by current taken from the

(Continued on page 26)



# Hitting *the* BULL'S EYE

## • • • Readers Report Remarkable Reception

**T**HERE is an old saying, "What is one man's meat is another man's poison." Does this apply to radio? In every issue of this magazine, readers in almost every part of the United States and Canada report the reception of overseas stations. Yet other readers with the same sets and located in the same sections, are unable to get across the water. Is it merely a matter of persistence, careful and intelligent tuning, and knowing when and where to tune? Or must some of us in spite of our efficient receivers, give up hope and reluctantly conclude that these foreign stations are not for us?

### All Stations But Two

We sometimes question whether reading the accounts of super-logs has the effect of discouraging beginners in DX or whether it acts as an incentive in showing the vast possibilities latent in the hobby. One of the best-known of the DX fraternity in the U. S. is S. R. Lewis, Rt. 3, Box 688-A, Toledo, Ohio. "The total of my b. c. b. log at the present time is 860 verified stations in 27 countries," writes Mr. Lewis. "I believe that I came as close as anyone I ever heard of in the matter of completing our USA list of stations. Last June, I needed only two active USA stations to have verified them all. With the addition of the many new ones this fall, I now need twelve or so although I have already verified six of the new calls. I began to DX and verify stations in 1930—just four years ago today. In this time I have lost a lot of sleep, yes, but think of the genuine, clean fun I've had. I wouldn't trade my DX experiences for anything. I want to say here and now that without RADEX I could never have made my DX

hobby what it is today. RADEX has helped more than any one thing to explain the many, many problems that confront a DX fan. May I add my little vote of thanks for your efforts toward making DX and radio in general, a distinct success?

"The TPs are pounding through in great style and this week I've heard 2CO, 7ZL, 2YA, 3AR, 5CK, 2FC, 5CL, 3YA, 1YA, 4QG, 3LO, 2BL, 4RK, 3US, 2GB and 5DN—looks pretty good for a fine DX season, doesn't it? I find that the best distance for early in the evening here is LS2 of Buenos Aires using 1190 kcs. and 40 kw. in power. They are heard at 7 p. m. EST.

"In find that a good antenna and ground go a mighty long way toward bringing in these distant stations. I have a new transposed leadin on one antenna that works nicely on s. w. reception."

### How Do They Do It?

"I'd like to know what it's all about," protests Phil Simmons. 1618



Introducing the official announcer of Short Wave Radio Station COC, Havana, Cuba. Senor Ernesto Casas R. This genial announcer uses both English and Spanish.

Juneway Terrace, Chicago, Ill. "I have been a s. w. l. for a couple of years now and I think it's pretty good when I get J1AA but when I read of these other fellows pulling in Japan, Australia, etc., on the broadcast band, I think that's something. I used to tune on the b. c. b. and thought I was good when I got WAAF, WCSL, WKBI, WEHS, WSBC, WWAE and WASH. Then one day I got hold of a copy of R-DEX and saw where these fellows were picking up 50-watt Californians from New York and such. I don't see how they do it. My receiver is an Alan International, a four-tube set and I am using a 200-foot doublet antenna with no ground. I know how to tune a radio all right but it's hard to believe some fellow in Colorado is picking up Australia and Japan." Phil had better try the b. c. b. again and try for some of those distant 50-watters himself although one must not expect too much with a four-tube set. If Phil could look over the verifications of some of the DXers right there in Chicago—Frank A. Johnson's, for instance—he would have a real awakening as to the possibilities of reception on the b. c. b.

Here is another reader who just doesn't see how others pull in those foreign stations on the b. c. b. "How do these fellows all over the country manage to receive trans-oceanic stations on the b. c. b.?" inquires Geo. W. Acker, of Wadsworth, Ohio. "Of course, trans-Pacifics are best received in the West, and trans-Atlantics in the East. Many are hearing these stations already. Just what sort of a rig-up do these fellows have? Are their antennas all of the straight or of the L or V type? Do they use phones in order to be able to hear these stations?"

"I ask this because, so far, I have never been able to hear a single transoceanic station. I tried hard last winter but with no luck. Now I have an 11-tube all-wave Philco with two Lynch cage antennas. Are these cage antennas as efficient on

the b. c. b. as a straight or L or V antenna? I have two cages twenty and a half feet long which work well on the lower meters. My other newer one has cages 33 feet long which work far better on the higher short waves and the b. c. b. except from about 1200 to 1500 kcs. For some reason or other, my shorter antenna works better on this section. Is this region too far inland for reception across either ocean? Or am I in a dead spot?"

Perhaps some of our other readers in Ohio who have been successful with the overseas stations will write Mr. Acker the best stations and the best hours to tune them in. Mr. Acker, by the way, is one of our most successful s. w. listeners.

#### Texas vs. New York

"My log has increased from 391 to 455 on the b. c. b. and my veries from 148 to 305," reports Samuel A. Meyer, Jr., 83 Canterbury Road, Rochester, N. Y. "Among my newer veries are KFVD, CJCA, and LR5. I am spending my vacation here in Laredo, Texas. Radio reception down here on the border is pretty fair. WSM, WHAS, WLW, WBBM roar in nightly at 8 p. m. A new station in Nuevo Laredo, Tamps., is XEAM, 750 kc., 50 watts. Mr. Lozano, the announcer, said XEAM would be willing to give a DX program next winter. Their address is XEAM, El Vocero Tamaulipeco, Edificio Banco Longoria, Nuevo Laredo, Tamps. XENT is off the air at present. Will return to Rochester in September and resume my DXing."

#### Five Hours: 82 Calls

"As a rule, I do not do any DXing in the summer," says James B. Crusan, 424 Smithfield St., Mount Pleasant, Pa. "But on August 7th, at 8 o'clock p. m., I began twisting the dial. Between then and 1:00 a. m., I heard 82 stations announce their call letters, representing channels between 540 and 1670. Signals were heard from the U. S., Canada, Cuba, Mexico and Alaska. This was accom-

plished with a 1932 7-tube Airline WG 24. Would enjoy hearing from other users of the same set."

From one of our many shut-in friends, R. N. Putnam, 920 12th Ave. N., Fargo, N. Dak., comes this message. "I have just purchased a new Philco 16 Baby Grand. It surely is one swell outfit and drags 'em in in great style and what a tone for a table model. For example, at 7:30 p. m. tonight with broad daylight outside, I just had WRUF, Gainesville, Fla., right through KO A, Denver, on the same band. Have just listened to WJZ for half an hour steady, from 7:30 to 8 p. m. It is still daylight and I am getting stations from all over the country."

"I began DX with a 'Lark' four-tube receiver on which I was thrilled by KNX, KFI, XEK and Poste Parisien," recalls Lloyd J. French, 328 North Main St., West Hartford, Conn. "In September, 1933, I went up in the world with a Philco nine-tube superhet. During the past season I received Radio Normandie, IMI, Frankford-am-Main, Stuttgart, Heilsburg, Beromuenster, KWG, KDB, KXO, KXL, KPQ, KOOS, and many others, all verified. WDRC is constructing a new transmitter and will put out 2500 watts day and 1000 at nights. I have a log of 400 all verified."

Art E. Foerster, 1213 Bosart Ave., Indianapolis, Ind., says that he is looking forward to another successful DX season. In the past two years he has compiled a log of 702 stations of which 606 verified include LR5, CX26, PP, YV1BC, HJN, 4QG, 2YA, KPCC, KPQ and 10-AT. He would like more correspondents among the fraternity.

"I have been a DX hound for some time but it is only with the purchase of my Philco all wave 16-B that I have been interested in the short waves," remarks H. M. Thomas, 534 Prospect St., Maplewood, N. J. "I have a log of 363 stations on the b. c. b. and all the usual s. w. catches. However, I expect to do lots more



*That good-looking girl and great singer, Grace Moore, was the first guest star of the new Atwater Kent series. Stage, screen and speaker have presented Miss Moore's artistry to the world.*

this year with eleven tubes instead of six. I would like to correspond with DXers using the 16-B and will answer all letters."

Writes a Junior DXer, Harry Warner, eleven years old, of 390 N. Prospect St., Hagerstown, Md. "I am in a very bad locality having six factories within four blocks, however I usually can receive both KSL and KVOO with plenty of power at 8:30 p.m. on my Philco 16X. I think one of my best catches was WDGY. I have also received KFI and WINS at 8:00 p.m. WJEJ, Hagerstown, is a good little station. WORK is also good. I don't do much tuning on the s.w. but have received both PRA3 and HJ1ABB."

"I have raised my log to 636 and my veries to 187," totals Don Reynolds, "The Newburg Nite Owl," 84 Chambers St., Newburgh, N. Y. "I have been very busy erecting new aerials for the coming season. I have added a few new stations to my log but I still think KGMB in Honolulu is my best."

"My log at present stands at 786 stations heard, 676 of which are verified," reports E. A. Feichtner, 53 Holmes Street, Erie, Pa. "I have logged and verified 34 100-watt or less on the West Coast. Have 2YA, 4QG, 5CO verified, also Poste Parisien, YV1BC, CX26, HJN and LR5."

#### Miscellaneous Matters

"In the eight months the KDKA DX Club has been on the air, we have been reported from India, New Zealand, Australia, Jamaica, Canada, England, Scotland, Porto Rico, Cuba, Argentine, Hawaii and 43 states," writes Joseph Stokes, M. C. of the Club.

"I have been in personal touch with the program staff of WIOD and W4XB and their policy from now on will be to verify all true reports as soon as possible," reports Emmett Wallace, Pompano, Fla. "A good many reports of reception of W4XB have been received when the station has not been in operation and these

reports were naturally not answered. It is expected that W4XB will be in operation regularly this winter. I will try to let you know as soon as they start up again."

"In and about Salem, Mass.," writes Charles P. Atherton, "there is a small group of Radexers which is interested in associating with themselves a few other 100 per cent radio enthusiasts especially those interested in reception on the b. c. band, with the thought of forming a small local co-operative club. This is to be an entirely co-operative club with no dues or profit to anyone. Anyone interested in joining this group should communicate by letter, addressing 'Radio,' Box 951, Boston, Mass."

"I want to get into touch with somebody who is interested in the technical and s.w. sides of radio," writes Robert S. Lawson, 55, Kingsway, Wembley Park, Middlesex, England.

#### Briefing Some Reports

"Since writing you last I have received a few new veries on the b. c. b.," says J. A. Shanks, Russellville, Tenn. "They are JOAK-1, Poste Parisien, LR4 and 4BH. This year was the best for DX I have ever seen; it netted me ten new veries from foreign stations on the b.c. b. so far. Heard LR5 and CP4 on their special broadcasts but have not heard from them as yet. WLW sure comes in here now since they are using 500,000 watts power regularly. I can't notice much difference as to spreading but their strong carrier certainly brings them well above the static here."

"On my five-year-old Atwater Kent 7-tube. I have finally brought my log up to a total of 425 stations with 410 verified," reports Nathan Handler, 642 Ave C, Bayonne, N. J. "Of this number 250 were verified this past season. I have finally been able to get off this continent. I very much prize my veri from Poste Parisien. I had the good luck to pick up LR5 on



*Songs and humor of Walter O'Keefe "will swing through the air with the greatest of ease" when he fronts the mike with the Camel Caravan, Tuesdays at 10:00 p. m. and Thursdays at 9:00 p. m. EST. On the Columbia.*

March 11. Next season I expect to do much better as I intend to get a Midwest receiver."

"I am writing to tell you of my luck in the past DX season," contributes D. A. Chilton, P. O. Box 310, Draper, N. C. "My best catches are WISN, CKLW, CKOC, CKAC, KFI, KDYL, KECA, KGBS, KFAB, KNX, KVOO, WASH, XEPN, XENT, XER, WBOW, and WHBU. The last two were using 100 watts power. I also got the 10-watt station WNBW at Carbondale, Pa. All came in with good loudspeaker volume. My set is a 6-tube midget 'Sky Rover' cover the regular b.c.b. with police calls. I have logged some 90 stations in the six months I have had it. I am thinking of buying a 6-tube all-wave 'Pilot.'"

"I had very good results on my Zenith 12-tube (b.c.b.) from last February to the close of the DX season," reports Henry Wilkinson, Jr., 1202 N. Ellwood Ave., Baltimore, Md. "My veries are 3AR, 4QG, 4RK, CP4, LR5, ITO, PP, Radio Normandie and Heilsberg. I DX only for foreigners and would like to correspond with DXers living near San Francisco who are interested also in tuning in foreign stations. I am a member of the IDA and the NZDXRA."

#### Rubbing It In

"Greetings to you," salutes Warren E. Winkley, P. O. Box 12, Hughson, Calif. "I hope you have had a very pleasant summer and haven't melted away in the heat you have had. Out here in California, we have had a rather comfortable summer. In between trips to my summer cabin, I have taken many nights-out to sit up with the radio. I have found the following stations very consistent during the whole summer—WLW, WCCO, XEW, WHO, WSB, CFCN, XEB and WOAI. I've heard WLW and WSB every night now for the past year. Although reception has been good, the static has prevented



*The "Easy Aces" have turned time backward in its flight and their comedy series now deals with the courtship of Jane and Goodman. Those hectic days are broadcast over the Columbia net each Wednesday, Thursday and Friday at 8:00 p. m. EST, beginning October 3rd.*

me from adding many new stations to my log which stands at 599 with 152 verified. My latest catches are 4ZP and LR4. The latest veries are KOOS, JOGK, JOPK and XOST. My veri from the latter states that I am the only person in the U. S. to report them which fact makes me somewhat proud of my six-year-old AK. I wonder if it would be possible to find out whether the station on 590 or 592 in the early morning of August 1st. was Vienna, Austria. The music was in German as was the talking. Both were the weakest a signal could be and still be heard. I can hear 28 of the Japanese stations now with absolutely local volume; I wonder what it will be like when they go to 150 kw. as planned?"

#### Some SA Tips

For those interested in South American and Central American reception, Rudolph Kure, Cincinnati, Ohio, contributes the following helpful information: LU-7, Bahia Blanca, Argentine, is on the air from 8:00 to 14:30 and 16:00 to 22:30 Chilean time. CE-103, Valdivia, Chile, is now on 1380 and is on the air from 12:00-13:45; 16:30-17:30 and 20:00-22:30 Chilean time. CE106 is transmitting until 1:00 a.m. EST. Mr. Kure re-

ports hearing TGW again with 10,000 watts. He heard them on 565 kcs.

"All my enjoyment is in my radio," writes G. L. Briggs, R. D. No. 1, Sherburne, N. Y. "I am a disabled veteran, bed-ridden since 1921. I have one of the new 15 Scott's. I had the 12-tube Scott before. I find them the best of anything I have ever had."

### The Cheaters Again

"I would appreciate it very much, if in future issues of RADEX, you would place the symbols against our station that denote 'Verify for return postage' as that is what we intend doing faithfully," writes Charles Hesterman, Radio Station CFQC, Saskatoon, Sask. "On October 13th, we intend transmitting a special DX program dedicated to the Canadian DX Relay and to the IDA. This will be our first DX using our new Marconi 1000 watt crystal control equipment and we are hoping to be well received as far as New Zealand. To this date we have had no correct reports from that country although we have received several reports which unfortunately were suspiciously like downright 'fakes.' Reports of that description are not conducive to stations agreeing to broadcast special DX programs. We begin to expect all foreign reports to be faked. We know, of course, that this is not so as there are many foreign DXers who refuse to write to a station unless they are reasonably certain of the accuracy of their reports and it is for their benefit we are intending this October program. A word of warning to these careless DXers would not be amiss in your magazine as it is apparently the most widely read radio magazine in the world." In an article on "Organized DX in New Zealand" published in our October issue, mention was made of the activities of the New Zealand DX Radio Association in curbing the fakers. We are sure that this Association would welcome the forwarding to

them of any suspicious reports from New Zealand received by any radio station. It will be necessary to make an example of two or three of these frauds in order to clean up this regrettable situation. New Zealand is not their only habitat; they thrive in every country although we do feel that the efforts this magazine has been making for several years, have considerably reduced their number in the USA.

### DXing As You Travel

William S. Vincent writes us an interesting letter from the high seas. "I seldom miss an issue of your magazine and find it most interesting to note the experiences of some of your readers—different aerial and ground systems employed, as well as what each regards as his pet catch. My present trip started at New Orleans,



*Zella Seaton, went from Denver to Hollywood by way of New York. She was one of the twelve finalists in the "Hollywood Hotel" national audition but failed to win the coveted star's role in that program. Her dramatic work so impressed the judges, however, that she was given a speaking part in the program. Now she will be heard with Dick Powell, Rowene Williams and Ted Fiorito's orchestra on the broadcasts of the CBS, Fridays at 9:30 p. m. EST.*



then Mobile, Baltimore, Norfolk, New York, Panama Canal, Hilo, Kahului and Honolulu, T. H., Shanghai, China; Calcutta, India; Colombo, Ceylon; and am bound for Aden, Arabia; Port Said, Egypt; New York, Baltimore and New Orleans. I wonder what some of your DXers would do on a trip of this kind—the mails would be clogged by requests for verifications. I have carried a receiving set with me for several years. This particular one (Lafayette Model 1020) since May, 1933. It is consistent and I got my money's worth. I use a Janette Rotary Converter to change the current from 110 volts d. c. to the required d. c. I find that the Daventry s. w. stations are received better than any other group in most places."

Mr. Vincent sends us the daily programs of VPB, Colombo, Ceylon, on 700 kcs. which he clipped from the Ceylon Daily News. For the benefit of our readers this station's sked is 11:30 a. m. to 1:00 p. m. and 7 p. m. to 10:30 p. m. local time which, according to the RADEX Time Converter, is ten hours and thirty minutes ahead of EST.

#### A Monthly Log

"I heartily endorse the practices set forth by M. R. Billings on page 27 of the September RADEX," affirms Howard L. Spies, Canton, Ohio. "I sometimes wonder if new DXers are not discouraged by reports of such mammoth logs as sometimes appear in RADEX. If there are any such persons, and I feel sure there are, it might be encouraging to assure them that in all probability, these logs cover a period of years and may list as high as four different changes of call letters for the same station. They may show stations which have not existed for so long that they have been forgotten by everyone except those who include them in their logs. They may show two sets of call letters for the same transmitter and may even count the same station separately when it



*Dennis King, romantic singer of stage and screen, now broadcasts weekly with Louis Katzman's orchestra over a C-to-C hookup of the NBC-WJZ net, Wednesdays at 10:00 p. m. EST. You probably saw him in "The Vagabond King" and "The Three Musketeers."*

changes frequencies.

"In view of all this, I think the idea of the monthly log will put everyone on the same basis—from the beginner with his first set to the old-timer who has worn out countless pairs of pants in front of his radio. Of course the same stations may be counted when received in a succeeding month but it is surprising how difficult it is to repeat on some stations which seemed very easy to receive the first time. The current number of RADEX supplies a very convenient method of keeping a record of the stations received during any one month—just jot an X opposite the call in the Index by Call Letters."

#### Those "N" Calls

"Regarding the USNR members, the N prefix to their calls may be used only after permission is received," explains Clement Van Vel-

*(Continued on page 44)*

# The Dramatic Story of TAMARA

• • • By "BETTY"

**T**AMARA is an exotic name, one which might well be the title of a story. The owner of the name, a vivacious young Russian singer heard over NBC networks, would be the heroine . . . For in the life of Tamara have been tragedy, danger, adventure and courage, all the elements of a stirring epic.

Tamara was born in Odessa, Russia, 25 years ago. The fact that the date was Friday, October 13, has never caused Tamara any superstitious qualms, because at that time in Russia every day meant a round of hardships.

When the war started her father was called into the service of the Tsar. After Russia withdrew from the conflict Tamara and her family moved from the city to a nearby village. There her father tilled the land, and hoped for peace. But it didn't come.

## A Life of Terror

It was while living in the tiny village that Tamara faced an incident which forever after, she says, will leave her cold with terror in memory. Russia was in revolution. Tamara told her story of that horrible day, when blood ran free in the houses of their village, and the sky was overcast with smoke from burning barns and public buildings.

There was a clack of a few firearms and the rattle of sabers. Most of the people scurried to hiding. Tamara's grandmother, her tired face grim with terror, ran with other women and children from the village. With her she had Tamara and Tamara's baby brother. The three took refuge in an old straw stack. Hour after hour they smothered in the dank mass. Toward morning, just



when Tamara and her grandmother hoped the danger had passed, they heard the sound of voices and hoofbeats. Then a voice—"Fire that stack."

With terror in their hearts they heard the bandits striking matches to ignite the straw. The acrid odor penetrated their covering. Then, with drunken laughs, the bandits rode on. With darkness for shelter, Tamara, her brother and grandmother fled from the stack to find the wet straw had refused to burn.

## At Hard Labor

Tamara tells of many months she labored in the fields—for sugar and salt and a few yards of cheap calico. These commodities, to Tamara and her family, were as precious as gold. They represented the "extras" which could not be produced on the scant acres tilled by her father and mother.

Tamara's father had a vision of a promised land—America. Month

after month he slaved to recoup his modest fortune. And then their dream came true. One morning Tamara, her father, mother and brother, with hundreds of other immigrants, landed on Ellis Island.

#### Into "the Melting Pot"

Their knowledge of the language was meager. In Russian schools they had learned to read and write English just slightly. The first autumn found Tamara and her brother enrolled in a public school. They learned to play American games. American movies gave Tamara the determination to go on the stage. Amateur theatricals staged at her high school allowed her to gain some training.

When Tamara completed school she looked for a job. The producer of a show hired her and Tamara struggled to change her style of Russian folk dances to the jazz tempo, until one day the producer saw her in the chorus. Realizing that she was out of place in the chorus, he asked Tamara if she could sing.

Tamara could sing—and in the last six years she has become one of the best known entertainers on the air and on Broadway. "Crazy Quilt," "Free For All," "The New Yorkers," "Americana" and "Roberta" are a few of the shows in which Tamara has played important roles.

#### Dreams of Drama

Tamara has never realized her great ambition in life. She loves to sing, but dreams some day of becoming a great dramatic actress. Because she spends so much time in broadcasting studios and in the theatre, she has little interest in night clubs. But she rarely misses a dramatic show on Broadway.

Tamara plans to return for a visit to Russia sometime. "I want to see the new Russia," she said. "It is my fondest hope that I will not be disappointed."

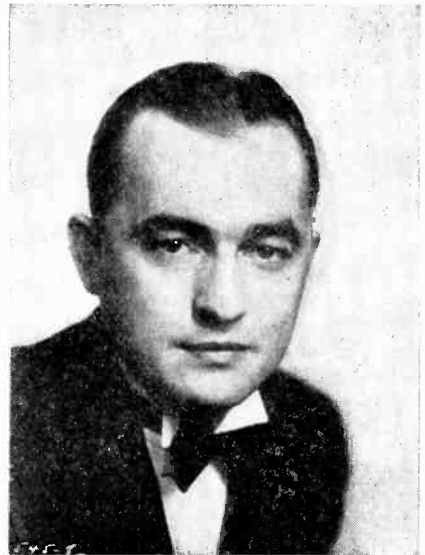
She devotes much time to the study of Negro jazz and spirituals.

## Orphanage to Orchestra

From an orphan home to the pinnacles of radio is a steep climb. But Freddy Martin, radio maestro, has fought his way up from such a humble beginning to an outstanding position among orchestra leaders during the short span of his 27 years.

When he was very young, Freddy lost his parents and was sent to the Knights of Pythias orphanage in Springfield, Ohio. One of his proudest memories was of the time when, dressed in the school band's uniform, adorned with much braid and many stripes, he banged away on the drum, parading by his friends who lined the curb. Right then and there he was determined to become an orchestra leader—an ambition which vied with his already deep desire to become a big league baseball player.

His dismissal from the band a short time later convinced the future maestro that life was but a vicious cycle. Freddy was discharged from the band for crying in school. His tears, which he failed to explain,



were occasioned by his missing a band rehearsal because the teacher was keeping him after school. The sun shone once more, though, when he arrived in high school. The erst-while drummer not only found time to realize his two ambitions, leading an orchestra and playing baseball, but also clerked in a grocery store for six dollars a week.

Saving a little each week, Freddy bought a saxophone and worked diligently to master the instrument. After graduation at 17, Freddy consulted the classified ads to see if he could find some field of endeavor a little more suitable to his talents than clerking. He found that a four-piece orchestra needed a saxophonist three nights a week and secured the job. Forthwith, Professor Smith of Cleveland had a new saxophone student.

#### Meets the Lombardos

It was while he worked as salesman for a musical instrument manufacturer that Freddy met the Lombardos. They didn't become customers, but they did become very good friends of the ambitious youngster. That friendship gave Freddy his first real break. Guy and his brother, Carmen, taught him a lot about playing the saxophone, the technique of directing, and orchestration. When the Lombardos left Cleveland to fill another engagement, they used their influence to see that Freddy and his band were engaged to take their place.

At the end of the engagement, Freddy joined a band touring Finland, Denmark and England. On his return to America he toured in vaudeville and landed back in New York with the resolve to again organize a band of his own. He was booked immediately to play at the Marine Roof of the Bossert Hotel in Brooklyn. His broadcasts from there and later from the Commodore Hotel in New York won him a host of followers.

Freddy hates cold weather, holes



*Burgess Meredith of the stage comedy hit, "She Loves Me Not," makes his radio debut in the title role of "Red Davis," which returns to the frequencies on Monday October 1st, at 7:30 p. m. EST. This feature will be heard three times weekly.*

in his socks and going to the dentist . . . makes a hobby of taking moving pictures for home use . . . his favorite comedian is Groucho Marx, his favorite dish spaghetti, and his favorite type of woman, a slender brunette . . . is five feet, seven inches tall, has brown hair and brown eyes, and weighs 148 pounds . . . directs from the midst of his band, with which he still plays the saxophone . . . is known for the sweet, melodious and danceable style of his arrangements. Listen in on Sundays at 5:00 p. m. EST over the CBS network.

\* \* \*

Lee Wiley learned to sing in her Oklahoma home when 17 and while suffering from temporary blindness. Her sight failed her as a result of an injury to the optic nerve when thrown from a horse and doctors despaired of restoring it. To occupy her mind Lee turned to voice cul-

*(Continued on page 26)*

# November Meeting of the S. W. CLUB

• • • With PAGE TAYLOR

**W**HILE the conventional broadcast band offers only a range of 950 kilocycles in which to work, a shortwave fan with a receiver covering all the s. w. frequencies, has 28,500 kilocycles in which to tune, and in addition to stations featuring exclusively musical programs (and advertising blurbs), there are many different kinds of commercial transmitters, each offering its own thrilling reception. When 25 or 31 or 49 meters seem "dead," one can go higher in wavelengths, or lower in wavelengths, searching for new worlds to conquer. A California reader has recently explored the band covering the longest of the shortwaves, and found new experiences; more interesting than the amateurs; more thrilling than the police, and wonderful DX, considering the power used by the stations.

## Visits National Parks

"Recently, having had rather poor reception of the stations between 25 and 60 meters, I have turned to the longer waves, 70 meters and over, and have been rewarded by some interesting catches," commences a highly informative letter from William C. Vestal, P. O. Box 430, Redlands, Calif. "For example, on 2604 kcs. are a number of National Park stations; just how many, I do not know, but these stations deserve mention as they are powerful enough to get into a half dozen states and do quite a bit of transmitting. A few I have heard are KNIA, Glacier National Park; KNKS, Yosemite; KKNY at Devil's Post Pile National Monument, and KNKU and KKNW, whose locations I have not yet determined.

"Then, on about 2750 kcs. the Los Angeles Flood Control District is using three experimental stations. Two are at San Gabriel Dam No. 2 (KIIW and KIIX), and the other, KIYY, is at the Central offices in Los Angeles.

## The "M" Stations

"More interesting, from the point of view of reception, are the forestry stations. These are between 3350 and 3400 kcs. I understand that there are about 85 such stations in California, and perhaps many others in other states. These stations, being authorized by Presidential proclamation, are not directly under the FCC (Federal Communications Commission), therefore do not have the regular W or K calls (I suppose that a similar case is that of the queer calls used by the army). The "M" stations (indicating "mobile") are 24 watt transmitters with receiver and portable generator, used mostly at national forest headquarters. Then the "SI" stations, 5 watt transceivers, are used on lookouts, CCC camps, etc. (SP for "semi-portable"). The "PF" sets are portable and field sets with an output of .7 of one watt. To show that these sets cover ground, and are of more than local interest, the "M" sets have contacted all parts of the Pacific Coast. I have heard the "M" and "SP" sets at distances of 600 miles and also, what is even better, I have heard the .7 watt PF sets 160 miles away, which isn't bad at all for such small power.

## With the Japanese

"In former letters I have mentioned my reception of the Japanese stations, and to date have logged seven of them, as follows: JVE calls

Java in the early evenings. JVF calls KWU at Dixon near 6 p. m. EST. JVH works Europe in the early mornings. JVM broadcasts musical programs between 1:45 and 2:30 a. m. and 4 to 7:30 a. m. Each morning, world news is given in English at 4:55 a. m., EST JVN works European stations in the mornings. JVQ broadcasts programs simultaneously with JVM, and JVT works USA stations in the mornings. I wonder what the call sign is of the Nazaki station that tests in English at various times of the day and night on about 10500 kcs."

### The Brazilians

Several reports were received here concerning the new frequency used by the Radio Club of Brazil, and various call signs, such as PRA3, PRF5, PRAB and PRBA were given. To Edith Reeks of Chicago goes the credit of first identifying this station correctly as PRF5, "F for Friday," but following close on the heels of her report came many others confirming her identification. F. M. French, Port Fire Department, Marine Barracks, Quantico, Va., says, "This afternoon I heard a station in Rio de Janeiro for the second time and they gave their call letters as PRF5 and their frequency as 9505 kcs. They invited comments on the program, which consisted of a talk about coffee, first in Portuguese, then in English. It came in very clear and loud, I am using a Philco 66-B and it is a wonderful little set, both for distance and selectivity. The German and English stations come in very strong and clear, also EAQ, but I cannot get Pontoise at all."

We believe that PRF5 is just another phantom call for a telephone station owned by Companhia Radio Internacional do Brasil, but as usual, reports should be sent directly to the Radio Club do Brasil, "A Vox do Brazil," Rio de Janeiro. Kenneth L. Roberts of Monticello, Me., mentions "Saudacoes Cordeias" in the street

address, but this is Portuguese for "Sincerely Yours." Jerome Shiltz, 120 Courtland St., Wellington, Ohio, reports PRF5, and a station on 49.48 meters calling "Allo Baraka." We believe this station is YV5RMO in Maracaibo, calling YV4RC in Caracas.

### South American Chain

According to information received from various sources (Wm. C. Vestal of Redlands, Calif.; Robert L. Weber of W. McHenry, Ill., and Geo. Glass of Detroit), a new network, known as the Cadena Indo-Americana, has been formed. Amateur station HC1FG in Riobamba, Ecuador, was heard by Mr. Glass, acting as interpreter for Lucy W. Mida of W9LW, Chicago and Sr. Eduardo Pinto of TI2EP in San Jose, Costa Rica, and during the conversation it was learned that the following stations make up the chain:

YV5RMO, Maracaibo, Venezuela, 6,070 megs.

HJ4ABB, Manizales, Colombia, 7,200 megs.

PRADO, Riobamba, Ecuador, 6,620 megs.

HJ1ABB, Barranquilla, Colombia, 6,447 megs.

YV4RC, Caracas, Venezuela, 6,000 megs.

TI2EP, San Jose, Costa Rica, 6,660 megs.

The Chicago SW Radio Club adds stations HJ3ABD, Bogota, Colombia, 7,400 megs, and YNLF, Managua, Nicaragua, 6,950 megs.

It is also believed that the new COC in Havana, Cuba on 6,010 megs. is a member of the chain.

Two of these stations, PRADO and TI2EP, are known by the call letters HC1FG and TI2EP respectively when engaged in traffic with the other stations. PRADO and HC1FG are two separate transmitters, but the chief engineer of PRADO is the amateur-owner of HC1FG.

YV5RMO uses the slogan "Ecos del Caribe" when broadcasting. It



*The "Peter" half of the famous "Billy Batchelor" twins, eleven year old Bobby Jordan. A new series of Wheatonville sketches returned to the air on August 27th. They are heard regularly on the CBS at 6:45 p. m. and at 8:15 p. m., daily except Sunday. The latter period is for western listeners.*

is owned by Santiago M. Vegas, Box No. 214, and when the other stations are in communication with him, they call him "Amigo Vegas" instead of using the call letters of his station.

HJ4ABB is the well-known station "Radio-Manizales" which uses the theme song "Just a Gigolo." It is not as active as some of the other stations on the network, but when talking with Manizales, the other operators refer to it as "Amigo Roberto," after the name of its owner, Roberto Baena V.

Carlos Cordovez is the operator of HC1FG and is known as "Amigo Carlos," while Eduardo Pinto H. of TIEP-TI2EP is called "Amigo Pinto." TIEP, when broadcasting, uses the slogan "La Voz del Tropicico."

#### Others in the Net

Postal cards from James T. Spalding, 2012 Alexander Ave., Louisville, Ky., and Carl M. Hansman, Bethel, Me., suggest that there might be even more stations on this

hook-up. Mr. Spalding heard TIEP mention Calli, Colombia on one of its broadcasts, and Mr. Hansman heard a station on 44.6 meters announcing after each musical number as "La Voz de Centro America."

Margaret Hamilton, Coopersville, Mich., advises that reception has been very poor below 28 meters. "The South Americans had a Round Robin the other night continuing into the small hours of the morning," she continues. "I listened until the last 'Buenos noches' was said. I got their calls as Maracaibo (YV5RMO), "La Voz del Tropicico." (TI2EP), YV4AC, TI2RC, Maracay and El Prado. I understand there will be two new S. A. stations shortly, at 3355 and 3619 kcs. Hope they'll be better about giving exact calls!"

"The other night I nearly went crazy over Spanish speaking stations," admits John L. Peppard, Evans School, Tucson, Ariz. "PRADO, YV5RMO, TIEP and some on 6275, 6320, 5910 and 6150 kcs.



*And here is "Pan", the feminine portion of the "Billy Batchelor" twins who are nearly as famous as the Dionne quintuplets. "Pan" is played by Emily Vass, 11-year old actress of stage and radio.*

This last one might be YV3RC. HJ1ABG on 6040 kcs. announced that he works every day until 10 p. m. EST, and asked that reports be sent to P. O. Box 4451, Barranquilla, Colombia." We understand that HJ1ABG uses 4 chimes as an interval signal, and we have seen the address given as Box 445.

#### **COC on Air Again**

Mr. Luis Casas Jr., Chief Engineer of COC at Havana, Cuba, tells us that this popular station returned to the air on Sept. first after having been silent for about three months due to a fire which destroyed the original transmitter on May 24th. The new COC uses the most modern equipment, including crystal microphones, and several readers have already noted the great improvement in quality of reception from COC. Sr. Casas says they broadcast daily on 6010 kcs. from 9:30 to 11 a. m. and 4 to 6 p. m., EST, and special programs featuring typical Cuban music are transmitted on Saturdays from 11:30 p. m. to 12:30 a. m. These latter programs are dedicated to members of all shortwave radio clubs in America. Listeners are requested to report on their reception, addressing letters to Estacion Radiotelefonica de Onda Corta COC, Apartado 98, Havana, Cuba.

After sending the list of the 100 Best Shortwave Stations to the printer, the latest operating schedule was received from the Reichs Rundfunk Gessellschaft of Berlin. The schedules of the German stations are correct as given, except for these two additional transmissions: DJA, 5:15 to 9:15 p. m. EST and DJB, 4 to 5:30 a. m. EST. Sundays.

#### **Verifying TGX**

Sr. Mejicano Novales, owner and operator of station TGX, advises us that his station works daily except Sunday from 8 to 10 a. m. from 1 to 2:30 p. m. and from 8 p. m. to midnight, EST, on 50.50 meters (5937

kilocycles). Sr. Mejicano adds: "Sundays, 1-3 a. m. testing irregularly, specially Saturday mornings," which we believe means that he tests on either Saturday or Sunday. Sr. Mejicano does not hand out verifications carelessly, and will not confirm one's reception unless he is sure that the writer has really heard station TGX. Therefore, readers are cautioned to use particular care in taking notes, and they should not fail to mention the identification signal which is used. An International Reply Coupon must be enclosed if a reply is expected.

D. I. Gross, Box 6052, W. Asheville, N. Car., postcards that the Seth Parker uses frequencies 8840 and 12340 kcs. most often, usually working just before 8 p. m. EST. According to latest reports, Mr. Gross says, Skipper Lord is on his way to the Galipagos Islands and the South Seas.

It was at first believed that the Bombay, India programs on 9.565 megs. were relayed from long wave station VUB over one of the telephone transmitters at Kirkee, but according to information given in the Indian Radio Times, shortwave station VUB on 9565 relays long wave VUB on 855 kcs. and none of the Kirkee telephone stations are used. Listeners in Great Britain, Continental Europe and the Antipodes, as well as in Asia, are enjoying good reception of this station on Wednesdays and Saturdays, but as yet it has not been heard in North America.

#### **A "Blues" Report**

"At present the shortwave situation is very discouraging around here. Nothing can be relied upon any more," complains Geo. W. Acker, 267 N. Lyman St., Wadsworth, Ohio. "The 25 meter band is practically shot, and the 30-31 meter band has improved a little although still unreliable. Some nights and afternoons DJD and GSD can be heard but faintly, and other times only



one or the other will come through. DJD begins to get jerky and fades away near 7:30 p. m. EAQ is getting steadily better, providing good listening some evenings. There is a new one in this band, though, which is a very good stand-by; it is the new Brazilian, PRF5, on about 9500 kcs. Its schedule seems to be from 5:30 to about 6:15 p. m. every evening except Sunday. Programs are mostly talks in Portuguese, but at 6 p. m. EST. English is spoken, concerning mostly Brazil's national affairs."

#### Graduates to S. W.

"The last time I wrote you I was a BC DXer, but last February became interested in shortwaves and now am strictly a s.w. fan," confesses Chas. Miller, 309 View Place, Covington, Ky. "I use a 4 tube home built t. r. f. receiver and in eight months DXing have verified all twelve of the USA relay stations, in addition to Canadian 9GW and 9DN, CJRO-X, XEBT, COC, HI1A, HJ1ABB, HJ3ABI, HC2RL, PRADO, CP5, PRA3, YV3RC, YV5RMO, Daventry, Zeesen, Pontoise, Rome, PHI, and the two Melbourne, Australia stations. My receiver uses band spread tuning which enables me to tune and separate DJA, W1XAZ, GSC, 3XAU and HBL while they are all working at once, with no QRM. My antenna at present is a single wire 125 feet long, but I expect to put up a doublet soon as the man-made interference around here is heavy at all times. My ground is a galvanized pipe, about 4 feet long, buried in the ground. I would like to hear from any s.w. fan who is interested in amateur DX and will exchange SWL cards."

Donald W. Shields, Box 345, Roseville, Ohio, using a Philco 16-B, submits a list of 44 stations which he has heard, among them being VK2 and 3ME, PHI, HI1A, KNRA, YV3RC, and of course the German, French and British stations. He is particularly interested in the 20



*Miss Gina Vanna, young operatic soprano, is the featured soloist of the "House by the Side of the Road" program which appears on the NBC-WFAF net Sundays at 4:30 p. m. EST with a rebroadcast at 5:30 p. m. Miss Vanna, who is twenty years old, did her first public singing over the air, after which she won a place with the Chicago Grand Opera Company.*

meter amateurs and has logged several Europeans in this band. His prize catch is W1OXDA on board the schooner Effie M. Morrisey, which he heard while she was crossing the Hudson Strait at the Southern end of Baffin Land. Donald would like to correspond with s.w. fans everywhere.

#### S.W. on Two Tubes

"This is the first time I've written to RADEX," commences a letter from Wilbur Nyberg, 533 Jessamine St., St. Paul, Minn. "I have a small two tube short wave, and on it have heard about 65 phone and relay stations. This does not include amateurs, police, etc. One Saturday morning I heard DJE on 17.76 megs. between about 8:30 and 9:05 a. m. CST. The English station GSB and GSD are about the best stations in the afternoons; GSF came in fine here every afternoon until its sched-

ule was changed. As yet I haven't logged Australia or Russia, but I haven't stayed up past 11 o'clock." And Wilbur doesn't have to stay up past 11 o'clock to hear these countries. Between the hours of 11 p. m. and 5 a. m. there is very little doing on shortwaves; if Mr. Nyberg will tune about 6 a. m. any morning for VK3LR, and about 9 a. m. on Sunday for RNE, he will no doubt log the countries he wants.

### YVQ does Verify

"Regarding station YVQ in Venezuela, I believe that its symbol should be changed to 'b' as I have a verification from this station," suggests Guy R. Bigbee, 66th Infantry (Light Tanks), Fort Benning, Ga. "An official communication from VWY in Poona, India, gives their wavelength as 17.1 meters and states that they transmit to GAU between 1130 and 1145 GMT. Their address is Indian Radio and Cable Communications Co., Ltd., Beam Wireless Station, Poona 6, India. This is the wavelength on which I reported reception. The official name of the company operating VQ7LO is now Cable and Wireless Ltd. and their program manager is Mr. Geo. C. Kenworthy."

### Short News Notes

H. Arbie, Action, Ont.; "At 10:35 p. m. EDST I picked up KFZ on 6660, QSA2, R3. I held them for about 15 minutes, 16, 19 and 31 meters have not been very good lately, R8 signals being down to R4 and 5 with a lot of fading. The 49 meter band is excellent though."

Roy E. Robinson, 133 Mitchell St., Providence, R. I.; "Much to my disappointment, the shortwaves have been very poor this summer. I haven't been able to get Australia at all and England, France, Spain and Germany have been very unsatisfactory. DJD and GSD have interfered with each other considerably."

*Answers to Questions.*

Bob Jackson, 1416 N. 20th St.,

St. Louis, Mo. The station near 5900 megacycles using a cuckoo call as an interval signal announcing in Spanish is XEBT, Mexico City, D. F.

Alfred H. Abernethy, Box 3009 Penn. Station, Daytona Beach, Fla. The station speaking in German near 5990 megs at 11 p. m. is most possibly DJC, Zeesen, which is, to be precise, on 6020 kilocycles.

Ezra K. Baer, K-T Ranch, Meeker, Colo., asks for a list of the programs broadcast over the American shortwave stations. The shortwave transmitters relay the identical programs transmitted by their sister stations on the broadcast band, and in so far as we are able, these programs are given in RADEX each month in "What's On The Air Tonight?" It is only on very special occasions that the s.w. station takes its own individual program.

Robert Scott, 140 Small Ave., Caldwell, N. J.; The former YV4BSG of Caracas is now YV4RC, and YV2AM is now YV5RMO.

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## The I.D.A. Winners

THE great contest of the International DXers Alliance of Bloomington, Illinois, for the grand prize of a Lincoln Receiver, has closed and the winners of the contest are announced as follows:

Grand Award, D. L. Davis, Jr., Pearl Harbor, Hawaii, with 114 verifications.

Second Award, F. W. Barnett, Dunedin, New Zealand, with 84 verifications.

Third Award, H. Harding Jones, Honolulu, Hawaii, with 74 verifications.

Fourth Award, R. T. Coales, Hants, England, with 71 verifications.

Fifth Award, John S. Bohm, Malung, Sweden, with 70 verifications.

Sixth Award, Francis Wiseman, London, England, with 69 verifications. This award is tentative sub-

ject to final examination of Mr. Wiseman's verifications by the judges.

District of U. S. and Canada:

First, Award, Evan B. Roberts Danvers, Mass., with 61 verifications.

Second Award, Don Townsend, Fallon, Nevada, with 51 verifications.  
District of Great Britain:

First Award, Frank Crowder, Hull, England, with 54 verifications.

Second Award, R. Ellis, Lanarkshire, Scotland, with 48 verifications.

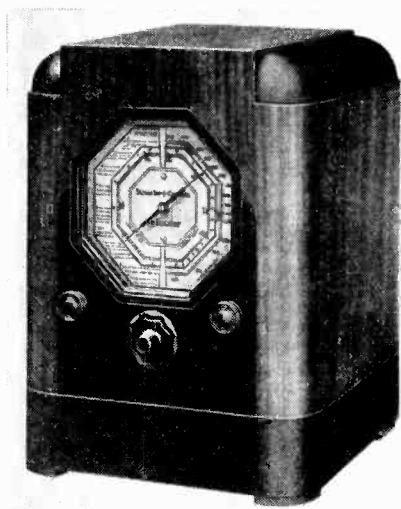
A. C. Lyell, Cape Town, South Africa, not being located in any of the districts provided for the contest, is awarded a Special Prize for his remarkable list of 53 verifications. All of Mr. Lyell's stations were more than 4000 miles distant.

Only stations 2000 miles or more distant from the receiver were counted in the contest. All stations were in the broadcast band. This contest is a striking demonstration of the receipt of foreign stations on the broadcast band and it should be an incentive to those who have never received such stations, to keep everlastingly at it.

## Converting Broadcast Sets to ALL-WAVE

**T**HE new Stromberg-Carlson Model 69 "Selector" is a four-tube, self-powered converter which, when attached to any standard broadcast receiver, converts that receiver to an all-wave set, covering the channels from 1,500 kilocycles to 25,000 kilocycles (200 meters down to 12 meters), in addition to the broadcast-band range of the receiver. The converter covers the important 49, 31, 25, 19 and 16 meters foreign and domestic short-wave bands.

The "Selector" has a large, full-vision, airplane type dial. It is octagonal in shape, divided into four sections, and is similar to any mod-



ern all-wave tuning dial except, of course, it does not have a band for standard broadcasts. The outer, right-hand section covers the tuning range from 1,500 kilocycles to 4,000 kilocycles; the inner, left-hand section covers the short-wave channels from 4,000 to 10,000 kilocycles; and the inner, right-hand segment covers the channels from 10,000 to 25,000 kilocycles. Three sets of pilot lights, operated by contacts, are used so that only the section in actual operation is illuminated, thus avoiding any guesswork as to which band is in use.

Four tubes are used in a "frequency reducing" superheterodyne circuit. The output of the converter, which is tuned permanently to 545 kilocycles, is fed into the broadcast receiver. The tuning dial of the receiver must be set at the same frequency.

The tubes are as follows: Radio-frequency, 6D6; driver and oscillator, 76; mixer or detector, 6A7; and the separate rectifier, 5Z3. The 76 driver-oscillator is arranged so as to insure a forced output from the oscillator circuit when the converter is being tuned to the higher frequency

signals. So many converters and all-wave receivers fail to respond to the very short waves because frequently the oscillator tube will not function at the very high frequencies.

Installation of the new Stromberg-Carlson "Selector" is simple. It requires no change whatever, and may be used in conjunction with any make of standard broadcast receiver—superheterodyne or tuned-radio-frequency. The only connection to be made between the converter and the broadcast receiver is the antenna and ground cable.

The new Stromberg-Carlson Model 69 "Selector" sells for \$69.50.

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## The Beginners' Story

(Continued from page 8)

broadcast receiver with a *wafer adapter* placed beneath one of the broadcast-set tubes. The 180 volts plate supply for the converter is taken from some point in the broadcast receiver that is close to the filtered B supply from the voltage divider system.

(Next month there will be a discussion of the power supply of electric radio receivers, rectifiers and battery eliminators.)

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## "Betty's" Story

(Continued from page 18)

ture. At the end of a year of total blindness she was able to see again—and sing like a lark.

\* \* \*

The Warings named their newborn daughter "Dixie" because Papa Fred was enroute to Virginia for a one-night engagement and when he returned to Manhattan he was a papa. Mrs. Waring is the former Evelyn Nair, who danced with the band during its stage engagements several years ago. The couple were secretly married in Chi-

cago last year. Fred said he was so excited down in Virginia awaiting the call that made him a father he almost went "stork mad."

\* \* \*

Buddy Rogers, who, with Jeanie Lang, is starred on those Ward Family Theatre programs, Sunday at 7:30 p.m. EST on CBS, does not read music but plays entirely by ear. When he was ten years old Buddy astounded his parents by learning to play the trombone, without benefit of any formal instruction. Today, the handsome young maestro plays 16 different instruments, all by ear!

\* \* \*

Frank Parker has never forgotten that he made his start in life on New York's poverty-stricken and crowded East Side. As a boy he dreamed that some day he would sing on Broadway, be able to buy a fine automobile and live in a sumptuous apartment uptown. Parker has realized all these ambitions and more than occasionally goes back to the street where he once played ball as a youngster "just to pinch myself to prove I'm not dreaming," says Frank.

\* \* \*

Peter Van Steeden, who looks more like a college Junior than the well known orchestra director that he is, is one of radio's champion ping-pong players. But Peter's favorite sport for keeping that school-boy waist-line is—mowing the lawn of his home at Stony Brook, Long Island.

\* \* \*

If Billy Jones hadn't bumped into Ernie Hare in a New York recording studio just sixteen years ago, the team of Jones and Hare would probably never have been formed. The boys were originally soloists and a chance duet that first day started the now famous pair off on the road to popularity. For sixteen years they have been inseparable.

# Is Your Antenna 100 Per Cent Effective

Part Two

• • • By B. FRANCIS DASHIELL

**T**HE Marconi single-wire antenna is better adapted to broadcast and long-wave reception. The Hertz doublet antenna is more efficient on the short waves. The problem, then, is to devise an antenna that will have the good properties of both, yet be able to eliminate man-made static noises.

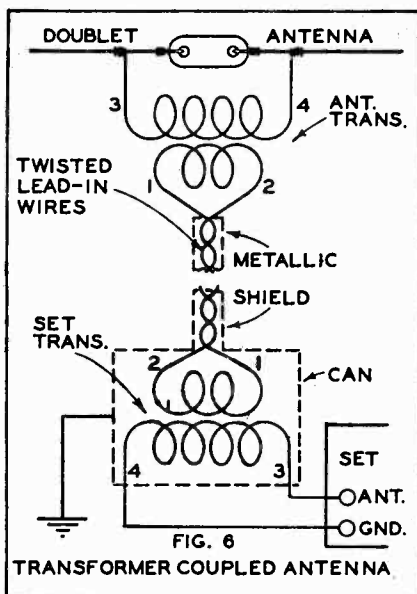
The Marconi antenna uses a single lead-in wire. The receiver is placed in series between the antenna and the ground. The Hertz antenna places the receiver in series between its two sections, and no ground connection is required.

## Transformer Coupling

Last month we saw how the lead-in is shielded so as to prevent nearby man-made static from reaching the wire. Shielding can also be applied to the twisted, double-wire lead from a doublet antenna. Some experimenters have found, however, that the losses are so severe that steps must be taken to overcome them. The transformer method of coupling the antenna to the receiver has become almost universal. In some cases a transformer is attached to the antenna top and another placed close to the receiver, and other cases use a single transformer at the radio receiver. This scheme is shown in Figure 6.

It should be remembered, however, that shielding of the lead-in is not necessary when Marconi or Hertz antennas are used in static-free localities. Shielding around the lead-in wire or wires must be used only as a last resort.

The two leads from the Hertz antenna really are part of the antenna, for they permit the receiver to be



placed in the center of the wires. Of course we cannot hang the receiver up in mid-air so we use two leads to bring the antenna down to the set. Twisting of the lead-in wires eliminates signal pickup and does not add to the natural wave length of the antenna top.

## Using Transformers

A shielded lead-in introduces considerable signal loss. Capacity action takes place between the outer metallic shield and the inner wire or pair of wires, depending upon the type of antenna. Such condenser effects cannot be prevented, but it is possible to lower the potential of the signal picked up by the antenna. A small *step-down* transformer or coupler is placed be-

tween the antenna-top and the lead-in, as shown in Figure 6. Lowering the signal voltage tends to reduce the capacity effect. It is then a simple matter to increase the potential again by means of a *step-up* transformer connected between the lead-in and the receiver. The coils of the transformers contain 12 turns and 5 turns of No. 22 wire wound on a tube about one inch in diameter, the whole being shielded in a can.

The doublet antenna, shown in Figure 4, is superior on the entire short-wave band to the "L" or "T" types. In place of the transposed leads, as shown in Fig. 4, a special twisted pair of wires, Figure 5, can be used without shielding. Both the transposed and twisted pair will eliminate local static.

#### All-Wave Antennas

Broadcasting station antennas are set permanently to a certain frequency. But the receiving antennas are not built for operation at one frequency only. Now with the short wave beckoning, an antenna erected to bring in signals over a wide range, between 5 and 600 meters (60,000 to 500 kilocycles, respectively), is called an *all-wave* antenna. It can be used with any of the all-wave radio receivers now sold. In fact, some of the newer sets have separate all-wave doublet antenna terminals and built-in coupling transformers.

Most persons do not know of the direct relationship between antenna length and wave length being picked up. This has an important bearing on the length of the antenna. If we could insert a sensitive ammeter at a number of places along the antenna wire it would indicate the amount of current being induced at those points. And the current would be found to vary from maximum at one place to minimum at another.

#### Half Wave Antennas

Beginning at the end of the antenna wire the current increases steadily until a distance equal to a quarter-wavelength of the signal being received

is reached; from this point the current decreases steadily until a place just a half-wavelength away from the original end is reached. Therefore, the shortest possible antenna is one that will just hold a *complete* rise and fall of current or half a wavelength. An antenna, with its length equal to a half-wavelength of the signal in question, will be resonant to that signal and pick it up with a maximum amount of energy. Assume the wave length of the signal to be 19 meters: A half-wave is 32 feet, and a quarter-wave is 16 feet. The shortest effective resonant length of a Marconi antenna, then, is 32 feet; and, if a doublet or Hertz type is used, each half should be a quarter-wave, or 16 feet, long.

Since we cannot build an elastic antenna so as to provide different lengths equal to half the wavelength of the signal being received, we must be contented with an antenna of a length that will be *approximately* one-half of the wavelengths of a good many stations.

It has been found that a 41-foot antenna of the "L" or "T" type, or a doublet antenna with each half measuring  $20\frac{1}{2}$  feet in length, will work well on wave lengths of 13, 16, 19, 24, 31, 49 and 70 meters. These are the most commonly used short-wave bands to which we listen.

#### Directional Effects

Antennas have decided directional effects. A high degree of permanent directivity is not always a desirable feature unless one is receiving frequently from some certain quarter of the globe. A single-wire antenna, such as the Marconi inverted "L" type, has definite directional qualities. It tends to pick up signals best from stations toward which its *heel* or lead-in end points. Sometimes the "L" antenna receives best if it is *tilted* by raising its open or free end higher than the lead-in end. This slant may vary from 15 to 35 degrees from the horizontal.

The doublet antenna, however, should be erected horizontally in all cases. It receives best when placed at

right angles to the direction in which the station lies. This must be remembered when erecting a doublet for short-wave reception only. A true non-directional antenna is the *vertical* type. A single wire, rather high, is very satisfactory.

### The Loop Antenna

A directional antenna can be made by building it in the form of a diamond-shaped *loop*. The frame should be mounted so it can be rotated. The loop antenna will receive best when its vertical plane lies in the line that points toward the location of the stations to be received.

On shipboard, the loop antenna is fitted with a scale and compass. It becomes valuable as an efficient direction finder. The loop can be rotated so that two or three land stations can be heard. From the angular positions of the stations noted, by means of intersecting lines drawn on a chart, the position of the vessel can be determined.

A support, 5 feet high, fastened to a base so it can revolve, and with a cross arm four feet long, is used for the loop. A single No. 14 copper wire is strung around the frame. The two ends connect to the receiver, as shown in Figure 7. This loop, of course, is limit-

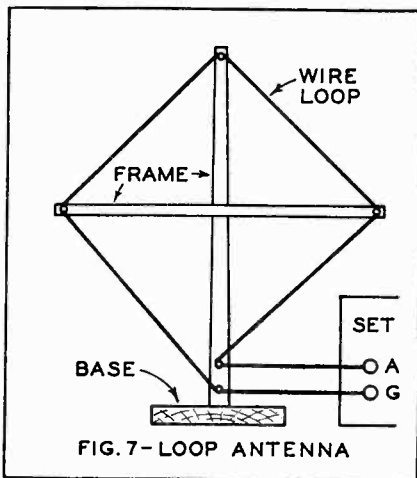
ed in its pickup of distant stations, but is valuable as a means to cut through interference from nearby stations that lie in other directions.

A number of ready-to-erect noise-reducing all-wave antennas are available. They are put up in assembled kits so as to be easily installed. Outstanding in these new developments are the R. C. A. "World-Wide" all-wave antenna; the Lynch "Simplex" all-wave antenna; and the Atwater Kent type "D" all-wave doublet system. Several of the earlier noise-reducing antenna systems were discussed in full in the October, 1933, issue of RADEX.

### The "Double Doublet"

The R. C. A. system is a radical departure from the usual doublet type. Its antenna is a *double doublet*. We know that a doublet antenna is an efficient collector of short-wave signals. A doublet antenna, each section of which is a quarter-wave long, is more efficient at or near the point at which it is resonant to the incoming wave. An antenna 33 feet long, therefore, works best when receiving signals of 20 meters in length, or the harmonics of higher wave lengths. This means, then, that the antenna also will pick up signals of 40, 60, 80 or 100 meters, of which the fundamental length of the antenna is the second, third, fourth and fifth harmonics, respectively.

Now, if we connect a pair of *unequal* doublets to the same lead-in or transmission line, the actual receiving scope of the antenna is vastly increased. This is what is accomplished by the R. C. A. World-Wide antenna system, which is shown in Figure 5. The antenna proper consists of *two* long, horizontal sections, each 29 feet long. Immediately below, and in the same vertical plane, are two short sections, each 16½ feet long. They are *tilted* down from the center of the top doublet at an angle of about 35 degrees. The left, long section connects to the same lead-in wire as the right, lower short section, to make one unequal doublet; and the right, long sec-



tion goes to the same lead as the left, lower short section to make the second unequal doublet. A special insulating cross-over block is used for these connections, as shown in Figure 5.

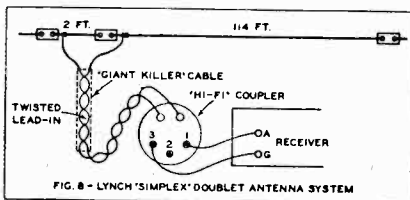
### Lynch "Hi-Fi" Coupler

The new Lynch "Hi-Fi" coupler and antenna system tends to overcome the deficiency of the short-doublet antenna when receiving broadcast waves. Its doublets are not equally divided, but closely resemble the inverted "L" type of Marconi antenna. The Lynch system is shown in Figure 8.

Any type of doublet antenna will be greatly improved if the Lynch "Hi-Fi" (High-Fidelity) coupler or transformer is used. It can be used with the types of antennas shown in Figures 4, 5, 6 and 8. Only one coupler is required. It is connected directly to the radio set, and has a simple method of tuning by pin jacks which are plugged into several holes so that the impedance of the coupler can be made to match the impedance of the receiver.

### Lynch "Simplex" Antenna

The special Lynch antenna, called the "Simplex" system, is shown in Figure 8. It is not a doublet antenna, in the sense that we have been discussing doublets. The lead-in cable is taken from one end instead of from the center. The antenna, too, is long, being 114 feet. It need not be erected in a straight line if space is limited, but can be zig-zagged about in order to place the entire length in a short space. The short section of the doublet is only 2 feet in length.



### Atwater Kent "D" System

The new Atwater Kent doublet antenna is a simple doublet system util-

izing a *parallel* pair of lead-in transmission wires. Other doublet schemes make use of shielded, twisted and transposed transmission lines to balance out any induced man-made static. It is said that this untuned antenna does not require any definite length either for the doublet top or the lead-in wires, as is the case with all other doublet systems. The transmission line is a pair of heavy rubber-covered wires spaced 2 inches apart with insulating separators.

Length is not an essential matter when this system is used. Both sections of the doublet, however, must be equal in length; if one section is 20 feet long the other must be the same. If the two sections are 30 feet in length the antenna will give best results.

### The A-K "DT" Transformer

For older receivers, which are not provided with doublet antenna connections, it is necessary to use the Atwater Kent type "DT" doublet transformer with the "D" antenna. It has a bracket so as to permit mounting on the rear of the radio set. Connection is made to the two parallel leads from the doublet, and then to the antenna and ground terminals of the receiver. The usual ground wire may be left in place. The transformer has two switch contacts; one is for short-wave reception and the other for broadcast reception. The coupling transformer is designed especially so that any interference picked up by the parallel transmission line is balanced out in the transformer instead of relying upon a twisted or transposed transmission line to perform this essential action.

The RADEX Time Converter is a large map of the world on the front cover of which is a dial. Turn this dial until the hour you wish to convert is opposite your zone and instantly the time for all places in the world is shown. The dial indicates whether the time is yesterday, today or tomorrow. No adding nor subtracting. Just turn the dial. The price is 25c postpaid.



# NOTES *from the* Editor's Mail

**H**ERE'S an interesting letter from a reader in Cuba whose name we deem it best to withhold: "Sorry I couldn't give better attention to your request for information regarding the Cuban stations but a series of events prevented my doing so. In the first place, your letter arrived here while the post-office strike was in progress. (In this country radio is under the control of the Secretary of Communications.) When the strike was over and the old employes went back to work, it was decided to make certain changes in the allocation of channels. The result is the enclosed list of stations in Havana and suburbs.

"Radio programs are constantly affected because a number of stations broadcast political news and speakers attack opposite parties with the result that these stations are continually being assaulted by civilians or raided by the army or police, destroyed or shut down. This happened last night to CMCU while a broadcast was in progress.

"During Machado's reign we, the ABC, (Cuba's secret revolutionary society) had a small portable which Machado evidently enjoyed for he offered \$5,000 reward for its capture. I was tempted to write you about it at the time for it would have been an extremely good catch for your fans. If it should ever be operated again, I will let you know."

## **When Is An Expert?**

"I was very much interested in the point raised by Ewing's Radio Service regarding the use of servicemen when repairs are needed," states Chas. A. Steele, 3119 Seventh St., Port Arthur Texas. "Now I would like to raise a couple of more points and inquire: 1. What constitutes a good service man and how is anyone to tell whether he is good, bad or indifferent until after he has

wrecked your machine beyond all hope. Mr. Ewing cites two cases where owners put their sets on the bum but I know two cases where a so-called serviceman did the same thing and then demanded their outrageous bill. Mine is one of the cases and the other is a friend that lives just back of me on the next street. The same holds good on aerial jobs; I have had four men from different concerns and none but the last was worth a nickel. They not only bungled the erection of a Philco three-purpose short-wave special and a Birnbach all-wave by failing to follow simple instructions but also knocked their own products." No one can deny that many incompetent servicemen are to be found in business. Some day, perhaps, they will be licensed by the state like barbers and beauty-parlor operators. In the meantime, the reputable servicemen in the larger cities are forming into guilds in which only the competent are accepted for membership. In the smaller cities the incompetent soon come to be known—and shunned.

## **"Vas You Dere, Sharlie?"**

Although many readers throughout the country advise us that the super-power of WLW has made little or no difference so far as selectivity is concerned (some even say they notice no increase in volume) yet down in Mason, Ohio, where the transmitter is located, strange happenings are occurring, according to Rudolph Kure, Cincinnati, Ohio. "There are plenty of rumors going around down here that sound like spooky stories but they seem to be on the level. Out in Mason there is a rainspout on a barn that actually plays tunes. Light bulbs burn with the switch turned off. Climbing up on a tin roof and touching it with a screw driver, will make it spit fire.

They have been lighting a tourist camp up there all summer by merely putting up an antenna. I, myself, when I wish to listen to WLW, am compelled to turn off my volume control and disconnect my aerial, otherwise I get nothing but distortion."

#### Another Whopper

Try this on those faint signals from far-off stations: A newly developed loudspeaker, so powerful that it can magnify the human voice one million times, has been in operation for the first time at the international yacht races. It is five hundred times more powerful than the ordinary loudspeaker. At full power it hurls sound into the air with the force of a 50-pound hammer blow. Under favorable conditions, it can project intelligible speech a distance of several miles. The voice can be made louder than a clap of thunder. The new super-speaker is a product of the Western Electric Co.

#### Two Spot Tuning

Clyde E. Lowe, 730 K Street, Merced, Calif., runs to earth one instance of a station coming in at different points on the dial. "Recently I picked up our local KTRB on 660 and 820 in addition to the proper frequency of 740. It also could be heard faintly on 980. I called the manager of KTRB and he found the trouble in his 860 r. f. amplifier which he had changed the night previously and which was developing those other frequencies for no good reason. He stated that he worked a number of hours that night after receiving my message before he found the source of the trouble. In looking over the May, 1933, RADEX, I read of a man claiming to hear KNX on half-harmonics—525 kc. This may have been due to a similar cause." Clyde uses the Perfect Phone Adapter and says: "In the wee hours when everything is quiet, I can give the old set all the volume and listen to my heart's content without disturbing the baby."

#### With The Clubs

"On September 7th, the Globe Circlers Radio DX Club was two years old," writes Edward N. Bachman, president, 211 Passaic Street, Hackensack, N. J. "During that time we have absorbed the Greater Chicago DX Club, the Interstate Radio Association, the North American Radio Club, and the Anglo-American Radio Society, in an effort to eliminate the small clubs and form one large organization. Beginning October 15th, we will publish our six-page bulletin every other week instead of monthly. This bulletin will contain many of our regular features, among them our Singleton-Eliminator contest, Calling CQ column, memory contest, and a s.w. page edited by Elmer F. Orne. We will publish tip-cards every week."

The British section of the IDA is now publishing a six-page edition of the British Globe Circler filled with chatty news regarding the activities of the members in that country. Frank R. Crowder is European Representative and Arthur C. Baker is editor of the BGC. Mr. Baker, by the way, is also the British representative of RADEX and carries in stock a supply of the current issue of this magazine, the *DX Log of the World*, and the Time Converter. In the August issue, Robert Ellis of Bellshill, Scotland, describes the thrill he got in hearing a description of the "Loch Ness Monster" over WABC, New York, this "monster" being an inhabitant of one of their Scottish lakes. According to the BGC, interest in the short waves fully equals that in the b. c. b.

#### Some Station Notes

Luther E. Grim, 505 S. Main St., Red Lion, Pa., writes that it is probable that WORK will not be on their new frequency of 1320 before November first. As soon as they are, however, WORK will have full time. This station carries a period of DX tips conducted by Robert Weaver, president of the National Radio Club.

The time is 2:45 p. m. EST Fridays. The application of the York station to move to 1320 kcs. was delayed by protest from WADC, Akron, but the latter station finally withdrew its objection. To us it seems that Akron and York are altogether too close together to permit stations in those cities to operate at the same time on the same frequency. We fear a great many between the two stations will get neither.

The construction permit granted to Marion K. Gilliam, Staunton, Va., WWSA for a daytime stations of 500 watts on 550 kcs. was withdrawn upon protest filed by KSD, St. Louis. The latter station has now withdrawn its objection and the permit has been reinstated.

The FCC has authorized the removal of KICK from Carter Lake, Iowa, to Davenport. The frequency will be changed from 1420 to 1370 and the call letters to WOC. The station belongs to the Palmer family of School of Chiropractic fame. It will sound like old times to hear "WOC at Davenport, Iowa," again.

The Canadian Radio Broadcasting Commission states that they do not consider it advisable to give out the information relative to the frequency checks of the Canadian stations for the reason that the checking is done at odd times when clear of interference particularly from the stations on this side of the line. These times are changed frequently and it is not possible to adhere to a list.

#### Miscellany

"May I suggest that, now that most receiving sets are calibrated fairly accurately in kilocycles, you list the kcs. instead of the call letters in 'What's on the Air Tonight,'" submits R. K. Neller, 2486 Weston Ave., Niagara Falls, N. Y. "This will facilitate finding the desired program as it will eliminate the necessity of looking up the dial setting." We had the same thought a year or two ago and printed the programs in this way for one issue.

Then we received hundreds of letters protesting against the use of frequencies in place of calls and so we reluctantly returned to the old method.

In our September issue, C. M. Hodge, 3156 Olive St., Huntington Park, Calif., stated that he believed proper reports would always bring verifications. He mentioned his reception of PLE in Bandoeng, Netherland India, and the fact that he would take a bet that his report would bring a verification. Mr. Hodge now advises us that this telephone station has verified his reception. It is signed by H. Van Der Veen, Engineer in Charge, Java Wireless Station, Bandoeng, Java, and they even thank Mr. Hodge for making the report. "Never refused yet," adds CMH.

A. C. Lyell of Cape Town, South Africa, made some strenuous efforts with the authorities of the British Broadcasting Corp. to secure verifications of his BBC reception in order that he might enter them in the IDA contest. After correspondence with various officers of the BBC, the Chief Engineer finally writes that they cannot change their policy in regard to verifying and cannot make any exceptions. They indicate that they find the reception reports of great value but that the policy not to verify will not be changed.

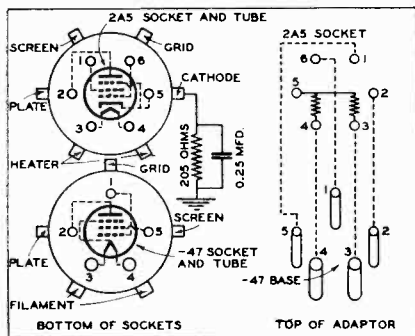
Robert W. Gorsuch, 431 Main Street, Grinnell, Iowa, writes that everything is all set for the big DX event, "Iowa on the Air" the morning of Sunday, December 16th. Added to the list of stations taking part as published in our September issue, are WSUI and KSCJ. This makes the broadcast truly a state-wide event. Full details will appear in our December issue.

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We have left a few of those beautiful leatherette slip covers for RADEX. They add greatly to the appearance of your set. Price 50c post-paid.

# TIMELY TIPS *for* Technical Troubles

• • • *By the* TECHNICAL EDITOR



**W**ILL you please publish a diagram and give instructions for connecting the cathode of the 2A5 tube to a circuit in which a type -47 tube is being used? I would like to use a 2A5 in my receiver in place of the -47, but do not understand how to replace the old 5-contact socket with a new 6-contact socket.

Complete details for using the 2A5 tube in place of the -47 are given because this is a matter that will interest many of our readers. The 2A5 tube can be used in place of a type -47. There is some advantage in this substitution because of the natural reduction in hum, for the 2A5 is a cathode heater type. The -47 is a pentode-filament tube which hums unless provided with a special resistor and center-tap connections.

But the 2A5 is a 6-prong tube; the prongs connecting to the heater, plate, screen-grid, control-grid and the cathode. The -47 is a 5-prong tube with connections to the filament, plate, control-grid and screen-grid. The suppressor connection is made internally, just as in the 2A5 tube.

The 5-contact socket of the -47 tube should be removed from the chassis of

the receiver and a 6-contact socket substituted. The filament connections, 3 and 4, of the old -47 socket, as shown in the illustration, are attached to the similar heater connections, 3 and 4, of the new 6-contact socket. The same plate wire to contact 2 of the -47 socket. These are the only connections that have similar positions in both sockets.

The control-grid wire that is removed from contact 1 of the -47 socket is connected to the grid contact 6 of the new 2A5 socket. The screen-grid contact 5 of the old socket should be connected to contact 1 of the 6-contact socket. This takes care of the five wires removed from the old socket. But the new socket has one additional contact, No. 5, which up to now remains disconnected.

This contact is the cathode of the 2A5 tube. It should be connected to the grounded chassis through a 250-ohm resistor that is shunted with a 0.25 bypass condenser.

Adaptors are available so the 2A5 tube can be used in place of a -47 without changing the sockets. The wiring of the adaptor is shown in the illustration. The base has 5 prongs and the top has 6 contacts for the 2A5 tube.

## Low-Wave Sensitivity

*My Crosley "Jewel box" receiver seems to bring in stations more loudly on the higher frequencies than on the long wave end of the dial. How do you account for this?*

The fact that a set of this type brings in stations which are broadcasting on high frequencies better than on low frequencies indicates that its r.f. circuits are responding more favor-

ably to the higher frequencies. This is often the case, and has been found to be a common occurrence with many of the older types of receivers. There is little that can be done about it, for the construction of the set tends to favor the lower waves. However, a complete overhauling and readjustment of the balancing of the set should help.

### **Hum In Silver-Marshall**

*There is a loud hum in my Silver Marshall, model D, and I am forced to use the volume control to its limit in order to drown out the noise. What can be done to prevent this annoyance?*

This receiver, we understand, is circuit D of model 30. We suggest that you make sure that the center-tap adjustment attached to the small resistor connected across the filament leads to the socket of the first audio tube, just ahead of the push-pull pair of power tubes, is properly centered, and also that the unit is in good condition. This is a hum preventing device.

The porcelain resistors in this model sometimes go bad, causing various kinds of trouble. It is wise to test and replace these units. Also, the smaller bypass condensers give similar trouble. Hum can also be caused by a defect in the power pack filter condensers. Then, too, a defective tube will give much trouble like this, particularly if it is one of the audio tubes. An open or broken wire in the grid circuit of one of the amplifier tubes will cause hum.

### **Tubes Burn Out**

*The tubes in my Philco 90 seem to burn out too soon. Static has always seemed to be present in this set. What shall I do to remedy this expensive and annoying trouble?*

The fact that the tubes burn out so frequently indicates they are getting a higher voltage across the filaments than is intended. The proper way to test this is to connect an a.c. voltmeter across the tube terminals of each tube, one at a time, as the set is operating. The filaments should read about 2.3 volts on the -35s, -24As, -27s and -47s.

That for the -80 should read about 5 volts. If the potential is too high you must look for a defective power transformer, voltage dividing resistors, or a partial short some place in the circuit.

The persistent static noises you complain about may be caused by a defective resistor, condenser, or dirt and dust in between the plates of the variable tuning condensers. Bad tubes, loose contacts or broken wires also contribute to these noises.

### **Hum In Zenith Set**

*There is a bad hum in my Zenith receiver. What can I do to stop this?*

You have failed to name the model of the Zenith set in question. The screen-grid detector tube, if there is one in your receiver, as some Zeniths do, has been repeatedly found responsible for this kind of trouble. The tube, however, will usually test perfect. The thing to do is to try replacing it with a new one. Then of course, there are other causes, such as broken down filter or electrolytic condensers, or a cathode-to-heater short in the tubes of the circuit. Broken grid leads and other open wires may also give rise to serious hum.

### **Phono-Pickup "Blasts"**

*The phonograph pickup used with my Edison radio gives a "blasting" sound. Can it be adjusted so as to stop this noise?*

Hardening of the rubber cushioning material or poor centralization of the armature of the pickup may account for this trouble. Make sure that the armature is correctly centralized in the pole of the pickup. Replace, if necessary, the rubber mounting supports in the pickup. Make sure that the fulcrum on which the needle swivel pivots is not unduly worn, as this would cause similar trouble.

### **Phonograph-Radio Hums**

*There is a bad mechanical hum when the motor in my electric phonograph-radio is running. I would like to prevent this if it is possible.*

It is probable that some wear in the

phonograph motor bearings has unbalanced the mounting of the motor causing it to transmit vibrations to the mounting board. It is probably transmitted in such a direction that it is not radiated as sound until some other agent such as the tone arm can produce lateral vibration. It is quite possible that a remedy may be had by cushioning the tone arm. Otherwise some replacements and costly repairs will be involved.

#### **Where Is Voice Coil?**

*How can I locate the voice coil wires in my model 60 Philco receiver?*

These wires are difficult to locate. However, it is best to work backward. Examine the parchment cone of the speaker. As the apex or inner end of the cone is a small coil which fastened to the cone. The end of the cone with its coil swings freely so it can vibrate within the field magnet. There are two fine, flexible wires that come from this coil—the voice coil—and go to the output terminals of the output audio transformer. In most of the Philco sets the voice coil flexible leads are white in color.

#### **"73"**

*I have noticed the figures "73" used in the signature of letters and on the short-wave broadcasts I pick up. What is the significance of this number?*

The "73" in the signature of letters and at the end of telegrams and radio talks between operators is an old telegraphic sign-off signal, used between friendly operators, and means "best regards," "good luck," "friendly wishes," etc.

#### **Locating Tubes In Sparton**

*Please tell me the locations and functions of the tubes in my Sparton 25-26 receiver. Can any of them be replaced with new types?*

Looking down upon the receiver from the front: At the right is a row of four tubes extending in a line from front to rear. The front or first tube is a 427, automatic volume control; next, 427, the second detector; third, 435, the second i.f. stage tube; and rear

or fourth, 435, the first i.f. stage. The center front tube is a 427 oscillator; in the rear of this tube is a 435, the first detector; and in the back, the last tube in this center row, is a 435 radio-frequency tube. To the left of the center row, toward the front of the chassis are two 445 power tubes, and at the left rear is the 480 rectifier tube.

The 427 second detector is about the only tube that can be replaced with another type—a 56.

#### **Faulty Tracking**

*What can I do about the faulty tracking of the tuners in my Kennedy A-72 receiver?*

Refer to the April, 1934, issue of RADEX for information telling how to realign receivers. Proper adjustment of the trimmer condensers should correct the trouble. In aligning a receiver see that the intermediate-frequency transformers are properly set. Tune to a station on about 1500 kcs. and adjust the trimmers. They are reached through holes in the condenser shield, or removable plates, in some models of Kennedy. Then set to a station on 550 kcs. and align by adjusting the padding condenser that is reached through a hole in the rear of condenser gang unit shield.

#### **"Superhette" Adjustments**

*It seems that constant adjustments of the condensers in my R. C. A. R-7 receiver seem necessary so that it will bring in stations in the day time. Why is this?*

Day-time reception is not nearly as good as at night. It is weaker because of the absorption of the radio waves by the sun, and therefore we do not get the volume that is possible at night on certain distant stations.

It is possible, also, that your "Superhette" requires a re-balancing of its trimmer condensers. The 600 kilocycle trimmer is accessible by means of a screw adjustment located on top of the chassis, to the right of the electrolytic condensers and between the cams and the r.f. trans-

former. The 1400 kcs. lineup condensers are accessible through three holes in the bottom of the cabinet. The extreme left-hand hole is for the r.f. condensers; the middle hole for the detector condenser; and the extreme right-hand hole is for the oscillator condenser. The i.f. tuning condensers are accessible from the rear of the chassis. Two holes near the terminal board for the pickup device are for the second i.f. transformer. See the April issue of R-DEX for further instructions on alignment of sets.

### Flickering Filaments

*A condenser connection broke in my power-pack filter unit. The trouble was repaired, but now a noise can be heard and the lights in the tubes flicker. What do you believe was done to cause this trouble when the set was repaired?*

The description, to us, seems to indicate an intermittently shorted filament supply possibly caused by a defective center-tap resistor. In reconnecting the wires that broke off some error may have been made, and this may have resulted in puncturing one of the filter condensers. This trouble also very closely corresponds to all the symptoms you have cited. We suggest that the supply and wiring of that particular part of the circuit be checked when you examine the units of the condenser block.

### Faulty Filter

*I can turn the volume control of my Atwater Kent model 52 receiver on all the way, but volume is not there and stations above 50 on the dial can hardly be heard. A serviceman claims the trouble may lie in the filter condenser section of the power pack. I do not wish to buy this unit unless necessary. I wonder if the trouble can be in the r.f. plate circuit resistance strip, or in either the detector or first a.f. resistance in the power pack, or both?*

It is quite probable that this trou-



*Raven-haired Aimee Deloro, coloratura soprano, is among the proteges of the veteran showman, Roxy, whom the latter is introducing in the forty-five minute shows over the CBS each Saturday at 8:00 p. m. EST.*

ble is due to a defective detector-plate resistor. This resistor is located immediately under the power-pack cover across the two contacts at the end of the unit—where the cable comes in. Its value is 60,000 ohms, and it should be replaced with one of the metallized types of resistors.

### A Resonance Meter

*Is there some form of visual regulation of volume so that different people with differing opinions about sound intensity can regulate a radio to one sound level?*

It is believed that this problem may be solved by using a resonance tuning meter, which is a d.c. milliammeter placed in the plate circuit of the output tube. The needle of the meter swings to its farthest position when the set is tuned to full resonance. This needle can be used to gage the volume of sound as set by the volume control regardless of individual errors of hearing.

## Double-Spot Tuning

*I have a Pilot all-wave receiver, model 10. When I tune a station on the short-wave band I hear it in two places close together on the dial. This happens on every short-wave station, but not on the broadcast band. For example, if I tune in a station at 50 I also get it on 52. How can this be remedied?*

There are several possible causes of this trouble. If the pretuner and oscillator are out of adjustment, at one setting of the dial the pretuner will attenuate the signal although the resulting intermediate frequency that is created will be favorable for passing the i.f. transformer. At another setting of the dial, close to the first one, the pre-tuner will be resonant to the signal, but the i.f. that is formed will not be correct for the i.f. amplifier peak. In between, these points both will be unfavorable, hence the double spot tuning.

Faulty adjustment of the i.f. amplifier alone may produce this trouble. Overloading of either the first or second detector will often cause double-spot tuning, although this would not necessarily cause such an effect on all short waves. In fact, it would affect the broadcast signals in the same way. We feel confident that proper adjustments to the circuit will clear up the trouble, and that a good serviceman, with good instruments, can do the job in short order.

## Converter on Philco 60

*How can I connect a Stewart-Warner short-wave converter, 301A model, to a Philco 60 receiver?*

It is possible to connect this converter to the Philco 60. However, since the Philco operates with 6 volts on its tubes, and the converter with 2.5 volts, it will be necessary to reduce the filament voltage to the converter. But, because the converter has its own filament transformer, this connection to the Philco receiver is not needed. All you have to do is to

connect the plate pin of the converter to a source of 180 to 220 volts in the Philco set. This source will be found at the plate of the —78 tube—the intermediate frequency stage. A wafer adapter beneath this tube will provide a suitable means of making the contact.

## New Tubes

*Can the tubes in my Philco 90 receiver be replaced with the newer types?*

You have not indicated whether your model 90 uses one -47, two -47s or two -45s. There are three styles of model 90. Two of the -27s, detector-rectifier and detector-amplifier, can be replaced with 56s. The -24A and the -35s are best as they are in this particular circuit. The -47 or two -47s can be replaced with 2A5s and suitable adaptors, if your set uses the -47 type of power tube.

## Pathe Set Dies Out

*I have a Pathe, 1933, t.r.f. set. Sometimes it plays for 10 minutes and then dies out, but by advancing the volume control the diminishing volume returns for 5 or ten minutes more. This happens more often when the volume is almost turned off, but sometimes occurs when it is all the way on.*

The trouble you are experiencing sounds as if it were due to a defective resistor or some tube with a thermal contact that varies when the set becomes warm. Look at the grid-return leads, series plate-resistors, and any plate, grid or cathode-filter resistor. Or a defective grid-suppressor in one of the tubes, warping when it becomes hot, can very easily cause this trouble.

## Signals Are Weak

*I get weak signals on my Philco 90 set when it is working on stations between 1220 and 1500 kilocycles. Why is this?*

It is likely that the oscillator tube either ceases oscillating or becomes weak when tuned to frequencies be-

*(Continued on page 50)*



# HINTS *on* TUNING

*a* S. W. Converter

• • • *By* PAGE TAYLOR

**L**AST month several different types of shortwave receivers were mentioned in RADEX, and it was suggested that for successful reception on the high frequencies, only three different types of receivers should be considered by a beginner, the regenerative, the super-heterodyne, or a converter.

Regenerative sets of less than four tubes are often offered by "bargain" houses for beginners, but these are just the sets which should be avoided. These receivers are usually so critical that only an experienced hand can tune them, and results are so unsatisfactory that it is not worth the trouble. The lone exception is a very fine three tube regenerative set built by one of the leading precision manufacturers and not available through the usual gyp channels.

Two or three tube "superhets" may also appeal to the bargain hunter, but when one is reminded that a superheterodyne circuit requires at least an oscillator, two detectors, and radio, intermediate, and audio frequency stages, one realizes that a minimum of six tubes is required to build a superheterodyne.

## Using B. C. Sets for S. W.

Many of our readers already own good broadcast receivers and do not wish to dispose of them for all-wave sets, nor do they care to entail the expense of another receiver for shortwaves. The converter, then, is the answer to the problem. Converters are comparatively inexpensive, and in nearly all cases, fully as satisfactory as shortwave receivers.

A converter is a device which makes any broadcast band receiver

into a shortwave superheterodyne by changing the shortwave signals to longer waves within the band covered by the conventional broadcast receiver. The radio frequency stages of the receiver become the intermediate frequency stages of a superheterodyne.

Some converters take their power supply from the broadcast set, while others have a built-in power supply. Mr. Daschiell gave complete instructions for building a converter of the former type in the May and June, 1933, numbers of RADEX. This unit is very satisfactory, and the method of hooking the filament circuit into the broadcast set is easy enough so that anyone can do it.

Converters with a built-in power supply require no mechanical connection to the receiver other than a wire running from the output end of the converter to the antenna post of the receiver. Some users even dispense with this wire, although this practice is not recommended.

## The Beat Frequency

Readers who have followed the *Beginners' Story of Radio* in this magazine, understand that when two different frequencies are mixed, two additional frequencies are produced, one equal to the sum of the original frequencies, and the other equal to their difference. That is to say, if 6000 kc/s. and 6575 kc/s. are beat together, additional frequencies of 12,575 and 575 kc/s. are produced. The sum, 12,575, in this case is useless, but the difference, 575 kc/s., falls within the range of a broadcast receiver. This converted signal is then input to the antenna terminal of the receiver, then amplified, de-

ected, and reamplified, exactly as though it were a broadcast band signal picked up on the antenna.

Every converter is built to produce a predetermined intermediate frequency, and the broadcast set should be permanently tuned to this frequency while using the converter.

Because of the proximity of the converter to the b. c. set, the intermediate frequency is usually not very critical, tuning over several kilocycles. In tuning a converter it is necessary first to set the dials of the broadcast set to or near the frequency on which the converter is supposed to work. If a broadcast station should be heard at that point, the closest quiet spot should be located. After this has been done and the change-over switch has been thrown to the s. w. position, all the s. w. tuning is done with the converter dial.

Some converters, like Mr. Dashell's, are designed to have an i. f. covering quite a wide range so that the user will have a better chance of finding a quiet spot. Some others, however, (like the Postal Deluxe) have the i. f. quite sharply defined. The Postal is designed to tune to precisely 545 kcs.

A converter is really a miniature broadcasting station, emitting on its assigned frequency, and the b. c. receiver picks it up. However, as stated above, this miniature broadcaster is placed so close to the receiver that it tunes quite broadly and this permits the user to move the dials of his b. c. set back and forth on either side of the i. f.

During the past several years so many articles on tuning the short-waves have appeared in various radio papers that nearly everyone is now aware that very careful and patient tuning is required to bring in a short-wave station. Of course, veteran tuners can turn quickly to a desired station, but this is a result of much practice, and beginners should never tune haphazardly.

## The Tuning Technique

The method of tuning a converter is the same as of tuning any short-wave set, except that after the signal has been brought up to maximum on the converter, a final adjustment of the broadcast receiver controls is sometimes required.

The volume control of any s.w. receiver or converter, to begin with, should be set about half way between minimum and maximum, so that some static can be heard. "No static, no signals," is an old adage, but true. If the receiver or converter is equipped with a "static eliminator" or "cross talk suppressor" or some such device, set it for maximum static. These things work fine on BC sets, but completely cut out average strength shortwave signals. When the set sounds as though it has some life and powerful code signals can be heard when the dial is turned, commence tuning very slowly.

If the dial is calibrated in kilocycles or megacycles, start some evening near the 6000 kilocycle mark (6 megacycles), and move the dial very slowly. Do not pay much attention to the dial calibrations, as these are seldom accurate. Tune slowly until a "rushing" sound is heard in the speaker (sometimes there will be a slight whistle instead of the rushing sound, or if the set is regenerative, a good whistle will be heard). Sometimes this rushing noise will not be very loud and only slow tuning and careful listening will detect it.

If the receiver is equipped with a tone control, it seems that better success can be had if the control is set for reproduction of "high" notes, as it is easier to detect the rushing sound in this position. As the dial continues to move, the rush will decrease, finally disappear, then reappear, suggesting a V. The point where the "rush" is at its minimum (the bottom of the V), is the point where the station is exactly in tune.

If the station is audible, its voice or music will be heard at this point. If the station is weak the program may not be audible at this peak, but the rushing sound becomes a soft "roar" or "rumble." In this case, very careful adjustment of other controls, such as an antenna trimmer, if one is provided, or an increase in volume, will bring in the station if it is possible to bring it in. It must be noted that any additional tuning, such as an antenna trimmer, will require retuning of the main tuning control.

When the signal has been brought up to maximum volume and intelligibility on the converter, it is often possible to improve it by careful adjustment of the tuning condensers of the broadcast set. After the station is tuned in, the tone control can be changed to the "low note" position, as intelligibility seems to be increased at this setting.

#### Keep Volume Down

The volume of any shortwave set should rarely be set at maximum. Even stations which are coming through with little volume can be heard and more easily understood if the volume control is set slightly below the noise level. It has also been found that with a little practice, it is easier to understand a weak station if one sits back in his chair and tries to listen naturally, rather than put his head into the loudspeaker. When using headphones, we find that stations are more easily understood if the head pieces are allowed to extend below the ears instead of being clamped tightly to the ears.

When it seems impossible to bring up the volume of a station to make it understood, it sometimes pays to hold it in tune for a while and allow the volume to naturally increase. Shortwaves are subject to fading, and many times a station is tuned in when on the low end of a fade. Every old time tuner has at some time or other, started out with the faintest suggestion of a whisper, and,

through careful tuning, and patient waiting, been rewarded by good reception of some prize catch.

*Editor's Note: Next month Mr. Taylor will discuss the calibration of the receiver and the proper methods for determining at what points on the dial the various frequencies will be tuned in. He will describe the making of a graph which serves two purposes, i.e., to tell the frequency of any station that is being received, and to tell where to set the dials for any frequency that may be desired.*

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## Has Anyone a SINGLETON?

THE Singleton and Eliminator contests as carried on by the National Radio Club and by the New Zealand DX Radio Association, have proven very popular with the members of those organizations. For the uninitiated we explain that a Singleton is a verified station claimed by any one member. This stands to his credit until he is eliminated by some other member producing a verification from the same station.

With the limited membership that any club has, it is possible for some members to retain their singleton honors for a considerable time. But would it be possible for any DXer to hold a singleton for any length of time in the face of competition from the entire country? In other words, is it possible that any reader of RADEX has heard a station which no other reader has heard? If they have, that would be an honor indeed.

So let's start a Singleton contest of our own and see if we can find anyone with the unique distinction of having a verification from an existing station which no other listener in the United States or Canada has verified. We must limit this contest to the two countries

named for, obviously, readers in South Africa, for instance, have naturally received stations that have not been heard on the North American continent.

We are publishing in this article a few stations which we have picked at random from the last few issues of this magazine, together with the names of those who have verified these stations. Who can eliminate these singletons? If you, too, have received verifications from any of these stations, advise us at once so that you can be listed as an Eliminator. If, on the other hand, you have a verification which you believe may entitle you to be entered as possessing a Singleton, advise us at once and we will then see who can eliminate you.

It is obvious that only foreign stations have any chance of being a Singleton for, naturally, there is no station in North America which has not been logged by many of our readers. The station claimed must be now on the air in order to give others the opportunity of logging it and thereby eliminating the Singleton. Do not forward your verifications but, on the other hand, do not report any station either as a Singleton or as an Eliminator for which you cannot forward a *bona fide* verification if it should be called for in case of a dispute.

#### This Month's Singletons

To start things off we are listing below stations claimed to have been heard and verified by our readers:

ZTD, Durban, South Africa. C. E. Lowe, Merced, California.

SBA, Stockholm, Sweden. James Blase, 855 Home St., Bronx, N. Y.

HAL, Budapest, Hungary. Richard W. Watts, 19695 Beach Cliff Blvd., Rocky River, Ohio.

4BC, Brisbane, Australia. Frank W. Hoxie, Box 15, South Orrington, Maine.

2ZP, Wairoa, New Zealand. Charles Hesterman, 610 3rd Ave., N., Saskatoon, Sask.

3DB, Melbourne, Australia. William E. Johnson, Vinahaven, Maine.

XOST, Tsinan, China. Warren E. Winkley, P. O. Box 12, Hughson, Calif.

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## The CDXR Contest Cups

THESE beautiful silver cups were donated to the Canadian DX Relay by two members of that efficient organization. The winning of these cups is open to all CDXR members and the contests cover every branch of DX. The three largest are for annual competition. The two smaller cups become the permanent possession of the winners and they will be replaced by new cups each year. The largest cup is nearly fifteen inches in height; this is the highest award of the CDXR.



Reading from left to right the cups are (1) the Singleton-Eliminator Contest Cup, (2) Special Cup for the club member who verifies the greatest number of the CDXR special DX programs, (3) the Championship Cup, (4) the Seasonal Verification Cup for the club member who verifies the largest number of radio stations during the season, and (5) the Foreign Cup for the member who verifies the largest number of foreign stations during the season. Full details regarding the contest may be secured from the Canadian DX Relay, Goderich, Ontario.

# Canadian vs. American Broadcasting

**I**N EVERY questionnaire addressed to the radio listener, "Eliminate the advertising" ranks high in the returns. Is this radio advertising really as objectionable as it would seem from the complaints or is it merely a bugaboo upon which it is convenient to hang our criticisms? It is a self-evident fact that the listeners must pay for their radio programs in some form. Only two methods have so far been devised—the British and Canadian, in which an annual tax is levied upon the listener, and the American in which the listener pays by lending his ear to the seductive voice of the sponsor who provides him with the program.

If we were required to vote on this question tomorrow, we can say honestly that we do not know just how we would mark our ballot. We yield to no one in our dislike of the constant flow of repetitive and uninteresting advertising content of the radio programs. But, on the other hand, we can't say that we would like an annual radio tax of ten or fifteen dollars in addition to all the other taxes we are now required to pay.

The people of Canada are in a position, however, to vote intelligently on this question. They have not only had the advertising system in their own Canadian stations but they can tune in the blurbs and plugs with the programs from the U. S. stations any evening. For more than a year now, they have had the British system in operation in Canada with the programs free from sales ballyhoo BUT a tax on receiving sets.

We want to ask a great favor of our Canadian readers. We want them to act as a jury in this case of TAX vs. BLURBS. We want them to fill out the ballot below and return it to us. We are sure their decision, reached after experiencing both system of broadcasting, will be of great interest to everyone connected with radio. May we count on their cooperation?

As a very small token of our appreciation for their helpfulness in this matter, we will send to every Canadian reader who fills out the ballot, his choice of the three articles named thereon.

**The Radex Press, Inc., 705 Hanna Building, Cleveland, Ohio.**

- I prefer the Canadian system of broadcasting without advertising.
- I prefer the American system of broadcasting without a tax.

Please send me

- The Map of North America.
- The Radio Program "Slate."
- The DX Radio Log of the World.

(Signed) .....

Street and No. ....

City and Province.....

(This offer expires December 1, 1934)

If you do not wish to cut your magazine send your vote on a postal card.

# Hitting the Bull's Eye

*(Continued from page 15)*

sor, 1033 Sanford Ave., Irvington, N. J. "Just being a member doesn't automatically give authority to use the N." Clement has now graduated to the amateur ranks and bears the appellation, W2HNX. "I never thought in August, 1933," he adds, "that I would be looking down upon BCLs a year later. During the 1933-34 season I stayed up every Sunday morning after New Years in order to reach my goal of 450 stations. I wound up in April or early May with 454. In September I am beginning a year's course in the New York school of the RCA Institute to study radio engineering. We get actual practice at the Radio City studios of the NBC and the technical rooms of the Camden RCA-Victor plant.

## Bed Pad Interference

"Monday, the power company made a house-to-house investigation to see what causes a terrible howl in my set. They found it to be—of all things—an electric pad! I have refused to make any further complaint as the user of the pad is a woman past eighty who has not long to live. I am sure she needs her pad more than I need my radio." This explanation of a perplexing interference by Miss Margaret Lynn Hamilton, of Coopersville, Mich., indicates what simple sources of interference may be troubling some of our other readers. Miss Hamilton is an enthusiastic tuner of both the b. c. b. and the s. w. In the 48 hours after installing the Perfect Phone Adapter and the Featherweight phones, she heard KSL, KPO, KGO, KFI, KHQ, KFRC and KDYL on the b. c. b. and the following on the s. w.: YV2RC, YV3RC, HJ1ABB, HJ5ABB, HJ3-ABF, HC2RL, Prado, Pontoise, Daventry, Zeesen, EAQ and CT1AA.

## DX From CFCO

John Beardall of Radio Station CFCO, Chatham, Ontario, writes

that they hope to present a series of DX programs throughout the entire season approximately once every two or three weeks. The station will be on the air on each occasion between 2:30 and 2:45 a. m. EST and will continue from that time until sunrise. Unfortunately for us, no set date will be made for the broadcasts because they depend upon favorable atmospherical conditions. This means that a decision for a broadcast must be made only a few hours before the time of starting. A cash prize will be offered for the most distant report and special mention will be made in their reply cards to those who send return postage, of the fan who sends the most useful report. In the past hundreds of reports were of little or no value and the station hopes to encourage listeners to send useful reports. Those who are at their sets mornings between 2:45 and sunrise would do well to try 600 for CFCO. This station has a Club broadcast every Sunday morning from 9:30 to 10:15 EST to which readers of RADEX are especially invited to listen.

## The Canadian Changes

"I can't understand the CRC changes," complains H. Arbic, Acton, Ont. "CRCT was on 840 in the first place and now they are back again. They completely spoiled CKCR when they put them up on 1510 (for me anyway.) There is a skip distance there or something for we can't get them very well now. I am only 30 miles from Kitchener. The b. c. b. is getting good again and my interest in it has begun to come back. I have heard XEAL several mornings now, also KWWG, Port Arthur; they are both new ones to me. The Californians, KFAC, KTM and KFSD, are heard here till 6:50 EDST, KFAC being the best, almost like a local. My total b. c. stations between 540 and 1510 are 522, not counting deleted ones. I have veries from the smallest station on the b. c. b., VE9EK, 10 watts, and a veri from

one of the far ones, 2BL, 10,120 miles away. Also have KGU."

### Can't Receive "Down-Unders"

"I was DXing this morning and heard WHEF on a special test," reports Wm. Wheatley, "The Kew-DX-er," of 254 Cleveland St., Brooklyn, N. Y. "This is the second time I have heard them and I have a verification from them on my first reception. You list W2XR as silent but they are on every night excepting Saturdays, Sundays and holidays, from 4 p. m. to 6 p. m. EST. (When we list a station as silent it is, of course only for the day shown—Sunday in the October number. Ed.) W2XR is the old television station W2XBR and the address is 41 Park Row, New York City. WMEX in Chelsea has been testing quite often lately from 1 a. m. EST until after 3 a. m. So far I have sent them three reports but have not received a verie; has anyone? At last, after two years, I have received a verification from that stubborn station, WLVA. My log now stands at 589 with 445 verified—but no Aussies nor Zedders. I try night after night for these stations but just can't seem to pull them in although I have such stations verified as KRE, HJN, LR5, CX26, YV1BC, WKAQ, HIX, KUMA, and KGAR. Would appreciate letters on the best time to receive the down-under stations and will answer all promptly."

### 134 Stations In Summer

"The off-season having drawn to its close, I would like to report the results I secured during those months when reception is not at its best," states Howard L. Spies, 1217 Louisiana Ave., N. W., Canton, Ohio. "My count shows a total of 134 stations received with my Midwest 10 on the h. c. b. in the period June-July - August. Outstanding among these were KWTO, WATR, WDAS, WEBR, WFEA, WKBB, WNBX, WNRA, WPHR, WROL and WSAJ. Added to these were 17 s. w. commercials, 24 police and three or four



*Presenting Walter Paterson, blond, blue-eyed and charming, who plays the fascinating "Captain Nicky" in "One Man's Family." He was a rancher in South Africa where he was born, before he came to America and made his radio debut in "Tropic Terrors," an NBC series which he wrote, produced and enacted.*

'pick-up' stations. Among the s. w. were VK3LR, OXY and CJRO. While I do not consider this a remarkable performance, I have spent comparatively little time at DX.

"One of my most interesting experiences on the s. w. was a conversation between the operators who engineered one of the Byrd broadcasts. The pole transmitter was barely R1 but readily distinguishable at times. The Long Island pick-up was R-9 and it took some close attention to jerk the volume for the remote transmitter and then shoot it down for the pick-up to avoid blasting out the ears. (I was using the Perfect Phone Adapter with whose performance, by the way, I am very well pleased). This came through at about 7.2 megacycles."

### Only a Beginner!

Who was it wanted reports from Kentucky? Well, here's one that makes up for lost time. "I wonder

if you would be interested in publishing a beginner's letter," inquires Kenneth C. McCartt, 213 State Street, Lexington. "I have been DX-ing only a year but during that time I have done fairly well. On August 31st, I ended my first year of DX with a total of 1063 stations in 38 countries. This total is divided up as follows: Long wave, 4; b. c. b., 404; police, 64; 'ham', 307; other s. w. stations, 284. Of the 404 on b. c. b. 164 are of 100 watts or less. Some of my best in this list are two of 15 watts and 11 of 100 watts on the west coast. On s. w., I received Surinam, Somaliland, Rumania, Denmark, Sweden, Syria, Japan, Poland, Curacao and Czechoslovakia. Most of the latter were heard on CW.

"I use a Midwest G-10 receiver, a one-tube home-made preamplifier, a 30-foot 5-wire cage aerial 25 feet high, and ten feet of copper tubing as a ground. I find this combination to be so sensitive that I can bring in hundred-watters on the west coast at R7 to R8 volume. I am a member of the IDA and of the NNRC and would be glad to correspond with any who care to write." Better send Kenneth return postage or he won't be able to buy stamps enough to answer all those who will want to know about this record.

#### Choice of Three Aerials

"The September RADEX has arrived which officially opens the 1934-35 DX season for me," proclaims Jack Watrous, La Canada Road, San Mateo, Calif. "This will be my first in this location. It promises to be the best ever for, between ninety degree weather and summer static, I have managed to pull in such stations as CJCA, XEAW, KSD, CJAT and KDFN, all on their regular schedules too. By the time this Indian summer ends and November weather begins, the J's and Aussies should be rolling in very well. I have done a great deal of experimenting with antenna and ground and have reached a fairly satisfac-

tory arrangement. For a ground, I use an eight-foot curtain rod driven into the soil, kept watered always. I have a choice of three aerials at the flip of a switch; one is a 15-foot inverted L, one a cage type and one a doublet. The cage type works about the best of them all probably on account of its being so much higher than the others. I have it mounted on the top of a pole well above the trees. My set is a nine-tube Zenith but only seven tubes are used for b. c., the other two being s. w."

#### Gets 2 BL Every Night

"I started another DX season on September first and added XEXX as my first catch," writes Warren E. Winkley, P. O. Box 12, Hughson, Calif. "I have finally surmounted the 600 mark but my veries are very slow in arriving. I have letters out to 8 Japanese and a few others. CMCO refuses to answer in spite of six requests but I'm going to keep on trying. I think that DX this season is going to be fine. Here is a list of what I heard the other night. In the R8 class comes my old dependable 2BL; I can hear him 99 out of 100 nights with good volume. With R6: 2YA, JOIK, JOAK-1, JOFK, JOHK. R5: 2CO, JOCK-1. R4 to R2; 3YA, 3AR, JOCK, JODK-1, JORK-1, XGOA. I think that is pretty good considering that it is still hot out here. According to a letter from Lieh Fu Chang of XOST. I am the only person in the USA to report them."

#### From Puerto Rico

"Without the least experience, and DXing only after five o'clock every morning, I was able to catch 125 stations last season on my five-tube superhet," states Manuel A. Cadilla, P. O. Box 337, San Juan, P. R. "These included WEXL when it was 50 watts and a 500-watter in Hollywood which is about 4000 miles away. On October first I will start a new season and a new log, disregarding my old one. It is not pos-



sible to start on September first because the thermometer is still 82 at its lowest on the first September morns in Puerto Rico. October is cooler and static more tolerable. I caught CRCT at 5:15 a. m. on September first."

### Reports In Brief

"Just a line to let you know that I heard TGW, Guatemala City on 565 kcs. on August 26th," postcards Paul V. Trice, 379 Grant St., Sharon, Pa. "They came in with very good volume." If it is true as reported that TGW has increased its power to 10,000 watts, many of our other readers ought now to be able to add them to their log on 565 kcs. C. H. W. Nason, Technical Director of TGW, advises us that their hours are 12:00 to 2:30 p.m. daily and 6:30-7:30 and 9-11 p.m. CST week days. Saturday nights they are on until 1 a.m. Sunday. "Others received well during the last part of August include KOH, KWG, KFXM, KMAC, KGB, KIDW, and KHJ. I heard them on a home-made two-tube a. c. set." adds Paul who also reports his first TP, 4QG.

Says Chas. A. Redick, 137 Elgin St., Sarnia, Ont.: "I purchased a Philco 6-tube radio on September 23rd. Since that time I have logged 45 stations in the U. S., Canada, Cuba, Porto Rico, and, best of all, GSD and GSB in Daventry, England. The call letters of the Massillon, Ohio, police station are WPHC!"

"I thought I would write and tell you of my success in radio DX," begins Norquay Scott, 279 Briar Hill Ave., Toronto, Ont. "I am only 17 years old but have been a fan for about four years. I have a grand total of 569 on the b. c. b. with over 400 verified. I have a verie from KGU in Honolulu which people here say is a great catch to have verified. I would like to know if any others in Toronto have KGU. I have 200 odd verifications on the s. w. and these were displayed at the Canadian National Exhibition in the RCA-Victor

radio booth. My set is an RCA-Victor all-wave."

"I was listening to WINS, 1180 kcs, at about 12:30 p. m. EST, and moved the dial to about 1190 kc. and there was a noise that sounded like a siren but I could not get a call. Do you have any idea what this could be?" queries John Iles, 1645 Ortnodox Street, Philadelphia. "I heard the time signals at noon over NAA, 690 kcs., and the announcers gave the location as Washington, D. C., whereas your magazine says it is at Arlington, Va." NAA is operated by the U. S. Navy. The transmitter is located at Arlington, Va., just across the river from Washington. They do not have a studio in the accepted use of the word.

One who signs himself "The DX-ing Fool" takes exception to the letter by "An 'OM' De-Exer" in the September issue. The latter ought to know, thinks the former, that time, patience and a good set will complete any state due to the frequency tests and the various DX clubs who arrange programs with the hard-to-get stations and especially the daytime stations. "I correspond with a DXer," writes the DF, "who has just logged KTRB to complete California and as soon as his veri arrives, the state will be completely logged and verified. This chap is a square honest shooter and they don't come any better."

"I am only twelve years old and have only 65 stations but a Radiola 28 tunes fairly wide," reports Harry Will, 1406 Montreal, Dallas, Texas. "I could get KGKO clear as a whistle when they had 250 watts but now I can't get a budge out of them since they have 500 watts. I consider KOB my best station but it is hard to get on account of WOAI in San Antonio. I don't verify stations 'cause Daddy says it would cost too much. I would like to correspond with any other DXers as young as I am."

A new recruit to RADEX ranks,

Ernest Lockyer Wills, 138 Lelieure Street, Montreal, Que., writes: "My radio is a Marconi model 35, 11-tubes. Two weeks ago I bought a Philco converter. I am getting excellent results. Have received VE9GW, W8XK, COC, W3XAL, HVJ, GSE, GSB, GSA, DJD and EAQ."

"My log stands at 294," summarizes Manual J. Hamilton, 1753 Kensington Ave., Youngstown, Ohio, "and my best catches are KXO, KGEK, CHGS, 10-BP and 10-BQ. Last but not least is 3YA. I have DXed with about everything from a crystal set to a ten-tube super. The present set is home-made, using two 24 t. r. f., one 24 detector, 27 and 45 as audio. I would like to hear from others using home-made t. r. f. sets, also DXers in Central and South America."

"Down here in south Georgia, DX has started off with a bang," exclaims Joel H. Armantrout, 602 E. Magnolia St., Fitzgerald, Ga. "Already have heard 2BL, 4RK, 4BC, JOCK-2, JOBK-2. After revising from summer changes, my log stands at 612 with 133 verified and 25 reports out. Heard LR5 the other a. m. LS2 has failed so far to come through at all; WSAZ is too much for them. Would like to hear from any DX fans who have had experience in hooking loop aerial to radio; would also like to hear from any foreign fans who will exchange postage stamps with me."

"The only time I can do any DX-ing is on Sunday mornings from September first to April 15th of each year," laments John J. Swatko, 216 East 5th Ave., Homestead, Pa. "I have heard 493 stations to date and have 430 of them verified. My best catches are KFWI, KCAX, CFCN, WRDO, KHQ, KOY, KMPC, KDFN, CHGS, WKAQ, CMCA, HIX, CFNB and KBTM. I have been a member of the NNRC for the past three years. On September 8th, I had the pleasure of speaking on the KDKA Radio

Club program. It was an interesting experience."

"During September, I added LS2. CMCO, KOTN, WMEX, WLNH and WHBI to my log of 714 stations which also includes LR5, PP, RN, IMI, FON, CX26, HJN, YV1BC, 2BL, 4QG, CFCT, KPCC, KFPM, VONA, KGU and 10AB. LS2 came through the transmission of WOAI and at times completely blanketed the latter. It was received at 8:15 p. m. EDST." This report is from Stuart Leland, St. John Place, New Canaan, Conn.

"My summer DX was not so hot," admits H. H. Searles, 349 Broadway, Rochester, N. Y. "But I did manage to add two new stations, WMEX and WTEL, bringing my log to 460 with 126 verified. My best are LR5, YV3BC, 10-BQ, WKAQ, KWG and XES, all verified. I heard XENT the other night asking for reports on their reception."

"My log now stands at 295 with my Crosley 173," reports Robert Hoffman, 306 West School Lane, Germantown, Philadelphia. "My latest additions are KJR, KGO, KVOD and others. I have just installed an Ollie Ross ground and have joined the CDXR and the NRC. Reception is picking up."

"Am about to begin the '34-35 DX season with 558 stations logged," report Llody Harrison, 130 S. Hague Ave., Columbus, Ohio. "My best are LR5, KFPM, CHGS, CJCA, KXL, KGFJ, WKAQ. Does any other DXer use a McMillan set?"

## Last-Minute Tips

Sunday Mornings			
<b>Nov. 4</b>			
3:00-3:30	CJGN	630 500	Yorkton
<b>Nov. 11</b>			
4:00-4:30	CKB1	1210 100	Prince Albert
<b>Nov. 18</b>			
3:00-3:45	CJLS	1310 100	Yarmouth
<b>Nov. 25</b>			
2:00-3:00	CKGB	1420 100	Timmins
2:30-4:00	LS-2	1190 500	Buenos Aires
3:00-4:00	CJKL	1310 100	Kirkland Lake
4:00-5:00	CFCH	930 100	North Bay

## Using Head-Phones

**N**OW and then an inventor brings out a device for the improvement of a radio receiver which causes one to wonder why the set manufacturer himself does not install it. Such an invention is the Perfect Phone Adapter introduced by Radio Parts Co., 1401 Prospect Ave., Cleveland, Ohio.

The Perfect Phone Adapter is extremely simple but most effective. It consists of a small jack-box which can be screwed to the underside of the console where it is out of sight but yet readily accessible. Leading from this box is a cable to which is attached either one or two small socket adapters. The power tube or tubes are removed and the small adapters placed in their sockets; the tubes are replaced in the adapters and the device is installed.

The tips on the cords of the phones are placed in a phone-plug. When this plug is inserted in the jack, the signals are automatically transferred to the phones and the speaker is silenced. There is no change whatever in the wiring of the receiver which is fortunate, for cutting wires in a set is a hazardous undertaking. Neither is there any change in the load or balance of the set.

Thousands of radio listeners want to use head phones. This applies particularly to those who are hard of hearing, those who like to DX in the small hours of the night while the rest of the family sleep in peace, and those who want to identify those faint calls from far-distant stations which they cannot distinguish on the speaker.

"The first night I used the Perfect Phone Adapter," writes Clyde E. Lowe, 730 K St., Merced, Calif., "I identified three Australians I was never able to do on the speaker. I wouldn't be without my adapter and phones for four times the price." And Howard L. Spies, 1217 Louisiana

Ave., N. W., Canton, Ohio, who had the interesting experience of listening to a conversation between the operators who engineered one of the Byrd broadcasts, says: "I was using the Perfect Phone Adapter with the performance of which I am very well pleased." Irving Goodeve, 1619 Krom Ave., Kalamazoo, Mich., adds: "The first hour I used the Perfect Phone Adapter I picked up ON4BZ, a Belgian amateur on 20 meters. You can tell the world the Perfect is *perfect*."

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## A Timely Warning

**I**HAVE a 1934 Grunow 8-tube superhet. I was fooling around with the adjustments on the tuning condensers and the two adjustments underneath the set. Now I cannot get the dial to read properly. Below 1130 it goes off up to 20 points. The set is no longer selective. Would appreciate any help you can give me." We are very sorry that it is impossible for us to help this reader undo what he has done. It is quite impossible to tell at this distance just what he has done to his set. We can only say in the immortal words of Joe Penner "Don't do that." We hope the experience of this reader will be a warning to thousands of others. Don't think that you can improve upon the work of the skilled engineers who built your receiver. When one buys a new set of the latest type, he can feel sure that the engineers who designed it and the workmen who built it and inspected it before it was shipped to him, have done the very best possible and that no adjustments he can make will improve upon their work. If one bought a fine watch, he would never dream of taking a screw driver and trying to improve upon the mechanism. Why then does he yield to the urge to "monkey" with his radio set?

If one has an old set which has

gone wrong or which is no longer performing as it did then one knows that there is a trouble and this trouble is capable of being corrected. but to tinker with a new set is just inviting trouble and expense.

To this word of warning, Howard L. Spies, Canton, Ohio, adds: "I was glad to see you publish in the September issue a strong word against persons without technical knowledge attempting to change wires or make 'hit-or-miss' tests. I have read numerous things which I would like to try out but not knowing just how to go about it, I rather wisely, I think, left 'well enough alone.' I am very satisfied with the performance of my Midwest and although I am always eager to improve the reception, I would hate to have some experimenting on my part result in blowing a set of tubes, two or three condensers, or what not."

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## IDA Embraces

### Short Waves

**T**HE expansion of the field of radio to include the short waves in a popular sense, is indicated by the recent action of the International DXers Alliance in broadening their organization to include the short wave as well as the broadcast band. Interest in s.w. radio has been growing by leaps and bounds for the past few years. The introduction of short wave converters and all-wave sets has interested thousands whose tuning has heretofore been limited to the broadcast band.

The IDA has in the past limited its field to the stations on the b. c. b. at least 2000 miles distant from the listener. Now however a DXer may be eligible for membership who has verifications from foreign broadcasting stations on the s. w. band in at least three different continents. The degree of DSW will be conferred

upon any member furnishing proof of 100 or more s. w. verifications with at least three from each of the six major continents. Captain Horace L. Hall of New York City, a well-known short wave authority, has been named director of the club's short wave activities.

The IDA now has more than 400 members in over 34 countries as well as 40 states of the Union. The dues are \$1.00 annually. Charles E. Morrison, Bloomington, Illinois, is the president of the organization.

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## Technical Tips

*(Continued from page 38)*

tween 1200 and 1500 kilocycles, which is the lower wave end of the dial. We advise that you check the coupling between the plate and grid circuits of the oscillator tube. Examine the tuning condenser that controls oscillation to see whether it is shorted when tuned to positions between 1200 and 1500 kcs. See that all contacts are perfect and that shields are tight. It is necessary that the oscillator tube itself be in good condition, a situation that does not always show up on a test. Replace the tube with another to see if there is any improvement.

*Editor's Note: Only the reader will know whether he possesses the technical knowledge and correct instruments to warrant him in making these changes and corrections. In case of doubt, call in an experienced serviceman. Bear in mind that a radio receiver is an extremely delicate and sensitive instrument and may very easily be thrown out of adjustment.*

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In each of the next several issues, Mr. Dashiell will describe one of the new 1935 receivers and point out its most interesting features. Be sure to read these articles if you are thinking of buying a new set.

# November DX Calendar

(Continued from page 4)

5:00-5:20	WJBK	1500	100	Detroit
	KWCR	1430	250	Cedar Rapids
5:10-5:30	WIBU	1210	100	Poynette
	KGFI	1500	100	Corpus Christi
5:20-5:40	WHDF	1370	100	Calumet
	WLBK	1420	100	Kansas City
5:30-5:50	WCRW	1210	100	Chicago
	KGKB	1500	100	Tyler
5:40-6:00	WTAQ	1330	1000	Eau Claire
	WMBH	1420	100	Joplin
<b>November 30</b>				
10:00-6:00	WJAX	900	1000	Jacksonville
		<b>November 2, 9, 16, 23, 30</b>		
10:00-1:00	CMBX	1185	250	Havana
1:00-2:30	XEX	1310	125	Monterrey
2:30-4:30	CKMO	1410	100	Vancouver

## Saturday Mornings

**November 3**

2:10-2:30	WBRB	1210	100	Red Bank
2:20-2:40	WWRL	1500	100	Woodside
2:30-2:50	WGNV	1210	100	Chester
2:40-3:00	WMBQ	1500	100	Brooklyn
2:50-3:10	WGBB	1210	100	Freeport
3:00-3:20	WOKO	1430	500	Albany
	WTNJ	1280	500	Trenton
	KTRH	1330	1000	Houston
3:10-3:30	WGL	1370	100	Fort Wayne
	KFPW	1210	100	Fort Smith
3:20-3:40	KFXR	1310	100	Okl. City
	WNYC	810	500	New York
	WWAE	1200	100	Hammond
	WTAW	1120	500	College Station
3:30-3:50	WOV	1130	1000	New York
	WLBC	1310	100	Muncie
	KASA	1210	100	Eik City
3:40-4:00	WINS	1180	1000	New York
	WFAM	1200	100	South Bend
	KWLC	1270	100	Decorah
3:50-4:10	WCAP	1280	500	Asbury Park
	KWKC	1370	100	Kansas City
4:00-4:20	WJAY	610	500	Cleveland
	KGCA	1270	100	Decorah

4:10-4:30	WBNS	1430	500	Columbus
	KFVS	1210	100	Cape Girardeau
4:20-4:40	WWJ	920	1000	Detroit
	KGHL	780	1000	Billings
4:30-4:50	KQV	1380	500	Pittsburgh
	KDLR	1210	100	Devils Lake
4:50-5:10	WSMK	1380	200	Dayton
	KFXJ	1200	100	Grand Junction
5:00-5:20	WAVE	940	1000	Louisville
	KFDM	960	500	Beaumont
5:10-5:30	WADC	1320	1000	Akron
	KWTN	1210	100	Watertown
5:15-6:15	WSUI	880	500	Iowa City
5:20-5:40	WSPD	1340	1000	Toledo
	WEW	760	1000	St. Louis
5:30-5:50	KWEA	1210	100	Shreveport
5:40-6:00	WLAP	1420	100	Lexington
5:50-6:10	KGGM	1230	250	Albuquerque

**November 10**

2:00-4:00	10-BQ	1200	15	Brantford
<b>November 17</b>				
2:00-3:00	COK	1150	250	Havana
3:00-6:00	WTRC	1310	50	Elkhart
4:30-6:00	VONF	950*	5000	St. John's
5:00-6:00	KMAC	1370	100	San Antonio
		*May be on 940 or 960.		

**November 24**

12:00-8:00	KGIR	1360	1000	Butte
3:00-5:00	XED	1160	500	Guatemala City
<b>November 3, 10, 17, 24</b>				
12:00-12:30	WGAR	1450	500	Cleveland
12:30-1:00	KDKA	980	500000	Pittsburgh
12:00-3:00	WGES	1360	500	Chicago
1:00-3:00	TGX	1400	150	Guatemala
	CMCW	540	150	Havana

Particularly for those who have never logged WBOQ, the Columbia Broadcasting System will provide a special DX program dedicated to the NNRC on Sunday morning, December 9th, from 3:00 to 4:00 a.m. EST. The call WBOQ will be used.

## THE MONTH'S CHANGES IN STATION DATA

### FREQUENCIES

540	CMCW	Havana, Cuba, from 965
609	FQN	St. Pierre, Miquelon, from 574
610	CMCF	Havana, Cuba, from 780
635	CMBY	Havana, Cuba, from 965
725	CMK	Havana, Cuba, from 730
765	CMX	Havana, Cuba, from 890
840	CMQ	Havana, Cuba, from 645
845	XEXX	Mexico City, Mexico, from 850
915	CMBS	Havana, Cuba, from 780
920	WSPA	Spartanburg, S. C., from 1420
930	CMW	Havana, Cuba, from 595
950	VONF	St. John's, Nfld., from 1195
955	CMCD	Havana, Cuba, from 925
971.5	CMGF	Matanzas, Cuba, from 987
1005	CMBZ	Havana, Cuba, from 1010
1040	CMBC	Havana, Cuba, from 1270
1150	COK	Havana, Cuba, from 1230
1175	COA	Havana, Cuba, from 890
1200	CMCJ	Havana, Cuba, from 1185
1255	CMCU	Havana, Cuba, from 1100
1280	CMCO	Havana, Cuba, from 1145
1350	CMBD	Ciego de Avila, Cuba, from 1010
1370	WOC	Davenport, Iowa, from 1420
1375	CMBG	Havana, Cuba, from 1060
1400	CMCR	Havana, Cuba, from 1375
1425	CMBX	Havana, Cuba, from 1185

1450	CMCQ	Havana, Cuba, from 680
1475	CMCG	Havana, Cuba, from 1140
1500	CMCN	Havana, Cuba, from 1375

### NEW

550	WSVA	Staunton, Va.
850	WHPA	Clarion, Pa.
1320	CMCK	Havana, Cuba

### CALLS

1210	WCOL	Columbus, Ohio, formerly WSEN
1370	WOC	Davenport, Iowa, formerly KICK

### LOCATION

1370	WOC	Davenport, Iowa, from Carter Lake, Iowa
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### DELETE

1085	VOEKW	St. John's, Nfld.
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### POWER

920	WSPA	Spartanburg, S. C., 100 to 1000
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### PERMIT TO CHANGE LOCATION

1080	WCBD	Zion, Ill., to Waukegan
1210	WALR	Zanesville, Ohio, to Toledo, Ohio
1420	WHDL	Tupper Lake, N. Y., to Olean

# WHAT'S ON THE AIR TONIGHT

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

COLUMBIA.....(C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

TIME: 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; 25th Century**  
CKLW WAAB WABC WBNB WCAO  
WCAU WFBL WHEC WHK WJAS  
WJSV WKBW WKRC WOKO

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

C — **The Shadow; Drama**  
WAAB WABC WCAO WCAU WDRC  
WEAN WFBL WHEC WHK WJSV  
WKBW WOKO WOKC

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

R — **Billy Batchelor**  
WBEN WCAE WCGH WEAF WEEL  
WFBR WFI WJY WJAR WRC  
WTAG WTAM WTIC WWJ

B — **Lowell Thomas**

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

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

C — **Myrt and Marge**  
WABC WADC WBT WCAO WCAU  
WDAE WDBO WFLA WFBL WGR  
WJAS WJSV WKRC WNAC WOKO  
WQAM WSPD WTOC WWVA

B — **Amos 'n' Andy**

CRCT KDKA WBAL WBZ WBZA  
WCKY WENR WFLA WGAR WHAM  
WIOD WJR WJZ WLW WMAL  
WPTF WRVA

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

R — **Gene and Glenn**  
WBEN WCGH WEAF WEEL WFBR  
WFLA WGY WIOD WIS WJAR  
WJAX WPTF WRC WTAG WUNC

B — **Willard Robison; Mildred Bailey**

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

E — 7:30 p.m., C-6:30, M-5:30, P-4:30

C — **Silver Dust Serenaders**  
WABC WCAO WCAU WDRC WFBL  
WGR WHEC WHP WJAS WJSV  
WMAS WOKO WORO WWVA

C — **Buck Rogers; 25th Century**

KMBC KMOX KRLD KTRH KTSB  
WBHM WBT WCCO WDSU WFBM  
WGST WHAS WMBG

R — **Al Bernard and Paul Dumont**

KSD WOSH WDAF WEAF WGY  
WHQ WJAR WMAQ WOC WRC  
WSAI WTAG WTAM WWJ

B — **Red Davis; Drama**

KDKA KOIL KPRC KSO KSTP

KTBS KWCR KWK WAVE WBAL  
WBZ WBZA WEBC WENR WFLA  
WHAM WHA WIOD WIS WJAX  
WJDX WJZ WKY WMAL WMC  
WPTF WREN WRVA WSB WSM  
WSMB WSYR WTAR WWNC

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

C — **Boake Carter for Philco**  
CKLW KMBC KMOX WABC WBBM  
WBT WCAO WCAU WCCO WGR  
WHAS WHK WJAS WJSV WNAC

R — **Frank Buck Program**

KSD WBEN WCAE WCGH WDAF  
WEAF WGI WIT WMAQ WOW  
WRC WSAI WTAM

B — **Dangerous Paradise; Drama**

KDKA KOIL KSO KTBS KVOO  
KWCR KWK WHAL WBZ WBZA  
WENR WFPA WGAR WHAM WJR  
WJZ WKY WMAL WAOI WREN  
WSB WSM WSMB WSYR

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

C — **Bar X Days; Carson Robison**  
CKLW KDB KERN KFBK KFPY  
KFCF KGB KIJ KLZ KMBC KMJ  
KMOX KOIN KOL KSL KVI KWG  
WABC WBBM WBNB WCAO WCAU  
WCCO WDRS WEAN WFBL WFBM  
WGR WHAS WHEC WHK WJAS  
WJSV WKRC WNAC WOKO

R — **Richard Himber and Orchestra**

KPRC KSD KTBS KVOO WHAF  
WBEN WCAE WCGH WDAF WEAF  
WEEL WFPA WGY WHO WJAR  
WKY WMAQ WQAI WOC WOW  
WRC WSAI WTAG WTAM WTIC

B — **Jan Garber and Orchestra**

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR  
KWK WBAL WBZ WBZA WGAR  
WHAM WJR WJZ WKBK WLS WLW  
WMAL WREN WSYR

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

C — **Edwin C. Hill**  
CKLW KMBC KMOX WABC WADC  
WBBM WCAO WCAU WCCO WDRC  
WEAN WFBL WFBM WGR WHAS  
WHK WJAS WJSV WKRC WNAC  
WOKO WSPD

C — **Billy Batchelor**

KDB KERN KFBK KFPY KFCF  
KGB KIJ KMJ KOIN KOL KVI  
KWG

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

C — **Atwater Kent Program**  
CKLW KDB KERN KFBK KFPY  
KFCF KGB KIJ KLZ KMBC KMOX  
KMT KOIN KOL KRLD KSL KVI

KWG WABC WADC WBBM WBT  
WCAO WCAU WCCO WDDO WDRC  
WDSU WEAN WFBL WFBM WGR  
WHAS WHK WJAS WJSV WKRC  
WMT WNAC WOKO WOWO WQAM  
WSPD

R — **Voice of Firestone**

CFCF CRCT WBEN WCAE WCGH  
WDAF WEAF WEEL WFBR WGY  
WJAR WLIT WLW WMAQ WRC  
WTAG WTAM WTIC WWJ

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

C — **Chesterfield Program**  
CKLW KDB KERN KFBK KFI  
KFPY KFCF KGB KGMB KIJ  
KLRA KLZ KMBC KMJ KMOX  
KOH KOIN KOL KOMA KRLD  
KSCJ KSL KTRH KTSB KTUL  
KVI KWG WABC WACO WADC  
WALA WBBM WBIG WBNB WBRD  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDDO WDRC  
WDSU WEAN WFBL WFBM WFEA  
WGST WHAS WHEC WHK WHP  
WIBW WICC WISN WJAS WJSV  
WKBH WKBW WKRC WLAC WLWB  
WLBZ WMAS WMBD WMBG  
WMBR WMT WNAC WNAX WOKO  
WORC WOWO WPG WQAM WREC  
WSFA WSS WSPD WTOC

R — **A & P Gypsies**

KSD WBEN WCAE WCGH WDAF  
WEAF WEEL WGY WHO WJAR  
WLIT WMAQ WOC WOW WTAG  
WTAM WTIC WWJ

B — **Sinclair Greater Minstrels**

KDKA KFI KFSB KFYR KOA KOIL  
KPO KPRC KSO KSTP KTAI KTBS  
KTBS KVOO KWK WBAL WBZ  
WBZA WDAY WEBC WFPA WFLA  
WGAR WHAM WHA WIOD WIS  
WJAX WJDX WJR WJZ WKY WLS  
WLW WMC WQAI WPTF WREN  
WRVA WSB WSM WSMB WSOC  
WTAR WTMJ WUNC

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

C — **The Big Show**  
CKAC CKLW KFAB KLZ KMBC  
KMOX KSL WABC WADC WBBM  
WBNB WBT WCAO WCAU WCCO  
WDRC WDSU WEAN WFBL WFBM  
WHAS WHK WICC WJAS WJSV  
WKBW WKRC WNAC WOKO  
WOWO WREC WSPD

R — **Colgate House Party**

KDYL KFI KFYR KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP  
KTBS KVOO WBEN WCAE WCGH  
WDAF WDAY WEAF WEBC WEEL

## MONDAY (Continued)

WFAA WFBR WFLA WGY WHO  
WIBA WIOD WIS WJAR WJAX  
WJDX WKY WLIT WLW WMAQ  
WMC WOAI WOC WOW WPTF WRC  
WRVA WSAI WSB WSM WSMB  
WTAG WTAM WTMJ WWJ WWCN

### B — Princess Pat Players

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

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

### C — Wayne King and Orchestra

CKLW KDB KERN KFAB KFBK  
KFPY KFCR KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KRLL  
KSL KVI KWG WAAB WABC WADC  
WBHM WBNS WCAO WCAU WCCO  
WDRS WDSU WEAN WFBL WFBM  
WHAS WHK WIBW WJAS WJSV  
WKBW WKRC WOKO WSPD

### R — Contented Program

CFCF CRCT KDYL KFI KFYY  
KGO KGW KHQ KOA KOMO KPRC  
KSD KSTP WBEN WCAE WFSH  
WDAF WFAF WEBC WEEL WFAA  
WFBW WGY WHO WJAR WKY  
WLIT WLW WMAQ WMC WOAI  
WOC WOW WRC WSB WSM WTAG  
WTAM WTIC WTMJ WWJ

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

### C — Emery Deutsch and Orchestra

CFRB CRAC CKLW KFH KGKO  
KLRA KLZ KMBC KOIL KRLL  
KTRH KTSK KTVR KWKH WAAB  
WABC WACO WADC WALA WBIG  
WBNS WBRC WBT WCAU WCAU  
WDAE WDBJ WDOO WDNC WDSU  
WEAN WFBL WFBM WFEA  
WGLC WGR WHC WHK WHP  
WIC WISN WJAS WJSV WKRC  
WLAC WLWB WLWZ WMAS WMBD  
WMBG WMBR WMT WNAX WNOX  
WOKO WORC WPG WQAM WREC  
WSBT WSFA WSJS WSPD WTOC

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

### C — Talks on Health Problems

CFRB CKLW KFH KLRA KLZ  
KMBC KOH KRLL KTRH KTSK  
KTVR KWKH WAAB WABC WACO  
WADC WALA WBIG WBNS WBRC  
WBT WCAU WCCO WDAE WDBJ  
WDBO WDNC WDOO WDSU WEAN  
WFBL WFBM WFEA WGLC WGR  
WHC WHK WHP WIBW WIC  
WISN WJAS WJSV WKRC WLAC  
WLWB WLWZ WMAS WMBD  
WMBG WMBR WMT WNAX WNOX  
WOKO WORC WPG WQAM WREC  
WSBT WSFA WSJS WSPD WTOC

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

### C — Myrt and Marge

KDB KERN KFAB KFBK KFPY  
KFCR KGB KHJ KLRA KLZ KMBC  
KMJ KMOX KOIN KOL KOMA  
KRLL KSL KTRH KVI KWG WALA  
WBHM WBRC WCCO WDSU WFBM  
WGST WHAS WLAC WREC WSFA

### B — Amos 'n' Andy

KOIL KPRC KSTP KTHS KWK  
WBAF WCKY WDAF WENR WFAA  
WJR WKY WMC WOAI WREN  
WSB WSM WTMJ

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

### C — Leon Belasco and Orchestra

KLRA WABC WALA WBRC WBT  
WCAO WDAE WDBJ WDOO WDNC

WDDO WDRC WDSU WEAN WFEA  
WJSV WLAC WLWZ WMAS WMBG  
WMBR WNAC WNOX WORC WPG  
WQAM WREC WSFA WSJS WTOC

### C — Edwin C. Hill

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

### R — Gene and Glenn

KDYL KFI KFSD KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP  
KTAR KTHS KTHS WAVE WCAE  
WDAF WEBC WFAA WHO WIBA  
WJDX WKBF WKY WMAQ WMC  
WOAI WOC WOW WSAI WSB WSM  
WSMB WTAM WTMJ WWJ

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

### R — Voice of Firestone

KDYL KFI KFSD KFYR KGHL  
KGR KGO KGU KGW KHQ KOA  
KOMO KSD KSTP KTAR WDAF  
WDAY WECB WHO WIBA WKBF  
WOC WOW WTMJ

## TUESDAY

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

### C — Buck Rogers, See Monday

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

### C — Musical Appreciation Program

CKLW KLRA WABC WALA WBIG  
WBRC WBT WCAO WDAE WDBJ  
WDOO WDNC WDDO WDRS WDSU  
WEAN WFEA WGLC WHC WHK  
WHP WJAS WJSV WKBW WKRC  
WLAC WLWB WLWZ WMAS WMBG  
WMBR WNOX WOKO WORC WQAM  
WREC WSFA WSJS WSPD WTOC  
WWVA

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

### R — Billy Batchelor, See Monday

### 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

### R — Gene and Glenn, See Monday

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

C — Whispering Jack Smith  
WABC WCAO WCAU WDRS WEAN  
WFBL WGR WJAS WJSV WNAC  
WOKO WORC

### B — Household Musical Memories

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

### C — Buck Rogers, See Monday

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

### C — Boake Carter, See Monday

### R — Frank Buck, See Monday

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

### C — Frank Munn; Gustav Haenschel

CKLW KMBC KMOX WABC WADC  
WBHM WCAO WCAU WDRS WEAN  
WFBL WFBM WGR WHAS WHK  
WJAS WJSV WKRC WNAC WOKO

### R — Leo Reisman and Orchestra

WBEN WCAE WFSH WFAF WFEI  
WFBW WFI WGY WJAR WMAQ  
WRC WTAG WTAM WTIC WWJ

### B — Eno Crime Clues

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

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

### C — Billy Batchelor, See Monday

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

### C — Abe Lyman; Vivienne Segal

CFRB CKLW KMBC KMOX WABC  
WADC WBBM WCAO WCAU WCCO  
WDRS WEAN WFBL WFBM WGR  
WHAS WHK WJAS WJSV WKRC  
WNAC WOKO WOW WSPD

### R — Wayne King and Orchestra

KPRC KSD KSTP WBEN WCAE  
WFSH WDAF WFAF WFEI WFAA  
WFI WGY WHO WJAR WKBF WKY  
WMAQ WMC WOAI WOC WOW  
WRC WSAI WSB WSM WSMR  
WTAG WTAM WTIC WTMJ WWJ

### B — Lawrence Tibbett

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

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

### C — Bing Crosby

CKLW KDB KERN KFBK KFPY  
KFCR KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KRLL KSL  
KTUL KVI KWG WABC WADC  
WBBM WBT WCAO WCAU WCCO  
WDRS WDSU WEAN WFBL WFBM  
WGST WHAS WHK WJAS WJSV  
WKBW WKRC WNAC WOKO  
WOWO WWRN WSPD

### R — Ben Bernie and Orchestra

KFYR KOA KPRC KSD KSTP  
KTBS WBAP WBEN WCAE WFSH  
WDAY WFAF WEEI WFBW WFI  
WGY WJAR WJDX WKY WMAQ  
WMC WOAI WOW WRC WWSB WTAG  
WTAM WTIC WTMJ WWJ

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

### B — Story Behind Claim; Drama

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

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

### C — Isham Jones and Orchestra

CKLW KDB KERN KFAB KFBK  
KFH KFPY KFCR KGB KGKO  
KHJ KLRA KLZ KMBC KMJ KMOX  
KOH KOIN KOL KOMA KRLL  
KSCJ KSL KTRH KTSK KTUL KVI  
KWG KWKH WABC WACO WADC  
WALA WBBM WBNS WBRC WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDDO WDRS WDSU WEAN  
WFBL WFBM WFEA WGST WHAS  
WHC WHK WHP WIBW WTBX  
WICC WIND WISN WJAS WJSV  
WKBW WKBW WKRC WLAC  
WLWB WMAS WMBD WMBG  
WMBR WMT WNAC WNAX WNOX  
WOKO WORC WOWO WPG WQAM  
WREC WSFA WSJS WSMK WSPD

### R — Ed Wynn; Eddie Duchin

KDYL KFI KFSD KFYR KGHL  
KGR KGO KGW KHJ KOA KOMO  
KPRC KSD KSTP KTA KTBS  
KTHS KVVO WAVE WDAY WHEN  
WCAE WFSH WDAF WDAF WFAF  
WFCB WEEI WFBW WFI WFLA  
WGY WHO WIBA WIOD WIS WJAR  
WJAX WJDX WKBF WKY WMAQ  
WMC WOAI WOW WPTF WRC  
WRVA WSB WSM WSMB WSOB  
WTAG WTAM WTIC WTMJ WWJ  
WWNC

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

### C — Glen Gray; Walter O'Keefe

CKLW KFAB KFH KLRA KMBC

## TUESDAY (Continued)

KMOX KOMA KRLD KSCJ KTRH  
KTSa KTUL KWHL WAHC WACO  
WADC WALA WBBM WBIG WBNS  
WBRC WBT WCAO WCAU WCCO  
WDAE WDBJ WDBO WDNC WDOJ  
WDRC WDSU WEAN WFBL WFBM  
WFEA WGST WHBC WHH WHP  
WBW WCC WISN WJAS WJSV  
WKBN WKRW WKRC WLAC  
WLWB WLHZ WMAS WMBD  
WMBG WMBR WMT WNAc WNOX  
WOKO WORC WOWO WPG WQAM  
WREC WSFA WSJS WSPD WTOC

### R — Palmolive Beauty Box

CFCE CRCT KDYL KFI KFSD  
KFYR KGHL KGIR KGO KGW  
KHQ KOA KOMO KPRC KSD KSTP  
KTAR KTBS KVoo WAve WBAp  
WBEN WCAE WCHS WDAF WDAY  
WEAF WEBC WEEI WFBR WFLA  
WGY WIO WIOD WIS WJAR WJAX  
WJDX WKBF WKY WLW WMAQ  
WMC WOAI WOC WOW WPTF  
WRC WRVA WSB WSM WSMB  
WSOC WTAG WTAM WTMJ WJW  
WVNC

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

### C — George Givot

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KOH  
KOMA KRLD KSCJ KTRH KTSa  
KVOR KWHL WAAB WABC WACO  
WADC WALA WBIG WBNS WBRC  
WBT WCAO WCAU WDAE WDBJ  
WDBO WDNC WDOJ WDRC WDSU  
WEAN WFBL WFBM WFEA WGLC  
WGR WHBC WHH WHP WBW  
WCC WJAS WJSV WKRC WLAC  
WLWB WLHZ WMAS WMBD  
WMBG WMBR WMT WNAc WNOX  
WOKO WORC WPG WQAM WSBT  
WSFA WSJS WSPD WTOC

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

### C — Myrt and Marge, See Monday

### B — Amos 'n' Andy, See Monday

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

### C — Harry Salter and Orchestra

CKAC CKLW KDB KFH KGKO  
KLRA KLZ KOH KOMA KRLD  
KTRH KTSa KVOR KWHL WAHC  
WACO WADC WALA WBNS WBRC  
WBT WCAO WDAE WDBJ WDBO  
WDNC WDRC WDSU WEAN WFBL  
WFEA WGLC WHBC WHH WHP  
WBW WJAS WJSV WKRW WKRC  
WLAC WLWB WLWB WMAS WMBG  
WMBR WMT WNAc WNAx WNOX  
WOKO WORC WPG WQAM WSBT  
WSFA WSJS WSPD WTOC WJVA

### R — Gene and Glenn, See Monday

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

### C — Henry Busse and Orchestra

CFRB CKAC CKLW KFH KGKO  
KLRA KLZ KMBC KOH KOMA  
KRLD KSCJ KTRH KTSa KVOR  
KWHL WAAB WADC WBBM WBNS  
WBRC WBT WCAO WCAU WDAE  
WDBJ WDBO WDNC WDOJ WDRC  
WDSU WEAN WFBL WFEA WHBC  
WHH WHP WBW WCC WISN  
WJAS WJSV WKRW WKRC WLAC  
WLWB WLHZ WMAS WMBD  
WMBR WMT WNAc WNAx WNOX  
WORC WPG WQAM WSBT WSFA  
WSJS WSPD WTOC WJVA

### R — Leo Reisman and Orchestra

KDYL KFI KGO KGW KHQ KOA  
KOMO KSD KSTP WDAF WHC

WLW WOC WOW WSB WSM WSMB  
WTMJ

## WEDNESDAY

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

### C — Buck Rogers, See Monday

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

### C — The Shadow, See Monday

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

### R — Billy Batchelor, See Monday

### 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

### R — Gene and Glenn, See Monday

### B — Willard Robinson, See Monday

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

### C — Silver Dust, See Monday

### C — Buck Rogers, See Monday

### B — Red Davis, See Monday

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

### C — Boake Carter, See Monday

### R — Frank Buck, See Monday

### B — Dangerous Paradise, See Monday

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

### C — Easy Aces

CFRB CKLW KMBC KMOX WABC  
WBBM WCAO WCAU WCCO WFBL  
WFBM WGR WHAS WHK WJAS  
WKRC WNAc WOKO WOWO WSPD

### R — Mary Pickford and Company

CFCE CRCT KDYL KFI KFYR  
KGO KGW KHQ KOA KOMO KPRC  
KSD KSTP KTAR KTBS KVoo  
WAve WBAp WBEN WCAE WCKY  
WCHS WDAF WDAY WEAF WEBC  
WEEI WFBR WFLA WGY WIO  
WIBR WIOD WIS WJAR WJAX  
WJDX WKY WLIT WMAQ WMC  
WOAI WOC WOW WPTF WRC  
WRVA WSAI WSB WSM WSMB  
WTAG WTAM WTC WTMJ WJW  
WVNC

### 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

### C — Billy Batchelor, See Monday

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

### C — Everett Marshall; Victor Arden

CKLW KDB KERN KFBK KFPY  
KPRC KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KOMA KRLD  
KSL KVI KWG WABC WADC  
WBBM WBT WCAO WCAU WDRC  
WDSU WEAN WFBL WFBM WGR  
WHAS WBW WJAS WJSV WKRC  
WLAC WNAc WOKO WOWO WSPD

### B — Lanny Ross and Orchestra

KDKA KOIL KSO KWCR WBAL  
WGAR WHAM WJR WJZ WLS  
WMAL WEN WSYR

### R — Wayne King, See Tuesday

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

### R — Fred Allen; Lennie Hayton

KPRC KSD KSTP KTBS KVoo  
WBEN WCAE WCHS WDAF WEAF  
WEBC WEEI WFBR WGY WIOD  
WIS WJAR WJAX WKY WLIT  
WLW WMAQ WMC WOAI WOW  
WPTF WRC WRVA WSB WSM

WSMB WTAG WTAM WTC WTMJ  
WVJ

### B — Warden Lawes; Drama

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR  
KWK WBAL WBZ WBZA WCKY  
WGAR WHAM WJR WJZ WKBZ  
WLS WLW WMAL WREN WSYR  
C — Chesterfield Program, See Mon.

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

### C — George and Gracie

CKLW KDB KERN KFBK KFPY  
KPRC KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KOMA KRLD  
KSL KTRH KTSa KVI KWG WABC  
WADC WBBM WBIG WBT WCAO  
WCAU WCCO WDRC WDSU WEAN  
WFBL WFBM WHK WJAS WJSV  
WKHW WKRC WNAc WOKO WORC  
WOWO WSPD

### B — John McCormack, Tenor

KDKA KDYL KFI KGO KGW  
KHQ KOA KOIL KOMO KSO KWCR  
KWK WBAL WBZ WBZA WCKY  
WENR WGAR WHAM WJR WJZ  
WKBF WLW WMAL WREN WSYR

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

### C — Byrd Expedition Broadcast

CKLW KDB KERN KFBK KFPY  
KPH KFPY KPRC KFZ KGB KHJ  
KLRA KLZ KMBC KMJ KMOX  
KOIN KOL KOMA KRLD KSL KTRH  
KTSa KVI KWG WABC WACO  
WADC WBBM WBNS WBT WCAO  
WCAU WCCO WDAE WDR WDSU  
WEAN WFBL WFBM WGST WHAS  
WHBC WHH WHP WBW WJAS  
WJSV WKBW WKRC WLAC WLWB  
WMBG WMT WNAc WNAx WOKO  
WORC WOWO WQAM WREC

### R — Guy Lombardo and Orchestra

KPRC KSD KTBS KTSB KVoo  
WAve WBEN WCAE WCHS WDAF  
WEAF WEEI WFAA WFBR WFLA  
WGY WIO WIOD WIS WJAR WJAX  
WJDX WKBF WKY WLIT WLW  
WMAQ WMC WOAI WOC WOW  
WPTF WRC WRVA WSB WSM  
WSMB WTAG WTAM WTC WJW  
WVNC

### B — Dennis King; Louis Katzman

CRCT KDKA KDYL KFI KFSD  
KFYR KGIR KGO KGW KHQ  
KOA KOIL KOMO KSO KSTP  
KWCR KWK WBAL WBZ WBZA  
WCKY WDAY WEBC WENR WGAR  
WHAM WIBA WJR WJZ WMAL  
WREN WSYR WTMJ

E-10:15 p.m., C-9:15, M-8:15, P-7:15

### B — Madame Sylvia, Talks

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KSTP KWCR  
KWK WBAL WBZ WBZA WEBC  
WENR WGAR WHAM WJZ WMAL  
WREN WRVA WSYR WTMJ

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

### C — Howard Barlow; Mary Eastman

CFRB CKAC CKLW KDB KFH  
KGKO KHJ KLRA KLZ KMBC  
KOH KOMA KRLD KSCJ KTRH  
KTSa KVOR KWHL WAAB WABC  
WACO WADC WALA WBBM WBIG  
WBRC WBT WCAO WCAU WDAE  
WDBJ WDBO WDNC WDOJ WDRC  
WDSU WEAN WFBL WFBM WFEA  
WGLC WGR WHBC WHP WBW  
WCC WISN WJAS WJSV WKRC  
WLAC WLWB WMAc WMBD  
WMBR WMT WNOX WOKO WORC



## WEDNESDAY(Continued)

WQAM WSBT WSFA WSJS WSPD WTOG

**B — Harry Richman; Jack Denny**  
KDYL KFYR KOA KOIL KPRC  
KSO KSTP KVOO KWCR KWK  
WBAL WCKY WDAY WECB WENR  
WFAA WHAM WJR WJZ WKY  
WMAL WREN WRVA WSYR WTMJ

**E-11:00 p.m., C-10:00, M-9:00, P-8:00**  
**C — Myrt and Marge, See Monday**

**B — Amos 'n' Andy, See Monday**

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**  
**C — Frank Dailey and Orchestra**  
KLRA WABC WALA WBRC WBT  
WCAO WCAU WDAE WDBJ WDBO  
WDNC WDOD WDRG WDSU WEAN  
WFEA WJSV WLAC WLWB WMBR  
WNAC WNOX WORC WPG WQAM  
WSFA WSJS WTOG

**C — Edwin C. Hill, See Monday**

**R — Gene and Glenn, See Monday**

**E-11:30 p.m., C-10:30, M-9:30, P-8:30**  
**C — Ozzie Nelson and Orchestra**  
KLRA WABC WALA WBRC WBT  
WCAO WCAU WDBJ WDBO WDNC  
WDOD WDRG WDSU WEAN WFEA  
WICC WISN WJSV WLAC WLWB  
WMAS WMBR WNAC WNOX WORC  
WPG WQAM WSFA WSJS WTOG

**C — Voice of Experience**

KDB KERN KFBK KFPY KFRC  
KGB KHJ KLZ KMJ KOH KOL  
KSL KVI KWG

**B — Lanny Ross and Orchestra**  
KDLI KFI KFSD KGO KGW KIQ  
KOA KOMO

**E-12:00 p.m., C-11:00, M-10:00, P-9:00**  
**R — Fred Allen; Lennie Hayton**  
KDYL KFI KGO KGW KIQ KOA  
KOMO

## THURSDAY

**E-6:00 p.m., C-5:00, M-4:00, P-3:00**  
**C — Buck Rogers, See Monday**

**E-6:30 p.m., C-5:30, M-4:30, P-3:30**  
**C — Eddie Dooley; Football**

CKLW WABC WBIG WBNS WRT  
WCAO WCAU WDBJ WDNC WDRG  
WEAN WFBL WFEA WHEC WHE  
WHP WIBX WICC WJAS WJSV  
WKWB WKRC WLWB WMAS WMBR  
WNAC WNPB WNBH WOKO WORC  
WSJS WSPD

**E-6:45 p.m., C-5:45, M-4:45, P-3:45**  
**R — Billy Batchelor, See Monday**

**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 — Red Grange; Football**  
KLZ KMBC KMOX KTRH KTUL  
WBMM WBRC WCGO WDSU WFBM  
WGL WGST WHAS WMT WREC

**B — Gems of Melody**

KDKA KOIL KSO KTBS KWCR  
WBAL WBZ WBZA WENR WHAM  
WJZ WMAL WREN WSYR

**R — Gene and Glenn, See Monday**

**E-7:30 p.m., C-6:30, M-5:30, P-4:30**  
**C — Jack Smith, See Tuesday**

**C — Buck Rogers, See Monday**

**R — Al Bernard, See Monday**

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

**C — Boake Carter, See Monday**

**R — Frank Buck, See Monday**

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

**R — Rudy Vallee and Orchestra**  
CFCC CRCT KDYL KFI KFYR  
KGO KGW KIQ KOA KOMO KPRC  
KSD KSTP KTAR KVOO WAPI  
WBAW WBEN WCAE WCSH WDAY  
WEAF WECB WEEI WFRB WFI  
WFLA WGY WHO WIOD WIS  
WJAR WJAX WJDX WKY WLW  
WMAQ WMC WOAI WOC WOV  
WPTF WRC WRVA WSAI WSM  
WSMB WTAG WTAM WTC WTMJ  
WWNC

**C — Easy Aces, See Wednesday**

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

**C — Fats Waller's Rhythm Club**

CKLW KDB KFH KGKO KHJ  
KLRA KLZ KMBC KOH KOMA  
KRLD KSCJ KTRH KTSa KFOR  
KWKH WABC WACO WADC WALA  
WBIG WBNS WBRC WBT WCAO  
WCAU WDAE WDBJ WDBO WDNC  
WDOD WDRG WDSU WEAN WFBL  
WFBM WFEA WGLC WGR WHP  
WIBW WICC WISN WJAS WJSV  
WKRC WLAC WLWB WLWB WMAS  
WMT WNAC WNOX WNOX WOKO  
WORC WQAM WSBT WSFA WSJS  
WTOG WWVA

**C — Billy Batchelor, See Monday**

**E-8:30 p.m., C-7:30, M-6:30, P-5:30**  
**C — Edwin C. Hill**

CKLW KMBC KMOX WABC WADC  
WBMM WCAO WACO WDRG WEAN  
WFBL WFBM WGR WHAS WHK  
WJAS WJSV WKRC WNAC WOKO  
WOWO WSPD

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

**C — Glen Gray; Walter O'Keefe**

CKLW KFBK KFH KLRA KMBC  
KMOX KOMA KRLD KSCJ KTRH  
KTSa KTUL KWKH WABC WACO  
WADC WALA WBMM WBIG WBNS  
WBRC WBT WCAO WCAU WCCO  
WDAE WDBJ WDBO WDOD WDRG  
WDSU WEAN WFBL WFBM WFEA  
WGST WHAS WHEC WHK WHP  
WIBW WICC WISN WJAS WJSV  
WKBN WKWB WKRC WLAC  
WLWB WLWB WMAS WMBR  
WMBG WMBR WMT WNAC WNOX  
WOKO WORC WOWO WPG WQAM  
WREC WSFA WSJS WSPD WTOG

**R — Maxwell House Show Boat**

KDYL KFI KFSD KGHL KGIR  
KGO KGW KIQ KOA KOMO KPRC  
KSD KSTP KTAR KTBS WAPI  
WAVE WBAW WBEN WCAE WCSH  
WDAF WEAF WEEI WFRB WFI  
WFLA WGY WHO WIOD WIS WJAR  
WJAX WJDX WKFB WKY WLW  
WMAQ WMC WOAI WOC WOV  
WRC WRVA WSAI WSM WSM  
WSMB WTAG WTAM WTC WTMJ  
WWJ WWNC

**B — Death Valley Days; Drama**

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

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

**C — Fred Waring's Pennsylvanians**  
CFRB CKLW CRMC KDB KERN

KFAB KFBK KFH KFPY KFRC  
KGB KGKO KHJ KLRA KLZ KMBC  
KMKJ KMOX KOH KOIN KOL KOMA  
KRLD KSCJ KSL KTRH KTSa  
KTUL KVI KVR KWG WABC  
WACO WADC WALA WBMM WBIG  
WBNS WBRC WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNC  
WDOD WDRG WDSU WEAN WFBL  
WFBM WFEA WGLC WHEC WHAS  
WHEC WHK WHP WISN WICC  
WISN WJAS WJSV WKBN WKWB  
WKRC WLAC WLWB WLWB WMAS  
WMBD WMBG WMBR WMT WNAC  
WNOX WNOX WOKO WORC WOWO  
WPG WQAM WREC WSFA WSJS  
WSPD WTOG

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

**C — 45 Minutes in Hollywood**

CFRB CKAC CKLW KFH KLZ  
KMOX KOMA KRLD KSL KTRH  
KTSa KTUL WABC WACO WBMM  
WBNS WBT WCAO WCAU WCCO  
WDAE WDBO WDRG WDSU WEAN  
WFBL WGST WHEC WHK WJAS  
WJSV WKWB WKRC WLAC WMBR  
WNAC WOKO WQAM WSPD

**R — Paul Whiteman's Music Hall**

CFCC CRCT KDYL KFI KFYR  
KGO KGW KIQ KOA KOMO KPRC  
KSD KSTP KTAR KTBS KTHS  
KVOO WAPI WAVE WBAW WBEN  
WCAE WCSH WDAF WDAY WEAF  
WECB WEEI WFRB WFI WFLA  
WGY WHO WIBA WIOD WIS WJAR  
WJAX WJDX WKY WLW WMAQ  
WMC WOAI WOC WOV WPTF  
WRC WRVA WSB WSM WSMB  
WTAG WTAM WTC WTMJ WWJ  
WWNC

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

**C — Fray and Braggiotti**

CFRB CKAC CKLW KDB KFH  
KGKO KHJ KLRA KOH KRLD  
KSCJ KSL KTRH KTSa KFOR  
WAAB WABC WACO WADC WALA  
WBIG WBNS WBRC WBT WCAU  
WDAE WDBJ WDNC WDOD WDRG  
WEAN WFBL WFBM WFEA WGLC  
WGR WHEC WHP WIBW WJAS  
WJSV WKRC WLAC WLWB WLWB  
WMAS WNOX WOKO WORC WPG  
WQAM WSBT WSJS WSPD WTOG

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

**C — Myrt and Marge, See Monday**

**B — Amos 'n' Andy, See Monday**

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

**C — Henry Busse and Orchestra**

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KOH KOMA  
KRLD KSCJ KTRH KTSa KFOR  
KWKH WABC WACO WADC WALA  
WBIG WBNS WBRC WBT WCAO  
WCCO WDAE WDBJ WDBO WDNC  
WDOD WDRG WDSU WEAN WFBL  
WFBM WFEA WGLC WHEC WHK  
WHP WIBW WISN WJAS WJSV  
WKWB WKRC WLAC WLWB WLWB  
WMAS WMBR WMT WNAC WNOX  
WNOX WOKO WORC WPG WQAM  
WSBT WSFA WSJS WSPD WTOG  
WWVA

**R — Gene and Glenn, See Monday**

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

**C — Glen Gray; Walter O'Keefe**

KDB KERN KFBK KFPY KFRC  
KGB KHJ KLZ KMJ KOH KOIN  
KOL KSL KVI KFOR KWG

# FRIDAY

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

**C — H. V. Kaltenborn**  
 CKLW KPH KGKO KLZ KMBC KOH  
 KOMA KRLL KSCJ KSL KTRH  
 KVOR KWKH WAAB WABC WBBM  
 WCAO WCAU WDCN WDRC WFBL  
 WGLC WHEC WHK WISN WJAS  
 WJSV WKBW WLAC WLWB WMT  
 WOKO WORC WSPD

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

**C — Eddie Dooley, See Thursday**

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

**R — Billy Batchelor, See Monday**

**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 — Red Grange, See Thursday**

**R — Gene and Glenn, See Monday**

**B — Willard Robison, See Monday**

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

**C — Silver Dust, See Monday**

**B — Red Davis, See Monday**

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

**C — Boake Carter, See Monday**

**R — Frank Buck, See Monday**

**B — Dangerous Paradise, See Monday**

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

**R — Cities Service Concert**

CRCT KDYL KOA KPRC KSD  
 KSTP KTBS KTHS KWOO KYW  
 WBAP WBEN WCAF WCHS WDAF  
 WEAF WEBC WEED WFVA WFBW  
 WGY WHO WJAR WKY WLIT  
 WMAI WOC WOV WRC WRVA  
 WSAI WTAG WTAM WTIC WWJ

**B — Irene Rich; Drama**

KDKA KOIL KSO KWCR WAVE  
 WBAL WBZ WBZA WIAM WJZ  
 WLS WMAL WMC WREN WSB  
 WSM WSYR

**C — Easy Aces, See Wednesday**

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

**C — Edwin C. Hill, See Monday**

**C — Billy Batchelor, See Monday**

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

**C — True Story Court**

CKLW KMBC WAAC WADC WBBM  
 WCAO WCAU WCCO WDCN WEAN  
 WFBL WGR WHK WJAS WJSV  
 WKRC WNAC WOKO

**B — Emerson Drug Program**

KDKA KOIL KSO KWCR KWK  
 WBAL WBZ WBZA WGAR WIAM  
 WJAR WJZ WLS WMAL WREN  
 WSYR

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

**C — March of Time**

CKLW KDB KERN KFBK KFPY  
 KPRC KGB KHJ KLZ KMJ KMOX  
 KOIN KOL KRLL KSL KVI KWG  
 WABC WADC WBBM WCAO WCAU  
 WCCO WDCN WDSU WFAN WFBL  
 WFBM WGST WHAS WHK WJAS  
 WJSV WKBW WKRC WNAC WOKO  
 WOVO WSPD

**R — Frank Munn; Abe Lyman**

KSD WBN WCAE WCHS WDAF  
 WEAF WEEI WFBR WGY WJAR

WLIT WLW WMAQ WOW WRC  
 WTAG WTAM WWJ

**B — Phil Harris and Orchestra**

KDKA KDYL KFI KGO KGW KHQ  
 KOA KOIL KOMO KSO KWCR  
 KWK WAPI WBAL WBZ WBZA  
 WKY WFVA WGAR WIAM WJZ  
 WKY WLS WMAL WOAI WREN  
 WSB WSM WSNB WSYR

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

**C — Hollywood Hotel**

CFRB CKAC CKLW KDB KERN  
 KFAB KFBK KFH KFPY KPRC  
 KGB KGKO KHJ KLRA KLZ KMBC  
 KMJ KMOX KOH KOIN KOL KOMA  
 KRLL KSCJ KSL KTRH K TSA  
 KTUL KVI KVOR KWG KWKH  
 WABC WACO WADC WALA WBBM  
 WBIG WBNS WBRC WBT WCAO  
 WCAU WCCO WDAE WDBJ WDBO  
 WDNC WDDO WDRC WDSU WEAN  
 WFBL WFBM WFEA WGST WHAS  
 WHEC WHK WHL WHP WHW WIC  
 WIC WISN WJAS WJSV WKBH  
 WKBW WKRC WLAC WLWB WLZ  
 WMAS WMBD WMBG WMBR WMT  
 WNAC WNAX WNOX WOKO WORC  
 WOWO WPG WQAM WREC WSBT  
 WSPA WSJS WSPD WTOC

**R — Pick and Pat**

KSD WBN WCAE WCHS WDAF  
 WEAF WFBR WGY WHO WJAR  
 WLIT WMAQ WOC WOV WRC  
 WSAI WTAG WTAM WTIC WWJ

**B — Armour Program; Phil Baker**

KDKA KDYL KFI KGO KGW KHQ  
 KOA KOIL KOMO KPRC KSO  
 KSTP KTAR KWK WAPI WAVE  
 WBAL WBZ WBZA WBC WENR  
 WFVA WFVA WGAR WIAM WJZ  
 WJAX WJR WJZ WKY WMC WOAI  
 WHEN WRVA WSB WSM WSNB  
 WTMJ WVNC

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

**R — First Nighter; Drama**

KDYL KFI KGO KGW KHQ KOA  
 KOMO KPRC KSD KSTP WBN  
 WCAE WCHS WDAF WEAF WBC  
 WEEI WFVA WFBW WGY WHO  
 WJAR WKY WLIT WLW WMAQ  
 WMC WOAI WOC WOW WRC WSB  
 WSM WSNB WTAG WTAM WTIC  
 WTMJ WWJ

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

**C — Kate Smith**

CFRB CKAC CKLW KDB KFH  
 KGKO KHJ KLRA KLZ KMBC  
 KOH KOMA KRLL KSCJ KTRH  
 KVOR KWKH WAAB WABC WACO  
 WADC WALA WBIG WBNS WBRC  
 WBT WCAO WDAE WDBO WDNC  
 WDDO WDRC WDSU WEAN WFBL  
 WFBM WFEA WGLC WGR WHP  
 WIBW WIC WISN WJAS WJSV  
 WKRC WLAC WLWB WLZ WMAS  
 WMBD WMT WNAX WNOX WOKO  
 WORC WPG WQAM WSPA WSJS  
 WSPD WTOC

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

**C — Myrt and Marge, See Monday**

**B — Amos 'n' Andy, See Monday**

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

**C — Little Jack Little**

KLRA WABC WALA WBRC WBT  
 WCAO WDAE WDBO WDNC WDDO  
 WDRC WDSU WEAN WFVA WHK  
 WJSV WLAC WLWB WMAS WNAC  
 WNOX WORC WPG WQAM WSPA  
 WSJS WTOC

**C — Edwin C. Hill, See Monday**

**R — Gene and Glenn, See Monday**

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

**C — True Story Court**

KDB KERN KFBK KFPY KGB  
 KHJ KLZ KMJ KMOX KOIN KOL  
 KSL KVI KWG WFCR WHAS  
 WOVO

# SATURDAY

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

**C — Frederic William Wile**

CKLW KDB KFH KGKO KHJ  
 KLRA KLZ KOH KOMA KRLL  
 KSCJ KSL KTRH K TSA KVOR  
 KWKH WAAB WABC WACO WALA  
 WBBM WBIG WBNS WBT WCAO  
 WCAU WCCO WDAE WDBJ WDBO  
 WDNC WDDO WDRC WDSU WFBL  
 WFBM WGLC WHEC WHK WHL  
 WIBW WISN WJAS WKRC WLAC  
 WLWB WMAI WNAX WNOX WOKO  
 WORC WQAM WSBT WSPA WSJS  
 WSPD WTOC

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

**C — Mischka Raginsky and Orchestra**

CKAC CKLW KDB KFEA KFH  
 KGKO KHJ KLRA KLZ KMBC KOH  
 KOMA KRLL KSCJ KSL KTRH  
 K TSA KVOR KWKH WAAB WABC  
 WACO WALA WBBM WBG WCAO  
 WCAU WDAE WDBJ WDBO WDNC  
 WDDO WDRC WDSU WFBM WGLC  
 WHEC WHK WHL WHP WIC  
 WISN WJAS WKRC WLAC WLWB  
 WLZ WMAS WNAX WNOX WOKO  
 WORC WQAM WSPA WSJS WSPD  
 WTOC

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

**C — Eddie Dooley, See Thursday**

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

**R — Thornton Fisher; Football**

KSD WBN WCHS WEAF WEEI  
 WFBR WFI WGY WJAR WLW  
 WMAQ WOV WRC WTAG WTAM  
 WTIC WWJ

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

**C — Leon Belasco and Orchestra**

CFRB CKAC CKLW KDB KGKO  
 KHJ KLRA KLZ KMBC KOH KRLL  
 KSCJ KTRH K TSA KVOR KWKH  
 WABC WACO WADC WALA WBIG  
 WBNS WBT WCAO WCAU WCCO  
 WDAE WDBJ WDBO WDNC WDDO  
 WDRC WDSU WFBL WFBM WFEA  
 WGLC WGR WHP WIC WISN  
 WJAS WJSV WKRC WLAC WLWB  
 WLZ WMAS WMT WNAX WOKO  
 WORC WQAM WSBT WSPA WSJS  
 WSPD WTOC WWVA

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

**C — Red Grange, See Thursday**

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

**C — Jack Smith, See Tuesday**

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

**C — Lawyer and The Public**

CFRB CKAC CKLW KDB KFH  
 KGKO KHJ KLRA KLZ KMBC  
 KOH KOMA KRLL KSCJ KTRH  
 K TSA KVOR KWKH WABC WACO  
 WADC WALA WBIG WBNS WBT  
 WCAO WCAU WCCO WDAE WDBJ  
 WDBO WDNC WDDO WDSU WEAN  
 WFBL WFBM WFEA WGLC WGR  
 WHEC WHP WIBW WIC WISN  
 WJAS WJSV WKRC WLAC WLWB

## SATURDAY (Continued)

WLBZ WMAS WMT WNAC WNAK  
WOKO WORC WQAM WSBT WSFA  
WSJS WSPD WTOC WVVVA

### R — Floyd Gibbons

KPRC KSD WAPI WBEN WCSH  
WDAF WDAF WFAA WFI WFLA  
WGY WHO WOD WIS WJAR WJAX  
WKY WLW WMAQ WMC WOC  
WOW WRC WRVA WSBM  
WTAG WTAM WTIC WYJ

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

### C — Roxy and His Gang

CFRB CKAC CKLW KDB KERN  
KFBK KFPY KFRC KGB KHJ  
KLRA KLZ KMBC KMJ KMOX  
KOLN KOL KOMA KRLL KSL  
KTRH K TSA KVI KWG WABC  
WBMM WBRC WCAO WCAU WCCO  
WDDO WDRC WDSU WEAN WFBL  
WFBM WGR WGST WHAS WHK  
WIBW WJAS WJSV WKRC WLAC  
WMT WNAC WOKO WORC WREC  
WSPD

### R — Swift Hour; Sigmund Romberg

KDYL KFI KGO KGW KHQ KOA  
KOMO KPRC KSD KSTP KTBS  
WBAF WBFN WCAE WCSI WDAF  
WEAF WEBC WEEI WFFF WFI  
WGY WJBA WJAR WKY WLW  
WMAQ WQAI WOW WRC WTAG  
WTAM WTIC WTMJ WYJ

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

### C — Fats Waller's Rhythm Club

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KOH  
KOMA KRLL KSCJ KTRH K TSA  
KVOR WAHC WACO WADC WALA  
WBMM WBIG WBNS WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDUN WEAN WFBL  
WFBM WFEA WGLC WGR WHEC  
WHK WHP WIBW WIC WISN  
WJAS WJSV WKRC WLAC WLWB  
WLWZ WMAS WMT WNAC WNAK  
WNOX WOKO WORC WPG WQAM  
WSBT WSFA WSJS WSPD WTOC

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

### R — Songs You Love

KFYR KSD KSTP WBEN WCAE  
WCSH WDAF WDAY WEAF WEBC  
WEEI WFFF WFI WGY WJBA  
WJAR WLW WMAQ WOW WRC  
WTAG WTAM WTIC WTMJ WYJ

### B — Radio City; Frank Black

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KSO KWCR KWK  
WBAL WBZ WBZA WCKY WGAR  
WHAM WJR WJZ WLS WMAL  
WREN WSYR

**C — Chesterfield Program, see Monday**

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

### C — Richard Himber and Orchestra

CFRB CKAC CKLW KDB KFH  
KGKO KHJ KLRA KLZ KMBC  
KOH KOMA KRLL KSCJ KSL  
KTRH K TSA KVOR WABC WACO  
WADC WALA WBMM WBIG WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDNC WDDO WDRC WEAN  
WFBL WFBM WFEA WGLC WGST  
WHK WHK WHP WIBW WICC  
WISN WJAS WJSV WKRB WKRC  
WLAC WLWB WLWZ WMAS WMBD  
WMT WNAC WNAK WNOX WOKO  
WORC WPG WQAM WSBT WSFA  
WSJS WSPD WTOC WVVVA

### R — Gibson Family Musical

KDYL KFI KFYR KGO KGW KHQ  
KOA KOMO KSD KSTP WBEN  
WCAE WCSH WDAF WDAY WEAF  
WEBC WEEI WFFF WFI WGY  
WJBA WJAR WLW WMAQ WOW  
WRC WTAG WTAM WTIC WTMJ  
WYJ

### B — National Barn Dance

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

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

### C — Carborundum Band

CKLW WDAE WDBJ WDBO WDNC  
WDDO WDRC WDSU WEAN WFBL  
KFRK KGB KHJ KLZ KMBC KMJ  
KMOX KOIN KOL KSL KVI KWG  
WAAB WAHC WBMM WBT WCAO  
WCAU WCCO WHAS WHK WJAS  
WKBW WKRC

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

### C — Saturday Revue

CFRB CKLW KDB KFH KGKO  
KHJ KLRA KLZ KMBC KOH KOMA  
KRLL KSCJ KTRH K TSA KVOR  
KWKH WAAB WABC WACO WADC  
WALA WBIG WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNC  
WDDO WDRC WDSU WEAN WFBL  
WFBM WFEA WGLC WGR WHEC  
WHP WIBW WICC WISN WJAS  
WJSV WKRC WLAC WLWB WLWZ  
WMAS WMBD WMT WNAK WNOX  
WOKO WORC WPG WQAM WSBT  
WSFA WSJS WSPD WTOC WVVVA

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

### C — Glen Gray and Orchestra

CKAC CKLW KLRA WAAB WABC  
WBT WDAE WDBJ WDBO WDDO  
WDRC WDSU WFBM WGLC WGR  
WHEC WHP WIBW WJAS WJSV  
WKRC WLAC WORC WQAM WSRT  
WSFA WSJS WTOC

### C — Richard Himber and Orchestra

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

### B — National Barn Dance

KDYL KFI KGO KGW KHQ KOA  
KOMO WAWE WJDX WLS WMC  
WSB WSMB

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

### C — Orzle Nelson and Orchestra

CKAC CKLW KDB KFH KGKO  
KLRA KLZ KMBC KOH KOMA  
KTRH K TSA KWKH WABC WDNS  
WCAU WDBO WDNC WDDO WEAN  
WFBL WFBM WGLC WHP WIBW  
WICC WJSV WKRB WKRC WLAC  
WLWB WNAC WNOX WOKO WPG  
WQAM WSBT WTOC

### R — Floyd Gibbons

KDYL KFI KFSB KGO KGW KHQ  
KOA KOMO

## SUNDAY

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

### C — Salt Lake Tabernacle Choir

CKLW KFH KGKO KLRA KLZ  
KOH KRLL KSCJ KSL KTRH  
K TSA KWKH WABC WACO WADC  
WALA WBMM WBNS WCCO WDAE  
WDBO WDDO WDRC WDSU WEAN  
WFBL WFBM WFEA WGLC WHK  
WHP WIBW WICC WISN WJAS  
WJSV WLAC WLWB WLWZ WMAS  
WMBD WMBR WMT WNAC WNAK

WNOX WOKO WORC WQAM WREC  
WSFA WSPD

### R — Major Bowes' Family

KDYL KFYR KOA KPRC KSTP  
KTBS KVOO WAPI WCAE WDAF  
WDAY WEAF WEBC WFAA WFFF  
WFLA WGY WHO WIOD WJAR  
WJAX WKY WMAQ WMC WOI  
WOC WRC WRVA WSAI WSBM  
WTAG WTAM WNNC

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

### C — Tito Guizar

CKLW KMBC KMOX WABC WADC  
WBMM WCAO WCAU WDRC WEAN  
WFBL WFBM WGR WHAS WHS  
WJSV WKH WKRC WMAS WNAC  
WOKO WORC WOW WSPD

### B — Radio City Symphony

CFRC CRCT KDKA KDYL KFI  
KFYR KGO KGW KHQ KOA KOIL  
KOMO KPRC KSO KVOO WAPI  
WBAL WBZ WBZA WCKY WDAY  
WEBC WGAR WHAM WIS WJDX  
WJR WJZ WKY WMAL WQAI  
WREN WSBM WSYR WNNC

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

### C — Church of the Air

CFRB CKLW KFH KGKO KHJ  
KLRA KLZ KOH KRLL KSCJ KSL  
KTRH K TSA KWKH WAAB WABC  
WACO WALA WBMM WBIG WBNS  
WBT WCAO WCCO WDAE WDBJ  
WDBO WDNC WDDO WDRC WDSU  
WFBL WGLC WGR WHEC WHP  
WIBW WJAS WJSV WKRC WLAC  
WLWB WLWZ WMBR WMT WNOX  
WOKO WORC WQAM WREC  
WSBT WSFA WSJS WSPD WVVVA

### R — Dale Carnegie, Talks

WBEN WCAE WEAF WEEI WFFF  
WFI WGY WJAR WRC WSAI  
WTAG WTAM WTIC WYJ

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

### C — Eton Boys

CFRB CKAC CKLW KFH KHJ  
KLRA KLZ KMBC KRLL KSCJ  
KTRH K TSA KWKH WABC WACO  
WADC WALA WBIG WBNS WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDNC WDDO WDRC WDSU  
WFBL WFBM WGLC WGR WHEC  
WHK WHP WIBW WJAS WJSV  
WKRC WLAC WOLB WMBR WMT  
WNOX WOKO WORC WPG WQAM  
WREC WSBT WSFA WSJS WSPD  
WTOC WVVVA

### R — Miss Bab-o's Surprise

WBEN WCAE WCSH WDAF WEAF  
WEEI WFFF WFI WGY WJAR  
WMAQ WOW WRC WSAI WTAG  
WTAM WYJ

**E-1:45 p.m., C-12:45, M-11:45, P-10:45**

### C — Pat Kennedy; Art Kassel

CFRB CKLW KDB KERN KFBK  
KFPY KFRC KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KRLL  
KSL KVI KWG WABC WBMM  
WBNS WCAO WCAU WCCO WDSU  
WFBM WGR WGST WHAS WHK  
WJAS WJSV WKRC WMT WOW  
WSPD

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

### C — Lazy Dan, Minstrel Man

CKLW KDB KERN KFAB KFBK  
KFPY KFRC KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KOMA  
KRLL KSL KVI KWG WABC WADC  
WBMM WBNS WBT WCAO WCAU  
WCCO WDBJ WDRC WDSU WEAN

## SUNDAY (Continued)

WFBL WFBM WGST WHAS WHEC  
WHK WIBW WJAS WJSV WKBW  
WKRC WLAC WMBG WMT WNAC  
WOWO

### R — Mohawk Treasure Chest

WBEN WCAE WCSH WDAF WFAF  
WEEL WFBR WFI WGY WJAR  
WMAQ WOW WRC WSAI WTAG  
WTAM WWJ

### B — Breitenbach Program

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

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

#### B — Becker's Chats About Dogs

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

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

#### C — Royal Hawaiian Band

CKLW KDB KERN KFAB KFBK  
KFPY KPRC KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KOMA  
KRLD KSL KVI KWG WABC  
WADC WBBM WBT WCAO WCAU  
WCCO WDBJ WDRG WDSU WEAN  
WFBL WFBM WGST WHAS WHEC  
WHK WIBW WJAS WJSV WKBW  
WKRC WLAC WMBG WMT WNAC  
WOWO

### R — Gene Arnold and Commodores

WCAE WCSH WFAF WEEL WFBR  
WGY WJAR WMAQ WOW WRC  
WSAI WTAG WTAM

### B — Lux Program; Dramas

KDKA KDYL KFI KFYYR KGO  
KGW KHQ KOA KOIL KOMO KPRC  
KSO KSTP KTBS KTHS KVOO  
KWCR KWK WBAL WBZ WBZA  
WDAY WECB WFAP WGAR WHAM  
WIBA WJR WJZ WKY WLW WMAL  
WOAI WPTF WREN WRVA WSYR  
WTAR

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

#### C — N. Y. Philharmonic Symphony

CFRB CKAC CKLW KFH KGKO  
KHJ KLRA KLZ KOH KRLD KSCJ  
KSL KTRH KTSa KVOR KWKH  
WABC WADC WALA WBIG WBNS  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDDO WDRG  
WDSU WEAN WFL WFBM WFEA  
WGLC WGR WHEC WHK WHP  
WIBW WICC WISN WJAS WJSV  
WKRC WLAC WLWB WLWB WMAS  
WMBD WMBR WMT WNAC WOKO  
WORC WQAM WRC WSBT WSFA  
WSJS WSPD WTOC

### R — Talkie Picture Time

WAPI WBEN WCAE WCSH WDAF  
WFAF WEEL WFBR WGY WHO  
WJAR WJDX WLIT WMAQ WMC  
WOC WOV WRC WSAI WSB WSM  
WSMB WTAG WTAM WWJ

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

#### R — Maybelline Musical Romance

KDYL KFI KGO KGW KHQ KOA  
KOMO KSD WBEN WCAE WCSH  
WDAF WFAF WEEL WFBR WGY  
WHO WJAR WLIT WLW WMAQ  
WOC WOV WRC WTAG WTAM  
WTIC WWJ

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

#### R — Gems of Melody

WBEN WCSI WFAF WEEL WFBR  
WGY WJAR WKBW WLIT WMAQ

WRC WSAI WTAG WTAM WTIC  
WTVJ

### Rev. Charles E. Coughlin

KSTP KWK WCAO WCAU WDRG  
WEAN WFBL WFEA WGAR WGR  
WHB WHO WICC WIND WJAS  
WJDD WJR WLBC WLW WMAS  
WNAC WNBH WOC WOKO WOL  
WOR WORC

### B — Philharmonic Orchestra

KDKA KDYL KFI KGO KGW KOA  
KOIL KOMO KPRC KSO KTBS  
KWCR WAPI WAVE WBAL WBAP  
WBZ WBZA WECB WFLA WHAM  
WIBA WIOD WJAX WJDX WJZ  
WMAL WMC WOAI WREN WRVA  
WSB WSM WSBM WSYR

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

#### R — Tony Wons

KDYL KFI KFSD KFYYR KGO  
KGW KHQ KOA KOMO KSTP KTR  
WAPI WBAO WJDX WMC WSB  
WSM WSBM

### B — Land of Beginning Again

KDKA KGO KOIL KWCR WBZ  
WBZA WENR WHAM WJZ WMAL  
WREN WSYR

### E-4:45 p.m., C-3:45, M-2:45, P-1:45

#### R — Dream Drama

WBEN WCAE WCSH WDAF WFAF  
WEEL WFBR WFI WGY WJAR  
WMAQ WRC WSAI WTAG WTAM  
WTIC WWJ

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

#### C — Freddy Martin and Orchestra

CKLW KFH KLRA KLZ KMBC  
KMOX KOMA KRLD KSL KTRH  
KTSa KTUL WAAB WABC WADC  
WBBM WBIG WBRG WBT WCAO  
WCAU WCCO WDOD WDRG WDSU  
WEAN WFLB WFBM WGR WGST  
WHAS WHEC WHK WIBW WJAS  
WJSV WKHN WKRC WLAC WLWB  
WMAS WMBG WOKO WORC WOWO  
WREC WSPD

### R — Sentinels Serenade

CFCE CRCT KDYL KFI KFYYR  
KGO KGW KHQ KOA KOMO WAVE  
WBEN WCAE WCSH WDAF WFAF  
WECB WEEL WFBR WFI WGY  
WHO WIBA WJAR WKBW WMAQ  
WMC WOV WOV WRC WSAI WSB  
WSM WTAG WTAM WTIC WTMJ  
WTVJ

### B — Roses and Drums

KDKA KOIL KPRC KSO KTHS  
KWCR KWK WBAL WBAP WBZ  
WBZA WENR WGAR WHAM WJR  
WJZ WKY WLW WMAL WOAI  
WREN WSYR

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

#### C — Frank Crumit; Julia Sanderson

CKLW KFH KMBC KMOX KOMA  
KTUL WAAB WABC WADC WBNS  
WCAO WCAU WDRG WDSU WEAN  
WFLB WFBM WGR WJAS WHEC  
WHK WHEX WCC WJSV WMAS  
WOKO WORC WSPD WWVA

### R — Tony Wons

CFCE CRCT KPRC KTHS KVOO  
WBAF WBEN WCAE WCSH WDAF  
WFAF WEEL WFI WGY WHO WIS  
WJAR WKY WMAQ WOAI WOC  
WOW WPTF WRC WRVA WTAG  
WTAM WTIC WWJ WXXR

### B — American Bosch Explorers

KDKA KDYL KFI KFYYR KGO KGW  
KHQ KOA KOIL KOMO KSO KSTP

KWCR KWK WAPI WAVE WBAL  
WBZ WBZA WCKY WDAY WECB  
WENR WGAR WHAM WIBA WJDX  
WJR WJZ WKBW WMAL WMC  
WREN WVS WSM WSNB WSYR  
WTMJ

### E-5:45 p.m., C-4:45, M-3:45, P-2:45

#### B — Torhune Dog Drama

KDKA KDYL KFI KGO KGW KHQ  
KOIL KOMO KSO KWCR KWK  
WBAL WBZ WBZA WENR WGAR  
WHAM WJR WJZ WMAL WREN  
WSYR

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

#### C — George Gershwin; Louis Katzman

CFRB CKLW KDB KERN KFBK  
KFPY KPRC KGB KHJ KLZ KMBC  
KMJ KMOX KOIN KOL KRLD  
KSL KVI KWG WAAB WABC  
WBBM WBNS WBT WCAO WCAU  
WCCO WDRG WDSU WFLB WFBM  
WGST WHAS WHEC WHK WJAS  
WJSV WKBW WKRC WOKO

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

#### B — Sparton Triolians

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

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

#### C — Smilin' Ed McConnell

CKLW KDB KERN KFAB KFBK  
KFPY KPRC KGB KHJ KLZ KMJ  
KMOX KOIN KOL KRLD KSL KVI  
KWG WAAB WABC WBBM WBNS  
WBRG WBT WCAU WCCO WDRG  
WDSU WEAN WFLB WFBM WFEA  
WGST WHAS WHK WHF WHC  
WISN WJAS WJSV WKBW WKRC  
WLAC WLWB WLWB WRC WQAM  
WREC WWVA

### R — Armco Iron Master

KPRC KSD KTBS KVVO WBAP  
WBEN WCAE WDAF WFAF WFBM  
WGY WHO WKY WLIT WLW  
WMAQ WOAI WOC WOW WRC  
WTAM WWJ

### B — Compana Grand Hotel

KDKA KDYL KFI KGO KGW KHQ  
KOIL KOMO KSO KSTP KTRH  
KWK WBAL WBZ WBZA WECB  
WENR WGAR WHAM WJR WJZ  
WMAL WREN WSYR WTMJ

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

#### C — Voice of Experience

CKLW KMBC KMOX WAAB WABC  
WBBM WBT WCAO WCAU WCCO  
WDRG WEAN WFLB WHAS WHK  
WJAS WJSV WKBW WKRC WNC  
WOWO WWVA

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

#### C — California Melodies

CKAC KLRA KLZ KMBC KTRH  
WABC WADC WBIG WBNS WCAO  
WCCO WDAE WDBJ WDBO WDRG  
WDSU WEAN WFLB WFBM WFEA  
WHK WHF WICC WLWB WLWB  
WMT WMC WNAK WOKO WORC  
WPG WREC WSJS WSPD

### B — Jack Benny; Don Bestor

KDKA KDYL KFI KGO KGW KHQ  
KOIL KOMO KPRC KSO KSTP  
KWCR KWK WBAI WBAP WBZ  
WBZA WECB WGAR WHAM WIBA  
WJDX WJR WJZ WKY WLS WLW  
WMAL WMC WOAI WREN WSB  
WSM WSBM WSYR WTMJ

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

#### C — Ward's Family Theatre

CKLW KMOX WABC WADC WBBM

## SUNDAY (Continued)

WBNC WBRC WCAO WCAU WDCR  
WEAN WFBL WFEA WHK WJCC  
WJAS WKBN WLWB WMAJ WMBR  
WNAO WOKO WORC WSBT WSFA  
WVVA

**R — American Radiator Program**  
KSD WCSH WEAF WGY WJAC  
WMAQ WWO WRG WSAI WTAG  
WTAM WWJ

**B — Joe Penner; Ozzie Nelson**  
KDKA KDYL KFI KFJR KGO  
KGW KHQ KOA KOIL KOMO KPRC  
KSO KSTP KTAR KVOO KWCR  
KWK WBAL WRZ WBZA WDAY  
WEBC WFAA WFLA WGAR WHAM  
WIBA WIOD WJAX WJDX WJR  
WJZ WKY WLS WMAJ WMC WOAI  
WPTF WREN WRVA WSB WSM  
WSMB WSYR WTMJ

**E-7:45 p.m., C-6:45, M-5:45, P-4:45**  
**R — Fitch Program; Wendell Hall**  
CFCE KSD WBEN WCAE WCSH  
WEAF WFBR WGY WHO WJAE  
WKBF WLIT WMAQ WOC WOW  
WRC WSAI WTAG WTAM WTIC  
WWJ

**E-8:00 p.m., C-7:00, M-6:00, P-5:00**  
**C — Ford Symphony**  
CFRB CKLW KDB KERN KFBK  
KFH KFPY KFRG KGB KGKO  
KHJ KLRA KLZ KMBC KNJ  
KMOX KOH KOIN KOL KOMA  
KRLD KSCJ KSL KTRH KTSB  
KTUL KVI KVOR KWKH WABC  
WACO WADC WALA WBBM WBIG  
WBNS WBRC WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNB  
WDOD WDRC WDSU WEAN WFBL  
WFBM WFEA WGLC WGR WGST  
WHAS WHEC WHK WHP WIBW  
WIBX WICC WISN WJS WJSV  
WKBB WKBN WKRC WLAC  
WLWB WLWB WMAJ WMBR WMT  
WNAO WNAJ WNOX WOKO WORC  
WOWO WQAM WSBT WSFA WSJS  
WSPD WTOC WVVA

**R — Chase and Sanborn Hour**  
CFCE CRCT KDYL KFI KFJR  
KGO KGW KHQ KOA KOMO KPRC  
KSD KSTP KTAR KVOO WAPI  
WAVE WBEN WBZ WBZA WCAE  
WCSH WDAF WDAY WEAF WEBC  
WFAA WFBR WFLA WGY WHO  
WIOD WIS WJAX WJAX WJDX  
WKY WLIT WLW WMAQ WMC  
WOAI WOC WOW WPTF WRC  
WRVA WSB WSM WSMB WTAG  
WTAM WTIC WTMJ WWJ WWCN

**E-9:00 p.m., C-8:00, M-7:00, P-6:00**  
**C — Alexander Woolcott**  
KDB KERN KFBK KFPY KFRG  
KGB KHJ KLZ KMBC KMOX

KOIN KOL KSL KVI KWG WAHC  
WBBM WCAO WCAU WCCO WDCR  
WFBL WGR WHAS WHK WJAS  
WJSV WKRC WNAO WOKO

**R — Manhattan Merry-Go-Round**  
CFCE KDYL KFI KGO KGW KHQ  
KOA KOMO KSD KSTP WDAF  
WEAF WEBC WFBR WFI WGY  
WHO WJAX WMAQ WOC WOW  
WRC WSAI WTAG WTAM WTIC  
WTMJ WWJ

**B — Silken Strings; Charles Previn**  
KDKA KDYL KFI KGO KGW KHQ  
KOA KOAI KOIL KOMO KPRC KSO  
KSTP KWCR KWK WBAL WBAP  
WBZ WBZA WEBC WGAR WHAM  
WIBA WJR WJZ WKY WLS WLW  
WMAJ WREN WSYR WTMJ

**E-9:30 p.m., C-8:30, M-7:30, P-6:30**  
**C — Gulf Headliners; Will Rogers**  
CKLW KLRA KRLD KTRH KTSB  
WABC WACO WADC WALA WBZA  
WBNS WBRC WBT WCAO WCAU  
WDAE WDBJ WDBO WDOD WDRG  
WDSU WEAN WFEA WGST WHAS  
WHEC WHK WJAS WJSV WKRC  
WLAC WLWB WMAJ WMBG WMBR  
WNAO WOKO WORC WOWO WQAM  
WREC WSPD WTOC

**R — Album of Familiar Music**  
CFCE CRCT KDYL KFI KGO  
KGW KHQ KOA KOMO KPRC KSD  
KSTP KVOO WBEN WCAE WCSH  
WDAF WEAF WEEI WFAA WFBR  
WFI WFLA WGY WHO WIOD WIS  
WJAX WJAX WJDX WKY WMAQ  
WMC WOAI WOC WOW WPTF  
WRC WRVA WSAI WSB WSM  
WSMB WTAG WTAM WTMJ WWJ  
WWNC

**B — Walter Winchell**  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WENR WGAR  
WHAM WJR WJZ WLW WMAJ  
WREN WSYR

**E-9:45 p.m., C-8:45, M-7:45, P-6:45**  
**B — Tastyest Theatre**  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WCKY WENR  
WGAR WHAM WJR WJZ WMAJ  
WREN WSYR

**E-10:00 p.m., C-9:00, M-8:00, P-7:00**  
**R — Hall of Fame**  
CFCE CRCT KDYL KFI KGO  
KGW KHQ KOA KOMO KPRC KSD  
KSTP KTBS KTHS WHEN WCAE  
WCSH WDAF WEAF WEEI WFAA  
WFBR WFI WGY WHO WJAX  
WJDX WKBF WKY WLW WMAQ  
WMC WOAI WOC WOW WRC  
WSB WSM WSMB WTAG WTAM  
WTIC WWJ

**B — Mme. Schumann-Heink**  
KDKA KOIL KSO KWCR KWK

WBAL WBZ WBZA WCKY WENR  
WGAR WHAM WJR WJZ WMAJ  
WREN WSYR

**C — Wayne King, See Monday**

**E-10:30 p.m., C-9:30, M-8:30, P-7:30**  
**C — American Universities Program**  
CKAC CKLW KFH KGKO KHJ  
KLRA KLZ KMBC KOH KRLD  
KSCJ KTRH KTSB KVOR KWKH  
WABC WACO WADC WALA WBIG  
WBNS WBT WCAO WCAU WCCO  
WDAE WDBJ WDBO WDNB WDOD  
WDRG WDSU WEAN WFBL WFBM  
WFEA WGLC WGR WHEC WHP  
WIBW WICC WISN WJAS WJSV  
WKRC WLAC WLWB WLWB WMAJ  
WMBD WMBR WMT WNAO WNOX  
WOKO WORC WPG WQAM WREC  
WSBT WSFA WSJS WSPD WTOC

**R — Pontiac Program; Jane Froman**  
KDYL KFI KESD KFJR KGHL  
KGRG KGO KGW KHQ KOA KOMO  
KPRC KSTP KTAR KTBS KTHS  
WAPI WAVE WBAP WBEN WCAE  
WCSH WDAF WDAY WEAF WEBC  
WEEI WFBR WFI WFLA WGY  
WHO WIBA WIOD WIS WJAX  
WJAX WJDX WKHF WKY WLW  
WMAQ WMC WOAI WOC WOW  
WPTF WRC WRVA WSB WSM  
WSMB WSOB WTAG WTAM WTIC  
WTMJ WWJ WWCN

**E-11:00 p.m., C-10:00, M-9:00, P-8:00**  
**C — Henry Busse and Orchestra**  
CFRB CKAC CKLW KFH KGKO  
KLRA KLZ KOH KRLD KSCJ  
KTRH KTSB KVOR KWKH WABC  
WACO WADC WBBM WBNS WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDNB WDOD WDRG WDSU  
WEAN WFBL WFEA WGLC WGR  
WHEC WHK WHP WIBW WISN  
WJAS WJSV WKRC WLAC WLWB  
WLWB WMAJ WMBD WMBR WMT  
WNAO WNAJ WNOX WOKO WORC  
WPG WQAM WREC WSBT WSFA  
WSJS WSPD WTOC

**R — Fitch Program; Wendell Hall**  
KDYL KFI KFJR KGO KGW KHQ  
KOA KOMO KPRC KSTP KTBS  
KTHS WAPI WAVE WBAP WDAF  
WDAY WEBC WIBA WJDX WKY  
WOAI WOC WSAI WSM WSMB  
WTAG WTAM WTMJ WWJ WWCN

**E-11:15 p.m., C-10:15, M-9:15, P-8:15**  
**B — Mme. Schumann-Heink**  
KDYL KFI KGO KGW KHQ KOA  
KOMO KPRC WBAP WKY WQAI

**E-11:30 p.m., C-10:30, M-9:30, P-8:30**  
**C — Joe Haymes and Orchestra**  
CKAC KLRA KLZ KRLD KTRH  
KTSB KWKH WABC WBNS WDBJ  
WDSU WFBL WGBM WHK WLWB  
WMBR WMT WOKO WREC WSPD

## CLASSIFIED INDEX TO CHAIN PROGRAMS

*Time in Eastern Standard*

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

### CONCERTS

American Radiator Program, 7:30 p.m. Sunday, R  
Armco Iron Master, 6:30 p.m. Sunday, R  
Atwater Kent, 8:30 p.m. Monday, C  
Ford Concert, 8:00 p.m. Sunday, C  
Kansas City Philharmonic, 4:00 p.m. Sunday B  
N. Y. Philharmonic, 3:00 p.m. Sunday, C

Radio City Music Hall, 12:30 p.m. Sunday, B  
Mitscha Raginsky, 6:15 p.m. Saturday, C  
Swift Hour, 8:00 p.m. Saturday, R

### DANCE BANDS

Victor Arden, 8:30 p.m. Wednesday, C  
Leon Belasco, 9:30 p.m. Friday, B; 11:15 p.m. Monday;  
7:00 p.m. Saturday, C

Ben Bernie, 9:00 p.m. Tuesday, R  
 Don Bestor, 7:00 p.m. Sunday, B  
 Frank Black, 10:30 p.m. Sunday, R; 9:00 p.m. Saturday, B  
 Henry Busse, 11:00 p.m. Sunday; 11:30 p.m. Tuesday; 11:15 p.m. Thursday, C  
 Frank Dalley, 11:15 p.m. Wednesday, C  
 Jack Denny, 10:30 p.m. Wednesday, B  
 Eddie Duchin, 9:30 p.m. Tuesday, R  
 Jan Garber, 8:00 p.m. Monday, B  
 Lud Gluskin, 9:30 p.m. Monday, C  
 Glen Gray, 10:00 p.m. Tuesday; 9:00 and 11:30 p.m. Thursday, C  
 Phil Harris, 9:00 p.m. Friday, B  
 Joe Haymes, 11:30 p.m. Sunday, C  
 Lennie Hayton, 9:00 and 12:00 p.m. Wednesday, R  
 Richard Himber, 8:00 p.m. Monday, R; 9:30 and 11:00 p.m. Saturday, C  
 Isham Jones, 9:30 p.m. Tuesday, C  
 Art Kassel, 1:45 p.m. Sunday, C  
 Louis Katzman, 10:00 p.m. Wednesday, B; 6:00 p.m. Sunday, C  
 Wayne King, 8:30 p.m. Tues. and Wed., R; 10:00 p.m. Sunday and Monday, C  
 Little Jack Little, 11:15 p.m. Friday, C  
 Guy Lombardo, 10:00 p.m. Wednesday, R  
 Abe Lyman, 9:00 p.m. Friday, R; 8:30 p.m. Tuesday, C  
 Freddy Martin, 5:00 p.m. Sunday, C  
 Ozzie Nelson, 7:30 p.m. Sunday, B; 11:30 p.m. Wed.; 12:00 p.m. Saturday, C  
 Raymond Paige, 7:00 p.m. Sunday, C  
 Charles Previn, 9:00 p.m. Sunday, B  
 Leo Reisman, 8:00 and 11:30 p.m. Tuesday, R  
 Willard Robison, 7:15 p.m. Mon., Wed. and Fri., B  
 Buddy Rogers, 7:30 p.m. Sunday, C  
 Harry Salter, 11:15 p.m. Tuesday, C  
 Rudy Vallee, 8:00 p.m. Thursday, R  
 Fred Waring, 9:30 p.m. Thursday, C  
 Paul Whitman, 10:00 p.m. Thursday, R

#### DIALOG

Fred Allen, 9:00 and 12:00 p.m. Wednesday, R  
 Amos 'n' Andy, 7:00 and 11:00 p.m. daily, except Sat. and Sun., B  
 Phil Baker, 9:30 p.m. Friday, B  
 Jack Benny, 7:00 p.m. Sunday, B  
 Block and Sully, 9:30 p.m. Monday, C  
 Eddie Cantor, 8:00 p.m. Sunday, R  
 Joe Cook, 9:30 p.m. Monday, R  
 Easy Aces, 8:00 p.m. Wed., Thurs. and Fri., C  
 George and Graale, 9:30 p.m. Wednesday, C  
 George Glvot, 10:30 p.m. Tuesday, C  
 Jake and Lena, 7:15 and 11:15 p.m. daily, except Sat. and Sun., R  
 Walter O'Keefe, 10:00 p.m. Tuesday; 9:00 and 11:30 p.m. Thursday, C  
 Joe Penner, 7:30 p.m. Sunday, B  
 Pick and Pat, 9:30 p.m. Friday, R  
 Ed Wynn, 9:30 p.m. Tuesday, R

#### DRAMA

Bar X Days, 8:00 p.m. Monday, C  
 Billy Batchelor, 6:45 p.m. daily, except Sat. and Sun., R; 8:15 p.m. daily, except Sat. and Sun., C  
 Frank Buck, 7:45 p.m. daily except Sat. and Sun., R  
 Dangerous Paradise, 7:45 p.m. Mon., Wed. and Fri., B  
 Red Davis, 7:30 p.m. Mon., Wed. and Fri., B  
 Death Valley Days, 9:00 p.m. Thursday, B  
 Dream Drama, 4:45 p.m. Sunday, R  
 Eno Crime Clues, 8:00 p.m. Tues. and Wed., B  
 First Nighter, 10:30 p.m. Friday, R  
 Grand Hotel, 6:30 p.m. Sunday, B  
 Warden Lawes, 9:00 p.m. Wednesday, B  
 Lux Program, 2:30 p.m. Sunday, B  
 Myrt and Marge, 7:00 and 11:30 p.m. daily, except Sat. and Sun., C  
 Mary Pickford, 8:00 p.m. Wednesday, R  
 Princess Pat Players, 9:30 p.m. Monday, B  
 Irene Rich, 8:00 p.m. Friday, B  
 Buck Rogers, 6:00 and 7:30 p.m. Mon. to Thurs., Inc., C  
 Roses and Drums, 5:00 p.m. Sunday, B  
 The Shadow, 6:30 p.m. Mon. and Wed., C  
 Story Behind Claim, 9:15 p.m. Tuesday, B

Talkie Picture Time, 3:00 p.m. Sunday, R  
 Tastyeast Theatre, 9:45 p.m. Sunday, B  
 Terhune Dog Dramas, 5:45 p.m. Sunday, B  
 True Story Court, 8:30 and 11:30 p.m. Friday, C

#### PIANO

Fray and Braggiotti, 10:45 p.m. Thursday, C  
 George Gershwin, 6:00 p.m. Sunday, C  
 Ohman and Arden, 9:30 p.m. Sunday, R

#### POPULAR PROGRAMS

A & P Gypsies, 9:00 p.m. Monday, R  
 Album Familiar Music, 9:30 p.m. Sunday, R  
 Gene Arnold's Commodores, 2:30 p.m. Sunday, R  
 Miss Bab-o's Surprise, 1:30 p.m. Sunday, R  
 Bernard and Dumont, 7:30 p.m. Mon. and Thurs., R  
 Major Bowes, 11:30 a.m. Sunday, R  
 Breitenbach Program, 2:00 p.m. Sunday, B  
 Byrd Expedition, 10:00 p.m. Wednesday, C  
 Carborundum Band, 10:00 p.m. Saturday, C  
 Chase and Sauborn, 8:00 p.m. Sunday, R  
 Chesterfield Program, 9:00 p.m. Mon., Wed. and Sat., C  
 Cities Service Concert, 8:00 p.m. Friday, R  
 Colgate House Party, 9:30 p.m. Monday, R  
 Contented Program, 10:00 p.m. Monday, R  
 Emerson Drug Program, 8:30 p.m. Friday, B  
 Fleischmann Variety, 8:00 p.m. Thursday, R  
 Forty-Five Minutes in Hollywood, 10:00 p.m. Thursday, C  
 Forum of Liberty, 8:30 p.m. Thursday, C  
 Gems of Melody, 4:00 p.m. Sunday, R; 7:15 p.m. Thursday, B  
 Gibson Family Musical, 9:30 p.m. Saturday, R  
 Gulf Headliners, 9:30 p.m. Sunday, C  
 Hall of Fame, 10:00 p.m. Sunday, R  
 Hollywood Hotel, 9:30 p.m. Friday, C  
 Household Musical, 7:30 p.m. Tuesday, B  
 Land of Beginning, 4:30 p.m. Sunday, B  
 Manhattan Merry-Go-Round, 9:00 p.m. Sunday, R  
 March of Time, 9:00 p.m. Friday, C  
 Maxwell House Show Boat, 9:00 p.m. Thursday, R  
 Maybelle Musical, 3:30 p.m. Sunday, R  
 Mohawk Treasure Chest, 2:00 p.m. Sunday, R  
 Music Appreciation, 6:30 p.m. Tuesday, C  
 National Barn Dance, 9:30 and 11:00 p.m. Saturday, R  
 Palmolive Beauty Box, 10:00 p.m. Tuesday, R  
 Pontiac Program, 10:30 p.m. Sunday, R  
 Roxy and His Gang, 8:00 p.m. Saturday, C  
 Royal Hawaiian Band, 2:30 p.m. Sunday, C  
 Saturday Revue, 10:30 p.m. Saturday, C  
 Sentinels Serenade, 5:00 p.m. Sunday, R  
 Silver Dust Serenaders, 7:30 p.m. Mon., Wed. and Fri., C  
 Sincelar Minstrels, 9:00 p.m. Monday, B  
 Songs You Love, 9:00 p.m. Saturday, R  
 Spartan Triolians, 6:15 p.m. Sunday, B  
 Voice of Firestone, 8:30 and 11:30 p.m. Monday, R  
 Ward's Family Theatre, 7:30 p.m. Sunday, C  
 Tony Wons, 4:30 and 5:30 p.m. Sunday, R

#### RELIGIOUS

Church of the Air, 1:00 p.m. Sunday, C  
 Salt Lake Choir, 11:30 a.m. Sunday, C

#### SINGERS

Mildred Bailey, 7:15 p.m. Mon., Wed., Fri., B  
 Bing Crosby, 9:00 p.m. Tuesday, C  
 Mary Eastman, 10:30 p.m. Wednesday, C  
 Eton Boys, 1:30 p.m. Sunday, C  
 Jane Froman, 10:30 p.m. Sunday, R  
 Gene and Glenn, 7:15 and 11:15 p.m. daily except Sat. and Sun., B  
 Tito Guizar, 12:30 p.m. Sunday, C  
 Wendell Hall, 7:45 and 11:00 p.m. Sunday, R  
 Annette Hanshaw, 10:00 p.m. Tuesday; 9:00 and 11:30 p.m. Thurs., C  
 Pat Kennedy, 1:45 p.m. Sunday, C  
 Dennis King, 10:00 p.m. Wednesday, B  
 Ralph Kirbery, 2:00 p.m. Sunday, R  
 Jeanie Laner, 7:30 p.m. Sunday, C  
 Frances Langford, 9:30 p.m. Monday, R  
 Lazy Dan, 2:00 p.m. Sunday, C  
 Elizabeth Lennox, 8:30 p.m. Wednesday, C  
 Everett Marshall, 8:30 p.m. Wednesday, C

Nino Martini, 9:00 p.m. Wednesday, C  
 John McCormack, 9:30 p.m. Wednesday, B  
 Martha Mears, 9:30 p.m. Friday, B  
 James Melton, 9:00 and 12:00 p.m. Wednesday, R  
 Frank Munn, 9:30 p.m. Sunday; 9:00 p.m. Friday, R;  
 8:00 p.m. Tuesday, C  
 Gertrude Niesen, 9:30 p.m. Monday, C  
 Donald Novis, 9:30 p.m. Monday, R  
 Frank Parker, 9:00 p.m. Monday, R; 7:00 p.m. Sunday,  
 B  
 Rosa Ponselle, 9:00 p.m. Monday, C  
 Virginia Rea, 9:30 p.m. Sunday, R  
 Harry Richman, 10:30 p.m. Wednesday, B  
 Carson Robison, 8:00 p.m. Monday, C  
 Lanny Ross, 9:00 p.m. Thursday, R; 8:30 and 11:30  
 p.m. Wednesday, B  
 Sanderson-Crumit, 5:30 p.m. Sunday, C  
 Madame Schumann-Heink, 10:00 and 11:15 p.m.  
 Sunday, B  
 Vivienne Segal, 9:00 p.m. Friday, R; 8:30 p.m. Tues-  
 day, C  
 Mary Small, 1:30 p.m. Sunday, R  
 Smilin' Ed McConnell, 6:30 p.m. Sunday, C  
 Kate Smith, 10:30 p.m. Friday, C  
 Grete Stueckgold, 9:00 p.m. Saturday, C  
 Gladys Swarthout, 8:30 and 11:30 p.m. Sunday; 10:00  
 p.m. Tuesday, R  
 Conrad Thibault, 9:00 p.m. Thursday, R  
 Lawrence Tibbett, 8:30 p.m. Tuesday, B

Fats Waller, 8:15 p.m. Thurs.; 8:45 p.m. Sat., C  
 Whispering Jack Smith, 7:30 p.m. Tues.; Thurs. and  
 Sat., C

#### TALKS

American Bosch Explorers, 5:30 p.m. Sunday, B  
 Becker's Dog Chats, 2:15 p.m. Sunday, B  
 Dale Carnegie, 1:00 p.m. Sunday, R  
 Boake Carter, 7:45 p.m. daily, except Sat. and Sun., C  
 Rev. Charles E. Coughlin, 4:00 p.m. Sunday  
 Eddie Dooley, 6:30 p.m. Thurs., Fri., and Sat., C  
 Thornton Fisher, 6:45 p.m. Saturday, R  
 Floyd Gibbons, 7:45 and 12:00 p.m. Saturday, R  
 Red Grange, 7:15 p.m., Thurs., Fri. and Sat., C  
 Health Talks, 10:45 p.m. Monday, C  
 Edwin C. Hill, 8:15 and 11:15 p.m. Mon., Wed., Fri.;  
 8:30 p.m. Thursday, C  
 H. V. Kaltenborn, 6:00 p.m. Friday, C  
 John B. Kennedy, 8:30 p.m. Tues; 10:30 p.m. Wed.;  
 9:00 p.m. Sat., B  
 Lawyer and Public, 7:45 p.m. Saturday, C  
 Madame Sylvia, 10:15 p.m. Wednesday, B  
 Lowell Thomas, 6:45 p.m. daily, except Sat. and  
 Sun., B  
 Voice of Experience, 6:45 p.m. Sunday; 11:30 p.m.  
 Wednesday, C.  
 Frederic William Wile, 6:00 p.m. Saturday, C  
 Walter Winchell, 9:30 p.m. Sunday, B  
 Alexander Woolcott, 9:00 p.m. Sunday, C

## Book Reviews

**S**0-0-0, *You're Going on the Air,*' published by Rodin Publishing Co., Inc., 200 West 57th Street, New York, N. Y. Price \$1.75.

Here is a book for the million or more who aspire to become radio stars. It is written by Robert West, M. A., Director of the Radio Arts Guild of America. "The amateur who aspires to place and reputation should know what steps to take in order to obtain a hearing, what chance of artistic success awaits, and also how much can be expected in the way of financial reward." What the neophyte should know begins in the first chapter—"Let us assume that the time has come for you to take your place before the microphone."

Subsequent chapters cover "Facing the Microphone," "Comics of the Ether," "Music for the Multitude," "Radio Drama," "The Rise of the Sponsors," "The Cult of the Announcers," "Women and Radio Success," "The Future of Radio," and "The Radio Speech Primer." The last-named is noteworthy and if universally studied by stars and announcers would make listening to

speech on the radio a much pleasant-er occupation.

"*Servicing Superheterodynes,*" written and published by John F. Rider, 1440 Broadway, New York, N. Y. This is a revised edition of a former work by the same author and brings the subject up to the minute. Intended as it is for servicemen, it is quite naturally technical in character but it is written in such a way that it should be most helpful to advanced students of radio.

It begins with a chapter devoted to the principles underlying the operation of the superheterodyne receiver, explaining beats or heterodyning and the part it plays in the operation of this popular circuit. The subject of harmonics is rather fully covered with a table showing the harmonics of fundamental frequencies up to the fifth. Among many important phases of the question covered are the following: "The Autodyne Type of Superheterodyne," "Second Harmonic System," "Superheterodyne Converters," "The Radio Frequency Amplifier," "Image Frequency," "Cross Talk," "Breakdown of the Receiver," "Oscillators," "The Intermediate Frequency Amplifier," "The Second

Detector," "Automatic Volume Control Systems," "Visual Tuning," "Troubles and Symptoms," and "Vibrator Units." An addenda gives a list of the intermediate frequencies used in a long list of modern sets.

\* \* \*

A weekend at Joe Cook's Lake Hopatcong home, "Sleepless Hollow," always includes a game of golf on Joe's daffy golf course. The course, incidentally, is so constructed that there is one hole where you can't do anything but make a hole-in-one!

\* \* \*

Frank Luther is pinch-hitting for Lewis James, tenor of the Revelers. Luther used to sing with the Revelers but left to form his own trio, The Men About Town. Luther volunteered to sit in with the Revelers again so that James could get away for a much needed rest—which is further proof that radio singers are the most amicable group in the business.

\* \* \*

Virginia Rea is proud of the fact that she is a bit old-fashioned. She

doesn't drive a car or go in for athletics, but she does like to cook, is handy with a needle and finds house-keeping a joy rather than a drudgery. As might be expected of a girl of such inclinations, Miss Rea is no night club habitue.

\* \* \*

That was a real sable cape Frances Langford wore to the House Party show Monday night but it wasn't hers. The blues singer's slim figure is so perfect that fur manufacturers besiege her to model their most costly wares—and pay her handsomely for displaying them.

\* \* \*

Ten thousand words written—two thousand words used! That's the weekly contribution of Courtney Ryley Cooper, novelist and author of "The Gibson Family." "Coop" does his own editing and always writes about five times as much as he finally uses after he boils his radio script down to working order. He uses a Noiseless typewriter in his penthouse home so as not to disturb the wife.

## 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.
- m Verifies for 5c.
- z No information available.

### Fourth Column Symbols

- B National "Blue" network.

- C Columbia network.
- D Daytime only.
- Dn Daytime with occasional evening hours.
- F Canadian Radio Brdestz. Commission.
- N National "Red" and "Blue" networks.
- P Has construction permit only.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
- 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.

## Time on the Air

The time is given in accordance with the "24-hour clock." Noon is always 12:00, but midnight may be either 0:00 or 24:00. To change to time of your own clock, subtract twelve. Thus, 18:00-24:00 is 6:00 p. m. to midnight. 23:00-0:30 is 11:00 p. m. to 12:30 a.m. A signifies Atlantic Standard Time (AST). E is Eastern Standard Time (EST). C is Central Standard Time (CST). P is Pacific Standard Time (PST).



INDEX BY FREQUENCIES AND DIAL NUMBERS

With Saturday's Time on the Air

540 kilocycles 555.2 meters

CJRM ak 1000 F Moose Jaw, Sask.  
CMCW dk 150 ..... Havana, Cuba

M-7-23  
E-12-18; 1-3

KCYS.  
600  
DIAL

550 kilocycles 545.1 meters

CFNB ak 500 F Fredericton, N. B.  
KFUO ae 500 2 (1) St. Louis, Mo.  
KFYR ak 1000 N (2.5) Bismarck, N. D.  
KQAC ak 1000 ..... Corvallis, Ore.  
KSD ak 500 2R (1) St. Louis, Mo.  
KTSA ak 1000 C San Antonio, Texas  
TISO ae 250 ..... San Jose, C. R.  
WDEV ae 500 D Waterbury, Vt.  
WGR ak 1000 C Buffalo, N. Y.  
WKRC ak 1000 C (2.5) Cincinnati, Ohio  
WSVA z 500 DP Staunton, Va.

A-8-10-24  
C-7-8; 12:15-12:40; 15-15:40; 22-23  
C-7-24  
P-9-22  
C-.....  
C-7-14; 15-23:30  
C-.....  
E-7:30-10; 11:30-14; 15-19  
E-7:30-24  
E-7-1  
E-.....

560 kilocycles 535.4 meters

KFDM ak 500 (1) Beaumont, Texas  
KLZ ae 1000 C (2.5) Denver, Colo.  
KTAB ak 1000 ..... San Francisco, Calif.  
KWTO ak 1000 D Springfield, Mo.  
TCW ak 1000 565 Guatemala City  
WFI ae 500 1R (1) Philadelphia, Pa.  
WIND ak 1000 (2.5) Gary, Ind.  
WLIT ak 500 1R (1) Philadelphia, Pa.  
WNOX ak 1000 C (2) Knoxville, Tenn.  
WOAM ae 1000 C Miami, Fla.  
XEAO ak 250 (.15) Mexicali, B. C.

C-7:15-14; 16-22  
M-6:45-23:30  
P-7-1  
C-6-17:45  
C-12-14:30; 18:30-19:30; 21-23  
E-6:45-9; 9:45-11; 13-14; 15-16:30; 18-24  
C-7-1  
E-9-9:45; 11-13; 14-15; 16:30-18  
C-6:45-24  
E-7:30-24  
P-8-22

570 kilocycles 526.0 meters

KGKO ak 250 C (1) Wichita Falls, Texas  
KMTR ak 500 ..... Hollywood, Calif.  
KVI ak 1000 ..... Tacoma, Wash.  
WKBN ae 500 1C Youngstown, Ohio  
WMCA ak 500 ..... New York, N. Y.  
WNAX ak 1000 C (2.5) Yankton, S. D.  
WOSU ak 750 1 (1) Columbus, Ohio  
WSYR ak 250 B Syracuse, N. Y.  
WWNC ae 1000 N Asheville, N. C.

C-7:30-23:30  
P-6:45-23:30  
P-6-24  
E-7:30-9; 11-13; 15-20; 22-24  
E-7-1  
C-6-24  
E-1-24  
E-7:30-1  
E-7:30-0:30

580 kilocycles 516.9 meters

CHRC ak 100 F Quebec, Que.  
CKCL ae 100 F Toronto, Ont.  
CKUA ak 500 ..... Edmonton, Alta.  
KMJ ak 500 C Fresno, Calif.  
KSAC ak 500 2 (1) Manhattan, Kans.  
WCHS ak 500 (1) Charleston, W. Va.  
WDBO ae 250 C (1) Orlando, Fla.  
WIBW ak 1000 C2 (2.5) Topeka, Kans.  
WTAG ae 500 R (1) Worcester, Mass.

E-9-0:30  
E-8-23:30  
M-13-15:15; 19-21  
P-7-24  
C-9:30-10:30; 12:30-14; 16:30-17:30  
E-7-23  
E-7:30-24  
C-6-9:30; 10:30-12:30; 14-16:30; 17:30-24  
E-8-24

590 kilocycles 508.2 meters

KHQ ak 1000 N (2.5) Spokane, Wash.  
WEEL ak 1000 R Boston, Mass.  
WKZO ae 1000 D Kalamazoo, Mich.  
WOW ae 1000 R (2.5) Omaha, Neb.  
XEPN ak 50000 ..... Piedras Negras, Coah.

P-6:45-24  
E-.....  
E-7:30-18  
C-6:30-0:30  
C-5-24

600 kilocycles 499.7 meters

CFCC ae 500 ..... Montreal, Que.  
CFCC ak 100 F Chatham, Ont.  
CJOR ak 500 ..... Vancouver, B. C.  
FON z 250 609 St. Pierre, Miquelon  
KFSD ae 1000 N San Diego, Calif.  
WCAC ak 500 2 Storrs, Conn.  
WCAG ae 500 C Baltimore, Md.  
WICC ae 250 2 C (1) Bridgeport, Conn.  
WMT af 1000 C (2.5) Waterloo, Iowa  
WREC ak 1000 C (2.5) Memphis, Tenn.

E-8-24  
E-7:30-9; 11-13:30; 17-23  
P-7:30-23:15  
L-Silent  
P-7-24  
S-Silent  
E-7-24  
E-7:45-12:30; 13-1  
C-7-24  
C-7-24

# INDEX BY FREQUENCIES AND DIAL NUMBERS

With Saturday's Time on the Air

## 610 kilocycles 491.5 meters

CMCF ak 250 ..... Havana, Cuba  
 KFRC ak 1000 C (2.5) San Francisco, Calif.  
 KZRM ak 50000 618.5 Manila, P. I.  
 TIXA z 7.5 614 San Jose, C. R.  
 WDAF ak 1000 R (2.5) Kansas City, Mo.  
 WIP ae 500 (1) Philadelphia, Pa.  
 WJAY ae 500 D Cleveland, Ohio  
 XFX ak 500 ..... Mexico City, D. F.

E-12-14; 18-20; 21-23  
 P-7-24  
 L-6:30-7:30; 12:15-13:15; 17:10-24  
 C-.....  
 C-6:30-24  
 E-7-1  
 E-6-17:15  
 C-7-11; 20-22

## 620 kilocycles 483.6 meters

KGW ak 1000 N (2.5) Portland, Ore.  
 KTRAR ak 1000 N Phoenix, Ariz.  
 WFLA ao 1000 Na (2.5) Clearwater, Fla.  
 WHJB z 250 P Greensburg, Pa.  
 WLBZ ak 500 C Bangor, Maine  
 WSUN ae 1000 Na (2.5) St. Petersburg, Fla.  
 WTMJ ae 1000 N (2.5) Milwaukee, Wis.  
 ..... z 250 P Pittsburgh, Pa.

P-7-24  
 M-7-23:15  
 E-7:30-24  
 E-7-sunset  
 E-8-24  
 E-7:30-24  
 C-6:45-0:30  
 E-.....

## 630 kilocycles 475.9 meters

CFCY ae 500 F Char't'w'n, P.E.I.  
 CJGX ck 500 F Yorkton, Sask.  
 CKOV ak 100 F Kelowna, B. C.  
 CMBY z 250 635 Havana, Cuba  
 KFRU ak 500 D Columbia, Mo.  
 KGFZ ak 200 D Pierre, S. D.  
 WGBF ae 500 I Evansville, Ind.  
 WMAL ck 250 B (5) Washington, D. C.  
 WOS ak 500 1D Jefferson City, Mo.  
 WPRO ak 250 ..... Providence, R. I.

A-12-13:30; 18-23:30  
 C-8:30-9:15; 10:30-12; 19:30-21:30  
 P-8-10; 11:30-13:30; 17:30-22:30  
 E-.....  
 C-6-9; 14-sunset; 19-22  
 C-9:30-sunset  
 C-7-23  
 E-6:45-1  
 C-9-14  
 E-8-1:15

## 640 kilocycles 468.5 meters

KFI ak 50000 N Los Angeles, Calif.  
 WAIU ae 500 B Columbus, Ohio  
 WOI ae 5000 D Ames, Iowa  
 XEOX ak 250 ..... Saltillo, Coah.

P-6:30-24  
 E-6:15-17:30  
 C-6:45-15  
 C-.....

## 650 kilocycles 461.3 meters

WSM ae 50000 N Nashville, Tenn.

C-6:30-24

## 660 kilocycles 454.3 meters

WAAW ak 500 D Omaha, Neb.  
 WEAJF ak 50000 R New York, N. Y.  
 ZEAL z 1000 ..... Mexico City, D. F.

C-6-18:15  
 E-6:45-1  
 C-.....

## 670 kilocycles 447.5 meters

WMAQ ck 50000 N Chicago, Ill.

C-7-1

## 680 kilocycles 440.9 meters

CMAF ak 1000 ..... Havana, Cuba  
 HJN ak 500 681 Bogota, Colombia  
 KFEQ ae 2500 D St. Joseph, Mo.  
 KPO ak 50000 N San Francisco, Calif.  
 RDN z 500 ..... San Salvador, E. S.  
 VAS ak 2000 685 Glace Bay, N. S.  
 VQWR ck 500 681 St. John's, Nfld.  
 WPTF ae 1000 DnN Raleigh, N. C.

E-17:30-23  
 L-12-13:30; 20-23  
 C-6-17:45  
 P-7:30-24  
 L-.....  
 A-23-23:10; 0-0:10  
 L-11-18:30  
 E-7:30-sunset

## 690 kilocycles 434.5 meters

CFRB ae 10000 C Toronto, Ont.  
 CJCJ ak 100 F Calgary, Alta.  
 NAA ak 1000 ..... Arlington, Va.  
 XET ck 500 ..... Monterrey, N. L.

E-8-0:30  
 M-.....  
 E-10:10-10:15; 11:55-12; 21:55-22  
 C-12-14; 16-22

## 700 kilocycles 428.3 meters

WLW ak 50000 N Cincinnati, Ohio

E-6:30-3

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710 kilocycles 422.3 meters

KMPC ae 500 Dn  
KPCB ae 250  
TIFB z 30 714  
WOR ak 5000  
XEN ak 1000 711

Beverly Hills, Calif.  
Seattle, Wash.  
San Jose, C. R.  
Newark, N. J.  
Mexico City, D. F.

P-6:45-0:30  
P-5:30-sunset; 22-4  
C-6-10  
E-6:45-0:30  
C-9-12; 13-16; 17-24

720 kilocycles 416.4 meters

CMK ae 3150 725  
KZEG ak 1000  
WGN ck 5000  
XEFI ae 250

Havana, Cuba  
Manila, P. I.  
Chicago, Ill.  
Chihuahua, Chih.

E-11-13; 19-24  
L-7:30-12:15; 13:15-17  
C-7-1:30  
C-13-16; 20-22:30

KCYS.  
800

730 kilocycles 410.7 meters

CFPL ak 100 F  
CJCA ah 500 F  
CKAC ak 5000 C

London, Ont.  
Edmonton, Alta.  
Montreal, Que.

E-8:15-10:30; 12-13:30; 17-23:30  
M-7:30-13:30; 16:30-1  
E-7:30-1

DIAL

740 kilocycles 405.2 meters

KMMJ ae 1000 D  
KTRB ak 250 D  
WHEB ak 250 D  
WSB ah 5000 N

Clay Center, Neb.  
Modesto, Calif.  
Portsmouth, N. H.  
Atlanta, Ga.

C-5-18  
P-.....  
E-8-13:30; 15:15-18  
C-6:55-24

750 kilocycles 399.8 meters

KGU aj 2500 N  
WJR ak 10000 B  
XEAM z 50

Honolulu, T. H.  
Detroit, Mich.  
Nuevo Laredo, Tams.

L-6:30-22:30  
E-6-24  
C-.....

760 kilocycles 394.5 meters

CMX ae 1000 765  
KXA ae 250 (.5)  
WBAL ae 10000 B.Sy  
WEW ae 1000 D  
WJZ ck 50000 B.Sy  
XEBC ak 5000

Havana, Cuba  
Seattle, Wash.  
Baltimore, Md.  
St. Louis, Mo.  
New York, N. Y.  
Agua Caliente, L. C.

E-12-14; 20-23  
P-.....  
E-21-24  
C-8-17  
E-8-1  
P-.....

770 kilocycles 389.4 meters

KFAB ae 5000 CSy  
WBBM ae 25000 CSy

Lincoln, Neb.  
Chicago, Ill.

C-6-17:45; 20:30-21:30; 22-24  
C-6:50-2:15

780 kilocycles 384.4 meters

CHWK ak 100 F  
KELW ae 500 D  
KFDY ae 1000 D  
KFQD ck 250  
KGHL ak 1000 N (2.5)  
KTM ak 500 2 (1)  
WEAN ae 500 C (2.5)  
WMC aj 1000 N (2.5)  
WTAR ae 500 N  
XEYZ z 10000

Chilliwack, B. C.  
Burbank, Calif.  
Brookings, S. D.  
Anchorage, Alaska  
Billings, Mont.  
Los Angeles, Calif.  
Providence, R. I.  
Memphis, Tenn.  
Norfolk, Va.  
Mexico City, D. F.

P-12-13:30; 18-22:30  
P-10-13; 17-20; 4-6  
C-12:30-14  
L-18-24  
M-8-23  
P-6-10; 13-17; 20-4  
E-7:30-1  
C-7-24  
E-7-24  
C-10-23

790 kilocycles 379.5 meters

CMJK ak 150  
KGO ak 7500 N  
WGY ak 50000 R

Camaguey, Cuba  
San Francisco, Calif.  
Schenectady, N. Y.

E-11:30-12:30; 17-23  
P-7-24  
E-6:45-1

800 kilocycles 374.8 meters

TIGP z 75  
WBAP ak 50000 Na  
WFAA ak 50000 Na  
WTBO ae 250

San Jose, C. R.  
Fort Worth, Tex.  
Dallas, Tex.  
Cumberland, Md.

C-.....  
C-8:30-10:30; 12:30-15; 17:30-18:30; 19-22  
C-6:45-8:30; 10:30-12:30; 15-17:30; 18:30-19; 22-23:30  
E-6-19:15

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## 810 kilocycles 370.2 meters

WCCO ae 50000	C	Minneapolis, Minn.	C-7-24
WNYC ak 500	N	New York, N. Y.	E-10-19:30
XFC z 350	.....	Aguascalientes, Ags.	C-.....

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## 820 kilocycles 365.6 meters

WHAS aj 50000	C	Louisville, Ky.	C-7-24
XEP z 500	.....	Mexico City, D. F.	C-.....
XETW dk 500	.....	Mexico City, D. F.	C-12-24

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## 830 kilocycles 361.2 meters

CMC ae 500	835	Havana, Cuba	E-10:30-11:30; 20-23
KOA ak 50000	N	Denver, Colo.	M-7-24
TIEA z 7.5	833	San Jose, C. R.	C-.....
TIVL z 30	835	San Jose, C. R.	A-10-11; 15-16
WEEU ak 1000	D	Reading, Pa.	E-8-17:30
WHDH ae 1000	Dn	Boston, Mass.	E-7-sunset in Denver
WRUF ae 5000	Dn	Gainesville, Fla.	E-8-18:45

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## 840 kilocycles 356.9 meters

CFOC ak 1000	F	Saskatoon, Sask.	M-8-13:30; 17:30-23
CMQ z 340	.....	Havana, Cuba	E-6:55-1
CRCT ak 5000	F	Toronto, Ont.	E-6:45-24
VOGY ak 400	.....	St. John's, Nfld.	L-10-11:30; 13-14:30; 18-21
XEXX z 500	845	Mexico City, D. F.	C-10-23

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## 850 kilocycles 352.7 meters

KIEV aj 250	D	Glendale, Calif.	P-6-16:45
WWL ae 10000	.....	New Orleans, La.	C-8-20:30

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## 860 kilocycles 348.6 meters

WABC ae 50000	C	New York, N. Y.	E-7:30-1:30
WHB ae 500	D	Kansas City, Mo.	C-6-17
XEMO ak 2000	865	Tijuana, B. C.	P-.....

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## 870 kilocycles 344.6 meters

WENR ak 50000	Na	Chicago, Ill.	C-10:15-11:45; 15:30-19
WLS ae 50000	Na	Chicago, Ill.	C-6-10:15; 11:45-15:30; 19-24

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## 880 kilocycles 340.7 meters

CFJC ak 100	F	Kamloops, B. C.	P-7:30-10:30; 12-14; 18-21
CRCO ak 1000	F	Ottawa, Ont.	E-8-9; 12-14; 17:45-24
KFKA ak 500	2 (1)	Greeley, Colo.	M-6-7:30; 9-14:30; 16:30-18; 21:30-24
KLX ae 1000	.....	Oakland, Calif.	P-8-23
KPOF ak 500	2	Denver, Colo.	M-7:30-9; 14:30-16:30; 18-19:30
KSEI ck 250	(.5)	Pocatello, Idaho	M-7:30-23
WGOC ae 500	(1)	Meridian, Miss.	C-7:30-14; 17-22:30
WGBI ae 500	1	Scranton, Pa.	E-9:30-12:30; 13:30-16:30; 17:30-24
WPHR z 500	.....	Petersburg, Va.	E-8-17; 18-21
WOAN ae 250	1	Scranton, Pa.	E-12:30-13:30; 16:30-17:30
WSUI ae 500	.....	Iowa City, Iowa	C-9-10; 11-12; 13-17; 18-22
YV2RC z 100	882	Caracas, Venez.	L-.....

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## 890 kilocycles 336.9 meters

CJJC z 100	D	S. Ste. Marie, Ont.	E-8:30-9:30; 11-13:30; 16:30-18
KARK ak 250	(.5)	Little Rock, Ark.	C-7-22:30
KFNF ak 500	2 (1)	Shenandoah, Iowa	C-5:30-8; 11-16; 18-21
KUSD ae 500	2	Vermillion, S. D.	C-Irregular
WGST aeh 250	C (1)	Atlanta, Ga.	C-7-24
WILL ak 250	2 (1)	Urbana, Ill.	C-8-11; 16-18; 22-24
WJAR ae 500	R	Providence, R. I.	E-8-1
WMMN ae 250	(.5)	Fairmont, W. Va.	E-9-21:30
XEW ak 50000	.....	Mexico City, D. F.	C-.....

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## 900 kilocycles 333.1 meters

KGA ak 5000	N	Spokane, Wash.	P-6-24
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**KGBU** ak 500 ..... Ketchikan, Alaska  
**KHJ** ae 1000 C (2.5) Los Angeles, Calif.  
**KSEI** ck 250 (.5) Pocatello, Idaho  
**WBEN** ae 1000 R Buffalo, N. Y.  
**WJAX** aeh 1000 N Jacksonville, Fla.  
**WKY** ae 1000 N Oklahoma City, Ok.  
**WLBL** ak 2500 D Stevens Point, Wis.

L.....  
 P-7-1  
 M-7-3-23  
 E-6-45-1  
 E-7-1  
 C-6-45-0-30  
 C-8-1

## 910 kilocycles 329.6 meters

**CJAT** ak 250 F Trail, B. C.  
**CMBS** ak 150 915 Havana, Cuba  
**CMHW** z 100 ..... Cienfuegos, Cuba  
**CRCM** ak 5000 F Montreal, Que.  
**TICR** z 75 911 San Jose, C. R.

P-8-22:30  
 E-10-12; 15:30-18  
 E-11-13; 18:30-21:30  
 E.....  
 C-16:30-22

## 920 kilocycles 325.9 meters

**HHK** ae 1000 ..... Port-au-Prince, Haiti  
**KOMO** ak 1000 N Seattle, Wash.  
**KPRC** ae 1000 N (2.5) Houston, Texas  
**KVOD** ak 500 ..... Denver, Colo.  
**WAAF** ak 500 D Chicago, Ill.  
**WBSO** ae 500 D Babson Park, Mass.  
**WPEN** ak 100 (.25) Philadelphia, Pa.  
**WRAX** ak 250 D Philadelphia, Pa.  
**WSPA** ae 1000 D Spartanburg, S. C.  
**WWJ** ak 1000 R Detroit, Mich.  
**XEAA** z 200 ..... Mexicali, B. C.  
**XEKL** z 500 ..... Leon, Guan.  
**XEOK** z 2500 ..... Tijuana, B. C.

E-Silent  
 P-7-24  
 C-6:30-24  
 M-8:30-10; 12:30-15; 16:30-18; 19:30-1  
 C-6-Sunset  
 E-8:30-16:30  
 E-7:30-22  
 E-7:30-22  
 E-5:30-22  
 E-7-24  
 P-12-14; 18-20  
 C-10:30-16; 17-23  
 P.....

**KCYS.  
 970  
 DIAL**

## 930 kilocycles 322.4 meters

**CFAC** ak 100 F Calgary, Alta.  
**CFCH** ak 100 F North Bay, Ont.  
**CFLC** ae 100 ..... Prescott, Ont.  
**CHNS** ae 500 F Halifax, N. S.  
**CKPC** ae 100 F Brantford, Ont.  
**CKPR** ak 50 F Fort William, Ont.  
**CMJF** z 200 ..... Camaguey, Cuba  
**CMW** ae 1400 ..... Havana, Cuba  
**KGBZ** ak 1000 2 (2.5) York, Neb.  
**KMA** ak 1000 2 (2.5) Shenandoah, Iowa  
**KROW** ak 500 (1) Oakland, Calif.  
**WBRC** ak 1000 C Birmingham, Ala.  
**WDBJ** ae 1000 C Roanoke, Va.

M-7:30-20  
 E-12-13:30; 17:30-23:30  
 E-8-10; 12-14; 17-19:30  
 A-18-24  
 E-7-24  
 E.....  
 E.....  
 E.....  
 C-5-6; 7:30-9; 11-12:30; 14-15:30; 17-18:30;  
 20:30-24  
 C-6-7:30; 9-11; 12:30-14; 15:30-17; 18-30-20:30  
 P-7-1  
 C-7-23  
 E-8-24

## 940 kilocycles 319.0 meters

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

E.....  
 P-6:30-24  
 L-11-12:30; 16-17:30; 19:45-21:30  
 E-6:30-18  
 C-7-24  
 E-8-24  
 C-7-24  
 C-8-Sunset  
 C-11-15; 18-24

## 950 kilocycles 315.6 meters

**CMCD** ah 500 955 Havana, Cuba  
**CMHD** dk 250 ..... Calbarien, Cuba  
**CRCS** z 100 F Chicoutimi, Que.  
**KFWB** ak 1000 (2.5) Hollywood, Calif.  
**KMBC** ae 1000 C (2.5) Kansas City, Mo.  
**VONF** ak 5000 ..... St. John's, Nfld.  
**WRC** ae 500 R (1) Washington, D. C.  
**XEAW** ak 10000 ..... Reynosa, Tams.

E-12-23:30  
 E-20-21  
 E-13:30-23  
 P-7-23:30  
 C-6-25-24  
 L-12-14; 18-21  
 E-6:30-1  
 C-17-1

## 960 kilocycles 312.3 meters

**CKY** ak 15000 F Winnipeg, Man.  
**CMJL** z 50 ..... Camaguey, Cuba  
**YVIRC** ak 5000 ..... Caracas, Venez.

C-8:30-14; 16-24  
 E.....  
 L-12-13:30; 18-22

## 970 kilocycles 309.1 meters

**CMGF** ak 100 971.5 Matanzas, Cuba

E-15-17; 20-22:30

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KJR	z	5000	N	Seattle, Wash.	P—7:30-24
WCFL	ae	1500	B	Chicago, Ill.	C—7-24
WIBG	ak	100	D	Glenside, Pa.	E—6-Sunset
XES	dk	250	.....	Tampico, Tama.	C—9:30-14:30; 17-22; 1-2:30

## 980 kilocycles 303.9 meters

KDKA	bk	50000	B	Pittsburgh, Pa.	E—7-1
XEAE	ak	200	.....	Mexicala, B. C.	P—9-24
XEU	ak	250	.....	Veracruz, Ver.	C—7-9; 10-14; 17-23

## 990 kilocycles 302.8 meters

TITV	z	7.5	999	San Jose, C. R.	C—15-17; 19-23
WBZ	ak	50000	BSy	Boston, Mass.	E—7-1
WBZA	ak	1000	BSy	Springfield, Mass.	E—7-1
WJEM	z	500	DP	Tupelo, Miss.	C
XEK	ak	100	.....	Mexico City, D. F.	C—11-16; 18-2

## 1000 kilocycles 299.8 meters

CMBZ	ak	100	1005	Havana, Cuba	E—7-12; 18-2
KFVD	ak	250	Dn	Los Angeles, Calif.	P—6:30-Sunset; 22-24
WHO	ak	50000	R	Des Moines, Iowa	C—7-24

## 1010 kilocycles 296.9 meters

CHML	aei	50	F	Hamilton, Ont.	E—8-23:30
CHWC	ak	500	3F	Regina, Sask.	M—7-9; 10-11; 12-13; 15:30-23
CKCD	ak	100	.....	Vancouver, B. C.	P—7:30-23:30
CKCK	ak	500	3F	Regina, Sask.	M—9-10; 11-12; 13-15:30
CKCO	z	100	.....	Ottawa, Ont.	E—6-23
CKIC	ak	50	.....	Wolfville, N. S.	A—18-19
CKWX	ak	100	.....	Vancouver, B. C.	P—7-19:30; 23:30-1
CMJO	ak	50	.....	Ciego de Avila, Cuba	E—9-13; 18-22
KGGF	ak	1000	2	Coffeyville, Kans.	C—7-14; 17-22:30
KQW	ae	1000	.....	San Jose, Calif.	P—6:30-22
TIGA	z	30	1014	Cartago, C. R.	C—.....
WHN	ae	1000	.....	New York, N. Y.	E—8-1
WIS	ae	1000	N (2.5)	Columbia, S. C.	E—8-24
WNAD	ae	500	2	Norman, Okla.	C—Silent

## 1020 kilocycles 293.9 meters

KYW	ak	10000	NY	Chicago, Ill.	C—8-1
XEJ	ak	250	.....	Juarez, Chih.	C—10-14; 17-23:30

## 1030 kilocycles 291.1 meters

CFCN	ak	10000	F	Calgary, Alta.	M—.....
CKLW	ae	5000	C	Windsor, Ont.	E—6:45-1
CMHI	ak	150	1037	Santa Clara, Cuba	E—11-12; 20-21
CMKC	z	150	1034	Santiago, Cuba	E—.....
XEB	ak	10000	.....	Mexico City, D. F.	C—9-24

## 1040 kilocycles 288.3 meters

CMBC	ae	150	.....	Havana, Cuba	E—.....
CMGH	ak	15	.....	Matanzas, Cuba	E—14-15; 17-18; 19:30-20:30
KRLD	ae	10000	C	Dallas, Texas	C—6:30-24
KWJJ	ak	500	.....	Portland, Ore.	P—6-Sunset; 21-3:15
WKAR	ak	1000	D	East Lansing, Mich.	E—12-12:30; 13:45-16:45
WTIC	ak	50000	R	Hartford, Conn.	E—7-24

## 1050 kilocycles 285.5 meters

CMJG	z	50	.....	Camaguey, Cuba	E—.....
CRCK	z	1000	.....	Quebec, Que.	E—.....
KFBI	ak	5000	Dn	Abilene, Kans.	C—5-18:45
KNX	ak	50000	.....	Hollywood, Calif.	P—7-24

## 1060 kilocycles 282.8 meters

CMCB	ak	150	.....	Havana, Cuba	E—13-16; 20-24
KTHS	ae	10000	N	Hot Springs, Ark.	C—7-24
WBAL	ae	10000	B	Baltimore, Md.	E—7-21
WJAG	ak	1000	D	Norfolk, Neb.	C—7-Sunset
XEA	ak	125	.....	Guadalajara, Jal.	C—8:30-9; 18-23

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<b>1070 kilocycles</b>	<b>280.2 meters</b>	
KJBS ak 100 Dn	San Francisco, Calif.	P—0-Sunset
WCAZ dk 100 D	Carthage, Ill.	C—9:30-14
WDZ ak 100 D	Tuscola, Ill.	C—7:30-15:30
WTAM ck 50000 R	Cleveland, Ohio	E—6:30-1

<b>1080 kilocycles</b>	<b>277.6 meters</b>	
WBT ae 50000 C	Charlotte, N. C.	E—7:30-24
WCBD ak 5000 1Dny	Zion, Ill.	C—7:30-10:30; 13:30-14:30; 15:30-24
WMBI ae 5000 1Dn	Chicago, Ill.	C—7:7:30; 10:30-13:30; 14:30-15:30
XEAF z 750 .....	Nogales, Son.	C—.....
XEMA z 50 .....	Tampico, Tams.	C—.....

<b>1090 kilocycles</b>	<b>275.1 meters</b>	
CMGI z 30 1094	Colon, Cuba	E—.....
KMOX ak 50000 C	St. Louis, Mo.	C—5:30-24
WESG ak 1000 .....	Elmira, N. Y.	E—7:30-18:15

<b>1100 kilocycles</b>	<b>272.6 meters</b>	
CMHA z 50 1103	Sagua la Grande, C.	E—.....
COX z 200 .....	Havana, Cuba	E—.....
CRCV ak 1000 F	Vancouver, B. C.	P—11-14; 17:30-23
KGDM ak 250 D	Stockton, Calif.	P—6-Sunset; 0-6
KWKH ae 10000 C	Shreveport, La.	C—.....
TIRCA ak 500 .....	San Jose, C. R.	C—.....
WLWL ae 5000 1	New York, N. Y.	E—6-20
WPG ak 5000 1C	Atlantic City, N. J.	E—9-18; 20-1
XEFG ak 250 1105	Mexico City, D. F.	C—.....

<b>1110 kilocycles</b>	<b>270.1 meters</b>	
KSOO ak 1000 Dn (2.5)	Sioux Falls, S. D.	C—6:30-18:30
WRVA ae 5000 N	Richmond, Va.	E—7-24

<b>1120 kilocycles</b>	<b>267.7 meters</b>	
CHLP z 100 .....	Montreal, Que.	E—9-14; 17-24
CHSJ ae 100 F	Sr. John, N. B.	A—.....
CROC ae 500 F (1)	Hamilton, Ont.	E—7:45-14:30; 16-24
CMHJ ae 40 1125	Cienfuegos, Cuba	E—11-13; 17-21
KFIO ak 100 D	Spokane, Wash.	P—6-17
KFSG ag 500 a	Los Angeles, Calif.	P—6:30-7:15; 19:30-24
KRKD ae 500 a	Los Angeles, Calif.	P—7:45-19:30
KRSC ck 100 D	Seattle, Wash.	P—6-Sunset
WDEL ak 250 (.5)	Wilmington, Del.	E—9-22
WISN ak 250 (1)	Milwaukee, Wis.	C—.....
WTAW ae 500 .....	College Station, Tex.	C—11:30-0:30
XENT ck 50000 .....	Nuevo Laredo, Tams.	C—7:30-24

<b>1130 kilocycles</b>	<b>265.3 meters</b>	
KSL ae 50000 C	Salt Lake City, Utah	M—6:30-24
WJVD ak 20000 Dn	Chicago, Ill.	C—6-18:45
WOJ ag 1000 D	New York, N. Y.	E—8-18

<b>1140 kilocycles</b>	<b>263.0 meters</b>	
KVOO ak 25000 1N	Tulsa, Okla.	C—6:30-17:45; 21-24
WAPI ae 5000 1N	Birmingham, Ala.	C—6-21

<b>1150 kilocycles</b>	<b>260.7 meters</b>	
CMJH ak 50 .....	Ciego de Avila, Cuba	E—8-8:30; 10-15; 17:30-22:30
COK z 250 .....	Havana, Cuba	E—.....
WHAM ae 50000 B	Rochester, N. Y.	E—8-1
XEH ak 250 .....	Monterrey, N. L.	C—9-20
XEWZ z 100 .....	Mexico City, D. F.	C—.....

<b>1160 kilocycles</b>	<b>258.5 meters</b>	
WOWO ae 10000 1C	Fort Wayne, Ind.	C—7-18:45; 19:30-20:30
WVVA ak 5000 1C	Wheeling, W. Va.	E—6:30-20:30; 21:30-2
XED ck 500 .....	Guadalajara, Jal.	C—8-9; 12-15:30; 19-23

**KCYS  
1160  
DIAL**

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1170 kilocycles 256.3 meters

CMJE z 50 .....  
COA z 500 1175 .....  
WCAU ae 50000 C

Camaguey, Cuba  
Havana, Cuba  
Philadelphia, Pa.

E .....  
E .....  
E-8-1

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1180 kilocycles 254.1 meters

KEX ak 5000 2N  
KOB ae 10000 2  
WDGY ak 1000 D (2.5)  
WINS ae 1000 .....  
WMAZ ak 1000 .....  
XEFA z 500 .....

Portland, Ore.  
Albuquerque, N. M.  
Minneapolis, Minn.  
New York, N. Y.  
Macon, Ga.  
Mexico City, D. F.

P-6:30-17:30; 20-24  
M-11-21  
C-6:30-20:15  
E-7-19:30  
E-7-19  
C.....

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1190 kilocycles 252.0 meters

HJH z 15 1195  
VEPEK ak 10 1195  
WATR ak 100 D  
WOAI ak 50000 N  
WSAZ ak 1000 .....

Santo Domingo, D. R.  
Montmagny, Que.  
Waterbury, Conn.  
San Antonio, Texas  
Huntington, W. Va.

E .....  
E-2-3  
E-9-17:15  
C-6:55-24  
E-7-18:45

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1200 kilocycles 249.9 meters

CHAB ak 100 .....  
CKTB ak 100 F  
CMCJ ak 400 .....  
KADA z 100 PD  
KBTM ak 100 D  
KFJB ak 100 (.25)  
KFXD ae 100 .....  
KFXJ ak 100 .....  
KGDE ak 100 (.25)  
KGEK ak 100 .....  
KGFJ ak 100 .....  
KGHI ak 100 (.25)  
KGVO ak 100 .....  
KMLB ak 100 .....  
KOOS ae 100 .....  
KSUN ck 100 D  
KVOS ak 100 .....  
KWG ak 100 C  
WABI ak 100 .....  
WBBZ ak 100 .....  
WBHS z 100 .....  
WBNO ck 100 1  
WCAT ak 100 D  
WCAX ak 100 .....  
WCLO ak 100 .....  
WFAM ak 100 8  
WFBK ak 100 (.25)  
WHBC ak 100 2  
WHBY ak 100 .....  
WIBX ak 100 (.3)  
WIL ak 100 (.25)  
WJBC ak 100 6  
WJBL ae 100 6  
WJBW ak 100 1  
WKBO ak 100 3  
WKJC ae 100 3 (.25)  
WLVA ck 100 .....  
WMPC ak 100 .....  
WNBO ae 100 2  
WRBL ak 100 .....  
WVAE ae 100 8  
YV3RC ak 1000  
10-AK ak 15 .....  
10-BP ak 25 .....  
10-BQ ak 15 .....  
10-BU ak 50 .....

Moose Jaw, Sask.  
St. Catharines, Ont.  
Havana, Cuba  
Ada, Okla.  
Jonesboro, Ark.  
Marshalltown, Iowa  
Nampa, Idaho  
Grand Junction, Col.  
Fergus Falls, Minn.  
Sterling, Colo.  
Los Angeles, Calif.  
Little Rock, Ark.  
Missoula, Mont.  
Monroe, La.  
Marshfield, Ore.  
Lowell, Ariz.  
Bellingham, Wash  
Stockton, Calif.  
Bangor, Maine  
Ponca City, Okla.  
Huntsville, Ala.  
New Orleans, La.  
Rapid City, S. D.  
Burlington, Vt.  
Janesville, Wis.  
South Bend, Ind.  
Cincinnati, Ohio  
Canton, Ohio  
Green Bay, Wis.  
Utica, N. Y.  
St. Louis, Mo.  
Bloomington, Ill.  
Decatur, Ill.  
New Orleans, La.  
Harrisburg, Pa.  
Lancaster, Pa.  
Lynchburg, Va.  
Lapeer, Mich.  
Washington, Pa.  
Columbus, Ga.  
Hammond, Ind.  
Caracas, Venez.  
Stratford, Ont.  
Wingham, Ont.  
Brantford, Ont.  
Canora, Sask.

M-7:30-22  
E-8-13:30; 16-23:30  
E.....  
C.....  
C-6-17  
C-6-9; 12-15; 18-21  
M-7-21  
M-9-21  
C-7-21  
M-11:30-13:30  
P-24 hours  
C-8-13; 15-22  
M-8-22  
C.....  
P-8-Sunset  
M-Sunrise-Sunset  
P-7:30-22:30  
P-7-24  
E-9-14; 18-22  
C-6:30-21:45  
C.....  
C-12-17; 20-23  
C-12:30-13:30  
E-12-1  
C-7-20  
C-6:30-24  
E-7-23  
E-7-9; 12-15; 18-21  
C-7:30-23  
E-8-24  
C-7-23  
C-9-12:30; 15-19:30  
C-6:30-9; 12:30-15; 19:30-22  
C-8-12; 17-20  
E-8-11; 15-24  
E-11-15; 18-20  
E-7-14; 17-22  
E-Silent  
E-9-12; 15-18; 21-24  
C-7-21  
C-7-8:30; 11-13; 16-24  
L-11-14; 17-22:30  
E-12-13; 17:30-19  
E-12-13  
E-11-20  
C.....

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1210 kilocycles 247.8 meters

CHNC ak 100 F  
CKBI ak 100 F  
CKCH ak 100 F  
CKMC ak 50 .....  
CMJI ak 150 .....

New Carlisle, Que.  
Prince Albert, Sask.  
Hull, Que.  
Cobalt, Ont.  
Ciego de Avila, Cuba

A-12:30-13:30; 15-24  
M.....  
E-11:30-13:15; 17:30-23  
E.....  
E.....

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With Saturday's Time on the Air

KASA	ck	100	.....	Elk City, Okla.	C-6-8; 9-13:30; 14:30-20
KDLR	ak	100	.....	Devils Lake, N. D.	C-8-14:15; 18-20
KFJI	ak	100	.....	Klamath Falls, Ore.	P-8:30-21
KFOR	ak	100	(.25)C	Lincoln, Neb.	C-7-22:30
KFPW	ak	100	.....	Fort Smith, Ark.	C-6-14; 17:30-21:30
KFVS	ae	100	6 (.25)	Cape Girardeau, Mo.	C-9-12; 16-19:30; 21-24
KFXM	ak	100	9	San Bernardino, Cal.	P-6-24
KGY	ak	100	.....	Olympia, Wash.	P-7-23
KIEM	ak	100	.....	Eureka, Calif.	P-7:30-22
KPPC	ak	50	9	Pasadena, Calif.	P-Silent
KWEA	z	100	.....	Shreveport, La.	C-.....
KWVZ	z	100	.....	Hilo, Hawaii	L-.....
KWTV	ak	100	.....	Watertown, S. D.	C-7-21
WALR	ak	100	Y	Zanesville, Ohio	E-.....
WBAX	ae	100	1	Wilkes Barre, Pa.	E-7-12; 18-24
WBBL	ak	100	7S	Richmond, Va.	E-Silent
WBRB	ak	100	3	Red Bank, N. J.	E-17-19
WCBS	ak	100	2	Springfield, Ill.	C-11:15-15; 18:45-20:30
WCOL	ak	100	.....	Columbus, Ohio	E-8-23
WCRW	ae	100	4	Chicago, Ill.	E-11-14; 17-19
WEBQ	ae	100	6 (.25)	Harrisburg, Ill.	C-6-9; 12-16; 19:30-21
WEDC	ae	100	4	Chicago, Ill.	C-8:30-10; 15:30-17; 19-20; 22-23; 0-2
WFAS	ak	100	3	White Plains, N. Y.	E-9-11:30; 15-17; 19-22
WGBB	ae	100	3	Freeport, N. Y.	E-Silent
WGCM	ae	100	(.25)	Gulfport, Miss.	C-9-13; 19-21
WGNV	ak	100	3	Chester, N. Y.	E-6:45-9; 11:30-15
WHBF	ak	100	.....	Rock Island, Ill.	C-7:30-23
WHBU	ak	100	.....	Anderson, Ind.	C-7-21
WIBU	ak	100	.....	Poynette, Wis.	C-7-19
WJBY	ak	100	.....	Gadsden, Ala.	C-9-21
WJEJ	ah	100	D	Hagerstown, Md.	E-Sunset
WJIM	z	100	P	Lansing, Mich.	E-.....
WJW	ak	100	.....	Akron, Ohio	E-9-23:30
WKFI	ak	100	Y	Greenwood, Miss.	C-7-19
WKOK	ak	100	1P	Sunbury, Pa.	E-12-18
WMBG	ak	100	7C	Richmond, Va.	E-7-24
WOCL	ak	50	.....	Jamestown, N. Y.	E-10:30-22:30
WOMT	ae	100	.....	Manitowoc, Wis.	C-7-21
WODX	ae	100	.....	Thomasville, Ga.	E-8-21
WSBC	ae	100	4	Chicago, Ill.	C-6-8:30; 10-11; 14-15:30; 20-22; 23-24
WSIX	ak	100	.....	Springfield, Tenn.	C-6-14:30; 17-20:30
WSOC	ak	100	N (.25)	Charlotte, N. C.	E-7-24
WTAX	ak	100	2	Springfield, Ill.	C-.....
XEC	z	50	.....	Toluca, D. F.	C-.....
XEE	z	50	.....	Durango, Dgo.	C-.....
XEFJ	ak	100	.....	Monterrey, N. L.	C-11-14; 18-22
XEFV	ak	100	.....	Juarez, Chih.	M-9-15; 17-22
XEMZ	z	30	.....	Tijuana, B. C.	P-.....
XETH	ak	100	.....	Puebla, Pue.	C-8:30-11; 13-15; 19-24

**KCYS.  
1240  
DIAL**

## 1220 kilocycles 245.8 meters

CMHK	z	50	1225	Cruces, Cuba	E-10-11:30
KFKU	ae	1000	a	Lawrence, Kas.	C-14:30-16:30; 18-18:15
KTW	ak	1000	S2	Seattle, Wash.	P-Silent
KWSC	ae	1000	2 (2)	Pullman, Wash.	P-6:45-8; 10:30-21:30
WCAD	ak	500	D	Canton, N. Y.	E-12:30-13:30
WCAE	ak	1000	R	Pittsburgh, Pa.	E-6:45-1
WDAE	ae	1000	C (2.5)	Tampa, Fla.	E-8-24
WREN	ak	1000	Ba	Lawrence, Kas.	C-7-24

## 1230 kilocycles 243.8 meters

CJOC	ak	100	F	Lethbridge, Alta.	M-8-14; 16:30-22
CMCA	z	150	2	Havana, Cuba	E-12-14; 17-23
KGGM	ak	250	(.5)	Albuquerque, N. M.	M-6-12; 16-20
KYA	ae	1000	N	San Francisco, Calif.	P-7-24
WFBM	ae	1000	1C	Indianapolis, Ind.	C-6:30-24
WNAC	ak	1000	C (2.5)	Boston, Mass.	E-6:30-1

## 1240 kilocycles 241.8 meters

CJCB	ak	1000	F	Sydney, N. S.	A-10-13:30; 18-23:30
CMHB	z	30	1245	San Spiritus, Cuba	E-.....
KGCU	ak	250	1	Mandan, N. D.	M-12-17; 18:45-21
KLPM	ak	250	1	Minot, N. D.	C-7-13; 18-19:45
KTAT	ak	1000	C	Fort Worth, Texas	C-7-24
KTFI	ae	1000	(1.5)	Twin Falls, Idaho	M-5:45-0:15

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<p>WKAQ ae 1000 .....                      WXYZ ak 1000 .....                      XEAI z 100 .....</p>	<p>San Juan, P. R.                      Detroit, Mich.                      Mexico City, D. F.</p>	<p>E—11:15-12:45; 17:15-24                      E—7-24                      C—.....</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1250 kilocycles</h2> </div> <div style="width: 30%;"> <h2>239.9 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CMCU ak 150 1255                      KFOX ae 1000 .....                      WCAL ah 1000 2 (2.5)                      WDSU ak 1000 C                      WHBI ak 1000 1 (2.5)                      WLB ak 1000 2                      WNEW ae 1000 1 (2.5)                      WTCN ak 1000 2</p>	<p>Havana, Cuba                      Long Beach, Calif.                      Northfield, Minn.                      New Orleans, La.                      Newark, N. J.                      Minneapolis, Minn.                      Newark, N. J.                      Minneapolis, Minn.</p>	<p>E—12-18                      P—6-24                      C—9:45-10:15; 20-22                      C—7-24                      E—14-19; 20-22                      C—14-19                      E—7-4                      C—6:15-9:45; 22:35-24</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1260 kilocycles</h2> </div> <div style="width: 30%;"> <h2>238.0 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CFTP ak 100 .....                      KOIL ak 1000 B (2.5)                      KPAC z 500 D                      KRGV ak 500 .....                      KUOA ak 1000 D                      KVOA ak 500 .....                      WLBW ae 1000 C                      WNBX ak 500 D                      WTOC ae 1000 C</p>	<p>Edmonton, Alta.                      Council Bluffs, Iowa                      Port Arthur, Texas                      Weslaco, Texas                      Fayetteville, Ark.                      Tucson, Ariz                      Erie, Pa.                      Springfield, Vt.                      Savannah, Ga.</p>	<p>M—7:30-13:30; 15-16; 17:30-19                      C—6-1                      C—.....                      C—7-21                      E—7-13; 16-19                      M—6-9; 12-15; 18-21                      E—7-1                      E—7:15-Sunset                      E—7-1</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1270 kilocycles</h2> </div> <div style="width: 30%;"> <h2>236.1 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CMCP z 150 .....                      HIX ak 1000 .....                      KGCA ak 100 2D                      KOL ae 1000 C (2.5)                      KQOR ae 1000 C                      KWLC ak 100 2D</p>	<p>Havana, Cuba                      Santo Domingo, D.R.                      Decorah, Iowa                      Seattle, Wash.                      Colorado Spgs., Colo.                      Decorah, Iowa</p>	<p>E—.....                      E—11:40-20:10                      C—8:30-9:45; 10:45-11:30; 12:30-14:30                      P—6:45-24                      M—7-25                      C—7:30-8:30; 9:45-10:45; 11:30-12:30; 14:30-15:30                      E—7-24                      E—7-24                      C—7-23                      E—7-24                      C—8-9; 13-14:30; 20-23:30</p>
<p>WASH ak 500 a                      WFBR ae 500 R                      WJDX ae 1000 N (2.5)                      WOOD ak 500 a                      XFB ak 1000 .....</p>	<p>Grand Rapids, Mich.                      Baltimore, Md.                      Jackson, Miss.                      Grand Rapids, Mich.                      Jalapa, Ver.</p>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1280 kilocycles</h2> </div> <div style="width: 30%;"> <h2>234.2 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CMCO z 150 .....                      KFBB ae 1000 (2.5)                      WCAM ae 500 1                      WCAP ae 500 1                      WDOD ae 1000 C (2.5)                      WIBA ae 500 N (1)                      WORC ak 500 C                      WRR ak 500 .....                      WTNJ ak 500 1</p>	<p>Havana, Cuba                      Great Falls, Mont.                      Camden, N. J.                      Asbury Park, N. J.                      Chattanooga, Tenn.                      Madison, Wis.                      Worcester, Mass.                      Dallas, Texas                      Trenton, N. J.</p>	<p>E—.....                      M—8-22                      E—Silent                      E—6-8; 8:30-13; 14-17; 20-24                      C—7-23:30                      C—7:30-24                      E—8-24                      E—8-23                      E—8-8:30; 13-14; 17-20</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1290 kilocycles</h2> </div> <div style="width: 30%;"> <h2>232.4 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>KDYL ak 1000 N                      KLCN z 100 D                      WEBC ae 1000 N (2.5)                      WJAS ak 1000 C (2.5)                      WNBZ z 50 D                      WNEL z 500 P</p>	<p>Salt Lake City, Utah                      Blytheville, Ark.                      Superior, Wis.                      Pittsburgh, Pa.                      Saranac Lake, N. Y.                      San Juan, P. R.</p>	<p>M—6:30-1                      C—10:30-16:30                      C—7-24                      E—7:30-24                      E—.....                      A—.....</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1300 kilocycles</h2> </div> <div style="width: 30%;"> <h2>230.6 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CMKJ z 20 .....                      HIZ z 10 .....                      KALE ak 500 3C                      KFAC ak 1000 .....                      KFH ak 1000 C2                      KFJR ag 500 3                      VOAC z 40 .....                      WBBR ae 1000 1                      WEVD ak 1000 1                      WFAB ae 1000 1                      WFBC ak 250 (1)                      WHAZ ae 500 1                      WIOD ae 1000 N</p>	<p>Guantanamo, Cuba                      Santo Domingo, D.R.                      Portland, Ore.                      Los Angeles, Calif.                      Wichita, Kans.                      Portland, Ore.                      St. John's, Nfld.                      Brooklyn, N. Y.                      New York, N. Y.                      New York, N. Y.                      Greenville, S. C.                      Troy, N. Y.                      Miami, Fla.</p>	<p>E—.....                      E—.....                      P—7-10:30; 14:30-17; 18-19; 20-23                      P—7-24                      C—7-24                      P—10:30-14:30; 17-18                      L—.....                      E—Silent                      E—7-12; 15-21; 22-23; 24-1                      E—9-10; 12-15; 21-22                      E—7:30-14:30; 17:30-22:30                      E—Silent                      E—8-24</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 30%;"> <h2>1310 kilocycles</h2> </div> <div style="width: 30%;"> <h2>228.9 meters</h2> </div> <div style="width: 30%; border: 1px solid black; height: 20px;"></div> </div>		
<p>CHCK ak 50 .....</p>	<p>Charlottetown, P.E.I.</p>	<p>A—12-13:30; 17-21</p>

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CJKL	z	100	.....	Kirkland Lake, Ont.	E—.....
CJLS	z	100	.....	Yarmouth, N. S.	A—.....
CKCV	ak	50	.....	Quebec, Que.	E—12-14; 18:30-19:30
CMGY	ak	500	1316	Havana, Cuba	E—.....
KCRJ	ak	100	D	Jerome, Ariz.	M—7:30-9:30; 12-13; 16:30-18
KFBK	ak	100	C	Sacramento, Calif.	P—8-24
KFPL	dkh	100	.....	Dublin, Texas	C—6-15; 18-21
KFPM	ae	15	.....	Greenville, Texas	C—7:45-9; 12:30-14:45; 18-20:30
KFXR	ak	100	(.25)	Oklahoma City, Ok.	C—7:30-22
KFYO	ak	100	(.25)	Lubbock, Texas	C—7-21
KGBX	ak	100	.....	Springfield, Mo.	C—17:45-22
KGCX	ak	100	(.25)	Wolf Point, Mont.	M—7:30-9; 11:30-15; 18-19
KGEZ	aj	100	.....	Kallispell, Mont.	M—8-21
KGFW	ak	100	.....	Kearney, Neb.	C—7-13:30; 15:30-21
KIT	ak	100	.....	Yakima, Wash.	P—7-23
KMED	ck	100	(.25)	Medford, Ore.	P—8-20
KRMD	ak	100	.....	Shreveport, La.	C—7-21
KTSM	ak	100	.....	El Paso, Texas	M—6:30-13; 15-22
KXRO	ak	100	.....	Aberdeen, Wash.	P—7:30-22:15
WAML	ak	100	.....	Laurel, Miss.	C—7-10; 11-14; 16-21:30
WBEO	ae	100	.....	Marquette, Mich.	C—9:30-13:15; 17-19
WBOW	ak	100	.....	Terre Haute, Ind.	C—7-24
WBRS	ak	100	.....	Wilkes Barre, Pa.	E—8-21:45
WCLS	ae	100	.....	Joliet, Ill.	C—Silent
WDAI	ak	100	S	El Paso, Texas	M—Silent
WBRB	ae	500	.....	Buffalo, N. Y.	E—7-24
WEXL	ak	50	.....	Royal Oak, Mich.	E—8-4
WFBG	ae	100	3	Altoona, Pa.	E—10:30-14:30; 18:15-21:15
WFDL	arm	100	.....	Flint, Mich.	E—7-24
WGH	ae	100	.....	Newport News, Va.	E—7-13; 16:30-24
WHAT	ak	100	4	Philadelphia, Pa.	E—9-11:30; 13-16; 21-24
WJAC	ae	100	3	Johnstown, Pa.	E—9-10:30; 16:30-18:15; 21:15-22:15
WLBC	ak	50	6 (.1)	Muncie, Ind.	C—7-22
WLNH	ak	100	.....	Laconia, N. H.	E—.....
WMBO	ak	100	.....	Auburn, N. Y.	E—9-21
WNBH	ae	100	(.25)	New Bedford, Mass.	E—7:45-23:20
WOL	ae	100	(.25)	Washington, D. C.	E—7-24
WRAW	ak	100	.....	Reading, Pa.	E—7-13; 16-22
WRWL	ak	100	.....	Knoxville, Tenn.	C—7-24
WSAJ	ae	100	.....	Grove City, Pa.	E—Silent
WSGN	ak	100	(.25)	Birmingham, Ala.	C—6-22
WSJS	ak	100	C	Winston-Salem, N.C.	E—7:45-24
WTEL	ah	100	4	Philadelphia, Pa.	E—7-9; 11:30-13; 16-21
WTJS	ak	100	(.25)	Jackson, Tenn.	C—7-13:45; 16-22
WTRC	ak	50	6 (.1)	Elkhart, Ind.	C—8-19:30
XECW	z	10	.....	Mexico City, D. F.	C—.....
XEFC	ak	100	.....	Merida, Yuc.	C—11-12
XEFW	ak	250	.....	Tampico, Tams.	C—9-11; 12-14:30; 17-21
XETB	z	125	.....	Torreón, Coah.	C—.....
XEX	ak	125	.....	Monterrey, N. L.	C—8-24

### 1320 kilocycles 227.1 meters

CMCK	z	100	P	Havana, Cuba	E—.....
KGHF	ak	500	.....	Pueblo, Colo.	M—7-22
KGMB	ak	250	C	Honolulu, T. H.	L—6-22:30
KID	ae	250	(.5)	Idaho Falls, Idaho	M—6-23
KSO	ak	250	B(.5)	Des Moines, Iowa	C—5:30-1
WADC	ae	1000	G(2.5)	Akron, Ohio	E—8-24
WORK	ak	1000	.....	York, Pa.	E—8-17:30
WSMB	ak	500	N	New Orleans, La.	C—7-24

**KCY5.  
1340  
DIAL**

### 1330 kilocycles 225.4 meters

KGB	ag	1000	C(2.5)	San Diego, Calif.	P—7-1
KMO	ak	250	.....	Tacoma, Wash.	P—6:45-23
KSCJ	aj	1000	1C(2.5)	Stoux City, Iowa	C—7:30-23
KTRH	z	500	C(2.5)	Houston, Texas	C—6:30-24
WDRZ	ae	1000	C	Hartford, Conn.	E—8-24
WSAI	ak	1000	R(2.5)	Cincinnati, Ohio	E—7-24
WTAQ	ae	1000	1	Eau Claire, Wis.	C—7-20

### 1340 kilocycles 223.7 meters

KFPY	ak	1000	C	Spokane, Wash.	P—7-24
KGDY	ak	250	D	Huron, S. D.	C—.....
KGNO	ak	250	.....	Dodge City, Kans.	C—7-20
WCOA	ak	500	.....	Pensacola, Fla.	C—9-22

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With Saturday's Time on the Air

WFEA	ae	500	C	Manchester, N. H.	E-9-23
WSPD	ae	1000	C (2.5)	Toledo, Ohio	E-7-1
XFD	z	250		Orizaba, Ver.	C.....

## 1350 kilocycles 222.1 meters

CMBD	z	150	.....	Havana, Cuba	E-18-23
KIDO	ak	1000	(2.5)	Boise, Idaho	M-7:30-22
KWK	ae	1000	B (2.5)	St. Louis, Mo.	C-6:30-1:30
WAWZ	ae	250	1	Zarephath, N. J.	E-7:45-8:45; 17-18:30
WBXN	ae	250	1	New York, N. Y.	E-6-7:30; 9-13
WEHC	ae	500	D	Charlottesville, Va.	E-7-1:05; 16-1

## 1360 kilocycles 220.4 meters

CMJP	ak	75	.....	Moron, Cuba	E-10-12; 20-22
CMKF	z	30	1363	Holquin, Cuba	E.....
KGER	ak	1000	.....	Long Beach, Calif.	P-7-23
KGIR	ak	1000	N	Butte, Mont.	M-8-23:15
WCSC	ae	500	(1)	Charleston, S. C.	E-8-15:30; 18-23
WFBL	ak	1000	C (2.5)	Syracuse, N. Y.	E-7-1
WGES	ae	500	.....	Chicago, Ill.	C-7-12; 17-20
WQBC	ak	500	(1)	Vicksburg, Miss.	C.....
WSBT	ak	500	.....	South Bend, Ind.	C-6:30-24

## 1370 kilocycles 218.8 meters

CKCW	z	100	.....	Moncton, N. B.	A.....
CMBG	z	225	1375	Havana, Cuba	E.....
CMGE	z	30	1375	Cardenas, Cuba	E.....
KCRC	ak	100	2 (.25)	Enid, Okla.	C-7-9; 11-14; 17-19:45
KERN	ak	100	.....	Bakersfield, Calif.	P-7-24
KFGO	ak	100	.....	Boone, Iowa	C.....
KFJM	ak	100	.....	Grand Forks, N. D.	C-8-20
KFJZ	ae	100	.....	Fort Worth, Texas	C-7-23
KGAR	ae	100	(.25)	Tucson, Ariz.	M-7-13; 16-22
KGFG	bk	100	2	Oklahoma City, Ok.	C-9-11; 14-19; 19:45-22
KGFL	ak	100	4	Roswell, N. M.	M-6-9:30; 14-19:30
KGKL	ak	100	(.25)	San Angelo, Texas	C-8-21:30
KICA	ak	100	4	Clovis, N. M.	M-9:30-14; 19:30-21:30
KLUF	z	100	(.25)	Galveston, Texas	C.....
KMAC	ak	100	5	San Antonio, Texas	C-7-8:30; 10-11; 12-13:30; 16-18; 19-20; 22-0:30
KONO	ak	100	5	San Antonio, Texas	C-6-7; 8:30-10; 11-12; 13:30-16; 18-19; 20-22
KRE	ak	100	.....	Berkeley, Calif.	P-6-24
KRKO	ak	50	.....	Everett, Wash.	P-7:30-12; 16:30-20
KSLM	z	100	.....	Salem, Ore.	P.....
KUJ	ak	100	.....	Walla Walla, Wash.	P-6:30-22
KVL	ak	100	.....	Seattle, Wash.	P-6-9; 12-15; 18-21
KWKC	z	100	.....	Kansas City, Mo.	C.....
KWYO	z	100	.....	Sheridan, Wyo.	M-7-24
WAGF	ak	100	D	Dothan, Ala.	C-8-17:15
WBTM	ak	100	.....	Danville, Va.	E-7-14; 17-22
WCBM	ae	100	(.25)	Baltimore, Md.	E.....
WDAS	ae	100	(.25)	Philadelphia, Pa.	E-9-23
WGL	ak	100	C	Fort Wayne, Ind.	C-8-13; 16:45-24
WGLC	ak	100	.....	Hudson Falls, N. Y.	E-7:30-1
WHBD	ak	100	.....	Mount Orab, Ohio	E-8-11:30; 12-21
WHBQ	ak	100	.....	Memphis, Tenn.	C-7:55-14; 16-22:30
WHDF	ak	100	(.25)	Calumet, Mich.	E-7-9; 11:30-13:30; 17:30-20:30
WIBM	ak	100	.....	Jackson, Mich.	E-7-24
WJTL	ae	100	.....	Atlanta, Ga.	E.....
WLLH	ak	100	(.25)	Lowell, Mass.	E-12-15; 18-21
WMBR	ak	100	C	Jacksonville, Fla.	E-7-24
WOC	z	100	P	Davenport, Iowa	C.....
WPFB	ak	100	.....	Hattiesburg, Miss.	C-7:30-9:30; 11-13; 18-21
WQDM	ae	100	D	St. Albans, Vt.	E.....
WRAC	ak	100	.....	Williamsport, Pa.	E-7:30-20
WRDO	ae	100	.....	Augusta, Maine	E-7:30-13:30; 15-21
WRJN	ak	100	.....	Racine, Wis.	C-8:50-14:30; 16-22:30
WSVS	ak	50	D	Buffalo, N. Y.	E-8:30-10
XEFE	z	100	.....	Nuevo Laredo, Tams.	C.....
XEFZ	ae	100	.....	Mexico City, D. F.	C.....
XEI	ak	125	.....	Morelia, Mch.	C-14-15:30; 21-22
XEZZ	z	100	.....	San Luis Potosi, SLP	C-9:30-15; 17-22

## 1380 kilocycles 217.3 meters

CMJC	z	150	1382	Camaguey, Cuba	E.....
KOH	ak	500	C	Reno, Nev.	P-8-24
KQV	ak	500	2C	Pittsburgh, Pa.	E-7-24

# INDEX BY FREQUENCIES AND DIAL NUMBERS

With Saturday's Time on the Air

WALA	ae	50	0	C	Mobile, Ala.	C-8-23
WKBH	ae	1000			LaCrosse, Wis.	C-7:30-14; 17-22
WSKB	ak	200		C	Dayton, Ohio	E-7:20; 22-24

## 1390 kilocycles 215.7 meters

CJRC	ck	100			Winnipeg, Man.	C-.....
HIH	ak	15	1395	San Ped. de Macoris, DR		E-.....
KLRA	ae	1000	C (2.5)	Little Rock, Ark.	C-6:30-23:30	
KOY	ae	500	(1)	Phoenix, Ariz.	M-.....	
WHK	ae	1000	C (2.5)	Cleveland, Ohio	E-7:30-24	

## 1400 kilocycles 214.2 meters

CMCR	z	150			Havana, Cuba	E-12-13; 16-18; 20-21
KLO	ae	500	C		Ogden, Utah	M-7-24
KTUL	ak	250	(.5) C		Tulsa, Okla.	C-6:30-24
TGX	ak	150			Guatemala City, Gt.	C-.....
WARD	ak	500	2		Brooklyn, N. Y.	E-15:45-18; 22:30-24
WBAA	z	500			W. Lafayette, Ind.	C-Silent
WBCC	ae	500	2 (1)		Brooklyn, N. Y.	E-7-11; 19:30-21
WKBF	ak	500	N (1)		Indianapolis, Ind.	C-6:30-24
WLTH	ak	500	2		Brooklyn, N. Y.	E-11:30-13:30; 18-19:30
WVFW	ak	500	2		Brooklyn, N. Y.	E-13:30-15:45; 21-22:30

## 1410 kilocycles 212.6 meters

CKFC	ak	50	5		Vancouver, B. C.	P-15-16:30
CKMO	ag	100	5		Vancouver, B. C.	P-.....
KGRS	ae	1000	1		Amarillo, Texas	C-6-8; 10-12:30; 15-16:30; 18-19:30; 21-22
WAAB	ak	500	C		Boston, Mass.	E-8-23
WBCM	ae	500			Bay City, Mich.	E-8-24
WDAG	ae	1000	1 (2.5)		Amarillo, Texas	C-8-10; 12:30-15; 16:30-18; 19:30-21; 22-24
WHBL	ae	500	4		Sheboygan, Wis.	C-6-10; 13-16:30; 18-19:30
WHIS	ak	250	2		Bluefield, W. Va.	E-9-12; 12-15; 18-20
WRBX	ae	250	2 (.5)		Roanoke, Va.	E-7-9; 15-18; 20-23
WROK	ak	500	4		Rockford, Ill.	C-10-13; 16:30-18; 19:30-22:30
WSFA	ak	500	C		Montgomery, Ala.	C-6:30-22:30

## 1420 kilocycles 211.1 meters

CKGB	ak	100			Timmins, Ont.	E-12-13:30; 17-22:30
CKNK	ak	100	F		Toronto, Ont.	E-8-23:15
CMBX	ak	150	1425		Havana, Cuba	E-.....
KABC	ak	100			San Antonio, Texas	C-7-22:30
KBPS	aj	100	4		Portland, Ore.	P-Silent
KCMC	ak	100			Texarkana, Ark.	C-7-14; 16-21
KFIZ	ak	100			Fond du Lac, Wis.	C-10-13; 16-22
KGFF	ak	100			Shawnee, Okla.	C-7:30-15; 17-21
KGGC	ak	100			San Francisco, Cal.	P-9-13; 16-23
KGIW	ak	100	1		Alamosa, Colo.	M-10-13; 17-19; 22-23
KGIX	ak	100	P		Las Vegas, Nev.	M-.....
KIDW	z	100	1		Lamar, Colo.	M-8-10; 13-17; 19-22
KORE	ae	100			Eugene, Ore.	P-7:45-21
KUMA	ak	100			Yuma, Ariz.	M-7-9; 11-13:30; 18-22
KXL	ae	100	4 (2.5)		Portland, Ore.	P-8-24
WACO	ak	100	C		Waco, Texas	C-8-17
WAGM	ae	100			Presque Isle, Maine	E-11-13; 16-19
WAZL	ak	100	2		Hazleton, Pa.	E-10:30-14:30; 16-22
WEED	ak	100	D		Rocky Mount, N. C.	E-7-21
WEHS	ak	100	a		Cicero, Ill.	C-16-18
WELL	ak	50			Battle Creek, Mich.	E-7:30-23
WGPC	ak	100	D		Albany, Ga.	C-7-16:45
WHDL	ak	100	DY		Tupper Lake, N. Y.	E-.....
WHFC	ae	100	a		Cicero, Ill.	C-7-13:30; 18-1
WILM	aj	100	2		Wilmington, Del.	E-7-11; 14-17; 21-24
WJBO	z	100	D		Baton Rouge, La.	C-.....
WJMS	ak	100			Ironwood, Mich.	C-7:30-19:30
WKBI	ak	100	a		Cicero, Ill.	C-13:30-16
WLAP	ak	100	(.25)		Lexington, Ky.	C-7-1
WLBK	ak	100			Kansas City, Kans.	C-7-22
WLEU	z	100	DP		Erie, Pa.	E-.....
WMAS	ak	100	C (.25)		Springfield, Mass.	E-7:30-24
WMBG	ae	100	(.25)		Detroit, Mich.	E-7:30-24
WMBH	ak	100	(.25)		Joplin, Mo.	C-7:30-14; 18-21:30
WNRA	ak	100	D		Muscle Shoals, Ala.	C-7-13; 16-22
WPAD	ak	100			Paducah, Ky.	C-7-9:30; 11-14; 16-22:30
XEFB	ak	100			Monterrey, N. L.	E-10-14; 18-24

**KCY5.  
1420  
DIAL**

# INDEX BY FREQUENCIES AND DIAL NUMBERS

With Saturday's Time on the Air

<b>1430 kilocycles</b>	<b>209.7 meters</b>	
KECA ak 1000 (2.5)	Los Angeles, Calif.	P-7-23
KGNF ak 500 D	North Platte, Neb.	C-7-Sunset
KWCR ak 250 B (.5)	Cedar Rapids, Iowa	C-7-24
WBNS ae 500 C (1)	Columbus, Ohio	E-6:15-24
WHEC ae 500 C (1)	Rochester, N. Y.	E-8-24
WHP ak 500 C (1)	Harrisburg, Pa.	E-8:30-1
WNBR ae 500	Memphis, Tenn.	C-7-13; 15-22
WOKO ae 500 C (1)	Albany, N. Y.	E-8-1

<b>1440 kilocycles</b>	<b>208.2 meters</b>	
KDFN ak 500	Casper, Wyo.	M-7:30-13:30; 15-21
KLS z 250 D	Oakland, Calif.	P-8-Sunset
KXYZ ak 500	Houston, Texas	C-6:30-13; 14:30-23
WBIG ae 500 C (1)	Greensboro, N. C.	E-7:30-23
WCBA aj 250 a	Allentown, Pa.	E-7-1
WMBD ae 500 3C (1)	Peoria, Ill.	C-6-11; 20-24
WSAN aj 250 a	Allentown, Pa.	E-13-23
WTAD ak 500 3	Quincy, Ill.	C-11-20

<b>1450 kilocycles</b>	<b>206.8 meters</b>	
CFCT ae 50	Victoria, B. C.	P-8-12:30; 17:30-20:15; 0-2
CKX ak 500 F	Brandon, Man.	C-.....
CMCQ z 1000	Havana, Cuba	E-.....
KTBS ck 1000 N	Shreveport, La.	C-7-24
WGAR ak 500 B (1)	Cleveland, Ohio	E-6:30-1
WHOM ae 250	Jersey City, N. J.	E-8-24
WSAR ae 250	Fall River, Mass.	E-8-15:30; 17-22
WTFI ak 500	Athens, Ga.	E-9-21

<b>1460 kilocycles</b>	<b>205.4 meters</b>	
KSTP ae 10000 N (25)	St. Paul, Minn.	C-7-0:30
WJSV ak 10000 C	Washington, D. C.	E-6:30-1

<b>1470 kilocycles</b>	<b>204.0 meters</b>	
CMCG z 150 1475	Havana, Cuba	E-9-12; 18-24
WLAC ak 5000 C	Nashville, Tenn.	C-6:30-24

<b>1480 kilocycles</b>	<b>202.6 meters</b>	
KOMA ak 5000 C	Oklahoma City, Ok.	C-7-24
WKBW ae 5000 C	Buffalo, N. Y.	E-9-1

<b>1490 kilocycles</b>	<b>201.2 meters</b>	
WCKY ae 5000 B	Covington, Ky.	E-7-2

<b>1500 kilocycles</b>	<b>199.9 meters</b>	
CHGS ae 50 F	Summerside, P.E.I.	A-7:30-8:30; 10:30-14; 16-23
CMCN z 250	Havana, Cuba	E-.....
KDB ak 100 C	Santa Barbara, Calif.	P-7:30-24
KGFI ak 100 (.25)	Corpus Christi, Tex.	C-7-15; 18-22
KGFK ak 100	Moorhead, Minn.	C-8-21
KGKB ak 100	Tyler, Texas	C-8-10; 12-13; 17-20:30
KGKY ck 100	Scottsbluff, Neb.	M-9-13:30; 17:30-21
KNOW ak 100	Austin, Texas	C-7:30-14; 16-22
KOTN ak 100 D	Pine Bluff, Ark.	C-7-17:30
KPJM ak 100	Prescott, Ariz.	M-8-13:30; 17:30-20
KPO ak 100	Wenatchee, Wash.	P-6:30-22:30
KREG ak 100	Santa Ana, Calif.	P-9-23
KXO ae 100	El Centro, Calif.	P-7-14; 16-21
WCNW ak 100 I (.25)	Brooklyn, N. Y.	E-15-21
WDNC ak 100 C	Durham, N. C.	E-7:30-24
WGAL ae 100 (.25)	Lancaster, Pa.	E-9-22
WHEF z 100 (.25)	Kosciusko, Miss.	C-6-24
WJBK ae 100	Detroit, Mich.	E-7-Sunset; 21-24
WKBW ak 100	E. Dubuque, Ill.	E-7-21
WKBZ ak 100	Richmond, Ind.	C-10-12; 18-22
WKBU ak 100	Muskegon, Mich.	E-9-21
WKEU ak 100	LaGrange, Ga.	C-10-12; 15-18
WMBO ae 100 I	Brooklyn, N. Y.	E-9-11
WMEX z 100 P (.25)	Chelsea, Mass.	E-.....

## INDEX BY LOCATIONS

WNBF ae 100	.....	Binghamton, N. Y.	E-7-22
WOPJ ae 100	.....	Bristol, Tenn.	E-6:30-23
WRDW ak 100	.....	Augusta, Ga.	E-8-21
WRGA ak 100	.....	Rome, Ga.	C-7-10; 12-15; 18-21
WSYB ak 100	.....	Rutland, Vt.	E-10-13; 17-21
WWRL ak 100	1 (.25)	Woodside, N. Y.	E-8-9; 11-15; 22-0:30
WWSW ae 100	(.25)	Pittsburgh, Pa.	E-8-24

1510 kilocycles 198.6 meters

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CFRC ak 100	.....	Kingston, Ont.	E-.....
CKCR ak 100	.....	Waterloo, Ont.	E-8:30-13:30; 16:30-23

1530 kilocycles 196.0 meters

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W1XBS z 1000	.....	Waterbury, Conn.	E-8:30-23:30
W9XBY z 1000	.....	Kansas City, Mo.	C-7-1

1550 kilocycles 193.4 meters

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W2XR z 1000	.....	Long Isl. Cty, N. Y.	E-Silent
W6XAI z 1000	.....	Bakersfield, Calif.	P-.....

## INDEX BY LOCATIONS

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

<p><b>ALABAMA</b></p> <p>Birmingham WAPI 1140 5000 N WBRC 930 1000 C WSGN 1310 100 Dothan WAGF 1370 100 Gadsden WJBY 1210 100 Huntsville WBHS 1200 100 Mobile WALA 1380 500 C Montgomery WSFA 1410 500 C Muscle Shoals WNRA 1420 100</p> <p><b>ALASKA</b></p> <p>Anchorage KFQD 780 250 Ketchikan KGBU 900 500</p> <p><b>ARIZONA</b></p> <p>Jerome KCRJ 1310 100 Lowell KSUN 1200 100 Phoenix KOY 1390 500 KTAR 620 1000 N Prescott KPJM 1500 100 Tucson KGAR 1370 100 KVOA 1260 500 Yuma KUMA 1420 100</p> <p><b>ARKANSAS</b></p> <p>Blytheville KLCN 1290 100 Fayetteville KUOA 1260 1000 Fort Smith KFPW 1210 100 Hot Springs KTHS 1060 10000 N</p>	<p>Jonesboro KBTM 1200 100 Little Rock KARK 890 250 KGHI 1200 100 KLRA 1390 1000 C Pine Bluff KOTN 1500 100 Texarkana KCMC 1420 100</p> <p><b>CALIFORNIA</b></p> <p>Bakersfield KERN 1370 100 C W6XAI 1550 1000 Berkeley KRE 1370 100 Beverly Hills KMPC 710 500 Burbank KELW 780 500 El Centro KXO 1500 100 Eureka KIEM 1210 100 Fresno KMJ 580 500 C Glendale KIEV 850 250 Hollywood KFWB 950 1000 KMTR 570 1000 KNX 1050 50000 N Long Beach KFOX 1250 1000 KGER 1360 1000 Los Angeles KECA 1430 1000 KFAC 1300 1000 KFI 640 50000 N KFSG 1120 500 KFVD 1000 250 KGFJ 1200 100 KHJ 900 1000 C KRKD 1120 500 KTM 780 500 Modesto KTRB 740 250 Oakland KLS 1440 250</p>	<p>KLX 880 1000 KROW 930 1000 Pasadena KPPC 1210 50 Sacramento KFBK 1310 100 C San Bernardino KFXM 1210 100 San Diego KFSD 600 1000 N KGB 1330 1000 C San Francisco KFRC 610 1000 C KGGC 1420 100 KGO 790 7500 N KJBS 1070 100 KPO 680 50000 N KTAB 560 1000 KYA 1230 1000 N San Jose KQW 1010 1000 Santa Ana KREG 1500 100 Santa Barbara KDB 1500 100 C Stockton KGDW 1100 250 KWG 1200 100 C</p> <p><b>COLORADO</b></p> <p>Alamosa KGIW 1420 100 Colorado Springs KVOR 1270 1000 C Denver KLZ 560 1000 C KOA 830 50000 N KPOF 880 500 KVOD 920 500 Grand Junction KFXJ 1200 100 Greeley KFKA 880 500 Lamar KIDW 1420 100 Pueblo KGFH 1320 500 Sterling KGEK 1200 100</p>	<p><b>CONNECTICUT</b></p> <p>Bridgeport WICC 600 250 C Hartford WDRS 1330 1000 C WTIC 1040 50000 R Storrs WCAG 600 500 Waterbury WATR 1190 100 WIXBS 1530 1000</p> <p><b>DELAWARE</b></p> <p>Wilmington WDEL 1120 250 WILM 1420 100</p> <p><b>DISTRICT OF COLUMBIA</b></p> <p>Washington WJSV 1460 10000 C WMAL 630 250 B WOL 1310 100 WRC 950 500 R</p> <p><b>FLORIDA</b></p> <p>Clearwater WFLA 620 1000 N Gainesville WRUF 830 5000 Jacksonville WJAX 900 1000 N WMBR 1370 100 C Miami WIOD 1300 1000 N WQAM 560 1000 C Orlando WDBO 580 250 C Pensacola WCOA 1340 500 St. Petersburg WSUN 620 1000 N Tampa WDAE 1220 1000 C</p> <p><b>GEORGIA</b></p> <p>Albany WGPC 1420 100 Athens WTFI 1450 500</p>
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## INDEX BY LOCATIONS

<b>Atlanta</b>	<b>Tuscola</b>	<b>Wichita</b>	<b>Calumet</b>	
WGST 890 500 C	WDZ 1070 100	KFH 1300 1000 C	WHDF 1370 100	
WJTL 1370 100	<b>Urbana</b>	<b>KENTUCKY</b>		
WSB 740 50000 N	WILL 890 250	<b>Covington</b>	<b>Detroit</b>	
<b>Augusta</b>	Zion 1080 5000	WCKY 1490 5000 B	WJBK 1500 100	
WRDW 1500 100	<b>INDIANA</b>	Lexington	WJR 750 10000 B	
<b>Columbus</b>	<b>Anderson</b>	WLAP 1420 100	WMBC 1420 100	
WRBL 1200 100	WHBU 1210 100	Louisville	WWJ 920 1000 R	
<b>LaGrange</b>	Elkhart	WAVE 940 1000 N	WXYZ 1240 1000	
WKEU 1500 100	WTRG 1310 50	WHAS 820 50000 C	<b>East Lansing</b>	
<b>Macon</b>	Evansville	<b>Paducah</b>	WKAR 1040 1000	
WMAZ 1180 1000	WGBF 630 500	WPAD 1420 100	<b>Flint</b>	
<b>Rome</b>	Fort Wayne	<b>LOUISIANA</b>		
WRGA 1500 100	WGL 1370 100 C	<b>Baton Rouge</b>	WFDF 1310 100	
<b>Savannah</b>	WOWO 1160 10000 C	WJBO 1420 100	<b>Grand Rapids</b>	
WTOC 1260 1000 C	<b>Gary</b>	<b>Monroe</b>	WASH 1270 500	
<b>Thomasville</b>	WIND 560 1000	KMLB 1200 100	WOOD 1270 500	
WQDX 1210 100	<b>Hammond</b>	<b>New Orleans</b>	<b>Ironwood</b>	
<b>HAWAII</b>				
<b>Hilo</b>	WWAE 1200 100	WBNO 1200 100	WJMS 1420 100	
KWFF 1210 100	<b>Indianapolis</b>	WDSU 1250 1000 C	WIBM 1370 100	
<b>Honolulu</b>	WFBM 1230 1000 C	WJBW 1200 100	<b>Kalamazoo</b>	
KGMB 1320 250 C	WKBF 1400 500 N	WSMB 1320 500 N	WKZO 590 1000	
KGU 750 2500 N	<b>Muncie</b>	WWL 850 10000	<b>Lansing</b>	
<b>IDAHO</b>				
<b>Boise</b>	WLBC 1310 100	<b>Shreveport</b>	WJIM 1210 100	
KIDO 1350 1000	<b>Richmond</b>	KRMD 1310 100	Lapeer	
<b>Idaho Falls</b>	WKBV 1500 100	KTBS 1450 1000 N	WMPC 1200 100	
KID 1320 250	<b>South Bend</b>	KWEA 1210 100	<b>Marquette</b>	
<b>Nampa</b>	WFAM 1200 100	KWKH 1100 10000 C	WBEO 1310 100	
KFXD 1200 100	WSBT 1360 500 C	<b>MAINE</b>		
<b>Pocatello</b>	<b>Torre Haute</b>	<b>Augusta</b>	<b>MINNESOTA</b>	
KSEI 900 250	WBOW 1310 100	WRDO 1370 100	<b>Fergus Falls</b>	
<b>Twin Falls</b>	<b>West Lafayette</b>	<b>Bangor</b>	KGDE 1200 100	
KTFI 1240 500	WBAA 1400 500	WABI 1200 100	<b>Minneapolis</b>	
<b>ILLINOIS</b>				
<b>Bloomington</b>	<b>Ames</b>	WLBZ 620 500 C	WCCO 810 50000 C	
WJBC 1200 100	WOI 640 5000	<b>Portland</b>	WDG Y 1180 1000	
<b>Carthage</b>	<b>Boone</b>	WCSH 940 1000 R	WLB 1250 1000	
WCAR 1070 100	KFGQ 1370 100	<b>Presque Isle</b>	WTCN 1250 1000	
<b>Chicago</b>	<b>Cedar Rapids</b>	WAGM 1420 100	<b>Moorhead</b>	
KYW 1020 10000 N	KWCR 1430 250 B	<b>MARYLAND</b>		
WAFF 920 500	<b>Council Bluffs</b>	<b>Baltimore</b>	WBAL 1060 10000 B	
WBBM 770 25000 C	KOIL 1260 1000 B	WCAO 600 500 C	WCBM 1370 100	
WCFL 970 1500 B	<b>Davenport</b>	WFCB 1270 500 R	<b>Cumberland</b>	
WCRW 1210 100	WOC 1370 100	WTBO 800 250	<b>Hagerstown</b>	
WEDC 1210 100	<b>Decorah</b>	WJEJ 1210 100	<b>MASSACHUSETTS</b>	
WENR 870 50000 N	KGCA 1270 100	<b>Babson Park</b>	<b>Greenwood</b>	
WGES 1360 500	KWLG 1270 100	WBSO 920 500	WKFI 1210 100	
WGN 720 50000	<b>Des Moines</b>	<b>Boston</b>	<b>Gulfport</b>	
WJJD 1130 20000	KSO 1320 250 B	WAAB 1410 500 C	WGCM 1210 100	
WLS 870 50000 N	WHO 1000 50000 R	WBZ 990 50000 B	<b>Hattiesburg</b>	
WMAQ 670 50000 N	<b>Iowa City</b>	WEEJ 590 1000 R	WPFB 1370 100	
WMBI 1080 5000	WSUI 880 500	WHDH 830 1000	<b>Jackson</b>	
WSBC 1210 100	<b>Marshalltown</b>	WNAC 1230 1000 C	WJDX 1270 1000 N	
<b>Cicero</b>	KFJB 1200 100	<b>Chelsea</b>	<b>Kosciusko</b>	
WEHS 1420 100	<b>Shenandoah</b>	WMEX 1500 100	WHEF 1500 100	
WHFC 1420 100	KFNF 890 500	<b>Fall River</b>	<b>Laurel</b>	
WKBI 1420 100	KMA 930 1000	WSAR 1450 250	WAML 1310 100	
<b>Decatur</b>	<b>Sioux City</b>	<b>Lowell</b>	<b>Meridian</b>	
WJBL 1200 100	KSCJ 1330 1000 C	WLLH 1370 100	WCOC 880 500	
<b>East Dubuque</b>	<b>Waterloo</b>	<b>New Bedford</b>	<b>Tupelo</b>	
WKBB 1500 100	WMT 600 1000 C	WNBH 1310 100	WJEM 990 500	
<b>Harrisburg</b>	<b>KANSAS</b>		<b>Vicksburg</b>	
WEBQ 1210 100	<b>Abilene</b>	WORC 1280 500 C	WQBC 1360 500	
<b>Joliet</b>	KFBI 1050 5000	WTAG 580 500 R	<b>MISSISSIPPI</b>	
WCLS 1310 100	<b>Coffeyville</b>	<b>Michigan</b>	<b>Greenwood</b>	
<b>Peoria</b>	KGGF 1010 1000	<b>Battle Creek</b>	WKFI 1210 100	
WMBD 1440 500 C	<b>Dodge City</b>	WELL 1420 50	<b>Gulfport</b>	
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<b>Rock Island</b>	KFKU 1220 1000	<b>Columbia</b>	KFRU 630 500	
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	WIBW 580 1000 C	<b>KWKC</b>	KWKC 1370 100	
		<b>WDAF</b>	WDAF 610 1000 R	



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KGBX 1310 100	WOKO 1430 500 C	Rocky Mount	Medford
KWTO 560 1000	Auburn	WEED 1420 100	KMED 1310 100
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Butte	Brooklyn	Bismarck	KEX 1180 5000 N
KGIR 1360 1000 N	WARD 1400 500	KFYR 550 1000 N	KFJR 1300 500
Great Falls	WBBC 1400 500	Devils Lake	KGV 620 1000 N
KFPB 1280 1000	WBR 1300 1000	KDLR 1210 100	KOIN 940 1000 C
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<b>CFAC</b> 930 100	Calgary, Alta. Calgary Herald, Southam Bldg.	<b>CJRC</b> 1390 100	Winnipeg, Man. Royal Alexandra Hotel
<b>CFCF</b> 600 500	Montreal, Que. Mt. Royal Hotel	<b>CJRM</b> 540 1000	Moose Jaw, Sask. 311 Main St. No.
<b>CFCH</b> 930 100	North Bay, Ont. Capitol Theatre Bldg.	<b>CKAC</b> 730 5000	Montreal, Que. 980 St. Catherine St. W.
<b>CFCN</b> 1030 10000	Calgary, Alta. Toronto Gen. Trust Bldg.	<b>CKBI</b> 1210 100	Prince Albert, Sask. Canada Bldg.
<b>CFCO</b> 600 100	Chatham, Ont. Wm. Pitt Hotel	<b>CKCD</b> 1010 100	Vancouver, B. C. 142 Hastings St. W.
<b>CFCT</b> 1450 50	Victoria, B. C. 620 View St.	<b>CKCH</b> 1210 100	Hull, Que. Standish Hall Hotel
<b>CFCY</b> 630 500	Charlottetown, P.E.I. 143 Great George St.	<b>CKCK</b> 1010 500	Regina, Sask. 1853 Hamilton St.
<b>CFJC</b> 880 100	Kamloops, B. C. Wilcox-Hall Bldg.	<b>CKCL</b> 580 100	Toronto, Ont. 444 University Ave.
<b>CFLC</b> 930 100	Prescott, Ont. Victoria Hall	<b>CKCO</b> 1010 100	Ottawa, Ont. 272 Somerset St. W.
<b>CFNB</b> 550 500	Fredericton, N. B. York St.	<b>CKCR</b> 1510 100	Waterloo, Ont. 24 King St. So.
<b>CFPL</b> 730 100	London, Ont. Richmond St.	<b>CKCV</b> 1310 50	Quebec, Que. 254 Ave. Marguerite
<b>CFQC</b> 840 1000	Saskatoon, Sask. 216 First Ave., No.	<b>CKCW</b> 1370 100	Moncton, N. B. Moncton Brdstg. Co., Ltd.
<b>CFRB</b> 690 10000	Toronto, Ont. 37 Bloor St. W.	<b>CKFC</b> 1410 50	Vancouver, B. C. Hemlock & 12th Ave.
<b>CFRC</b> 1510 100	Kingston, Ont. Queens University	<b>CKGB</b> 1420 100	Timmins, Ont. R. H. Thompson, Press Bldg.
<b>CFTP</b> 1260 100	Edmonton, Alta. Birks Bldg.	<b>CKIC</b> 1010 50	Wolfville, N. S. Acadia University
<b>CHAB</b> 1200 100	Moose Jaw, Sask. Grant Hall Hotel	<b>CKLW</b> 1030 5000	Windsor, Ont. Guaranty Trust Bldg.
<b>CHCK</b> 1310 50	Charlottetown, P.E.I. 36 Upper Hillsboro St.	<b>CKMC</b> 1210 50	Cobalt, Ont. R. L. MacAdam
<b>CHGS</b> 1500 50	Summerside, P. E. I. 190 Water St.	<b>CKMO</b> 1410 100	Vancouver, B. C. 1604 Bekins Bldg.
<b>CHLP</b> 1120 100	Montreal, Que. Sun Life Bldg.	<b>CKNC</b> 1420 100	Toronto, Ont. 805 Davenport Road
<b>CHML</b> 1010 50	Hamilton, Ont. 47 Main St. E.	<b>CKOC</b> 1120 500	Hamilton, Ont. Westworth Bldg.
<b>CHNC</b> 1210 100	New Carlisle, Que. Dr. Charles Houde	<b>CKOV</b> 630 100	Kelowna, B. C. Okanagan Broadcasters, Ltd., Box 243
<b>CHNS</b> 930 500	Hallifax, N. S. Lord Nelson Hotel	<b>CKPC</b> 930 100	Brantford, Ont. Arcade Bldg.
<b>CHRC</b> 580 100	Quebec, Que. CHRC, Ltd., Victoria Hotel	<b>CKPR</b> 930 50	Fort William, Ont. Royal Edward Hotel
<b>CHSJ</b> 1120 100	St. John, N. B. Admiral Beatty Hotel	<b>KTB</b> 1200 100	St. Catharines, Ont. E. T. Sandell, Welland House
<b>CHWC</b> 1010 500	Regina, Sask. Kitchener Hotel	<b>CKUA</b> 580 500	Edmonton, Alta. University of Alberta.
<b>CHWK</b> 780 100	Chilliwack, B. C. Wellington Ave.	<b>CKWX</b> 1010 100	Vancouver, B. C. Hotel Georgia
<b>CJAT</b> 910 250	Trail, B. C. Trail Amateur Radio Assn.	<b>CKX</b> 1450 500	Brandon, Man. Rosser Ave.
<b>CJCA</b> 730 500	Edmonton, Alta. 10122--100A St.	<b>CKY</b> 960 15000	Winnipeg, Man. Sherbrooke St.
<b>CJCB</b> 1240 1000	Sydney, N. S. 318 Charlotte St.	<b>CMAF</b> 680 1000	Havana, Cuba 1 y 8 Rept. Miramar
<b>CJ CJ</b> 690 100	Calgary, Alta. New Albertan Bldg.	<b>CMBC</b> 1040 150	Havana, Cuba Domingo Fernandez, Maximo Gomez No. 139
<b>CJGX</b> 630 500	Yorkton, Sask. 188 Grain Exchange Bldg.	<b>CMBD</b> 1350 150	Havana, Cuba Luis Perez Garcia, Centre Gallego
<b>CJIC</b> 890 100	S. Ste. Marie, Ont. 72 Pine St.	<b>CMBG</b> 1375 225	Havana, Cuba John L. Stowers, Hospital No. 100
<b>CJKL</b> 1310 100	Kirkland Lake, Ont. O. J. Thorpe	<b>CMBS</b> 915 150	Havana, Cuba Calzada y H. St., Vedado
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<b>CJOC</b> 1230 100	Lethbridge, Alta. Marquis Hotel	<b>CMBY</b> 635 250	Havana, Cuba Infanta 132 esq. Jewellar
<b>CJOR</b> 600 500	Vancouver, B. C. G. C. Chandler, Hotel Grosvenor	<b>CMBZ</b> 1005 100	Havana, Cuba Manuel y G. Salas, San Rafael No. 14

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<b>CMC</b> 835 500 Havana, Cuba Agulla y Dragones	<b>CMJP</b> 1360 75 Moron, Cuba Cesar Canall, Callejas No.28
<b>CMCA</b> 1230 150 Havana, Cuba J. M. Gonzales, Gallano No. 102	<b>CMK</b> 725 3150 Havana, Cuba Hotel Plaza
<b>CMCB</b> 1060 150 Havana, Cuba Metropolitan Bldg.	<b>CMKC</b> 1034 150 Santiago, Cuba J. A. Saco, Alta 23
<b>CMCD</b> 955 250 Havana, Cuba Calle G y 25, Vedado	<b>CMKF</b> 1363 30 Holquin, Cuba Libertad esq. Arlas
<b>CMCF</b> 610 250 Havana, Cuba Raouf Karman, P. O. Box 647	<b>CMKJ</b> 1300 20 Guantanamo, Cuba Luis Morlote, East Giro 11
<b>CMCG</b> 1475 150 Havana, Cuba Emilie Perera, San Miguel No. 62	<b>CMKM</b> 940 100 Manzanillo, Cuba Jesus Armette, Merchant y P. Figuerado
<b>CMJC</b> 1200 400 Havana, Cuba Rafael Rodriguez, Estevez No. 1	<b>CMQ</b> 840 340 Havana, Cuba 25 Numero 445, Vedado
<b>CMCK</b> 1320 100 Havana, Cuba Manuel Autran G., Vedado	<b>CMW</b> 930 1400 Havana, Cuba Troncoso y Gil, Apdo. 1010
<b>CMCN</b> 1500 250 Havana, Cuba Reina y Ave. Buen Ritiroc, Marianao	<b>CMX</b> 765 1000 Havana, Cuba Casa "Lavin," Ave. de la Republica 99A
<b>CMCO</b> 1280 150 Havana, Cuba Ass. Detes. del Comercio	<b>COA</b> 1175 500 Havana, Cuba Juan Fernandez, Aguilar 126, Altes
<b>CMCP</b> 1270 150 Havana, Cuba Calzada de Luyane No. 132	<b>COK</b> 1150 250 Havana, Cuba Rafael Valdez, Marques Gonzales 52
<b>CMCQ</b> 1450 1000 Havana, Cuba Vista Alegre No. 80, Vibora	<b>COX</b> 1100 200 Havana, Cuba 10 entre 17 y 19, Vedado
<b>CMCR</b> 1400 150 Havana, Cuba Milagros No. 35, Vibora	<b>CRCK</b> 1050 1000 Quebec, Que. Chateau Frontenac Hotel
<b>CMCU</b> 1255 150 Havana, Cuba San Francisco No. 13, Vibora	<b>CRCM</b> 910 5000 Montreal, Que. 1231 St. Catherine St. W.
<b>CMCW</b> 540 150 Havana, Cuba Gallano y San Lazaro Sts.	<b>CRCO</b> 880 1000 Ottawa, Ont. Chateau Laurier Hotel
<b>CMCY</b> 1316 500 Havana, Cuba Manuel D. Autran, Calle G 215, Vedado	<b>CRCS</b> 950 100 Chicoutimi, Que. 4 Rue Larouche
<b>CMGE</b> 1375 30 Cardenas, Cuba Genaro Sebatier, Cespedes No. 180	<b>CRCT</b> 840 5000 Toronto, Ont. 805 Davenport Road
<b>CMGF</b> 971.5 100 Matanzas, Cuba G. Betancourt No. 51	<b>CRCV</b> 1100 1000 Vancouver, B. C. C. N. R. Station Bldg.
<b>CMGH</b> 1040 15 Matanzas, Cuba B. Byrne No. 113	<b>FQN</b> 609 250 St. Pierre, Miq.
<b>CMG</b> 1094 30 Colon, Cuba Armando Linanza, Marti No. 35	<b>HHK</b> 920 1000 Port-au-Prince, Haiti Haitian Government
<b>CMHA</b> 1103 50 Saguala Grande, Cuba Abelardo Menoel, Carrillo No. 1	<b>HIH</b> 1395 15 San Pedro de M., D.R. Domingo Dominguez
<b>CMHB</b> 1245 30 San Spiritus, Cuba Independencia No. 33	<b>HIJ</b> 1195 15 Santo Domingo, D. R. Tuto Baez, Hostos 34
<b>CMHD</b> 950 250 Caibarien, Cuba Manuel Alvarez, M. Escobar 17	<b>HIX</b> 1270 1000 Santo Domingo, D. R. J. E. Saladin, Director General
<b>CMHI</b> 1037 150 Santa Clara, Cuba Lavis y Paz, Independencia No. 34	<b>HIZ</b> 1300 10 Santo Domingo, D. R. Abbes and Garcia
<b>CMHJ</b> 1125 40 Cienfuegos, Cuba Romoualde Ugalde, Hotel Bristol	<b>KABC</b> 1420 100 San Antonio, Texas Texas Theatre Bldg.
<b>CMHK</b> 1225 50 Cruces, Cuba Heredia No. 61	<b>KADA</b> 1200 100 Ada, Okla. C. C. Morris
<b>CMHW</b> 910 100 Cienfuegos, Cuba Arguelles No. 200	<b>KALE</b> 1300 500 Portland, Ore. Kale, Inc., New Heathman Hotel
<b>CMJC</b> 1382 150 Camaguey, Cuba Feliciano Isaac, Cisneros y G. Gomez	<b>KARK</b> 890 250 Little Rock, Ark. N. S. L. Bldg.
<b>CMJE</b> 1170 50 Camaguey, Cuba Manuel Fernandez, Hnos. Aguere No. 2	<b>KASA</b> 1210 100 Elk City, Okla. E. M. Woody, Casa Grande Hotel
<b>CMJF</b> 930 200 Camaguey, Cuba John L. Stowers, Republica No. 88	<b>KBPS</b> 1420 100 Portland, Ore. E. 12th & Hoyt Sts.
<b>CMJG</b> 1050 50 Camaguey, Cuba Jose Antonio Lefran, Maceo No. 1	<b>KBTM</b> 1200 100 Jonesboro, Ark. Jay P. Beard
<b>CMJH</b> 1150 50 Ciego de Avila, Cuba Luis Marauri, Vista Hermosa	<b>KCMC</b> 1420 100 Texarkana, Ark. M. P. Mims, Box 865
<b>CMJI</b> 1210 150 Ciego de Avila, Cuba Gilberto Gessa Lopez, Independencia 95	<b>KCRC</b> 1370 100 Enid, Okla. Enid Radiophone Co., Oxford Hotel
<b>CMJK</b> 790 150 Camaguey, Cuba Cia. Nacional de Radio, Finlay	<b>KCRJ</b> 1310 100 Jerome, Ariz. Chas. C. Robinson, Drawer D.
<b>CMJL</b> 960 50 Camaguey, Cuba Enrique Artime, Cuba No. 27	<b>KDB</b> 1500 100 Santa Barbara, Calif. 15-17 E. Halsey St.
<b>CMJO</b> 1010 50 Ciego de Avila, Cuba Jose M. Rey, C. Centra i Maceo	<b>KDFN</b> 1440 500 Casper, Wyo. Donald Lewis Hathaway

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<b>KDKA</b> 980 50000	Pittsburgh, Pa.	<b>KFRU</b> 630 500	Columbia, Mo.
Hotel Wm. Penn		KFRU, Inc., 9th and Elm Sts.	
<b>KDLR</b> 1210 100	Devils Lake, N. D.	<b>KFSD</b> 600 1000	San Diego, Calif.
KDLR, Inc., 1025 3rd Street		U. S. Grant Hotel	
<b>KDYL</b> 1290 1000	Salt Lake City, Utah	<b>KFSG</b> 1120 500	Los Angeles, Calif.
Ezra Thompson Bldg.		1100 Glendale Blvd.	
<b>KECA</b> 1430 1000	Los Angeles, Calif.	<b>KFUO</b> 550 500	St. Louis, Mo.
1000 S. Hope St.		801 De Mun St.	
<b>KELW</b> 780 500	Burbank, Calif.	<b>KFVD</b> 1000 250	Los Angeles, Calif.
3702 Magnolia Park Blvd.		E. L. Cord, 645 S. Mariposa	
<b>KERN</b> 1370 100	Bakersfield, Calif.	<b>KFVS</b> 1210 100	Cape Girardeau, Mo.
Elk's Club		Oscar C. Hirsch, Box 275	
<b>KEX</b> 1180 5000	Portland, Ore.	<b>KFWB</b> 950 1000	Hollywood, Calif.
Oregonian Bldg.		Warner Bros. Motion Pictures, Inc.	
<b>KFAB</b> 770 5000	Lincoln, Neb.	<b>KFXD</b> 1200 100	Nampa, Idaho
Cornhusker Hotel		Frank E. Hurt, 1024 12th Ave., S.	
<b>KFAC</b> 1300 1000	Los Angeles, Calif.	<b>KFXJ</b> 1200 100	Grand Jct., Colo.
E. L. Cord, 645 So. Mariposa		Hillcrest Manor	
<b>KFBB</b> 1280 1000	Great Falls, Mont.	<b>KFXM</b> 1210 100	San Bernardino, Calif.
Buttrey Broadcast., Inc.		California Hotel	
<b>KFBI</b> 1050 5000	Ablene, Kans.	<b>KFXR</b> 1310 100	Oklahoma City, Okla.
Box 345		541 Hightower Bldg.	
<b>KFBK</b> 1310 100	Sacramento, Calif.	<b>KFYO</b> 1310 100	Lubbock, Texas
Sacramento Bee		Kirksey Bros., Hotel Lubbock	
<b>KFDM</b> 560 500	Beaumont, Texas	<b>KFYR</b> 550 1000	Bismarck, N. D.
Beaumont Hotel, P. O. Box 2950		320 Broadway	
<b>KFDY</b> 780 1000	Brookings, S. D.	<b>KGA</b> 900 1000	Spokane, Wash.
South Dakota State College		1023 W. Riverside Ave.	
<b>KFEQ</b> 680 2500	St. Joseph, Mo.	<b>KGAR</b> 1370 100	Tucson, Ariz.
Schneider Bldg.		142 S. 6th Ave.	
<b>KFGQ</b> 1370 100	Boone, Iowa	<b>KGB</b> 1330 1000	San Diego, Calif.
924 W. 2nd St.		1012—1st St.	
<b>KFH</b> 1300 1000	Wichita, Kans.	<b>KGBU</b> 900 500	Ketchikan, Alaska
124 1/2 S. Market St.		Mile 5, Wards Cove Rd.	
<b>KFI</b> 640 50000	Los Angeles, Calif.	<b>KGBX</b> 1310 100	Springfield, Mo.
1000 S. Hope St.		KGBX, Inc., C. of C. Bldg.	
<b>KFIO</b> 1120 100	Spokane, Wash.	<b>KGBZ</b> 930 1000	York, Neb.
213 Riverside Ave.		KGBZ Broadcasting Co., 715 Grant Ave.	
<b>KFIZ</b> 1420 100	Fond du Lac, Wis.	<b>GCRA</b> 1270 100	Decorah, Iowa
18 W. 1st St.		Charles W. Greenley, 201 Water St.	
<b>KFJB</b> 1200 100	Marshalltown, Iowa	<b>KGCU</b> 1240 250	Mandan, N. D.
1603 W. Main St.		404 W. Main St.	
<b>KFJI</b> 1210 100	Klamath Falls, Ore.	<b>KGCX</b> 1310 100	Wolf Point, Mont.
KFJI Broadcasters, Inc., Willard Hotel		E. E. Krebsbach.	
<b>KFJM</b> 1370 100	Grand Forks, N. D.	<b>KGDE</b> 1200 100	Fergus Falls, Minn.
University of North Dakota		C. L. Jaren	
<b>KFJR</b> 1300 500	Portland, Ore.	<b>KGDM</b> 1100 250	Stockton, Calif.
622 Lumbermen's Bldg.		E. F. Peffer, 42 S. Calif. St.	
<b>KFJZ</b> 1370 100	Fort Worth, Texas	<b>KGDY</b> 1340 250	Huron, S. D.
Texas Hotel		Voice of S. D., Inc., 347 Dakota Ave.	
<b>KFKA</b> 880 500	Greeley, Colo.	<b>KGEK</b> 1200 100	Sterling, Colo.
Box 735		Elmer G. Beehler, 109 W. 2nd St.	
<b>KFKU</b> 1220 1000	Lawrence, Kans.	<b>KGER</b> 1360 1000	Long Beach, Calif.
University of Kansas		435 Pine Ave.	
<b>KFNF</b> 890 500	Shenandoah, Iowa	<b>KGEZ</b> 1310 100	KallsPELL, Mont.
407 Sycamore St.		Donald C. Treloar, Box 1	
<b>KFOR</b> 1210 100	Lincoln, Neb.	<b>KGFF</b> 1420 100	Shawnee, Okla.
Howard Shuman, Hotel Lincoln		9th & Bell Sts.	
<b>KFOX</b> 1250 1000	Long Beach, Calif.	<b>KGFG</b> 1370 100	Oklahoma City, Okla.
220 E. Anaheim St.		Okla. Broadcasting Co., 1113 N. Broadway	
<b>KFPL</b> 1310 100	Dublin, Texas	<b>KGFI</b> 1500 100	Corpus Christi, Texas
C. C. Baxter, Box 176		Eagle Broadcasting Co., Inc., P. O. Box 1508	
<b>KFPM</b> 1310 15	Greenville, Texas	<b>KGFJ</b> 1200 100	Los Angeles, Calif.
New Furniture Co.		Ben S. McGlashan, 1417 S. Figueroa	
<b>KFPW</b> 1210 100	Fort Smith, Ark.	<b>KGFK</b> 1500 100	Moorhead, Minn.
Goldman Hotel		722 Center Ave.	
<b>KFPY</b> 1340 1000	Spokane, Wash.	<b>KGFL</b> 1370 100	Roswell, N. M.
Symons Bldg.		KGFL, Inc., 507 N. Main St.	
<b>KFQD</b> 780 250	Anchorage, Alaska	<b>KGFW</b> 1310 100	Kearney, Neb.
411—4th Ave.		Midway Hotel	
<b>KFRC</b> 610 1000	San Francisco, Calif.	<b>KGFX</b> 630 200	Pierre, S. D.
1000 Van Ness Ave.		Dana McNell, 510 Summit Ave.	

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<b>KGGC 1420 100 San Francisco, Calif.</b> 230 Eddy St.	<b>KLRA 1390 1000 Little Rock, Ark.</b> Arkansas Broadcasting Co., Box 550
<b>KGGF 1010 1000 Coffeyville, Kans.</b> Coffeyville Journal Bldg.	<b>KLS 1440 250 Oakland, Calif.</b> Warner Bros., 2201 Telegraph Ave.
<b>KGGM 1230 250 Albuquerque, N. M.</b> Franciscan Hotel	<b>KLUF 1370 100 Galveston, Texas</b> Geo. R. Clough, 3327 Ave. P.
<b>KGHF 1320 250 Pueblo, Colo.</b> C. P. Ritchie, 113 Broadway	<b>KLX 880 1000 Oakland, Calif.</b> Tribune Tower
<b>KGHI 1200 100 Little Rock, Ark.</b> Lloyd Judd Co., Marlon Hotel	<b>KLZ 560 1000 Denver, Colo.</b> Shirley-Savoy Hotel
<b>KGHL 780 1000 Billings, Mont.</b> 5th & N. Broadway	<b>KMA 930 500 Shenandoah, Iowa</b> Earl E. May Seed & Nursery Co.
<b>KGIR 1360 1000 Butte, Mont.</b> KGIR, Inc., 121 W. Broadway	<b>KMAC 1370 100 San Antonio, Texas</b> W. W. McAllister, Blue Bonnet Hotel
<b>KGIW 1420 100 Alamosa, Colo.</b> Leonard E. Wilson, 326 N. Commercial	<b>KMBC 950 1000 Kansas City, Mo.</b> Pleickwick Hotel
<b>KGIX 1420 100 Las Vegas, Nev.</b> J. M. Heaton, Box 656	<b>KMED 1310 100 Medford, Ore.</b> Mrs. W. J. Virglin, Sparta Bldg.
<b>KGKB 1500 100 Tyler, Texas</b> 115 S. College	<b>KMJ 580 500 Fresno, Calif.</b> Van Ness & Calaveras Sts.
<b>KGKL 1370 100 San Angelo, Texas</b> KGKL, Inc., St. Angelus Hotel	<b>KMLB 1200 100 Monroe, La.</b> Francis Hotel
<b>KGKO 570 500 Wichita Falls, Texas</b> 9th St. & Indiana Ave.	<b>KMMJ 740 1000 Clay Center, Neb.</b> The M. M. Johnson Co.
<b>KGKY 1500 100 Scottsbluff, Neb.</b> Hilliard Co., Inc., 1517 1/2 Broadway	<b>KMO 1330 250 Tacoma, Wash.</b> KMO, Inc., Hotel Winthrop
<b>KGMB 1320 250 Honolulu, T. H.</b> Honolulu Broadcasting Co., Box 2663	<b>KMOX 1090 50000 St. Louis, Mo.</b> 401 S. 12th St.
<b>KGNF 1430 500 North Platte, Neb.</b> Great Plains Broadcasting Co., W. 12th St.	<b>KMPC 710 500 Beverly Hills, Calif.</b> 9631 Wilshire Blvd.
<b>KGNO 1340 250 Dodge City, Kans.</b> First Natl. Bank Bldg.	<b>KMTR 570 500 Hollywood, Calif.</b> KMTR Radio Corp., 915 N. Formosa Ave.
<b>KGO 790 7500 San Francisco, Calif.</b> 111 Sutter St.	<b>KNOW 1500 100 Austin, Texas</b> Driskill Hotel
<b>KGRS 1410 1000 Amarillo, Texas</b> E. B. Gish, Belaire Park	<b>KNX 1050 25000 Hollywood, Calif.</b> West. Broadcast Co., Inc., 1558 N. Vine St.
<b>KGU 750 2500 Honolulu, T. H.</b> Kaplanian at South St.	<b>KOA 830 50000 Denver, Colo.</b> General Electric Co., 1370 Krameria St.
<b>KGVO 1200 100 Missoula, Mont.</b> Mosbys, Inc., 240 N. Higgins	<b>KOAC 550 1000 Corvallis, Ore.</b> Oregon State Agricultural College
<b>KGW 620 1000 Portland, Ore.</b> 325 Adler St.	<b>KOB 1180 10000 Albuquerque, N. M.</b> Albuquerque Journal, Box 667
<b>KGY 1210 100 Olympia, Wash.</b> KGY, Inc., 11th and Capitol Way	<b>KOH 1380 500 Reno, Nev.</b> 440 N. Virginia St.
<b>KHJ 900 1000 Los Angeles, Calif.</b> 7th at Bixel	<b>KOIL 1260 1000 Council Bluffs, Iowa</b> Mona Motor Oil Co.
<b>KHQ 590 1000 Spokane, Wash.</b> Sprague Ave. & Post St.	<b>KOIN 940 1000 Portland, Ore.</b> KOIN, Inc., New Heathman Hotel
<b>KICA 1370 100 Clovis, N. M.</b> Southwest Broadcasting Co.	<b>KOL 1270 1000 Seattle, Wash.</b> Northern Life Tower
<b>KID 1320 250 Idaho Falls, Idaho</b> Park Ave. & Broadway	<b>KOMA 1480 5000 Oklahoma City, Okla.</b> Biltmore Hotel
<b>KIDO 1350 1000 Boise, Idaho</b> Hotel Boise	<b>KOMO 920 1000 Seattle, Wash.</b> Skinner Bldg.
<b>KIDW 1420 100 Lamar, Colo.</b> Lamar Broadcasting Co., Box 688	<b>KONO 1370 100 San Antonio, Texas</b> Mission Broadcast. Co., St. Anthony Hotel
<b>KIEM 1210 100 Eureka, Calif.</b> Redwood Bdestg. Co., Vance Hotel	<b>KOOS 1200 250 Marshfield, Ore.</b> H. H. Hanseth, Hall Bldg.
<b>KIEV 850 250 Glendale, Calif.</b> Cannon System, Ltd., Glendale Hotel	<b>KORE 1420 100 Eugene, Ore.</b> 733 Willamette St.
<b>KIT 1310 100 Yakima, Wash.</b> 109 1/2 E. Yakima Ave.	<b>KOTN 1500 100 Pine Bluff, Ark.</b> William H. Chaplin, Hotel Pines
<b>KJBS 1070 100 San Francisco, Calif.</b> 1380 Bush St.	<b>KOY 1390 500 Phoenix, Ariz.</b> 621 N. Central Ave.
<b>KJR 970 5000 Seattle, Wash.</b> Skinner Bldg.	<b>KPAC 1260 500 Port Arthur, Texas</b> Port Arthur College
<b>KLCN 1290 100 Blytheville, Ark.</b> C. L. Lintzenich, Main and Division St.	<b>KPCB 710 100 Seattle, Wash.</b> Tower Bldg.
<b>KLO 1400 500 Ogden, Utah</b> 405 — 25th St.	<b>KPJM 1500 100 Prescott, Ariz.</b> Scott & Sturm, P. O. Box 782
<b>KLPM 1240 250 Minot, N. D.</b> John B. Cooley, Box 767	<b>KPO 680 50000 San Francisco, Calif.</b> 111 Sutter St.

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<b>KPOF</b> 850 500 Denver, Colo. Pillar Of Fire, 1845 Champa St.	<b>KTUL</b> 1400 250 Tulsa, Okla. National Bank of Tulsa Bldg.
<b>KPPC</b> 1210 50 Pasadena, Calif. 585 E. Colorado St.	<b>KTW</b> 1220 1000 Seattle, Wash. 77th Ave. & Spring St.
<b>KPQ</b> 1500 100 Wenatchee, Wash. KPQ Bldg.	<b>KUJ</b> 1370 100 Walla Walla, Wash. KUJ, Inc., Marcus Whitman Hotel
<b>KPRC</b> 920 1000 Houston, Texas 2204 Shell Bldg.	<b>KUMA</b> 1420 100 Yuma, Ariz. Dr. A. H. Schermann, Box 267
<b>KQV</b> 1380 500 Pittsburgh, Pa. KQV Broadcasting Co., Investment Bldg.	<b>KUOA</b> 1260 1000 Fayetteville, Ark. KUOA, Inc., Washington Hotel
<b>KQW</b> 1010 1000 San Jose, Calif. 87 E. San Antonio St.	<b>KUSD</b> 890 500 Vermillion, S. D. University of South Dakota
<b>KRE</b> 1370 100 Berkeley, Calif. 2345 Channing Way	<b>KVI</b> 570 1000 Tacoma, Wash. W. R. Rust Bldg.
<b>KREG</b> 1500 100 Santa Ana, Calif. 3rd & Sycamore Sts.	<b>KVL</b> 1370 100 Seattle, Wash. KVL, Inc., 5th and Virginia St.
<b>KRGV</b> 1260 500 Weslaco, Texas KRGV, Inc.	<b>KVOA</b> 1260 500 Tucson, Ariz. Cons. Natl. Bank Bldg.
<b>KRKD</b> 1120 500 Los Angeles, Calif. 815 Spring Arcade Bldg.	<b>KVOD</b> 920 500 Denver, Colo. Continental Oil Bldg.
<b>KRKO</b> 1370 50 Everett, Wash. Lee Mudgett, 2814 Rucker Ave.	<b>KVOD</b> 1140 25000 Tulsa, Okla. Wright Bldg.
<b>KRLD</b> 1040 10000 Dallas, Texas KRLD Radio Corp., Adolphus Hotel	<b>KVOR</b> 1270 1000 Colorado Spg., Colo. Mining Exchange Bldg.
<b>KRMD</b> 1310 100 Shreveport, La. Jefferson Hotel	<b>KVOS</b> 1200 100 Bellingham, Wash. 115 W. Magnolia St.
<b>KROW</b> 830 500 Oakland, Calif. 1803 Franklin St.	<b>KWCR</b> 1430 250 Cedar Rapids, Iowa Hotel Montrose
<b>KRSC</b> 1120 100 Seattle, Wash. Radio Sales Corp., Washington Athletic Club	<b>KWEA</b> 1210 100 Shreveport, La. Spring & Fannin Sts.
<b>KSAC</b> 580 500 Manhattan, Kans. State College of Agriculture	<b>KWFV</b> 1210 100 Hilo, Hawaii Hilo Broadcasting Co., Ltd.
<b>KSCJ</b> 1330 1000 Sioux City, Iowa Perkins Bros. Co., 415 Douglas St.	<b>KWG</b> 1200 100 Stockton, Calif. Medico-Dental Bldg.
<b>KSD</b> 550 500 St. Louis, Mo. 12th & Olive Sts.	<b>KWJJ</b> 1040 500 Portland, Ore. 622 S. W. Salmon St.
<b>KSEI</b> 900 250 Pocatello, Idaho Radio Service Corp., 141 S. 6th Ave.	<b>KWK</b> 1350 1000 St. Louis, Mo. Thomas Patrick, Inc., Hotel Chase
<b>KSL</b> 1130 50000 Salt Lake City, Utah Vermont Bldg.	<b>KWKC</b> 1370 100 Kansas City, Mo. 39th & Main Sts.
<b>KSLM</b> 1370 100 Salem, Ore. Oregon Radio, Inc.	<b>KWKH</b> 1100 10000 Shreveport, La. Spring & Fannin Sts.
<b>KSO</b> 1320 250 Des Moines, Iowa Des Moines Register & Tribune	<b>KWLC</b> 1270 100 Decorah, Iowa Luther College
<b>KSOU</b> 1110 1000 Sioux Falls, S. D. Sioux Falls Brdcast. Assn., Carpenter Hotel	<b>KWSC</b> 1220 1000 Pullman, Wash. State College of Washington
<b>KSTP</b> 1460 10000 St. Paul, Minn. St. Paul Hotel	<b>KWTN</b> 1210 100 Watertown, S. D. Citizens Bank Bldg.
<b>KSUN</b> 1200 100 Lowell, Ariz. Copper Electrical Co., Drawer C	<b>KWTO</b> 560 1000 Springfield, Mo. KGBX Inc.
<b>KTAB</b> 560 1000 San Francisco, Calif. 5th & Mission Sts.	<b>KWYO</b> 1370 100 Sheridan, Wyo. Big Horn Brdcastg. Co.
<b>KTAR</b> 620 1000 Phoenix, Ariz. 116 N. Central Ave.	<b>KXA</b> 760 250 Seattle, Wash. American Radio Tel. Co., 218 Bigelow Bldg.
<b>KTAT</b> 1240 1000 Fort Worth, Texas Ft. Worth Natl. Bank Bldg.	<b>KXL</b> 1420 100 Portland, Ore. KXL Broadcasters, Multnomah Hotel
<b>KTBS</b> 1450 1000 Shreveport, La. Box 1642	<b>KXO</b> 1500 100 El Centro, Calif. F. M. Bowles, Box 140
<b>KTFI</b> 1240 1000 Twin Falls, Idaho Radio Broadcasting Corp., Box 521	<b>KXRO</b> 1310 100 Aberdeen, Wash. KXRO, Inc., Hotel Morek
<b>KTHS</b> 1060 10000 Hot Springs, Ark. Chamber of Commerce, Box 886	<b>KXYZ</b> 1440 250 Houston, Texas Fannin & Rusk Sts.
<b>KTM</b> 780 500 Los Angeles, Calif. 214 S. Vermont St.	<b>KYA</b> 1230 1000 San Francisco, Calif. 988 Market St.
<b>KTRB</b> 740 250 Modesto, Calif. McTammany & Bates	<b>KYW</b> 1020 10000 Chicago, Ill. 310 S. Michigan Ave.
<b>KTRH</b> 1330 1000 Houston, Texas KTRH Broadcasting Co., Rice Hotel	<b>KZEG</b> 720 1000 Manila, P. I. Erlanger & Galinger, Inc.
<b>KTSA</b> 550 1000 San Antonio, Texas Southwest Broadcasting Co., Plaza Hotel	<b>KZRM</b> 618.5 50000 Manila, P. I. 601 Escolta
<b>KTSM</b> 1310 100 El Paso, Texas P. O. Box 1976	<b>NAA</b> 690 1000 Arlington, Va. United States Navy



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<b>RDN</b> 680 500 San Salvador, E. S. Republic of El Salvador	<b>WAPI</b> 1140 5000 Birmingham, Ala. Protective Life Bldg.
<b>TGW</b> 565 10000 Guatemala, Gua. Gobierno de Guatemala	<b>WARD</b> 1400 500 Brooklyn, N. Y. 427 Flatbush Ave., Ext.
<b>TGX</b> 1400 150 Guatemala City	<b>WASH</b> 1270 500 Grand Rapids, Mich. Grand Rapids Natl. Bank Bldg.
<b>TICR</b> 912 75 San Jose, C. R. Government of Costa Rica	<b>WATR</b> 1190 100 Waterbury, Conn. WATR Co. Inc. 47 Grand St
<b>TIEA</b> 833 7.5 San Jose, C. R.	<b>WAVE</b> 940 1000 Louisville, Ky. WAVE, Inc., 1525 Brown Hotel
<b>TIEP</b> 1450 7.5 San Jose, C. R.	<b>WAWZ</b> 1350 250 Zarephath, N. J. Pillar of Fire.
<b>TIFB</b> 714 30 San Jose, C. R.	<b>WAZL</b> 1420 100 Hazleton, Pa. Hazleton Broadcasting Service, Inc.
<b>TIFS</b> 1441 7.5 Cartago, C. R.	<b>WBAA</b> 1400 500 West Lafayette, Ind. Purdue University
<b>TIGA</b> 1014 30 Cartago, C. R.	<b>WBAL</b> 1060 10000 Baltimore, Md. Lexington Bldg.
<b>TIGP</b> 800 75 San Jose, C. R. Gonzalo Pinto H. Apt. 225	<b>WBAP</b> 800 50000 Fort Worth, Texas Blackstone Hotel
<b>TIRCA</b> 1100 500 San Jose, C. R. Perry Glrton, Apt. 225	<b>WBAX</b> 1210 100 Wilkes-Barre, Pa. John H. Stenger, Jr., 70 S. Main St.
<b>TISO</b> 550 250 San Jose, C. R. P. F. Saborio, Apt. 1354	<b>WBBC</b> 1400 500 Brooklyn, N. Y. 552-54 Atlantic Ave.
<b>TITV</b> 999 7.5 San Jose, C. R.	<b>WBBL</b> 1210 100 Richmond, Va. 1627 Monument Ave.
<b>TIVL</b> 835 30 San Jose, C. R.	<b>WBBM</b> 770 25000 Chicago, Ill. WBBM Broadcasting Corp., Wrigley Bldg.
<b>TIXA</b> 614 7.5 San Jose, C. R. Vincent Lines C	<b>WBBR</b> 1300 1000 Brooklyn, N. Y. 124 Columbia Heights
<b>VAS</b> 685 2000 Glace Bay, N. S. Canadian Marconi Co., Ltd.	<b>WBBZ</b> 1200 100 Ponca City, Okla. C. L. Carrell, 407 W. South Ave.
<b>VESEK</b> 1195 10 Montmagny, Que. J. A. Marquis, P. O. Box 52	<b>WBCM</b> 1410 500 Bay City, Mich. James E. Davidson, Hotel Wenonah
<b>VOAC</b> 1300 40 St. John's, Nfld.	<b>WBEN</b> 900 1000 Buffalo, N. Y. WBEN, Inc., Hotel Statler
<b>VOAS</b> 940 100 St. John's N. F. Ayre & Sons, Ltd., Water St.	<b>WBEO</b> 1310 100 Marquette, Mich. 146 W. Washington St.
<b>VOGY</b> 840 400 St. John's, N. F. Newfoundland Hotel	<b>WBHS</b> 1200 100 Huntsville, Ala. Virgil V. Evans
<b>VONF</b> 950 5000 St. John's N. F. Dominion Broadcasting Co., Ltd., Box 135	<b>WBIG</b> 1440 500 Greensboro, N. C. Box 408
<b>VOWR</b> 681 500 St. John's, N. F. Wesley United Church, Box 157	<b>WBNO</b> 1200 100 New Orleans, La. Hotel Marbero
<b>WAAB</b> 1410 500 Boston, Mass. 21 Brookline Ave.	<b>WBNS</b> 1430 500 Columbus, O. 33 N. High St.
<b>WAAF</b> 920 500 Chicago, Ill. 836 Exchange Ave.	<b>WBNX</b> 1350 250 New York, N. Y. 260 E. 161st St.
<b>WAAT</b> 940 300 Jersey City, N. J. Bremer Broadcasting Corp., 50 Journal Sq	<b>WBOQ</b> 860 50000 New York, N. Y. Atlantic Broadcasting Corp.
<b>WAAW</b> 660 500 Omaha, Neb. Omaha Grain Exchange	<b>WBOW</b> 1310 100 Terre Haute, Ind. Banks of Wabash, Inc., 19 Beach Block
<b>WABC</b> 860 50000 New York, N. Y. 485 Madison Ave.	<b>WBRB</b> 1210 100 Red Bank, N. J. 63 Broad St.
<b>WABI</b> 1200 100 Bangor, Maine First Universalist Society Park St.	<b>WBRC</b> 930 1000 Birmingham, Ala. Bankhead Hotel
<b>WACO</b> 1420 100 Waco, Texas Amicable Bldg.	<b>WBRE</b> 1310 100 Wilkes-Barre, Pa. Louis G. Baltimore, 16 N. Main
<b>WADC</b> 1320 1000 Akron, Ohio Allen T. Simmons, P. O. Box 29	<b>WBSO</b> 920 500 Babson Park, Mass. Drawer B
<b>WAGF</b> 1370 100 Dothan, Ala. P. O. Box 25	<b>WBT</b> 1080 50000 Charlotte, N. C. Station WBT, Inc., Wilder Bldg.
<b>WAGM</b> 1420 100 Presque Isle, Me. Aroostook Broadcasting Corp., Main St.	<b>WBTM</b> 1370 100 Danville, Va. Miller Bldg.
<b>WAIU</b> 640 500 Columbus, Ohio Deshler-Wallick Hotel	<b>WBZ</b> 990 50000 Boston, Mass. Hotel Bradford
<b>WALA</b> 1380 500 Mobile, Ala. Battle House	<b>WBZA</b> 990 1000 Springfield, Mass. Hotel Kimball
<b>WALR</b> 1210 100 Zanesville, Ohio First Trust & Savs. Bank Bldg.	<b>WCAC</b> 600 500 Storrs, Conn. Connecticut State College
<b>WAML</b> 1310 100 Laurel, Miss. Southland Radio Corp., Box 26	<b>WCAD</b> 1220 500 Canton, N. Y. St. Lawrence University

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6th Ave. & Smithfield St.  
**WCAL 1250 1000** Northfield, Minn.  
St. Olaf College  
**WCAM 1280 500** Camden, N. J.  
City of Camden, City Hall  
**WCAO 600 500** Baltimore, Md.  
811 W. Lanvale St.  
**WCAP 1280 500** Asbury Park, N. J.  
Convention Hall  
**WCAT 1200 100** Rapid City, S. D.  
South Dakota State School of Mines  
**WCAU 1170 50000** Philadelphia, Pa.  
WCAU Broadcasting Co., 1622 Chestnut  
**WCAX 1200 100** Burlington, Vt.  
203 College St.  
**WCAZ 1070 100** Carthage, Ill.  
97 1/2 Adams St.  
**WCBA 1440 250** Allentown, Pa.  
B. Bryan Musselman, 39-41 10th St.  
**WCBD 1080 5000** Zion, Ill.  
75 E. Wacker Drive, Chicago  
**WCBM 1370 100** Baltimore, Md.  
Keith Theatre Bldg.  
**WCBS 1210 100** Springfield, Ill.  
WCBS, Inc., 208 1/2 S. 6th.  
**WCCO 810 50000** Minneapolis, Minn.  
Nicollet Hotel  
**WCFL 970 1500** Chicago, Ill.  
666 Lake Shore Drive  
**WCHS 580 500** Charleston, W. Va.  
WOBU, Inc., Ruffner Hotel  
**WCKY 1490 5000** Covington, Ky.  
6th & Madison Sts.  
**WCLO 1200 100** Janesville, Wis.  
200 E. Milwaukee St.  
**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.  
San Carlos Hotel  
**WCOC 880 500** Meridian, Miss.  
Box 603  
**WCOL 1210 100** Columbus, Ohio  
WCOL, Inc., 30 N. High St.  
**WCRW 1210 100** Chicago, Ill.  
Clinton R. White, 2756 Pine Grove Ave.  
**WCSC 1360 500** Charleston, S. C.  
Francis Marlon Hotel  
**WCSH 940 1000** Portland, Me.  
579 Congress St.  
**WDAE 1220 1000** Tampa, Fla.  
Tampa Times Co., Tampa Terrace  
**WDAF 610 1000** Kansas City, Mo.  
1729 Grand Ave.  
**WDAG 1410 1000** Amarillo, Texas  
Box 306  
**WDAH 1310 100** El Paso, Texas  
Box 1976  
**WDAS 1370 100** Philadelphia, Pa.  
WDAS Brdcastg. Co., Inc., Broadwood Hotel  
**WDAY 940 1000** Fargo, N. D.  
WDAY, Inc., Black Bldg., 118 Broadway  
**WDBJ 930 1000** Roanoke, Va.  
Times World Corp., P. O. Box 150  
**WDBO 580 250** Orlando, Fla.  
555 N. Orange Ave.  
**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  
**WDNC 1500 100** Durham, N. C.  
Washington Duke Hotel  
**WDOD 1280 1000** Chattanooga, Tenn.  
WDOD Broadcasting Corp., Hotel Patten  
**WDRG 1330 1000** Hartford, Conn.  
WDRG, Inc., Corning Bldg., 11 Asylum St.  
**WDSU 1250 1000** New Orleans, La.  
Jos. H. Uhalt, Hotel Monteleone  
**WDZ 1070 100** Tuscola, Ill.  
James L. Bush, Star Store Bldg.  
**WEAF 660 50000** New York, N. Y.  
30 Rockefeller Plaza  
**WEAN 780 500** Providence, R. I.  
New Crown Hotel  
**WEBC 1290 1000** Superior, Wis.  
Spaulding Hotel, Duluth, Minn.  
**WEBQ 1210 100** Harrisburg, Ill.  
100 E. Poplar St.  
**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** Rocky Mount, N. C.  
Wm. Avera Wynne, Box 221  
**WEEI 590 1000** Boston, Mass.  
182 Tremont St.  
**WEUU 830 1000** Reading, Pa.  
Berks Broadcasting Co., 533 Penn.  
**WEHC 1350 500** Charlottesville, Va.  
7th & Main Sts.  
**WEHS 1420 100** Cicero, Ill.  
WEHS, Inc., 6138 W. Cermak Rd.  
**WELL 1420 50** Battle Creek, Mich.  
Enquirer News, 38 W. State St.  
**WENR 870 50000** Chicago, Ill.  
222 N. Bank Drive  
**WESG 1090 1000** Elmira, N. Y.  
Mark Twain Hotel  
**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.  
212 W. 6th St.  
**WFAA 800 50000** Dallas, Texas  
Baker Hotel  
**WFAB 1300 1000** New York, N. Y.  
Fifth Avenue Broadcasting Corp.  
**WFAM 1200 100** South Bend, Ind.  
South Bend Tribune, 225 W. Colfax Ave.  
**WFAS 1210 100** White Plains, N. Y.  
Hotel Roger Smith  
**WFBC 1300 250** Greenville, S. C.  
Imperial Hotel  
**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 Hotel  
**WFBM 1230 1000** Indianapolis, Ind.  
48 Monument Circle  
**WFBR 1270 500** Baltimore, Md.  
7 St. Paul St.  
**WFDL 1310 100** Flint, Mich.  
Union Industrial Bldg.  
**WFEA 1340 600** Manchester, N. H.  
Carpenter Hotel  
**WFI 560 500** Philadelphia, Pa.  
WFI Broadcasting Co., 801 Market

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<b>WGAL</b> 1500 100 Lancaster, Pa. WGAL, Inc., 8 W. King St.	<b>WHFC</b> 1420 100 Cicero, Ill. WHFC, Inc., 6138 W. Cermak Road
<b>WGAR</b> 1450 500 Cleveland, Ohio WGAR Broadcasting Co., Hotel Statler	<b>WHIS</b> 1410 250 Bluefield, W. Va. Bland St.
<b>WGBB</b> 1210 100 Freeport, N. Y. H. H. Carman, 64 S. Grove St.	<b>WHJB</b> 525 250 Greensburg, Pa. Penn. Radio Supply House
<b>WGBF</b> 630 500 Evansville, Ind. 519 Vine St.	<b>WHK</b> 1390 1000 Cleveland, Ohio 1311 Terminal Tower
<b>WGBI</b> 880 500 Scranton, Pa. 116 N. Washington Ave.	<b>WHN</b> 1010 1000 New York, N. Y. 1540 Broadway
<b>WGCM</b> 1210 100 Gulfport, Miss. Great Southern Hotel	<b>WHO</b> 1000 50000 Des Moines, Iowa Central Brdcastg. Co., 914 Walnut St.
<b>WGES</b> 1360 500 Chicago, Ill. 128 N. Crawford Ave.	<b>WHOM</b> 1450 250 Jersey City, N. J. 2870 Boulevard
<b>WGH</b> 1310 100 Newport News, Va. 2813 Washington Ave.	<b>WHP</b> 1430 500 Harrisburg, Pa. WHP, Inc., 216 Locust St.
<b>WGL</b> 1370 100 Fort Wayne, Ind. F. C. Zieg, 213 W. Main St.	<b>WIBA</b> 1280 1000 Madison, Wis. 111 King St.
<b>WGLC</b> 1370 100 Hudson Falls, N. Y. Colonial Display House	<b>WIBG</b> 970 100 Glenside, Pa. WIBG, Inc., Keswick Bldg.
<b>WGN</b> 720 50000 Chicago, Ill. WGN, Inc., Tribune Tower	<b>WIBM</b> 1370 100 Jackson, Mich. WIBM, Inc., 306 W. Michigan Ave.
<b>WGNV</b> 1210 100 Chester, N. Y. Peter Goelet (Orange County)	<b>WIBU</b> 1210 100 Poynette, Wis. Wm. C. Forrest, R. F. D. No. 3
<b>WGPC</b> 1420 100 Albany, Ga. Rylander Theatre Bldg.	<b>WIBW</b> 580 1000 Topeka, Kans. 11th & Topeka Blvd.
<b>WGR</b> 550 1000 Buffalo, N. Y. Rand Bldg.	<b>WIBX</b> 1200 100 Utica, N. Y. WIBX, Inc., 1st Natl. Bank Bldg.
<b>WGST</b> 890 250 Atlanta, Ga. Ansley Hotel	<b>WICC</b> 600 250 Bridgeport, Conn. Southern Conn. Broadcasting Corp.
<b>WGY</b> 790 50000 Schenectady, N. Y. 1 River Road	<b>WIL</b> 1200 100 St. Louis, Mo. Melbourne Hotel
<b>WHA</b> 940 2500 Madison, Wis. University of Wisconsin	<b>WILL</b> 890 250 Urbana, Ill. University of Illinois
<b>WHAM</b> 1150 50000 Rochester, N. Y. 100 Carlson Road	<b>WILM</b> 1420 100 Wilmington, Del. 920 King St.
<b>WHAS</b> 820 50000 Louisville, Ky. 300 W. Liberty St.	<b>WIND</b> 560 1000 Gary, Ind. 504 Broadway
<b>WHAT</b> 1310 100 Philadelphia, Pa. Public Ledger Bldg.	<b>WINS</b> 1180 1000 New York, N. Y. 110 E. 58th St.
<b>WHAZ</b> 1300 500 Troy, N. Y. 8th St.	<b>WIOD</b> 1300 1000 Miami, Fla. Herald Bldg.
<b>WHB</b> 860 500 Kansas City, Mo. WHB Broadcasting Co., Scarritt Bldg.	<b>WIP</b> 610 500 Philadelphia, Pa. Gimbel Bldg.
<b>WHBC</b> 1200 100 Canton, Ohio Edw. P. Graham, 319 Tusc. St., W.	<b>WIS</b> 1010 1000 Columbia, S. C. Station WIS, Inc., 1811 Main St.
<b>WHBD</b> 1370 100 Mount Orab, Ohio F. P. Moier	<b>WISN</b> 1120 250 Milwaukee, Wis. 123 W. Michigan St.
<b>WHBF</b> 1210 100 Rock Island, Ill. Hotel Harms	<b>WJAC</b> 1310 100 Johnston, Pa. WJAC, Inc., Locust St.
<b>WHBI</b> 1250 1000 Newark, N. J. 100 Shipman St.	<b>WJAG</b> 1060 1000 Norfolk, Neb. Norfolk Daily News
<b>WHBL</b> 1410 500 Sheboygan, Wis. Press Publishing Co., Press Bldg.	<b>WJAR</b> 890 500 Providence, R. I. Outlet Co., Weybossett St.
<b>WHBQ</b> 1370 100 Memphis, Tenn. Brdstg. Sta. WNBQ, Inc., Hotel Claridge	<b>WJAS</b> 1290 1000 Pittsburgh, Pa. Chamber of Commerce Bldg.
<b>WHBU</b> 1210 100 Anderson, Ind. Anderson Broadcasting Corp., Box 816	<b>WJAX</b> 900 1000 Jacksonville, Fla. City of Jacksonville
<b>WHBY</b> 1200 100 Green Bay, Wis. WHBY, Inc., Bellin Bldg.	<b>WJAY</b> 610 500 Cleveland, Ohio 1224 Huron Road
<b>WHDF</b> 1370 100 Calumet, Mich. Box 643	<b>WJBC</b> 1200 100 Bloomington, Ill. Kaskaskia Broadcasting Co.
<b>WHDH</b> 830 1000 Boston, Mass. Matheson Radio Co., 82 Boylston	<b>WJBK</b> 1500 100 Detroit, Mich. 6559 Hamilton Ave.
<b>WHDL</b> 1420 100 Tupper Lake, N. Y. Iroquois Hotel	<b>WJBL</b> 1200 100 Decatur, Ill. Gushard Bldg.
<b>WHBF</b> 740 250 Portsmouth, N. H. Box 522, 39 Congress St.	<b>WJBO</b> 1420 100 Baton Rouge, La. Baton Rouge Broadcasting Co., Inc.
<b>WHCC</b> 1430 500 Rochester, N. Y. WHCC, Inc., 40 Franklin St.	<b>WJBW</b> 1200 100 New Orleans, La. C. C. Carlson, 2743 Dumaine St.

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<b>WJDX 1270 1000</b>	<b>Jackson, Miss.</b> Lamar Life Bldg.	<b>WLBZ 620 500</b>	<b>Bangor, Me.</b> Maine Broadcasting Co., Inc., 100 Main
<b>WJEJ 1210 100</b>	<b>Hagerstown, Md.</b> Lovely Dame Bldg.	<b>WLEU 1420 100</b>	<b>Erie, Pa.</b>
<b>WJEM 990 500</b>	<b>Tupelo, Miss.</b> Britt A. Rogers, Jr.	<b>WLIT 560 500</b>	<b>Philadelphia, Pa.</b> 8th & Market Sts.
<b>WJIM 1210 100</b>	<b>Lansing, Mich.</b> Capital City Brdcastg. Co.	<b>WLLH 1370 100</b>	<b>Lowell, Mass.</b> Albert S. Moffat, Box D
<b>WJJD 1130 20000</b>	<b>Chicago, Ill.</b> WJJD, Inc., 201 N. Wells St.	<b>WLNH 1310 100</b>	<b>Laconia, N. H.</b> 523 Main St.
<b>WJMS 1420 100</b>	<b>Ironwood, Mich.</b> WJMS, Inc., St. James Hotel	<b>WLS 870 50000</b>	<b>Chicago, Ill.</b> 1230 W. Washington Blvd.
<b>WJR 750 10000</b>	<b>Detroit, Mich.</b> WJR, Inc., Fisher Bldg.	<b>WLTH 1400 500</b>	<b>Brooklyn, N. Y.</b> 305 Washington St.
<b>WJSV 1460 10000</b>	<b>Washington, D. C.</b> Shoreham Bldg.	<b>WLVA 1200 100</b>	<b>Lynchburg, Va.</b> 915 Main St.
<b>WJTL 1370 100</b>	<b>Atlanta, Ga.</b> Oglethorpe University	<b>WLW 700 50000</b>	<b>Cincinnati, Ohio</b> 1329 Arlington St.
<b>WJW 1210 100</b>	<b>Akron, Ohio</b> WJW, Inc., 41 S. High St.	<b>WLWL 1100 5000</b>	<b>New York, N. Y.</b> 415 W. 59th St.
<b>WJZ 760 50000</b>	<b>New York, N. Y.</b> 30 Rockefeller Plaza	<b>WMAL 630 250</b>	<b>Washington, D. C.</b> 712-11th St., N. W.
<b>WKAQ 1240 1000</b>	<b>San Juan, P. R.</b> Radio Corp. of Porto Rico, P. O. Box 358	<b>WMAQ 670 5000</b>	<b>Chicago, Ill.</b> Merchandise Mart
<b>WKAR 1040 1000</b>	<b>East Lansing, Mich.</b> Michigan State College	<b>WMAS 1420 100</b>	<b>Springfield, Mass.</b> WMAS, Inc., 70 Chestnut St.
<b>WKBB 1500 100</b>	<b>East Dubuque, Ill.</b> Richard W. Hoffman	<b>WMAZ 1180 1000</b>	<b>Macon, Ga.</b> 211 Cotton Ave.
<b>WKBF 1400 500</b>	<b>Indianapolis, Ind.</b> 540 N. Meridian St.	<b>WMBC 1420 100</b>	<b>Detroit, Mich.</b> 7310 Woodward Ave.
<b>WKBH 1380 1000</b>	<b>LaCrosse, Wis.</b> WKBH, Inc., 409 Main St.	<b>WMBD 1440 500</b>	<b>Peoria, Ill.</b> 114 N. Madison St.
<b>WKBI 1420 100</b>	<b>Cicero, Ill.</b> WKBI Inc., 6138 W. Cermak Road	<b>WMBG 1210 100</b>	<b>Richmond, Va.</b> 914 W. Broad St.
<b>WKBN 570 500</b>	<b>Youngstown, Ohio</b> 17 N. Champion St.	<b>WMBH 1420 100</b>	<b>Joplin, Mo.</b> 1334 Roosevelt St.
<b>WKBO 1200 100</b>	<b>Harrisburg, Pa.</b> Penn Harris Hotel	<b>WMBI 1080 5000</b>	<b>Chicago, Ill.</b> 153 Institute Place
<b>WKBV 1500 100</b>	<b>Richmond, Ind.</b> Knox Radio Corp., Box 308	<b>WMBO 1310 100</b>	<b>Auburn, N. Y.</b> WMBO, Inc., Metcalf Bldg.
<b>WKBW 1480 5000</b>	<b>Buffalo, N. Y.</b> Rand Bldg.	<b>WMBQ 1500 100</b>	<b>Brooklyn, N. Y.</b> Paul J. Gollhofer, 95 Leonard St.
<b>WKBZ 1500 100</b>	<b>Muskegon, Mich.</b> Karl L. Ashbacher & Sons	<b>WMBR 1370 100</b>	<b>Jacksonville, Fla.</b> F. J. Reynolds, Carling Hotel
<b>WKEU 1500 100</b>	<b>LaGrange, Ga.</b> Radio Station WKEU, 906 Hill St.	<b>WMC 780 1000</b>	<b>Memphis, Tenn.</b> WMC, Inc., Hotel Gayoso
<b>WKFI 1210 100</b>	<b>Greenwood, Miss.</b> J. Pat Scully, Box 302	<b>WMCA 570 500</b>	<b>New York, N. Y.</b> 1697 Broadway
<b>WKJC 1200 100</b>	<b>Lancaster, Pa.</b> 16 W. King St.	<b>WMEX 1580 100</b>	<b>Chelsea, Mass.</b> The Northern Corp.
<b>WKOK 1210 100</b>	<b>Sunbury, Pa.</b> 1150 N. Front St.	<b>WMMN 890 250</b>	<b>Fairmont, W. Va.</b> A. M. Rowe, Inc., 325 Main St.
<b>WKRC 550 1000</b>	<b>Cincinnati, Ohio</b> WKRC, Inc., Hotel Aims	<b>WMPC 1200 100</b>	<b>Lapeer, Mich.</b> 81 Liberty St.
<b>WKY 900 1000</b>	<b>Oklahoma City, Okla.</b> Plaza Court Bldg.	<b>WMT 600 500</b>	<b>Waterloo, Iowa</b> 3rd & Lafayette Sts.
<b>WKZO 590 1000</b>	<b>Kalamazoo, Mich.</b> John E. Fetzer, Burdick Hotel	<b>WNAC 1230 1000</b>	<b>Boston, Mass.</b> 21 Brookline Ave.
<b>WLAC 1470 5000</b>	<b>Nashville, Tenn.</b> 159-4th Ave. No.	<b>WNAD 1010 500</b>	<b>Norman, Okla.</b> University of Oklahoma
<b>WLAP 1420 100</b>	<b>Lexington, Ky.</b> Main & Esplanade	<b>WNAX 570 1000</b>	<b>Yankton, S. D.</b> House of Gurney, Inc., 2nd and Capital St.
<b>WLB 1250 1000</b>	<b>Minneapolis, Minn.</b> University of Minnesota	<b>WNB 1500 100</b>	<b>Binghamton, N. Y.</b> Arlington Hotel
<b>WLBC 1310 100</b>	<b>Muncie, Ind.</b> D. A. Burton, Anthony Bldg.	<b>WNBH 1310 100</b>	<b>New Bedford, Mass.</b> 251 Union St.
<b>WLBK 1420 100</b>	<b>Kansas City, Kans.</b> WLBK Broadcasting Co., Huron Bldg.	<b>WNBO 1200 100</b>	<b>Washington, Pa.</b> 319 E. Beau St.
<b>WLBL 900 2500</b>	<b>Stevens Point, Wis.</b> Wisconsin Dept. of Agriculture and Markets	<b>WNBW 1430 500</b>	<b>Memphis, Tenn.</b> Memphis Broadcasting Co., Hotel DeVoy

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<b>WNBZ 1290 50 Saranac Lake, N. Y.</b> Smith & Mace, 70 Broadway	<b>WRBL 1200 100 Columbus, Ga.</b> Royal Theatre Bldg.
<b>WNEL 1290 500 San Juan, P. R.</b> Box 1252	<b>WRBX 1410 250 Roanoke, Va.</b> P. O. Box 2389
<b>WNEW 1250 1000 Newark, N. J.</b> Wodaam Corp., 1060 Broad	<b>WRC 950 500 Washington, D. C.</b> National Press Bldg.
<b>WNOX 560 1000 Knoxville, Tenn.</b> WNOX, Inc., Hotel Andrew Johnson	<b>WRDO 1370 100 Augusta, Me.</b> WRDO, Inc., Augusta House
<b>WNRA 1420 100 Muscle Shoals, Ala.</b> Kathryn Jones, P. O. Box 486, Sheffield, Ala.	<b>WRDW 1500 100 Augusta, Ga.</b> Virgil V. Evans Co., 309 8th St.
<b>WNYC 810 500 New York, N. Y.</b> Centre & Duane Sts.	<b>WREC 600 500 Memphis, Tenn.</b> WREC, Inc., Hotel Peabody
<b>WOAI 1190 50000 San Antonio, Texas</b> Southland Industries, Inc., 1038 Navarro	<b>WREN 1220 1000 Lawrence, Kans.</b> Jenny Wren Co., 8th and Vermont St.
<b>WOC 1370 100 Davenport, Iowa</b> Palmer School of Chiropractic	<b>WRGA 1500 100 Rome, Ga.</b> 10 Third Ave.
<b>WOCL 1210 50 Jamestown, N. Y.</b> A. E. Newton, 840 N. Main St.	<b>WRJN 1370 100 Racine, Wis.</b> Racine Broadcasting Corp., Hotel Racine
<b>WOI 640 5000 Ames, Iowa</b> Iowa State College	<b>WROK 1410 500 Rockford, Ill.</b> 109 So. Water St.
<b>WOKO 1430 500 Albany, N. Y.</b> WOKO, Inc., Hotel Ten Eyck	<b>WROL 1310 100 Knoxville, Tenn.</b> Stuart Broadcasting Corp., 524 S. Gay
<b>WOL 1310 100 Washington, D. C.</b> American Broadcasting Co., Annapolis Hotel	<b>WRR 1280 500 Dallas, Texas</b> City of Dallas, Southland Life Bldg.
<b>WOMT 1210 100 Manitowoc, Wis.</b> Francis M. Kadow, Box 326	<b>WRUF 830 5000 Gainesville, Fla.</b> State University
<b>WOOD 1270 500 Grand Rapids, Mich.</b> Grand Rapids Natl. Bank Bldg.	<b>WRVA 1110 5000 Richmond, Va.</b> Larus & Bros Co., Inc., 22nd and Gary St.
<b>WOPI 1500 100 Bristol, Tenn.</b> 22nd & State Sts.	<b>WSAJ 1330 1000 Cincinnati, Ohio</b> Crosley Radio Corp., 1329 Arlington
<b>WOR 710 5000 Newark, N. J.</b> 147 Market St.	<b>WSAJ 1310 100 Grove City, Pa.</b> Grove City College, 418 Poplar St.
<b>WORC 1280 500 Worcester, Mass.</b> Alfred F. Kleindienst, 60 Franklin St.	<b>WSAN 1440 250 Allentown, Pa.</b> WSAN, Inc., 39 10th St.
<b>WORK 1320 1000 York, Pa.</b> York Broadcasting Co., 15 B. Beaver St.	<b>WSAR 1450 250 Fall River, Mass.</b> Academy of Music Bldg.
<b>WOS 630 500 Jefferson City, Mo.</b> State Highway Control, Capitol Bldg.	<b>WSAZ 1190 1000 Huntington, W. Va.</b> WSAZ, Inc., P. O. Box 729
<b>WOSU 570 750 Columbus, Ohio</b> Ohio State University	<b>WSB 740 50000 Atlanta, Ga.</b> Atlanta Journal, 7 N. Forsyth St.
<b>WOV 1130 1000 New York, N. Y.</b> 16 E. 42nd St.	<b>WSBC 1210 100 Chicago, Ill.</b> Gene T. Dyer, 1258 S. Michigan Ave.
<b>WOW 590 1000 Omaha, Neb.</b> Woodmen of the World, 4th and Farnam	<b>WSBT 1360 500 South Bend, Ind.</b> South Bend Tribune, 225 W. Colfax Ave.
<b>WOWO 1160 10000 Fort Wayne, Ind.</b> Main Auto Supply Co., 213 W. Main	<b>WSFA 1410 500 Montgomery, Ala.</b> Jefferson Davis Hotel
<b>WPAD 1420 100 Paducah, Ky.</b> 2201 Broadway	<b>WSGN 1310 100 Birmingham, Ala.</b> R. B. Broyles, Tutwiler Hotel
<b>WPEN 920 100 Philadelphia, Pa.</b> 22nd & Walnut Sts.	<b>WSIX 1210 100 Springfield, Tenn.</b> 638 Tire & Vulcanizing Co.
<b>WPFB 1370 100 Hattiesburg, Miss.</b> Otis P. Eure, Box 530	<b>WSJS 1310 100 Winston-Salem, N. C.</b> Whinston-Salem Journal Co., 416 N. Marshall
<b>WPG 1100 5000 Atlantic City, N. J.</b> Convention Hall	<b>WSM 650 50000 Nashville, Tenn.</b> 301—7th Ave. No.
<b>WPHR 880 100 Petersburg, Va.</b> WLBG, Inc., Medical Arts Bldg.	<b>WSMB 1320 500 New Orleans, La.</b> WSMB, Inc., Maison Blanche Bldg.
<b>WPRO 630 250 Providence, R. I.</b> Cherry & Webb Bldg. Co., 15 Chestnut	<b>WSMK 1380 200 Dayton, Ohio</b> S. M. Krohn, Jr., 4th and Main St.
<b>WPTF 680 5000 Raleigh, N. C.</b> 324 Fayetteville St.	<b>WSOC 1210 100 Charlotte, N. C.</b> WSOC, Inc., Box 730
<b>WQAM 560 1000 Miami, Fla.</b> Miami Bldg. Co., Inc., 327 N. E. 1st Ave.	<b>WSPA 920 1000 Spartanburg, S. C.</b> Virgil V. Evans, Ravenel and Avant St.
<b>WQAN 880 250 Scranton, Pa.</b> Scranton Times, 149 Penn Ave.	<b>WSPD 1340 1000 Toledo, Ohio</b> Toledo Broadcasting Co., 605 Jefferson
<b>WQBC 1360 500 Vicksburg, Miss.</b> Delta Broadcasting Co., Hotel Vicksburg	<b>WSUI 880 500 Iowa City, Iowa</b> State University of Iowa
<b>WQDM 1370 100 St. Albans, Vt.</b> 42 N. Main St.	
<b>WQDX 1210 100 Thomasville, Ga.</b> Stevens Luke, 135 E. Jackson St.	

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<b>WSUN 620 1000</b>	<b>St. Petersburg, Fla.</b> Chamber of Commerce
<b>WVA 550 500</b>	<b>Staunton, Va.</b> Marion K. Gilliam
<b>WVSV 1370 50</b>	<b>Buffalo, N. Y.</b> 860 E. Delavan Ave.
<b>WSYB 1500 100</b>	<b>Rutland, Vt.</b> Phillip Wells Music Co., 80 West St.
<b>WSYR 570 250</b>	<b>Syracuse, N. Y.</b> E. Onondaga & S. Warren Sts.
<b>WTAD 1440 500</b>	<b>Quincy, Ill.</b> Illinois Brdcastg. Corp., State and 6th
<b>WTAG 530 500</b>	<b>Worcester, Mass.</b> 18 Franklin St.
<b>WTAM 1070 50000</b>	<b>Cleveland, Ohio</b> 1367 E. 6th St.
<b>WTAQ 1330 1000</b>	<b>Eau Claire, Wis.</b> Gillette Rubber Co., Hotel Eau Claire
<b>WTAR 730 500</b>	<b>Norfolk, Va.</b> WTAR Radio Corp., Wainwright Bldg.
<b>WTAW 1120 500</b>	<b>College Station, Tex.</b> Agricultural and Mechanical College
<b>WTAX 1210 100</b>	<b>Springfield, Ill.</b> WTAX, Inc., 416 E. Capitol Ave.
<b>WTBO 800 250</b>	<b>Cumberland, Md.</b> Associated Brdcastg. Corp., Box 704
<b>WTCN 1250 1000</b>	<b>Minneapolis, Minn.</b> Wesley Temple Bldg.
<b>WTEL 1310 100</b>	<b>Philadelphia, Pa.</b> Broad & Erie Ave.
<b>WTFI 1450 500</b>	<b>Athens, Ga.</b> 133 E. Washington St.
<b>WTIC 1040 50000</b>	<b>Hartford, Conn.</b> 28 Grove St.
<b>WTJS 1310 100</b>	<b>Jackson, Tenn.</b> Sun Publishing Co., Sun Bldg.
<b>WTMJ 620 1000</b>	<b>Milwaukee, Wis.</b> The Journal Co., 333 W. State St.
<b>WTNJ 1280 500</b>	<b>Trenton, N. J.</b> Trenton Brdcastg. Co., Stacy Trent Hotel
<b>WTOC 1260 1000</b>	<b>Savannah, Ga.</b> Savannah Brdcastg. Co., De Soto Hotel
<b>WTRC 1310 50</b>	<b>Elkhart, Ind.</b> Truth Radio Corp., Hotel Elkhart
<b>WVFW 1400 500</b>	<b>Brooklyn, N. Y.</b> Paramount Brdcastg. Co., 1 Nevins St.
<b>WWAE 1200 100</b>	<b>Hammond, Ind.</b> 402 Hammond Bldg.
<b>WWJ 920 1000</b>	<b>Detroit, Mich.</b> Evening News Assn., 616 Lafayette Bldg.
<b>WWL 850 10000</b>	<b>New Orleans, La.</b> Loyola University, Roosevelt Hotel
<b>WWNC 570 1000</b>	<b>Asheville, N. C.</b> Citizen Brdcastg. Co., Inc., Flatiron Bldg
<b>WWRL 1500 100</b>	<b>Woodside, N. Y.</b> 4130-58th St.
<b>WWSW 1500 100</b>	<b>Pittsburgh, Pa.</b> Hotel Schenley
<b>WVVA 1160 5000</b>	<b>Wheeling, W. Va.</b> Hawley Bldg.
<b>WXYZ 1240 1000</b>	<b>Detroit, Mich.</b> Madison Theatre Bldg.
<b>WIXBS 1530 1000</b>	<b>Waterbury, Conn.</b> 61 Leavenworth St.
<b>W2XR 1550 1000</b>	<b>Long Island City, N. Y.</b> John V. L. Hogan, 41 Park Row, N. Y. City
<b>WSXAI 1550 1000</b>	<b>Bakersfield, Calif.</b> Pioneer Mercantile Co.
<b>W9XB 1530 1000</b>	<b>Kansas City, Mo.</b> First National Television Inc.
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<b>XEFB 1420 100</b>	<b>Monterrey, N. L.</b> Jesus Quintanilla, P. O. Box 317
<b>XEFC 1310 100</b>	<b>Merida, Yuc.</b> J. Molina Font, Calle 59, 517
<b>XEFE 1370 100</b>	<b>Laredo, Tams.</b> R. T. Carranza, Km. 4 Carretera Laredo Nt.
<b>XEFG 1100 250</b>	<b>Mexico City, D. F.</b> Ricardo Gonzales Montero, Teple 48
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<b>XEFO 940 5000</b>	<b>Mexico City, D. F.</b> Reforma No. 137
<b>XEFV 1210 100</b>	<b>Jaurez, Chih.</b> Cordova & Prieto, Ave. Ferrocarril 104
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<b>XEFZ 1370 100</b>	<b>Mexico City, D. F.</b> Manuel Zetina, Caizada Nonoalco 481
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<b>XEI 1370 125</b>	<b>Morelia, Mich.</b> Carlos Gutierrez M., F. I. Madero 545
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<b>XEK 990 100</b>	<b>Mexico City, D. F.</b> Arturo Martinez, Jalapa No. 51
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<b>XENT 1120 50000</b>	<b>Nuevo Laredo, Tams.</b> Box 410, Laredo, Texas
<b>XEOK 920 2500</b>	<b>Tijuana, B. C.</b> Carlos de la Sierra, Calle 5 a 312

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			Victoria No. 4, Altos.
<b>XEP</b>	820	500	Mexico City, D. F.
			Cia Difusora de Mexico S. A., Rembrandt 11
<b>XEPN</b>	590	50000	Piedras Negras, Coah.
			Piedras Negras Brdcastg. Co., Madero 63
<b>XES</b>	970	250	Tampico, Tams.
			Fernando Sada, Box 309
<b>XET</b>	690	500	Monterrey, N. L.
			P. O. Box 203, Hidalgo
<b>XETB</b>	1310	125	Torreón, Coah.
			Jose A. Berumen, R. Corona 317
<b>XETH</b>	1210	100	Puebla, Pua.
			Ramon Huerta G., Calle 17, Oriente 11
<b>XETW</b>	820	500	Mexico City, D. F.
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			Fernando Pazos Sosa, Independencia 98
<b>XEW</b>	890	50000	Mexico City, D. F.
			P. O. Box 2516
<b>XEWZ</b>	1150	100	Mexico City, D. F.
			Medellin e Insurgentes
<b>XEX</b>	1310	125	Monterrey, N. L.
			L. F. Petit Jean, P. O. Box 10
<b>XEXX</b>	845	500	Mexico City, D. F.
			Av. Pino Suarez 9

<b>KEYZ</b>	780	10000	Mexico City, D. F.
			Angel M. Diez, Ave. Juarez 48
<b>KEZZ</b>	1370	100	San Luis Potosi, SLP
			Emilio Delgado R. Ave. Chicosein 32
<b>XFA</b>	1310	5	Aguaascalientes, Ags.
			Apartado Postal 92
<b>XFB</b>	1270	1000	Jalapa, Ver.
			Gobierno del Estado de Veracruz
<b>XFC</b>	810	350	Aguaascalientes, Ags.
			Gobierno del Estado de Aguaascalientes
<b>XFD</b>	1340	350	Orizaba, Ver.
			Gobierno Estado de Veracruz
<b>XFO</b>	940	5000	Mexico City, D. F.
			Nat. Rev. Party, Ave. Morelos 110
<b>XFX</b>	610	1000	Mexico City, D. F.
			Secretaria de Educacion Publica
<b>10-AK</b>	1200	15	Stratford, Ont.
			M. I. Higgins, 151 Ontario St.
<b>10-BP</b>	1200	25	Wingham, Ont.
			W. T. Cruickshank, Box 65
<b>10-BQ</b>	1200	15	Stratford, Ont.
			12 Terrace Hill St.
<b>10-BU</b>	1200	50	Canora, Sask.
			Canora Radio Assn.

### STATEMENT OF THE OWNERSHIP, MANAGEMENT, Circulation, Etc., Required by the Act of Congress of August 24, 1912,

Of Radio Index, published monthly except July and August at Cleveland, O., for Oct. 1, 1934.

State of Ohio, County of Cuyahoga, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared Fred C. Butler, who, having been duly sworn according to law, deposes and says that he is the editor of the Radio Index, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The Radex Press, Inc., 705 Hanna Building, Cleveland, O.; Editor, Fred C. Butler; Managing Editor, none; Business Managers, none.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member must be given.) The Radex Press, Inc., 705 Hanna Building, Cleveland, O.; Fred C. Butler, 705 Hanna Building, Cleveland, O.

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stock holders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

Fred C. Butler, Editor.

Sworn to and subscribed before me this 26th day of September, 1934.

Edith C. Phalen, Notary Public.  
(My commission expires May 11, 1935.)

The November-December-January issue of the *DX Log of the World* will contain the stations of the whole world on both the broadcast band and the short waves. Price 10c.

# AROUND the CLOCK on the SHORT WAVES

MIDNIGHT TO NOON (EST)

GMT	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	DJB W3XAU W8XK W9XF XETE	DJB GSB GSD VK2ME W9XF	GSB GSD VK2ME	RV15	DJA DJB FK1WK RV15 VK3LR	DJA DJB HVJ RV15 VK2ME VK3LR VK3ME	GSF GSG HSJ RV15 VK2ME VK3LR VK3ME W1XAZ ZGE ZHI	GSF GSG PHI RV15 Rabat RV15 VK2ME VK3LR VK3ME W1XAZ ZGE W8XK	DJA DJB GSE GSF GSG PHI Pont. Rabat VE9GW VK2ME W1XAZ W3XAL W8XK	DJA DJB GSE GSF PHI Pont. VE9GW W1XAZ W3XAL W8XK	DJA DJB GSE GSF Pont. VE9GW W1XAZ W8XK W3XAL	DJA DJB GSE GSF Pont. VE9GW W1XAZ W8XK W3XAL W9XAA

NOON TO MIDNIGHT (EST)

GMT	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00	4:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	DJC DJD EAQ GSE GSF I2RO Pont. VE9GW VUB W1XAL W1XAZ W2XE W3XAL W3XAU W3XL W8XK W9XAA	DJC DJD EAQ GSB GSD I2RO ORX ORX Pont. VE9GW W1XAL W1XAZ W2XE W3XAL W3XAU W3XL W8XK W9XAA XETE	DJC DJD GSD I2RO ORX Rabat RV59 W1XAZ W2XAD W3XAU W3XL W8XK W9XAA XETE	DJC DJD GSB GSD I2RO ORX Pont. Rabat RV59 W1XAZ W2XAD W3XAU W3XL W8XK W9XAA XETE	COC CT1AA DJC DJD GSD GSB GSD I2RO ORX Pont. Rabat RV59 W1XAZ W2XAD W3XAU W3XL W8XK W9XAA XETE	COC CT1AA DJC DJD EAQ GSD GSD HBL HBP HC2RL HJ1ABB HIZ HJ1ABB OXY VE9GW VE9HX W1XAL W2XAF W3XAL W8XK W9XAA XETE	CT1AA DJC DJD EAQ GSC GSD HBL HBP HC2RL HJ1ABB OXY W1XAL W2XAF W3XAL W8XK W9XAA W2XE W3XAL W8XK W9XAA XETE	DJC DJD GSA GSC DJD HC2RL HJ1AB HJ1ABB VE9HX W1XAL W2XAF W3XAL W8XK W9XAA W2XE W3XAL W8XK W9XAA XETE	CJRO CJRX CP5 DJC DJD HC2RL HIX HJ1ABB HJ3ABD PRADO VE9CS VE9HX W1XAL W2XAF W3XAL W8XK W9XAA XETE	CJRO CJRX DJC DJD HC2RL HIX HJ1ABB HJ3ABD PRADO VE9CS VE9HX W1XAL W2XAF W3XAL W8XK W9XAA XETE	CJRO CJRX DJC DJD HC2RL HIX HJ1ABB HJ3ABD PRADO VE9CS VE9HX W1XAL W2XAF W3XAL W8XK W9XAA XETE	



# 100 Best Shortwave Stations by Call Letters

Frequencies are given in megacycles and the time is Eastern Standard. In this list, the location of the transmitter is given.

Amateur phones are heard between 1.875 and 2.000 meg. s. 3.900 and 4.000 meg. s. 7.000 and 7.300 meg. s. (Foreign only). 14.150 and 14.250 meg. s.	GSD, Daventry, England, 11.750. 1:15-3:15 a.m.; 1-5:30 p.m.; 6-7 p.m. GSE, Daventry, England, 11.865. 8:45 a.m. to 12:45 p.m. GSF, Daventry, England, 16.140. 6-8:30 a.m.; 8:45 a.m. to 12:45 p.m. GSG, Daventry, England, 17.790. 6-8:30 a.m. HBL, Prangins, Switzerland, 9.595. Sat. 5:30-6:15 p.m. HBP, Prangins, Switzerland, 7.797. Sat. 5:30-6:15 p.m. HC2RL, Guayaquil, Ecuador, 6.659. Tues. 9:14-11:14 p.m.; Sun. 5:45-7:45 p.m. HLX, Santo Domingo, D. R., 5.948. Tues. and Fri., 8-10 p.m. H11A, Santiago de los Caballeros D.R., 7.240. 7:30-9:30 p.m. daily. HJA2, Bogota, Colombia, 5.825. HJA3, Barranquilla, Colombia, 12.830 HJB, Bogota, Colombia, 14.930. HJ1ABE, Barranquilla, Colombia, 6.447. 5-10 p.m. HJ2ABC, Cucuta, Norte de Santander, Colombia, "La Voz de Cucuta," 5.975 meg. s. 6-9 p.m. daily exc. Sunday. HJ3ABD, Bogota, Colombia, 7.406. "Colombia Broadcasting," 6-9 p.m. daily. HJ3ABF, Bogota, Colombia, 6.200. "La Voz de Bogota," Daily 7-11 p.m. HJ4ABE, Medellin, Colombia, 5.900. 7-11 p.m. HPF, Panama City, Panama, 14.545. Phones Hialeah.	HSJ, Bangkok, Slam, 7.980. HVJ, Vatican City, 15.120. 5-5:15 a.m. daily except Sunday. Occasionally from 10-10:30 a.m. I2RO, Cecchignola, Italy, 11:30 a.m. to 12:30 p.m.; 1:15 to 6 p.m. "Radio Roma-Napoli." JVE, Nazaki, Japan, 15.660. Phones Java, nights. JVM, Nazaki, Japan, 10.740. Phones California 1:45-2:30 a.m.; 4-7:30 a.m. News in Eng. 4:55 a.m. JVN, Nazaki, Japan, 10.660. Phones England. JVQ, Nazaki, Japan, 7.470. Phone. JYK, Kemikawa-Cho, Chiba-Ken, Japan, 13.610. 4-8 a.m. JYR, Kemikawa-Cho, Chiba-Ken, Japan, 7.880. 4-8 a.m. JYT, Kemikawa-Cho, Chiba-Ken, Japan, 15.762. 4-8 a.m. KAY, Manila, P. I., 14.980. Phones Dixon. KKH, Kahuku, T. H., 7.520. Phones Dixon. KFZ, Main Base, Little America, 5.740; 6.650; 6.660; 6.670; 8.820; 8.840; 11.850; 13.185; 13.200; 13.245; 13.260. KKP, Kahuku, T. H., 16.030. Phones Dixon. KNRA, "Seth Parker", 6.160; 6.660; 6.670; 8.230; 8.820; 8.840; 13.200 KWO, Dixon, Calif., 15.415. Phones Hawaii and Manila. KWU, Dixon, Calif., 15.355. Phones Japan. KWX, Dixon, Calif., 7.610. Phones Hawaii.
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Philo Lindsay, Lindsey Lumber & Export Co., Mobile, Ala.

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"We missed the September issue of RADEX and now we do not know how we ever got along without it. We have never found anything to compare with it for useful and concise information."

Mrs. L. W. Dansereau, P. O. Box 780, San Juan, Porto Rico.

"Your magazine is the best of its kind. Yesterday with the help of 'Around the Clock,' I logged GSB at Daventry and DJD at Zeesen, Germany."

Thos. F. Goodman, 1911 Harney St., Omaha, Nebr.

"A word of warning to these careless DXers in foreign countries in your magazine would be helpful as it is apparently the most widely read radio magazine in the world."

Radio Station CFQC, Saskatoon, Sask.

L.SX. Monte Grande, Argentina. 10.350. Phones New York and Byrd.

ORK, Ruyssedele, Belgium, 10.330. Noon to 2 p.m.

PHI, Hllverssum, Netherlands, 17.775. 7-10:30 a.m.

Police Stations, on frequencies: 1.596; 1.634; 1.642; 1.658; 1.666; 1.674; 1.682; 1.706; 1.712; 2.382; 2.406; 2.414; 2.416; 2.422; 2.430; 2.442; 2.450; 2.452; 2.458; 2.466; 2.474; 2.482; 2.490.

PRADO, Rlobamba, Ecuador, 6.618. Thurs., 9-11:30 p.m.  
Also Sundays, 5-6 p.m., about 19 meters.

Radio Coloniale, Pontolse, France. 11.711. 3-6 p.m.; 6:15-9 p.m.; 10 p.m. to midnight.  
11.898, 3-6 p.m.;  
15.234, 8-11 a.m.

RKL, Moscow, U.S.S.R., 7.520. Phones USA.

RNE, Moscow, U.S.S.R., 12.000

RV15, Khabarovsk, U.S.S.R., 4.273. 3-9 a.m.

RV59, Moscow, U.S.S.R., 5.996. 3-6 p.m.

TGW, Guatemala City, Guatemala. 5.940. Supposed to commence tests soon.

VE9BJ, St. John, N. B., 6.090. Irregular.

VE9DN, Drummondville, P. Q., 6.005.

VE9GW, Bowmanville, Ont., 6.095. Thur., Fri., Sat., 7 a.m. to 4 p.m.; Sun., 10:30 a.m. to 7 p.m.

VE9HX, Halifax, N. S., 6.110. 5-11 p.m.

VK2ME, Pennant Hills, Australia, 9.585. Mid. to 2 a.m. and 4:30-8:30 a.m., Sundays only.

VK3LR, Melbourne, Australia, 9.580. Daily exc. Sun., 4-8 a.m.

VK3ME, Braybank, Australia, 9.503. Wed., 5-6:30 a.m.; Sat., 5-7 a.m.

VUB, Bombay, India, 9.565. Testing from noon to 1 p.m.

WOO, Ocean Gate, N. J., 4.273; 4.753; 8.560; 12.840. Phones Ships.

WDXAL, Boston, Mass., 11.790. Wed., 5-6 p.m. and Sun., 6:30-8:30 p.m.  
15.250. Sun., 10 a.m. to 1 p.m.

W1XAZ, Millis, Mass., 9.570. 6 a.m. to midnight.

W2XAD, Schenectady, N. Y., 15.340. Sun., Mon, Wed., Fri., 2-3 p.m.

W2XAF, Schenectady, N. Y., 9.530. 7:40-11 p.m.

W2XE, Wayne, N. J., 6.120. 6-11 p.m. 11.830. 3-5 p.m.  
15.270. 11 a.m. to 1 p.m.

W3XAL, Boundbrook, N. J., 6.100. Mon., Wed., Sat., 5 p.m. to midnight.  
17.780. Daily exc. Fri., 8 a.m. to 2 p.m.

W3XAU, Newton Sq., Pa., 6.080. 8 p.m. to 11 p.m.  
9.590. Noon to 8 p.m.

W3XL, Boundbrook, N. J., 17.310. Fri., 11 a.m. to 5 p.m.

W4XB, Miami, Fla., 6.040. 4 p.m. to 1 a.m.; (Not heard now, probably off the air).

W8XAL, Mason, Ohio, 6.060. Irregular.

W8XK, Saxonburg, Pa., 6.140. 4:30 p.m. to 12:30 a.m.  
11.870. 4:30-10 p.m.  
15.210. 10 a.m. to 5:15 p.m.  
21.540. 7 a.m. to 2 p.m.

W8XAA, Chicago, Ill., 6.080. Sun., 11:30 a.m. to 9 p.m.  
Tues., Thur., Sat., 4-12 p.m.  
Mon., Wed., Fri., 4:30-7 p.m.

W9XF, Downer's Grove, Ill., 6.100. Daily exc. Sat. and Sun., 4:30-8 p.m.; 9:30 p.m. to 2 a.m. Sunday, 4:30-7 p.m. and 9 p.m. to 2 a.m.

XEBT, Mexico City, D. F., 6.010. Relays XEB, 10 a.m. to 11 p.m.

XETE, Mexico City, D. F., 9.600. 1 p.m. to 1 a.m.

XGI, Shanghai, China, 7.960.

XGN, Shanghai, China, 16.380.

XGO, Shanghai, China, 7.575.

YDA, Bandoeng, Java, 6.116. A NTROM station.

YNA, Managua, Nicaragua, 14.480. Phones Hialeah.

YVQ, Maracay, Venezuela, 6.672. Relays Caracas BC stations occasionally.

YVR, Maracay, Venezuela, 9.168. Phones Madrid.

YVQ, Maracay, Venezuela, 6.672.

YV2RC, Caracas, Venezuela, 6.112. 5:15-10 p.m.

YV3RC, Caracas, Venezuela, 6.150. 5-10 p.m.

YV4RC, Caracas, Venezuela, 5.990.

YV5RMO, Maracay, Venezuela, 6.070 and 9.600.

YV6RV, Valencia, Venezuela, 6.030. "La Voz de Carabobo."

The Venezuelan Network includes stations YV3RC, YV4RC, YV5RMO and YVQ.

ZFB, St. George, Bermuda, 10.080

ZFS, Nassau, Bahamas, 4.513.

For a complete list of the S. W. stations by frequencies see the *November DX Log of the World*.

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