

THE OCTOBER, 1934

RADIO IN DEX

THE ALL-WAVE RADIO MAGAZINE



25^c

A Study of the Short Waves
Sunday's Time on the Air
The A-B-C of the Aerial
The October DX Calendar
with Frequency Checks

No. 82

N. S. E.

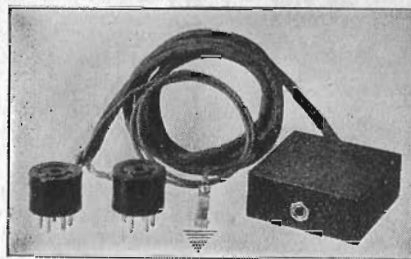
THE OCTOBER DX CALENDAR

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.

DAILY								
12:00-12:05	VAS	685	2000	Glacé Bay	5:50-6:10	KFQD	780 250	Anchorage
12:00-1:00	WFLA	620	1000	Clearwater	6:00-6:20	KSEI	900 250	Pocatello
	WMC	780	1000	Memphis	6:10-6:30	KVOS	1200 100	Bellingham
12:00-6:00	KFAC	1300	1000	Los Angeles	6:20-6:40	KTT	1310 100	Yakima
12:00-8:00	KJBS	1070	100	San Francisco	6:30-6:50	KRSC	1120 100	Seattle
1:00-7:00	WEDC	1210	100	Chicago	6:40-7:00	KXRO	1310 100	Aberdeen
5:30-7:00	WSPA	1420	100	Spartanburg	6:50-7:10	KFIO	1120 100	Spokane
6:00-7:00	KFBI	1050	5000	Ablene	7:00-7:20	KFJI	1210 100	Klamath Falls
					7:10-7:30	KMED	1310 100	Medford
					7:20-7:40	KORE	1420 100	Eugene
Sunday Mornings								
October 7								
1:00-2:00	WWAE	1200	100	Hammond	3:00-3:30	KSO	1320 250	Des Moines
2:00-3:30	KVOA	1260	500	Tucson	October 15			
3:00-3:20	KLCN	1290	100	Blytheville	1:00-1:30	WDNC	1500 100	Durham
3:30-3:50	KXYZ	1440	250	Houston	5:00-5:10	KPNF	890 500	Shenandoah
3:50-4:10	KTUL	1400	250	Tulsa	October 22			
4:00-4:20	KPAC	1260	500	Pt. Arthur	2:00-3:00	VEBEK	1195 10	Montmagny
4:10-4:30	KGDY	1340	250	Huron	Oct. 1, 8, 15, 22, 29			
4:20-4:40	KRGV	1260	500	Westaco	12:00-3:00	WCNW	1500 100	Brooklyn
4:50-5:10	KARK	980	250	Little Rock	12:30-1:00	KDKA	980 50000	Pittsburgh
5:00-5:20	KGKO	570	500	Wichita Falls	1:00-2:30	XEX	1310 125	Monterrey
5:20-5:40	WNAD	1010	500	Norman	2:30-4:30	CKMO	1410 100	Vancouver
5:40-6:00	KUOA	1260	1000	Fayetteville	4:30-5:00	WNBO	1200 100	Washington
October 14								
2:00-5:00	VOGY	840	400	St. John's	Tuesday Mornings			
3:00-4:00	WOS	630	500	Jefferson City	October 2			
October 28								
2:00-3:00	KGEK	1200	100	Yuma, Colo.	2:00-2:20	WQDX	1210 100	Thomasville
2:30-4:30	CKBI	1210	100	Pr. Albert	2:10-2:30	WBHS	1200 100	Huntsville
Oct. 7, 14, 21, 28								
1:00-1:15	KOMA	1480	5000	Oklahoma City	2:20-2:40	WBHQ	1370 100	Memphis
3:00-5:00	CKOV	630	100	Kelowna	2:30-2:50	WEED	1420 100	Rocky Mount
4:00-5:00	CFJC	880	100	Kamloops	2:40-3:00	WOPI	1500 100	Bristol
Monday Mornings								
October 1								
2:00-2:15	WAVE	940	1000	Louisville	2:50-3:10	WSMB	1320 500	New Orleans
2:00-2:20	WCNW	1500	100	Brooklyn	3:00-3:20	WMBR	1370 100	Jacksonville
	WJAC	1310	100	Johnstown	3:10-3:30	WNRA	1420 100	Muskegon
2:10-2:30	WFAS	1210	100	White Plains	3:20-3:40	WSJS	1310 100	Winston-Salem
	WRAK	1370	100	Williamsport	3:30-3:50	WHEF	1500 100	Kosciusko
2:20-2:40	WNB	1500	100	Binghamton	3:40-4:00	KMLB	1200 100	Monroe
	WCHS	580	500	Charleston	3:50-4:10	WAGF	1370 100	Dothan
2:30-2:50	WAGM	1420	100	Presque Isle	4:00-4:20	WKFI	1210 100	Greenwood
	WBTM	1370	100	Danville	4:10-4:30	KWG	1200 100	Stockton
2:30-3:30	CHWK	780	100	Chilliwack		WTJS	1310 100	Jackson
2:50-3:10	WHDL	1420	100	Tupper Lake	4:20-4:40	WPF	1370 100	Hattiesburg
	WHAT	1310	100	Philadelphia		KERN	1370 100	Bakersfield
3:00-3:20	WCAX	1200	100	Burlington	4:30-4:50	WGPC	1420 100	Albany
	WLVA	1200	100	Lynchburg		KXO	1500 100	El Centro
3:10-3:30	WSYB	1500	100	Rutland	4:40-5:00	WBNO	1200 100	New Orleans
	WTEL	1310	100	Philadelphia		KIEM	1210 100	Eureka
3:20-3:40	WIBX	1200	100	Utica	4:50-5:10	WROL	1310 100	Knoxville
3:30-3:50	WQDM	1370	100	St. Albans		KLS	1440 250	Oakland
	WKOK	1210	100	Sunbury	5:00-5:20	WDNC	1500 100	Durham
3:40-4:00	WMBO	1310	100	Auburn		KGIX	1420 100	Las Vegas
3:45-4:00	KUJ	1370	100	Walla Walla	5:10-5:30	WJBW	1200 100	New Orleans
3:50-4:10	WGLC	1370	100	Hudson Falls		KGMR	1320 250	Honolulu
	WBAX	1210	100	Wilkes-Barre	5:20-5:40	WAML	1310 100	Laurel
4:00-4:20	WCAD	1220	500	Canton		KRE	1370 100	Berkeley
	KPQ	1500	100	Wenatchee	5:30-5:50	WSIX	1210 100	Springfield
4:10-4:30	WBBL	1210	100	Richmond		KGU	750 2500	Honolulu
	KGBU	900	500	Ketchikan	5:40-6:00	KGAR	1370 100	Tucson
4:20-4:40	WNBZ	1290	50	Saranac Lake	5:50-6:10	KCRJ	1310 100	Jerome
	WBRE	1310	100	Wilkes-Barre	6:00-6:20	KGDM	1100 250	Stockton
	KGOV	1200	100	Missoula	6:10-6:30	KSUN	1200 100	Lowell
4:30-4:50	WNBO	1200	100	Washington	6:20-6:40	KTRB	740 250	Modesto
	KOS	1200	250	Marshfield	Wednesday Mornings			
4:40-5:00	WRAW	1310	100	Reading	October 3			
	KGY	1210	100	Olympia	1:00-2:00	KFYR	550 1000	Bismarck
4:50-5:10	WAAT	940	300	Jersey City	1:30-2:00	WBBL	1410 500	Sheboygan
	KRKO	1370	50	Everett	1:30-2:30	WSUI	880 500	Iowa City
5:00-5:20	WSYR	570	250	Syracuse	2:00-2:20	WEER	1310 100	Buffalo
	KFXD	1200	100	Nampa	2:10-2:30	WPEN	920 100	Philadelphia
5:10-5:30	KVL	1370	100	Seattle	2:20-2:40	WSAJ	1310 100	Grove City
5:20-5:40	KGEZ	1310	100	Kalispell	2:30-2:50	WJIS	1410 250	Bluefield
5:30-5:50	KUJ	1370	100	Walla Walla	2:40-3:00	WFBG	1310 100	Altoona
5:40-6:00	KGCX	1310	100	Wolf Point	2:50-3:10	WPHR	880 100	Petersburg
					3:00-3:20	WDAS	1370 100	Philadelphia
						WKBB	1500 100	East Dubuque

(Continued on page 49)

(Continued on page 49)



Here is the simplest and most effective method yet devised for attaching headphones to all makes of receivers. No change whatever is required in the wiring and the load or balance of the set is not disturbed.

THE PERFECT PHONE ADAPTER

automatically transfers the signals from speaker to phones when the phone plug is inserted in the jack. The little box containing the jack may be placed in back of the set or screwed to the underside of cabinet. The small socket adapters are placed under the power tubes; the little clip goes to the ground and the Adapter is installed.

Use Headphones to reduce the noise level and bring out those faint calls you can't quite hear on the speaker. Don't shut off your radio when others retire; use phones.

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Perfect Phone Adapter, postpaid	\$ 3.95
Adapter with Phones and Plug	5.95
Adapter with 2000-ohm Phones and Plug	6.70
Adapter with Plug and 24000-ohm featherweight phones (made especially for sensitive work)....	12.50

With a few circuits, it is necessary to use a small B battery in the ground lead to provide grid bias. There is no drain on the battery and it should last indefinitely.

We now have a model of the Adapter for midget sets using 5-, 6-, or 7-prong tubes which uses the volume of all the tubes. It is not suitable for power tubes with four prongs.

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

October 1, 1934



RADIO INDEX

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FRED CLAYTON BUTLER
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Short Wave Editor

NUMBER 82

B. FRANCIS DASHIELL
Technical Editor

ELEVENTH YEAR

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Is Your Antenna 100 Per Cent Effective?

PART ONE

... By B. FRANCIS DASHIELL

THE antenna or aerial—which ever you choose to call it—leads a rather uneventful existence. It is a simple device, and has only a single purpose in life. The antenna must intercept and collect energy from the radio waves that come its way. But it must perform this duty well, for, when the antenna falls properly to function, it is impossible to get the full measure of usefulness from our radio receivers.

As we glance at the forests of swinging, tangled antennas that top the roofs of every city block, and examine the usual slipshod methods of construction, it seems amazing that they can work as well as they do. But, given even the slightest chance, the antenna will get results, due, most likely, to the fact that any piece of metal in the world becomes a radio antenna when it gets in the path of a passing electro-magnetic wave.

Radio Antennas Everywhere

Attach your radio set to a bed spring, bird cage, window screen, dishpan, wire fence, tin roof or automobile body, and the usual programs will be heard. Neither the nails in our homes are too small, nor miles of railroad track too long or heavy, to intercept radio signals. But there is a happy medium which provides the ideal antenna size, as the reader shall learn.

It is natural, of course, that the reader should wonder why all metallic bodies in the world, when not actually an electrical part of the earth, will swarm constantly with tiny radio currents that can be detected only by a radio receiver. Let us, then, review briefly the simple

phenomena that make electro-magnetic induction possible.

It is commonly known that, if a length of wire be moved quickly across the face of a steel magnet so as to pass through its magnetic field, a surge of electric current will be induced in the wire. This is the simple principle of electro-magnetic induction. Because of it the electric dynamo and magneto can generate an electric current as its armature, wound with many turns of wire, spins rapidly between the magnetic poles of the machine.

This motion, which sends the wires through the magnetic field of force, creates an electrical current. It does not matter, however, whether the magnetic field is stationary with the wires moving, or whether the wires are fixed in one position while the magnetic field moves. The effect of induction is the same in either case. The wire cuts through a magnetic field, or a magnetic field sweeps past the wire—it is the motion that counts.

How The Antenna Works

It is obvious that we cannot rush a radio antenna across the surface of the earth. The antenna is permanently fixed. But it is not necessary that the wires of the antenna move; we know that the radio field of energy moves in all directions away from the broadcasting station. And, as it sweeps outward at a speed of 186,000 miles a second, it cuts across the wires of the receiving antenna and induces a very weak current in them. Every wire and piece of metal, whether used as an antenna or not, is subject to the same phenomenon.

The frequency, or rate of alterna-

tions in the onrushing radio wave, determines the frequency of the current induced in the antenna. The frequency of the alternating-current oscillations in the transmitting station; the frequency of the waves coming through the air; and the frequency of the radio-frequency current induced in the receiving antenna, is, in every case mentioned, always the same.

Thousands of radio stations broadcast simultaneously throughout the world, but most of them are on different wave lengths or frequencies. So, if a hundred different alternating waves swing past, they will induce a hundred different alternating currents in the antenna. Each current has a frequency that is identical to that of its parent wave passing through the air.

Selecting The Signals

The duty of a radio receiver is to select, or tune in, one at a time, the different radio-frequency currents flowing through the antenna. The ability of a set to perform in this manner is determined by its selectivity. A highly selective set will separate the many different antenna currents, tuning out all unwanted signals, and permitting only the selected wave to enter the set for amplification. A non-selective set will make audible many of the different currents flowing in the antenna, and the result is interference and a jumble of meaningless sounds.

The antenna can provide selectivity and sensitivity if it is carefully designed and erected. When an antenna is thoughtlessly constructed of any indefinite length of unsuitably sized wire, supported with little or no insulation between improper hangers, and connected to the receiver by poor contacts, it cannot be expected to give good results. Location, height above ground, length, insulation, arrangement of overhead wires and the design of its lead-in conductor, play important parts in making possible good radio reception on all wave lengths.

The best antenna is never too good. And we must be on guard constantly to prevent energy losses. The amount of local static picked up from nearby sources must be held down to a minimum. Electric machines, light switches, power lines, street cars and automobiles, are the worst offenders in this respect.

"Skin Effect" Resistance

Antennas of unusual length serve no practical purpose. The length of an antenna has a direct relationship to the wave lengths it will pick up. If the antenna is too long it cannot pick up the shorter waves, except on certain harmonics. This tends to weaken or eliminate many of the waves that could otherwise be intercepted. All radio-frequency currents, because of the high rate of their alternations, travel on the surface of a wire. They do not penetrate into the solid interior. Only low-frequency and direct currents flow through the entire cross-section of a wire. A copper tube is as good a conductor of high-frequency currents as a solid wire of the same diameter. In fact, an iron wire with a thin copper-plated surface is just as good for an antenna as a solid copper wire.

If the wire is too long it presents a high surface resistance to the flow of the induced radio currents. This also is known as the "skin effect" of the wire. To overcome this resistance antenna wires that are woven or stranded so as to present a larger area than a solid single wire are used for antennas. It must be remembered that the lead-in wire must also have a surface area equal to the wire or wires in the antenna top; otherwise it will introduce objectionable resistance in the down lead and partially nullify the conductivity of a good antenna top.

Antenna Insulation

Insulation is of prime importance. The very high frequencies at which the induced currents in the antenna alternate back and forth, particularly

on the short waves, permits the electricity accumulated in the antenna to leak off rapidly to the earth. Most readers know that it requires only a very small condenser capacity to pass high-frequency currents. The smallest capacity or condenser effect between the antenna wires and adjacent grounded surfaces carries a portion of these high frequencies off to the earth. Short-wave reception calls for careful consideration of the subject of antenna insulation. The higher the frequency of an electric current the more difficult it is to control and hold in place by means of insulation.

Antenna Height

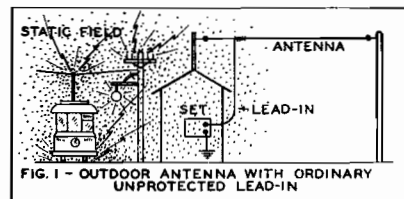
The effective height for the antenna still is a debated subject. There is a mathematical relationship between its natural frequency or wave length, particularly with transmitting antennas. The wire should be far enough above the surface of the earth, or the metal roof of a building (such a roof is considered an earth surface) to prevent condenser effects. The antenna should reach up into the unobstructed sweep of passing radio waves. Adjacent tall buildings, and other nearby obstructions, tend to throw an electrical shadow that prevents an otherwise good antenna from collecting a maximum amount of energy.

Location And Noise

Location of the antenna is important under certain conditions. In the open, far removed from electrical machines, power lines and other local sources of "man-made" static noises, any antenna will work nicely. It is in the city, and congested areas, that we hear the annoying hums, buzzes, clicks, crashes, sputters and howls of local static impulses. Fortunately, however, this form of noisy disturbances does not carry very far, and will not be picked up by the antenna when it is from 50 to 100 feet from the source.

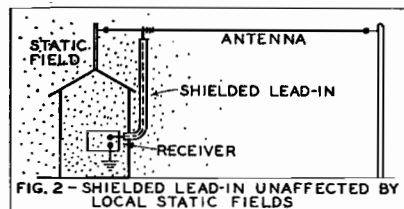
We are forced to accept natural static or "atmospherics." Such static is heard during hot, humid weather,

and during the thunderstorm season. Rains and snows bring static that is annoying but not particularly severe. Lightning static is the worst type of static discharge there is. Clear, cold weather, such as winter nights, is always free of natural static. It is then that DXing is at its best. But a steady increase in static noises foretells the coming of bad weather within about 12 hours. There is no antenna system that can check or prevent natural static. The only solution is to tune to powerful stations so the volume controls are at a minimum. This keeps the ratio of static



noise to signal strength low enough to drown out much of the static.

But there is something we can do about man-made static. Let us look at Figure 1. It shows a standard flat-top "L" antenna of the old Marconi style. The lead-in passes down through a field of local static impulses that do not carry very far. These tiny electric waves impinge on the antenna lead and the static surges are carried into the radio receiver. The antenna itself is removed from

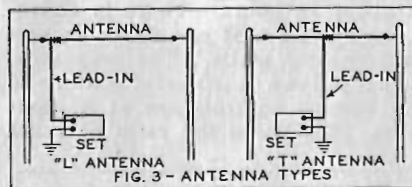


this static field and does not pick up the impulses.

Noise-Reducing Antennas

Now we can place a metallic shield around the lead-in wire. It will pre-

vent the static impulses from reaching the wire. This is shown in Figure 2. The proximity of the shield will cause severe energy losses, however, and the signal strength will be reduced and frequently lost entirely on the shorter waves. This form of shielded lead-in is used on standard antennas, such as the "L" and "T" types shown in Figure 3.



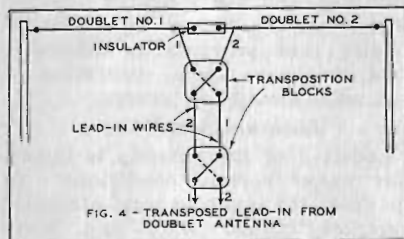
There are a number of noise-reducing antennas available—RCA, Lynch, Philco, Tobe, Akaformer, etc., ready for erection. Or the antenna can be built by any enterprising experimenter. With the coming of interest in the short waves the question of noiseless short-wave, and all-wave, antennas, is being seriously considered. In all cases the noise-reducing antennas operate on the so-called Hertz principle. Hertz was the discoverer of the method of sending and receiving electrical oscillations through the air for short distances. Marconi discovered the practical application of using these waves to send messages over long distances. The Hertz antenna is much older than the Marconi antenna, such as the conventional "L" and "T" antennas shown in Figure 3, which use a ground connection.

The Hertz antenna, simply stated, consists of two antennas or horizontal wires, not necessarily pointing in the same straight line, with the radio receiver inserted in series in the center. There is no ground connection. This type is useful in short wave reception, but can also be used for broadcast work. Thus it is actually an "all-wave" antenna. The single wire, and grounded, Marconi "L" or "T" top antennas are best only for long and broadcast waves. However,

we cannot place the receiver high up in the antenna, so we insert an insulator between the two halves of the antenna, as shown in Figure 4. So far, this antenna will pick up local static noise, for it really consists of two "L" type antennas. The two sections are called "doublets", and the antenna becomes a doublet antenna. Some change must now be made so the lead-in will not pick up local static in the noise zone close to the ground.

The "Doublet" Antenna

The doublet antenna, which is very effective on short waves, can be turned into a noise-reducing antenna, by preventing its lead-in wires from being affected by the local static field. Some designs favor a twisted-wire transmission line or lead-in; others place the two wires within a metallic, flexible shield. This cable is grounded and tends to prevent local static impulses from reaching the receiver. Some makes of antennas use two lead-in wires, transposed and separated by insulating blocks, as shown in Figure 4. This is called a transposition lead.

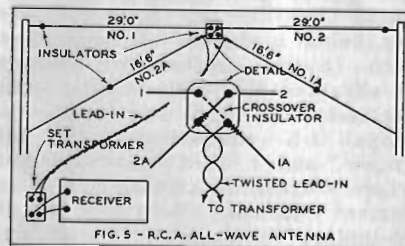


Shielded Leads

When a metallic shield is placed over the lead-in from the antenna, as shown in Figures 1 and 2, there is a loss of signal energy. The shield grounds all the local static impulses before they get into the lead-in wire. That is just what we wish to do, of course, but we must realize, also, that the antenna must be strung high outside the field of local interference. The metal shield should extend only

through the zone of static and not always entirely up to the antenna itself. Do not use more shielding than is necessary to get results. The shielding must be grounded directly, and not to the ground terminal of the receiver.

Shielded leads are not satisfactory. Their tendency to absorb energy that is needed by the receiver rules them out. When from 20 to 50 feet of rubber-insulated wire is surrounded by metal it is easy to realize that a condenser exists—the inner wire as one plate and the outer shield as the other plate. The shield is grounded, and naturally there is a large leakage of high frequency radio currents into the earth.



Transposed Leads

In order to bring the lead down from the flat top of the Hertz antenna, with its doublets outside the local static field, and eliminate the signal absorbing effects of a metallic shield, the transposed lead-in or transmission line is used. This type of lead, however, is used only with the doublet antenna. The method of transposing the two leads is shown in Figures 4 and 5.

The two leads are transposed every 15 or so inches by means of the transposition blocks shown in Figure 4. The spacing must be carefully arranged throughout the construction. If a voltage is induced in the lead-in wires, as they pass down through the local static field (shown in Figures 1 and 2), the potential immediately will be canceled out. This cancellation effect is a rather complicated



This comely young singer, Joy Hodges, is one of several heard with Carol Lefner and his Orchestra from San Francisco. The orchestra broadcasts as a sustaining feature over WABC and the Columbia network.

electrical phenomena, but it is sufficient to state that it is caused by the fact that the voltage induced in one wire is not in phase with that induced in the adjoining wire. Transposition brings about effective cancellation, and there is little or no loss of signals because of the very slight capacity, with no grounded surfaces, between the spaced wires. In the antenna lead-in shown in Figure 5, the RCA "World-Wide" system uses a specially twisted pair of wires. Any static pickup in this transmission line as it passes down through the zone of man-made static between the double-doublets and the radio receiver, will be balanced and electrically neutralized.

(Next month the second and concluding installment of this article will deal with the theory and construction of modern all-wave noise-reducing antennas.)

Organized DX in New Zealand

By N. C. Manchester*

THE New Zealand DX Radio Association is the only amateur DX Club in New Zealand, and was formed in January 1933, in response to numerous requests throughout the Dominion. The membership roll now stands at over 500, and DXers from as far afield as England, United States, and Canada have joined up.

The chief object of the Association is to further the DX hobby as much as possible, and all officials, editors, and representatives are experienced DXers who do all the necessary work gratuitously. Per medium of the Association's magazine—"Tune In," DXers are kept advised of the latest station changes, DX programmes, etc. It is the intention of the Association to, as far as it is able, put a stop to fake DXing, and any DXers proved guilty of obtaining verifications by fraudulent methods will be severely dealt with.

Active branches are established throughout New Zealand, and the Association also has representatives in Australia, U. S. A., Canada, Nova Scotia, France and England. Regular meetings are held by the branches, and DXers congregate to discuss their loggings and listen to lectures.

Electrical interference has engaged the close attention of the Association, and it is mainly through its efforts that legislation is now being made to control interference with radio reception.

In keeping with the times, the subscription has been made as small as possible. There is no annual subscription to pay, the 2/6d which a member pays for his badge and certificate constitutes life membership.

We extend a cordial invitation to join up, the only qualification necessary being a genuine interest in the DX hobby. All correspondence should be addressed to the Secretary, 29 Flockton St., St. Albans, Christchurch, New Zealand.

The Association's official organ is its fortnightly DX magazine, "Tune In." This publication is the only magazine in Australasia devoted exclusively to DX. It is something similar to "Radex," but on a necessarily reduced scale. Starting as a modest monthly, it blossomed forth in 1934 into a fortnightly publication, each issue being eagerly sought after by thousands of readers. Great care is taken by the Editors in the compiling of "Tune In," careful checking being made of call signs and data. Special sections are devoted to advanced DX, including DX programmes and tips, beginners loggings, DX competitions for all grades, and a "DX Chat" section where correspondents describe their current loggings. There is plenty of up-to-date information available, and a feature worthy of note is the re-addressing of reports to China, in the Chinese handwriting. This service is given free of charge by the magazine committee, who also, by pre-arrangement, send postcards to members of any important news between issues.

The subscription rates to "Tune In" are as follows: Non-members, 3/— a quarter, 5/9 a half-year, 9/6 a year; members of the Association, 2/9 a quarter, 5/— a half-year, 9/6 a year. Single copies 6d each. All subscriptions include postage.

*Secretary, The New Zealand DX Radio Association, Inc., 29 Flockton St., St. Albans, Christchurch, New Zealand.

To pick up foreign programs you must be able to convert their time into your own. The RADEX Map of the World with Time Converting Dial does this instantly. Price only twenty-five cents.

In the IDA CONTEST

THE IDA contest on overseas reception which has just been concluded, has demonstrated as perhaps never before, the ability of DXers in North America to reach out over the world on the broadcast band. We hope we may be permitted to publish the experiences of a number of those entered in this contest.

"As I was taking part in the recent IDA world-wide b. c. b. contest, I have until now refrained from reporting to RADEX my overseas reception during the last DX season," explains Wm. H. Ansell, 168 Wascana St., N., Regina, Sask. "However, by the time this appears in print, the final standing of the contest will be known. During the contest I had to contend with a howling in my set which persisted on the low and intermediate frequencies when the volume was turned up from two-thirds to full maximum. I corrected this condition only two days ago after several attempts. It was due to a moisture corrosion between the top plate and mica strip of the antenna trimmer condenser.

"I operate a Northern Electric 7-tube t. r. f. 'Lucerne.' I have erected four directional antennae of various lengths up to 100 feet with an overall length of 320 feet, and make use of either or double up as DX conditions required. Have four separate leadins, four ground leads and posts with 100 pounds of rock salt as a base. The verifications received during the past season are as follows:

3YA, 2YA, 3ZR, 5CL, 4BC, 4BH, 4QG, 2CO, 5CK, 3HA, 3AR, 3LO, 4RK, 2BL, 2FC, 2GB, 2SM, 2UE, 2UW, 4TO, LR5, KGU, KGMB, WKAQ, CMJK, CMBD, CMBZ, CMK, CMW, CMGF, CMHI, JOUK, JOCG, JOLK, JOFK, JOJK, JORK, JOSK, JOGK, JOOK, JOBG, JOAG, JOCK-1, JOCK-2, JOQK, JOKK, JOIK, JOHK, JOPK, JOAK-1, JOAK-2 and JFBK. All are OK'd for the IDA contest except 3HA and 2FC which were received outside of the contest period.



Raven-haired Arlene Francis and Fred Utal. You may have heard Arlene as Kay Francis, Jean Harlow, Lupe Velez or Constance Bennett and Fred as Ronald Colman, H. B. Warner, Leslie Howard and Boris Karloff, in their "Forty-five Minutes in Hollywood" on the CBS. These two are frequently cast as hero and heroine in these radio previews. Both are master mimics.

You will note that I have verified three of the four Brisbane stations and six of the eight Sydney stations, and the grand overall total air-line mileage is over 317,000 miles.

"Have a total log of 673 stations, including 183 100-watters: 46 States including D. of C. and 7 Provinces. Total foreign stations logged include 7 New Zealand, 30 Australian, 30 Japan, 1 China, 1 Argentine, 13 Cuban and 28 Mexican.

"In making this record, I was aided materially by the Perfect Phone Adapter which I purchased last fall. It gave splendid service exactly as advertised in RADEX. Station signals were received much more clearly and above normal noise level, being much superior to loud speaker volume when DXing."

POSSIBILITIES in OLD SETS

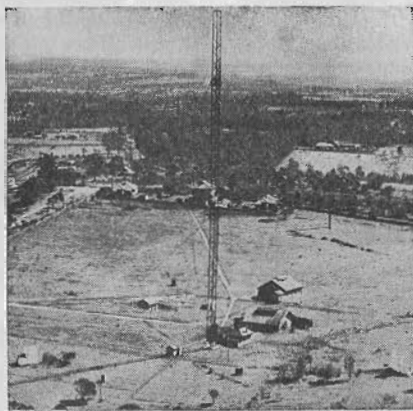
SOME of the old-time sets are capable of exceedingly good results when they are slightly modernized. For instance William I. Miller, 46 Oak St., Galt, Ont., is using a 4-tube Browning-Drake that he built in 1927 and rebuilt in 1929 adding the then modern refinements such as vernier dials. Says he: "This set covers an unusually large wave band for a set of this class. It covers from 150 to 625 meters (480 to 2000 kcs). When I rebuilt it in 1929, I made two new tapped coils (antenna coil and regenerative r. f. coils). There are three taps on each coil which lead to contact points inside of set which are controlled by a shaft extending through to the panel with a knob. This switch has three positions to be shifted in covering this band, thus: 625 to 310 m., 350 to 245 m., and 270 to 150 m. This gives a good overlapping of bands.

"I use 201-C tubes (.06 amps.) and only 45 volts B battery on this set. With these tubes I found it much easier to neutralize this set than was possible with the old 201-A and 199 tubes. An 80-amp. storage battery now runs for five months on one charging with the 201-c tubes. I use a 50-foot tinsel cord for an aerial. It is just hung around the room. This tinsel cord gives me positive 9-kc. separation on all stations as well as greater volume and sensitivity than is possible on any outdoor aerial I have tried. It has helped me to almost double my DX log and also to bring in KFI as early as 8:00 p. m. EST. I tried all kinds of wire such as bell-wire, stranded copper, etc., in lengths from 50 to 100 feet, but with no satisfactory results whatever. So I think the tinsel cord has a lot to do with it as it seems to be extremely sensitive to signals. I cannot attain anything like 10-kc. separation on my outdoor antenna.

"For s. w. reception, I built a standard three-circuit regenerative set from

junk material I had on hand. I made it into a one-tube converter so I could plug it into the detector socket of my Browning-Drake to use the audio amplifier. This makes three tubes in use for s. w. reception. The results obtained on this little set were amazing, considering that I use only 45 volts B, and the 50-foot speaker cord as an indoor antenna. Since November last I have heard GSA-B-C-D-E-F, Daventry; DJB-C-D, Germany; EAQ, VK2ME, DOA, G6RX, Pontoise, 12RO, HVJ, PHI, HBP, HBL, YV1BC, YV3BC, HJ1, ABB, VE9HX, VE9GW, CJRX, VE9JR, COC, as well as most of the USA s. w. stations and a number of other foreigners not fully identified.

"All of my DXing, both s. w. and b. c. b., is done before 1:00 p. m. and occasionally 5:00 to 6:00 a. m. The s. w. DX, of course, is best here in the daytime with exceptionally strong signals and distance between 9 and 11 a. m., 3 and 5 p. m. and 8 and 11 p. m. All of my reception was on the magnetic speaker on my Browning-Drake. I will be glad to answer any queries from owners of B-D sets provided a stamped and self-addressed envelope is sent for reply." (Canadian postage of course.)



Here we have a glimpse of the transmitter of VK2ME, "The Voice of Australia." It is located near Sydney, New South Wales. VK2ME is one of the "old reliables" long a favorite with listeners in America.

In the BUSINESS OFFICE

• • • With the EDITOR

IN THIS issue our readers will find the latest time on the air for all of those stations in North America which were kind enough to fill out and return the postal we sent them. The time for Sunday is given in this issue and that for other days of the week will appear in subsequent numbers. In order to save space and avoid the confusing light and dark face type to signify a. m. and p. m., we are adopting the 24-hour clock in this department. At first our readers may find it somewhat puzzling but we are sure if they will bear with us, it will soon be much more convenient than the old method.

As a matter of fact, the 24-hour clock is the only sensible way to designate time. It is folly to have two different ten o'clocks every day while "1:00 a. m." under the old method or "midnight" are often impossible to identify, whether Monday or Tuesday. We have no doubt that sooner or later the 24-hour clock will be universally used and RADEX does not hesitate to take the lead in this reform as it has in many others.

Under the "24-hour clock" midnight is either "24:00" or "0:00"; thus, 23:00-24:00 means from 11:00 p. m. to midnight. 0:00-1:30 means from midnight to 1:30 a. m. Noon is always 12:00. In changing these times to your own clock merely subtract 12. Thus 16:15 is obviously 4:15 p. m., 22:30 is 10:30 p. m.

About the NRC

Luther E. Grim, publicity manager of the National Radio Club, writes the following "piece for the paper." "The Club was organized a year ago by a group of seasoned DX club workers. Through their untiring efforts and the merging of the Atlantic Radio Club and the Central DX Club, the NRC has grown to a goodly size and en-

joyed a successful season. The weekly bulletins will appear regularly after September first and will contain four pages of red-hot DX gossip, radio news of interest and DX tips. The popular Singleton-Eliminator contest is to be continued. The dues in this hustling club are \$1.25 per year. Robert H. Weaver, 603 W. Market St., York, Pa., is the club president and will handle applications for membership."

Luther adds the following postscript: "While touring the West I stopped at these stations: KDKA, KFBK, KGDM, KWG, KMJ, KRE, KROW, KLS, KFRC, KQW, KGFJ, KPJM, and KGNO. Curiosity led me to KGFJ in Los Angeles. I wanted to see why this station refused to leave the air as so many were complaining of its nightly clogging of the 1210 channel. Miss Kirchner of the station was rather indignant that the DX fraternity should think so harshly of them. She informed me that they have a sponsor for those early morning hours and explained that every morning they missed, due to frequency checks, had to be made up under their contract. KGFJ is by contract duty bound to broadcast all night. It made me wonder how many of us DXers would close down a station if we were in Mr. McGlashen's position."

Those Blurbs and Plugs

The old bugaboo, Advertising, draws the fire of the C. M. Whelan, 2133 South Gilpin St., Denver, Colo. "The radio advertising profession in the USA ought to be ashamed. The quality of their product exhibited over the radio is woefully poor in technique and in verbiage. It is incessantly repetitive. I figure I have had to listen to anywhere from 7,000 to 15,000 advertising 'plugs' in the last thirty months. It's the old railroad notion, 'The public be damned.' Radio can be handled without advertising and Americans

can do it. Canada is doing it. Why not we?" Like so many others, however, Mr. Whelan's pet abomination is the "local advertising plug which cuts off the head and tail of sustaining programs." He would like to send a postal card to each advertiser using these "plugs" somewhat as follows: "Radio listeners like their music whole. Your advertising, thrust in between two programs, violates this liking. Until you shorten your plugs this family will pass up your products. The broadcasting companies are deaf to our appeals; our last resort is not to heed your appeals for custom."

The New CKY

A newsy letter comes to us from Gustave Solomon, 404 Bon Accord Block, Winnipeg, Minn. "CKY will be using 15,000 watts on 960 kcs. around the end of October. The new transmitter, building and equipment, will be located at Headingley, west of Winnipeg, a new location. The tower will be the single vertical type, 200 feet high. The total cost comes to \$100,000. The CRC asked for the improvement. With 5,000 watts at 780 and 910 kcs. CKY wasn't satisfactorily received by listeners outside of Winnipeg which is the reason why CKX, CKY's old 500-watt transmitter, was used to help better service to Manitobans. Now, however, CKX will no longer be required and will leave the air. The new equipment is of the same type as that used by CJRC, Northern Electric, which can be stepped up immediately to practically any greater power desired. CKY's studios are in the building which you give in RADEX as the mail address, one of the Manitoba Telephone System buildings. CJRM is now using its new Northern Electric equipment. New studios have been opened in Regina and Moose Jaw."

And a Bigger WOR

Walter W. Erneman, 108 Seventh Ave., Belmar, N. J., sends us clippings relative to the construction of a new station for WOR, Newark, N. J., which, he says, will easily make WOR New Jersey's best, strongest and most pow-

erful station. It is to cost \$250,000 and will be ready by December first. It is expected that the new transmitter will have three times greater range than the present one. The site is at Carteret, N. J., adjacent to the Rahway River, twelve miles from Newark. In addition to the new transmitter, the building will house the 5000-watt set now in use at Kearny, N. J., an airway radio-beacon and a short-wave transmitter. Two radio towers, each 385 feet high, will hold what is known as a "three-array" antenna system, a new development having its first application in s. w. transmission. The entire plant, including aerial and ground installations, will occupy 34 acres. The network of ground wires alone will cover ten acres and will consist of more than 35 miles of copper, part of which will be laid in the Rahway River.

A New Club

"The Summit Radio Club of this



Jeanie Lang, diminutive singer, finds it difficult to reach both the high notes and the high mike, so gallant Buddy Rogers acts as her supporting cast. You may hear this team of stars in "Family Theatre" program of music and romance. They are assisted by Buddy's Green Stripe Orchestra and the Three Rascals, male harmony trio.

city wishes to be listed as an active, international, all-wave organization," says a letter from that organization, Richard Haskell, Secretary, 49 Overlook Road, Summit, N. J. "For almost two years, the club has existed locally, limited to local members only. Effective August first, however, membership was extended to anyone regardless of location. Our club is about equally divided among bcl's and amateurs, although we have several members interested in s. w. DX. A monthly bulletin is issued by the club, tip-sheets when necessary. The club lab is willing to undertake experiments not requiring too much expense and to provide diagrams for members. There are usually two or three contests running of varying natures. A club file is maintained, indexing all stations now on the air, giving full details, slogans, and hours of operation. We have a file of some 400 stations now deleted. For those unable to attend meetings, dues are \$1.50 a year."

Station Notes

"The new Lansing station, WJIM, is on the air," contributes Marion Can-niff, 2112 S. Cedar Street, of that city. "I am anxious to see if it is reported from any great distance. I am rather expecting it will be, because, although it uses only 100 watts power, it has the most modern of equipment—in fact they are using as a slogan, 'The most modern broadcasting station in the middle West.' Its antenna is a single tower, 200 feet in height, erected on top of the 15-story building which houses the studios. The station is on from 8:00 a. m. to midnight, EST."

Leslie F. Biebl, Red Bank, N. J., writes us regarding the change in call letters of their station WJBI to WBRB and says that the change in call symbolizes a new management and better programs. WJBI was one of the first broadcast stations to hold a license in New Jersey, originating from the amateur station W2AWL when only WJZ and WOR were operating in that state. Red Bank is situated in the



Here is Rowene Williams, of Chicago, the winner among 20,000 young women who competed in the nationwide auditions conducted by the CBS during the last month for the coveted role of co-star with Dick Powell in "Hollywood Hotel" series which starts on October 5th.

midst of villages peopled by artists and has a wealth of material upon which to draw for radio programs.

Richard W. Watts, 19695 Beach Cliff Blvd., Rocky River, Ohio, writes us from Mexico City through which he is now touring, that he visited KEYZ, and found them planning a short wave transmitter which will be in operation in a few months. Richard will also visit XEB, XEW, XEAL, XETE, and several other stations.

The Mid-Co Exchange, 247 S. Hillside, Wichita, Kans., will give space in their bulletin to DX tips furnished by any club. These tips will also be broadcast on their regular daily period over KFH. The Exchange also presents a DX program the last Thursday of each month from 2:30 to 2:45 a. m. CST. All letters will be verified and all reports acknowledged.

The BEGINNERS' STORY of RADIO

PART ELEVEN

The Short Waves of Radio

• • • By B. FRANCIS DASHIELL

TO THE experienced student of radio the short waves present an old story. On the other hand, however, to the average broadcast listener or newcomer in the field of radio, the realm of the short waves appears to be a region of mystery. Now that a rapidly multiplying host of enthusiastic short-wave listeners is springing up throughout the land, it will not be amiss to discuss the fascinating and useful short waves of radio.

The average radio listener has confined his tuning to that limited portion of the wave band which is the broadcast region. It is embraced between the upper and lower limits of the tuning dial, or 550 meters to 200 meters. Or, speaking in terms of frequencies, these limits are 545 kilocycles and 1,500 kilocycles. For years only commercial radio men were familiar with the vastness of the ether outside of these limits. A great army of amateur radio operators confined their activities to a portion of the wave band. Most of the transmissions outside of the broadcast range were, and still are, in *code*. But there are stations in every country of the world broadcasting programs on short waves, and all of these furnish entertainment and thrills on the short waves.

The Long Waves

Above the 550 meters (or below 545 kilocycles) limit of the broadcast band are the *long waves*. They extend upward to more than 20,000 meters (15 kcs.) in length. Great power is needed to send these waves through the air; they are not economical, but commercial code signals are sent this way

to relieve some of the congestion in the more efficient short-wave band.

Below 200 meters (or above 1,500 kilocycles) will be found the interesting *short waves* of radio. Immediately below the 200 meters limit the waves really are not of the short variety; most experts contend that the short waves are below 100 meters. The lower practical limit of the short-wave band is about 10 meters (30,000 kilocycles, or 30 megacycles). Below this is an experimental radio band about ten meters wide.

The Short Waves

In the short-wave band (200 to 10 meters, or 1,500 to 30,000 kcs.) will be found both sound broadcasting and code signals, each confined to an individual portion of the band. It should be remembered that *all* of the radio business of the world must be placed in an electrical wave band hemmed in by an upper limit of about 20,000 meters and a lower limit of 10 meters (15 to 30,000 kcs.). In the familiar broadcast band a total of 345 meters separates its upper and lower limits; a difference of but 950 kilocycles. Yet, in the short-wave band, where only 190 meters separates its upper and lower limits, there is a spread of 28,500 kilocycles as compared to the 950 in the broadcast band. But, in the long-wave band, where a difference of 19,455 meters separates the upper and lower limits, there is a frequency difference of only 535 kilocycles.

This means, then, that if radio stations were assigned frequencies which differ by ten kilocycles: In the long-



Ferde Grofe, master of dance rhythms, composer of outstanding American music and noted for his orchestration of George Gershwin's "Rhapsody in Blue." Grofe is a descendant of four generations of musicians; he was a pianist at five and a composer at nine.

wave band, where tuning is not sharp and such a frequency difference too small, only 53 stations could operate; in the broadcast band 95 stations can broadcast nicely without interference; but, in the short-wave band, a total of 2,850 stations can be placed. In the entire electrical wave band a total of 2,998 stations could thus be assigned. Ninety-six per cent of the total, however, would be in the short-wave band. Perhaps this explanation will prove to the reader something of the great value of short waves to radio.

Many Short-Wave Stations

It is a fact, however, that many times 3,000 stations are scattered throughout the world in this wave band. Distance weakens signals, and widely separated stations can be operated on the same frequency without interference. And, in the short waves,

where operation is more economical and efficient, stations are crowded much closer than in our example of an ideal separation of ten kilocycles.

The reader has studied wave motion as well as the characteristics of radio or electrical waves (Chapters 2 and 7). It might be well for the reader to understand that radio transmission on short waves or by high frequencies is the most economical method. The rapid electrical vibrations of the transmitting station carry farther than the slow vibrations or oscillations of the long-wave stations. Of two stations with equal power, one operating on 10,000 meters (30 kcs.) will not carry as far as the station sending out a wave 100 meters in length (3,000 kcs.). The short-wave station will send its wave with only a small fraction of the power needed by a long-wave station to cover the same distance. This is due, in part, to the rapid vibration and penetrating power of the high radio frequencies from the short-wave stations. The same effect is noted with sounds; a shrill, high-pitched whistle can be heard at a greater distance than a deep, low-toned whistle.

Reflected Waves

But this is not the only reason why the short waves are so efficient. We know that heat and light rays can be *reflected*. The short radio waves have high frequencies of vibration but not as high as heat and light. But they are high enough to reflect to some degree.

Now, a radio wave, when it is shot away from its sending antenna, will travel outward by two routes—one, the *ground wave*, and the other, the *sky wave*. The ground wave soon disappears. This is the reason why we can hear nearby stations with only a ground wire and no antenna. The sky wave is a *radiated* wave (see Chapter 7). High above us in the outer air is an electrical region called the *Kennelly-Heaviside Layer*. When radio waves reach this outer atmosphere

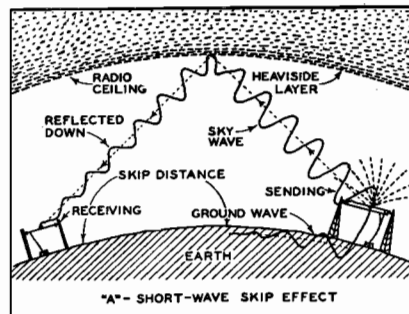
they are turned back toward the earth. Changes in the reflecting surfaces of this distance layer are believed to cause the fading with which we are so familiar.

But reflection of the sky wave results in what is termed a *skip-distance effect*. This phenomenon varies according to the wave lengths used and whether daylight or darkness exists. Darkness always aids radio transmissions, particularly on the longer waves. Certain of the short waves seem just as strong during the day as at night.

Skip-Distance Effect

When the radio wave is reflected from the sky it comes down at an angle, far beyond the limits of the ground wave. Between the vanishing point of the quickly absorbed ground wave and the beginning of the area covered when the reflected wave strikes the earth there will be a wide area not reached by any radiation from this particular wave. Signals cannot be heard, for the receiver is located *within* the skip-distance region. These skip distances are seldom noticed on the broadcast waves, never on the very long waves but are troublesome on most of the short waves. Most likely this effect is the cause for much dissatisfaction when certain short-wave stations cannot be heard on the best receiving sets.

When the reflected sky wave reaches earth it may be many hundreds of miles from its starting point. It will be of full strength when it strikes and then slowly die out over a distance of thousands of miles. This accounts for the reports of long distance reception on short waves. For instance, a 30-meter (10 megacycles) signal can be heard regularly on its ground wave up to about 60 miles from its starting point. Then the ground wave dies out. The reflected sky wave does not strike earth until about 400 miles farther away. Thus there is a dead area, skipped over by



the sky wave, where the skip-effect will be noted. From the point 400 miles away to about 4,500 miles the reflected sky waves cover the surface, and the station can be heard. This is shown by the illustration "A."

Wave Motion

Let us consider wave motion and its four *components*—power, intensity or *amplitude*; speed or *velocity*; *wave length* (distance between successive waves); and *frequency* (number of times waves occur in one unit of time). Amplitude is determined by the power or energy applied at the transmitter. Velocity is a fixed speed; it is that of light, 186,000 miles a second, or 300,000,000 meters (299,820,000 meters to be exact) a second (see Chapters One and Seven). Since velocity is fixed by nature's law, but wave length and frequency are variable by tuning the inductances and capacities of the transmitter, we find there is a direct relationship between the latter two variables. For instance, if a radio signal that measures 100 meters between its waves, passes a fixed point during one second, a total of 3,000,000 waves would appear. This figure, then, is the frequency of the waves, and would be written 3,000 kilocycles.

Amplitude and Attenuation

Water waves may be used to visualize radio waves in a popular way. Radio waves, however, move out in *all* directions, while water waves move only along the surface. On the ocean, if waves travel 1,000 feet a minute

and the distance between crests is 200 feet (a wave length), then five such waves will pass by in one minute. This is the frequency of the waves. The amplitude will be the height of the wave. Great storms stir up high waves of considerable amplitude. Such waves move out far from the center of the storm that creates them. On the other hand, tiny ripples caused by tossing a stone into a pond soon disappear because their amplitude is insignificant. The rate at which the amplitude of waves dies down to a level surface (an absence of all energy) is called the *attenuation* of the waves. The above examples serve to explain wave actions in radio.

Because of the relationship between frequency and wave length it is possible to determine either one of these factors if the other is known. To find the *frequency* in *cycles* divide the fixed speed of 300,000,000 meters (for absolute accuracy use 299,820,000) by the wave length in meters. To find the *wave length* in *meters* divide the same constant by the frequency in *cycles*.

Above 20,000 Meters

The practical limits of the radio wave band lie between 10 meters, for short waves, and 20,000 meters, for very long waves. But what lies beyond these limits? Why stop there? Can radio use wave lengths below 10 meters and above 20,000 meters? The interested student and reader will want to know the answer, so let us take a brief excursion into Nature's laboratory of wave lengths and frequencies and their vibrating sources.

In the region above 20,000 meters (below 15,000 cycles) there is still a small part available for radio. It is neither satisfactory nor efficient. It is the upper limit of the radio frequencies and approaches the audio frequencies (see Chapter Two). When the frequency of vibrations becomes less than 10,000 a second the human ear will respond and hear the waves as *sound*. The lowest vibration frequency

is about 25. Soon all vibration ceases and we have reached the end of the long wave lengths.

Below 10 Meters

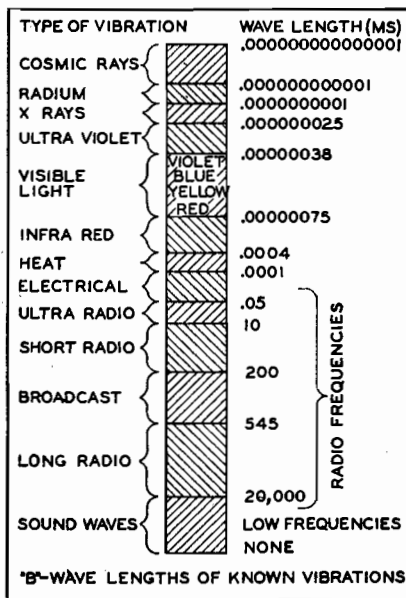
But it is the region below the ten-meter end of the radio band that holds our interest. From ten to one meter (30,000 to 300,000 kilocycles, or 30 to 300 megacycles) is a continuation of the *ultra* short-wave band, and is used principally for experimental purposes. Below one meter we find the end of the radio-wave band just as we found its top up around 25,000 meters.

What lies below one meter of wave length, or a frequency of 300,000 kilocycles? First there is a region where high-frequency electrical vibrations can be created. They are not radio waves. Interesting experiments have been conducted in this band—between one meter and one thousandth of a meter. Such vibrations can burn without heat, create fever, and actually kill. Visions of lethal rays are being pictured by experimenters in this field.

The Realm of Light

Next in the shortening wave band is a region of *heat* waves, closely followed by *infra-red rays*. The latter have wave lengths of less than one millionth of a meter, or frequencies of over 300 billion kilocycles a second! Infra-red vibrations are not visible. They will penetrate fog and smoke and affect certain plates so as to give photographs through fog and haze. There is no known source of infra-red short waves other than Nature so that man can use them to penetrate fog. The discovery of a way to produce such artificial radiation would be as great as radio.

The next wave band is visible *light*. Light is a wave motion; it comes to us in a wave-length band which lies between 75 one-hundred millionths of a meter to 35 one-hundred millionths of a meter. The frequency limits range from 4,000,000,000,000 cycles (4 billion kilocycles) a second to 8 billion kilocycles! Light, as we see it, is white. But all of us are familiar



with the spreading out of a tiny beam of white light by means of a glass prism into the red, orange, yellow, green, blue and violet colors of the *spectrum*. The spectrum spreads out the component colors of white light in the order of their wave lengths, the longest waves being at the red end and the shortest waves at the violet end. It is this effect that has given the name spectrum to the radio wave-length band, as, for instance, *broadcast spectrum*, etc.

Cosmic Rays

Next come the *ultra-violet rays* with waves about 25 billionths of a meter in length—about 6,500,000 waves to one inch! Then appear the *x-rays*, about one ten-billionth of a meter in length. *Radium*, which emits short, penetrating rays, has still even shorter waves. Still unknown and constantly sought after, are the *cosmic rays*. They are believed to have the shortest wave lengths known—the bottom of the wave-motion band of Nature. Scientists have estimated the cosmic ray to vibrate so rapidly that its waves measure

only one one-millionth of a billionth of a meter in length!

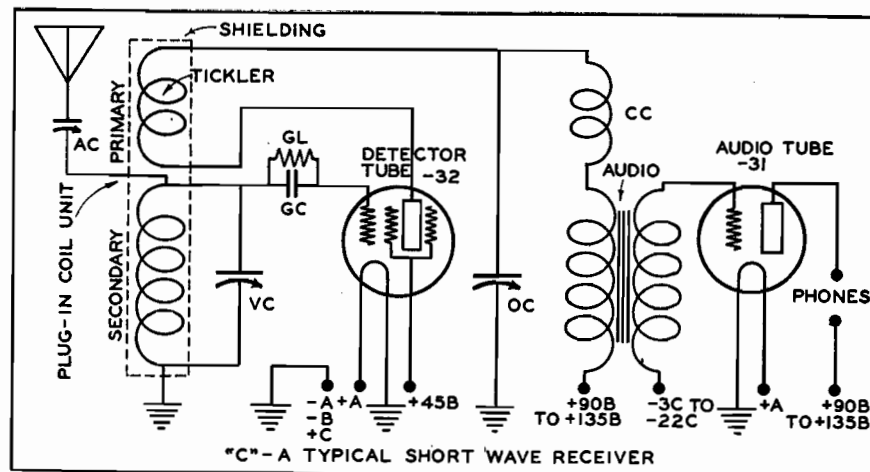
Thus we have seen that the vibrations in Nature's wave-length band appear between limits of .00000000000001 meter up to 30,000 meters. Radio occupies only a small portion of the total. The entire band, with the radio portion, is shown at "B." And, as the short waves control nearly all of the radio spectrum; they are the key to the future of radio.

A Short-Wave Receiver

Because the short-wave spectrum holds nine-tenths of all radio operations, it is natural that most listeners, after their initiation to radio through the regular broadcast channels, turn to the short waves. There happen to be four methods by which we can listen to short waves. First, and the best of all, is by means of specially built *short-wave receivers*; second, with *all-wave receivers*; third, by using a *short-wave converter*, in combination with a broadcast set; and fourth, the plugging in of a *short-wave adapter*.

The short-wave receiver is not essentially different from the broadcast sets described in Chapters 7, 9 and 10. Its r. f. coils are smaller and divided into groups, each to cover a particular wave band. One coil will not be sufficient to pass all the alternating current frequencies between 10 and 200 meters. Therefore, it is a common practice to use sets of r.f. transformers, usually interchangeable, but often arranged with switches instead, having windings that are resonant over the 10-20, 20-40, 40-80, and 80-200 meters wave bands. These inductances are tuned in the conventional manner, but the variable condensers are smaller than those used in broadcast sets.

The smaller the coil and the fewer its turns of wire, the less a.c. resistance (reactance) it offers to the fast vibrations of the short wave (see Chapter Three). For the very short waves—10 to 25 meters—the coils of the r.f. transformer consist of about half a dozen turns of wire. Because of the nature of the high frequencies, from 12,



000 to 30,000 kilocycles a second, insulation is difficult. For instance, in Chapter Four we saw that high frequencies will pass through a very tiny condenser or capacity. This is why energy losses with short waves are difficult to control. The least capacity effect causes some energy to leak away. Unless a receiver intended to operate in the short waves is properly constructed it will be next to useless.

Typical Circuit

At "C" is shown the circuit of a typical two-tube short-wave receiver. It closely resembles the average small broadcast receiver. However, in order to obtain the necessary sensitivity these types of sets use the *feed-back* principle, as explained in Chapter Nine.

A set of four *plug-in coils* is required

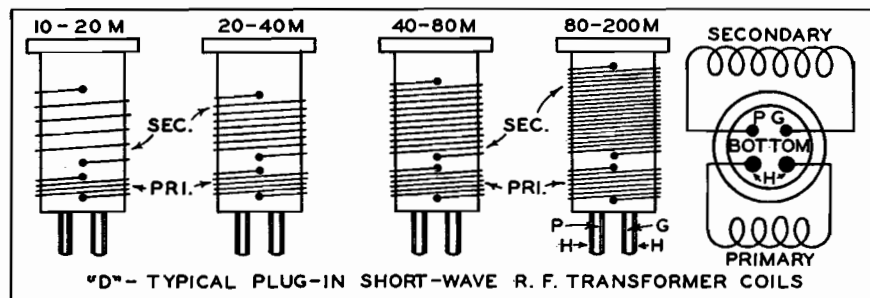
to cover the entire band in this short-wave receiver. They are wound on the forms sold for the purpose, as shown at "D." The forms are standard four-pin bases, about 1½ inches in diameter and 2½ inches high.

The first coil covers the 10 to 20 meters band. Its secondary is wound with 6 turns of No. 22 enameled wire. The turns are kept about 3/16 inch apart. The primary or *tickler* is closely wound with 4 turns of No. 30 enameled wire. A space of ½ inch is left between the primary and secondary windings. All the coils use the same size wire, as above specified.

The r.f. Coils

For the 20 to 40 meters coil place 12 turns on the secondary and wind it in a space one inch long; the prim-

(Continued on page 32)



The PRIVATE LIVES of your Radio Friends

• • • By "BETTY"

JOE COOK, whose hilarious clowning on the Colgate House Party show has won him a firm niche in radio's hall of fame, started life in Chicago under the name of Lopez. Both his parents had been in the show business, but at the time of Joe's arrival his father was specializing in portrait painting on a chain store scale, with studios in Grand Rapids, Chicago and Pierceton, Indiana. His mother died and his father was drowned before Joe had his fourth birthday. He and his brother, Leo, were adopted by the Cook family of Evansville, Indiana.

In his early days Joe learned to juggle and do stunts on a wooden ball. He also practiced on a tight rope and a slack rope even when the family washing was getting a sunning. They put on back-yard shows and charged a nickel admission, when the other children in the neighborhood were afraid to charge more than twelve pins. But the first really professional engagement for young Joe came when he was twelve years old. He was engaged for a dollar a night to appear in Dr. Buckner's Corak Wonder Company show in Evansville. It was a traveling medicine show that played one town each week. When Joe quit the show, the doctor gave him twelve bottles of his wonderful medicine in lieu of the seven dollars coming to him.

When Joe was sixteen, his family moved to New York and he went to St. Francis Xavier Academy. Out of his allowance he bought Indian clubs and stuck doggedly to his juggling practice. After playing in amateur nights, he got a booking

with Juggling Barretts and later did a single in black face.

Wins Fame as Juggler

Soon Cook's "One Man Vaudeville Show" was famous. He walked tight ropes and rolling balls, juggled everything from cannon balls to lighted matches and demonstrated his genius for sharpshooting. Quite incidentally, Joe developed his natural gift for goofy yarn spinning—beginning with an accurate description of an event or predicament and winding up with a rapid, ludicrous ending.

Joe's success in vaudeville netted him a bid to the Vanities. Then fol-



Joe Cook.

lowed three shows of his own—"Rain or Shine," "Fine and Dandy," and "Hold Your Horses." With this mounting fame, Joe's glib, gleeful foolery became a likely prospect for the microphone. But one obstacle intervened. Joe refused to give an audition. Then came the Colgate House Party. Joe acted as guest host three times and proved an uproarious success. He was signed immediately for his first radio series—to head the House Party festivities for the run of the show.

Joe's hobby is his "Sleepless Hollow" estate at Lake Hopatcong. The famous comedian keeps his home a perpetual House Party with a show every minute. His servants are old actors who gleefully put on a show—sometimes to the surprise and discomfort of unwary guests.

Meet Miss Martha Mears

Earning a living as a radio star is already old stuff to Martha Mears, although she has been heard over NBC networks for only a few months. She was graduated from the University of Missouri last June, but she started her radio career before that, paying her way through her senior year with the proceeds from commercial broadcasts. When she was graduated from college she intended to take up teaching as a career, but she stuck to radio on local St. Louis stations until Gus Edwards signed her for his vaudeville troupe. She came to New York and within three weeks was singing on NBC networks.

Martha Marie Mears was born in Mexico, Missouri, on July 18, 1910. She was educated at Moberly Junior College and the University of Missouri. She was awarded a life certificate for teaching in the State of Missouri when she was graduated. But music and radio came along in the meantime to interfere with a teaching career.

A chance audition at a local station in Columbia, Missouri, led to an en-



Martha Mears.

gagement for Martha for a series of programs which before long had a commercial sponsor. That was in March, 1931, and from that time on she has been on the air continuously in one type of program or another. At different times while on the air in St. Louis she was ballad singer, classical singer, director of a kiddies' club, advisor to housewives on recipes, style and beauty expert, imitator and half of a song and patter team.

Martha's musical background included study with some of the most famous vocal teachers in the country and five years of professional church solo and choir work before she ever sang popular tunes. Her sudden success has left her thrilled but otherwise unaffected. She is of Swedish decent and shows it in her light blonde hair and blue eyes. She is five feet two inches tall and weighs 105 pounds. Unmarried, for the usual reason, she says—just hasn't met the right man. One of the biggest influences in her life is numerology. Her last name should really be spelled "Meers" but she insists

on "Mears" because since changing it she has met with success. Well, it might have been the numbers and then again it might have been her smooth contralto voice and engaging radio personality that brought her success. At any rate, a success she is.

A Young Maestro

Richard Himber, who was born on February 20, 1906, in Newark, N. J., made his professional debut at the age of fourteen as a violin soloist in a Newark high school. During the early days of his career he met Ted Fiorito and Rudy Vallee, and it was on one of the Vallee radio programs that Dick made his first appearance before the microphone. The young maestro has been studying music for the past fifteen years and this consistent training led to engagements conducting an orchestra for Sophie Tucker and leading the instrumentalists at Essex House and the Ritz-Carlton Hotel in New York.

Dick takes time off every now and



Richard Himber and Vera Van.

then from conducting bands and composes tunes, one of which, "It Isn't Fair," serves as the theme song for the Champions. His latest composition was for a lyric by Ned Washington, entitled "I'm Living a Lie."

Maestro Himber finds plenty for his never-idle hands to do besides conducting and composing. He's clever with a cue and billiard balls and can sever a cigarette with a rifle shot; transform a quarter into a matchbox, or deal his bridge partner thirteen cards of the same suit.

Dick likes to read the works of Victor Hugo, W. Somerset Maugham, Dumas and Shakespeare . . . hates raw vegetables and high sopranos . . . weighs 175 pounds, is five feet eight inches tall, has red hair and blue eyes . . . used to weigh 210 pounds, but went on a diet, losing a pound a day . . . first job was as a wrapper in a department store, earning six dollars a week. Dick is pictured here with the songstress, Vera Van.

* * *

Jack Benny, whose 26-week contract with General Tire expires early in October, will be back on the air again for that company early in the spring of 1935, with Mary Livingstone, Frank Parker and Don Bestor's orchestra. In the meantime, however, Jack will be on the air for General Foods.

* * *

Wendell Hall, the Red Headed Music Maker, carried off first honors in the official song writing contest conducted by A Century of Progress. Hall's "Meet Me on the Midway" won the contest and a silver loving cup for its composer emblematic of victory over more than 150 entrants, both professional and amateur.

* * *

Buddy Rogers and his orchestra, at present starred on the Ward Family Theatre program with Jeanie Lang over CBS Sunday nights, is reported to have broken Ben Bernie's

(Continued on page 38)

ON the RADIO in AUSTRALIA

By Roy W. Arthur*

IT GOES without saying that I am a DXer and a very ardent one as well. DXing here in "Down Under" is only in its infancy so to speak, that is very few evidence any inclination to become enthusiastic over it. As for myself, I have been chasing the elusive overseas signals for more than four years and have met with extraordinary success in logging them. Up to this moment I have played in the proximity of 400 broadcasters located outside this fair land of ours—Australia.

Over 100 have been heard emanating from over your way in America with KFI the best of them all, notwithstanding all the half-million watts of W8XO or WLW. However, WLW is certainly effective. KPO, too, is well up with the above mentioned. The station at Cleveland where you are, WTAM, is one that can be classified outstanding also but is only heard through our summer months, taking the air on their early morning sessions and then on for around an hour subsequent. In Mexico the loquacious doctor's station, XER, leads the way or did so. (They've woke up to him over there too, haven't they?) Anyhow a wonderful station for reception here in this country (even if we didn't believe all that the Doc had to say.) XEPN is also received fine down this way. XENT is not heard very well here.

Other stations worthy of mention are as follows: WABC, WSB, WBBM, KGO, WFAA, WCCO, KOA, WLW, WHO, KRLD, KFBI, KNX, WTIC, KMOX, KSL and WOAI. Even among the lesser-powered brigade many are exceptionally well heard. Conditions here at present time (May 12) are tending towards good reception of an afternoon from stations over in



Presenting the Royal Canadians—Guy Lombardo (upper right), Victor (top left), Liebert (bottom left) and Carmen—all members of the famous dance orchestra which is heard in a series of weekly broadcasts over the NBC Red net.

America. This is brought about by weather heralding the winter season for us folk for the next three months or so.

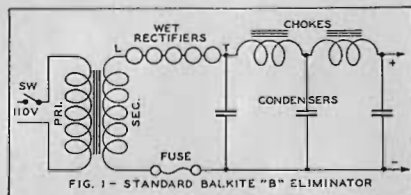
It might be of interest to you if I give you some information relative to this location. Wollongong is right in the midst of the "Garden of Australia," 52 miles south of Sydney in the glorious Illawarra district on the south coast of New South Wales, and within eight miles of the world-famous "Bulli Pass and Sublime Point lookout" and on the shores of the Pacific Ocean. More than 150 miles of the world's best scenery is here—a veritable garden of Eden. All the world tourists visit these parts of the Antipodes.

*10 Kenny Street, Wollongong, New South Wales, Australia.

A subscription blank is printed on page 96 for your convenience. Won't you use it?

The Department of FIRST AID

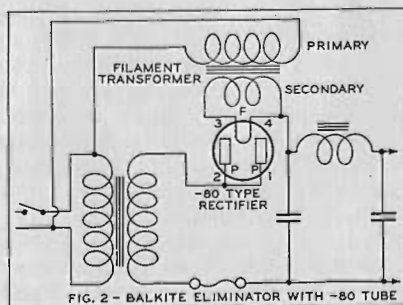
• • • By the TECHNICAL EDITOR



I HAVE a Balkite "B" eliminator and it is giving me much trouble. I have tried replacing the liquid, but the results are not satisfactory. A service man has advised me to get a rectifying tube and place it in the Balkite unit in place of the jars. I believe he said to use the -80 type of tube. Will this work, and if so, will it be noise-free operation? Please show me how to make this alteration in the eliminator.

The Balkite "B" eliminator uses a half-wave electrolytic rectifier, as shown in Fig. 1. It uses a single power transformer and its secondary has no center tap for proper rectifier or tube connections. Also, there is no provision made for heating the filament of the rectifying tube.

A type -80 rectifier tube with its two plates connected together will make a satisfactory substitute for the wet rectifier jars, as shown in Fig. 2. A small filament transformer will



be needed to heat the filament of the tube, and the primary of the transformer is connected as shown. We do not believe it will be necessary to add more capacity to the filter condensers due to the removal of the internal capacity of the wet electrolytic jars.

Crystal vs. Tube

I wish to know whether a fixed type of crystal could be used in the signal booster shown in the April, 1934, issue of RADEX, instead of the tube.

A crystal could not be used because the crystal is primarily a rectifier only, or detector. The tube in the booster is a radio-frequency amplifier and not a detector-rectifier. A combination of tube and crystal in the booster would fail to give results. The current delivered from the booster is a high-frequency type even if of a long-wave characteristic. That delivered from the crystal would be an audio-frequency current, much too low to pass through the tuned i.f. stages of the broadcast receiver.

Two-Volt Adapter

I wish to use a short-wave adapter with a 2-volt battery Crosley receiver. What do you suggest?

You can use the 2-volt tube from the detector of your receiver. You do not say whether this set is a superheterodyne circuit, but if it is, you must use the second detector tube. The tube in question is placed in the adapter socket and the adapter plug is inserted in the empty socket of the receiver. It will not matter if the adapter is made to run on 6 volts, and to use that type of tube in it. Of course, you could not expect any remarkable results and cover great distances. The adapter principle does not admit of great power

or sensitivity, and you lose the radio-frequency amplification features of your broadcast receiver.

Zenith and 2-Volt Tubes

Can the two-volt tubes be used in my battery Zenith No. 10 receiver? This set now utilizes the type -01A tubes.

The two-volt tubes may be used to replace 6-volt tubes in any battery receiver. Replace the -01As with -30s. You must provide a source of exactly two volts to the filaments of the -30 tubes. The filament rheostat may inject some resistance and should be turned full on or removed by short circuiting. The "B" and "C" batteries will not require changing.

Band Spread

I would like to add the band spread coils to my Philco 470 receiver. Please tell me how this is done.

We do not recommend the adding of band spread coils to this receiver. It would mean a complete rebuilding of the set with its coils and condensers. Tuning would be changed and the dial might become more or less useless. Such an alteration would call for work by an experienced serviceman, new material, and a general reduction of the present tuning limits of the set.

Automatic Volume Control

Please tell me how the automatic volume control on my receiver works. I am much interested in its actions.

There are a number of types of automatic volume control used in modern receivers, all of which, for obvious reasons, cannot be discussed here. Most of the circuits employ a method by which the negative bias applied to the grids of the radio-frequency tubes and amplifiers of the broadcast receiver is increased as the volume of the incoming signals increases. This increase in grid bias reduces the amplification of the r.f. tubes and holds the signal at a predetermined level, and prevents it from "blasting" forth in a loud



Few radio speakers dare to try to talk extemporaneously before the microphone. H. V. Kaltenborn, the veteran commentator, is said to be the only one. He uses only a page of brief notes in his broadcasts over the Columbia network.

sound. Then, as the volume of the incoming signal decreases, due to fading of the signal waves, the grid bias is automatically reduced and the amplification of the tubes increases. This tends to bring up the strength of the signal to the predetermined level just mentioned. However, this striving to increase a fading signal with high amplification is a source of some distortion and poor tone qualities. The latter feature is one of the difficulties of a.v.c. on very weak and far distant signals that tend to fade badly.

Transformer Output

To settle an argument will you tell me what kind of current is obtained from the secondary of a transformer, I mean all types of transformers; audio, i.f. and r.f. types.

The output of any transformer is a pure form of alternating current. The frequency of its alternations is equal to the frequency of the changes

in voltage-pulsations, alternations or interruptions of the current flowing through the primary coil. The output of an ordinary spark coil that fires the plugs in gasoline motors is an alternating current, although the current that flows in the primary is a direct current that is interrupted quickly by a vibrating contact. It is not necessary to have an alternating current in the primary of a transformer. It is only necessary to vary or change from an even flow the potential of the direct current in the primary. Each tube of a radio receiver gives out a pulsating or rectified current that passes into the primary of the immediately following transformer, either of the radio-frequency, intermediate-frequency or audio-frequency types. These pulsations and changes in voltage will produce perfect alterations of potential in the secondary of the transformer. In this respect we wish to refer you to an article on page 5 of the December, 1933, issue of RADEX.

Signal Booster

Can I use the signal booster described in the April, 1934, RADEX, with my Atwater-Kent 20 receiver? Please give me a few more constructional details.

It will cost very little to build one of these i.f. amplifying units. It consists of an antenna coil of about 60-70 turns of No. 26 or 28 cotton covered wire. This coil is tuned by a .0005 mfd. variable condenser connected between the two ends of the coil. The tube may be a -01A and connected to your present "A" battery source. The .01 mfd. condenser and 700-ohm resistor with cathode resistor connections to the tube can then be removed from the circuit. They were shown in our diagram in the April issue. If you use a -01A tube only 90 volts will be required for the plate instead of 180 as indicated.

Booster Tunes High

Please give me more information about using your signal booster with my Philco converter and a Rogers receiver. I can not get low wave stations at all.

We think likely that the reason you are not getting all signals through the booster is due to the fact that the booster's r.f. coil is too high in value for the lower frequencies of your broadcast receiver. We suggest that you try removing some of the wire from the coil L of the booster, a turn at a time, until the signals passed into the broadcast receiver seem to be of a maximum strength on the wave lengths in question.

Noisy Short Waves

There is a strange noise in my Atwater Kent 711 All-Wave receiver when listening to the short waves. Some people tell me it is static. What do you think?

A "rushing" sound is more or less part of short-wave reception. A set is tuned so sharply and the tubes are working at their utmost to bring in weak short-wave signals. Tube noises, or a characteristic rushing sound, can be heard. Then, too, there is the question of natural static. This annoyance is with us always; science has been unable to eliminate it from radio. It is recognized by its crashing, sputtering, hissing, and frying sounds.

It is possible that the noise is due to a defective electrolytic condenser, or some resistor within the set. These parts can be tested and replaced if necessary. A gassy tube may cause such trouble. If the trouble is in the set a serviceman should be able quickly to locate the cause. Some of the Atwater Kent wire-wound volume controls have caused similar noises.

Silencing the Speaker

In connecting headphones to my Knight 5-tube receiver I find it impos-

sible to silence the speaker by cutting one of the voice coils. Please help me further.

The phone connections can be made only to the -42 power tube. This tube is a standard 6-prong tube, and if an adapter is used beneath the tube to make the contact it must be a 6-hole adapter. The connection is made to the plate of the tube socket. The phones should be connected in series with a large fixed condenser of about 0.1 mfd. capacity, and the chassis.

If you cut the proper wire you can silence the speaker entirely. Examine the parchment cone; at its apex is a small coil of wire that "floats" with the cone between the poles of the large field magnet. There is also a coil of wire—the field—on this field magnet. Its wires should not be touched. Two flexible leads run from the voice coil on the cone to the secondary of the power or output transformer. It is only neces-



A recent portrait of Howard Barlow, Columbia's outstanding conductor of classical and symphonic works.

sary to cut one of the flexible wires in two, and insert a small switch so the cone can be cut on or off, as desired.

Atwater Kent Detector

How can I locate the detector tube in my Atwater Kent No. 70 receiver? Also, is it possible to replace the 485 tubes in a Sparton 69 receiver with the 56 types?

There are three or four designs of the A-K 70, and we have selected the most popular type D-1 chassis since you have indicated only the model number. A row of four tubes extends from the front to the rear of the chassis. The first tube, at the front of the set, is the detector. Other tubes in the row are: 3rd, 2nd and 1st radio-frequency tubes, the latter being the last.

If 485s are being used in the Sparton 69 receiver you will find them similar to type -27s, and the -27 can be replaced with 56s in most cases. All the sockets in your set can be fitted with type 56s when either 484s and 485s are being used.

Overlapping Stations

I have noticed the overlapping of stations in my Westone model 40 receiver. Why is this and what can be done to prevent it?

The overlapping of stations with this circuit cannot easily be avoided as there is only one tuned circuit preceding the first detector. Undesirable signals find their way into the first tube through capacity coupling; through the tuned antenna circuit; or through what is called image relationship.

Undoubtedly the set is sharp in tuning as the "desirable to undesirable signal ratio" is such that the latter will not be detected. Since this ratio reduces as the frequency increases the only remedy is to use a well designed bandpass tuner preceding the first detector. One additional tuned r.f. circuit weakly coupled to the present r.f. tuner will

be satisfactory. A three-gang tuning condenser unit can be used to replace the present two-gang unit if the additional tuned circuit is added. Your serviceman can make this addition without excessive cost.

A Choking Set

There is, at times, a choking-up of my Knight 8-tube set. It seems to go on and off, and I am at a loss to account for it. I hope you can help me by telling what should be done.

Intermittent reception, as you have described it, is the most difficult trouble there is to locate in a radio set. The choking of the signals seems to indicate a defective plate circuit. A defective grid circuit will cause choking but this usually is accompanied by motorboating. A defective bias resistor or condenser in any of the audio stages or the detector will cause intermittent choking.

Bypass condensers give this trouble. However, defective condensers of this type seldom show up on ordinary tests. We believe in the substitution method of shunting each defective condenser temporarily with a new one to see if the trouble again reappears. If the trouble stops when substitution has been made you can be assured that the trouble has been located. However, a good serviceman with testing equipment is better qualified to locate the trouble quickly.

Detrola S-W Converter

Please advise me how to make connections to a Detrola short-wave converter and my radio receiver. There are three wires on the converter—two red and one black. I have tried all kinds of connections but none of them work.

The three wires on the Detrola short wave converter are: Antenna lead-in to the converter; lead from converter to the antenna terminal on the receiver; and the ground connection. Although we cannot identify

the wires by colors, we feel confident the black wire is the ground. A red wire, which should be marked "Antenna," goes to the outdoors antenna, and the remaining red wire goes to the binding post of the receiver, marked "Ant."

The usual trouble with a short-wave converter when connections are correct is the failure of the oscillator to oscillate. If a higher plate voltage is supplied to the converter it might work. Or sometimes replacing the oscillator with a new tube remedies the trouble.

Regulating Tone

How can I regulate the pitch or tone quality of my Model 91B Philco receiver? The set is in good condition but the tone always seems too high in pitch or sharp, especially with voices. Because of this words are not clear. A serviceman made an adjustment very quickly, which did not last, and I would like to know how to make this adjustment myself when required.

This receiver is provided with a tone control and a fixed tone compensator, none of which have any variable components in them. Several tone adjustments can be made with the tone control switch, but these remain fixed after the tone control knob is set. Adjustment of the r.f. and i.f. stages for alignment will have some effect on tone quality but when the proper alignment is made this adjustment should not be changed under any conditions. When the receiver is in proper working order all adjustments should be made with the tone control knob. Therefore, we are at a loss to account for the adjustments quickly made by the serviceman. There is the possibility, of course, of defective condensers in the tone control assembly. Your serviceman can tell you about this.

Day Fan Set

Will you tell me what new tubes to

place in my Day Fan receiver, model 5065?

The -27 tube can be replaced with a 56. The -26s cannot be replaced. The -71A is the best type of tube to use in this particular circuit. No changes, then, are recommended.

Loop Antenna

How can I construct a directional loop antenna that will be satisfactory to use with my Majestic 90 type of receiver? Can it be used indoors or must it be erected outside?

A good loop antenna can be wound on a frame of wood that is about four feet square. About 20 turns of No. 26 cotton covered wire should be used, spacing the turns flat and about 1/4 inch apart. The frame is hung vertically from the ceiling so it can be rotated about its axis through 360 degrees. The two ends of the winding connect to the antenna and ground posts of the receiver. A ground wire is used as normally. Some receivers may require a small fixed condenser in series with the loop coil and the antenna post of the receiver so as to prevent a short circuit between the antenna and the ground. It is not necessary with your Majestic set

"All" Waves

Please advise me whether I can get better reception with a short-wave receiver than with an all-wave set when listening to the short waves.

Any receiver designed to perform a single purpose is, of course, more effective than combination outfits. Therefore, a specially built short-wave receiver of careful design will give better results than the short-wave portion of an all-wave receiver. If you invest in a good short-wave set, carefully built and shielded, using good plug-in coils, you will be more than pleased with the results. However, good all-wave receivers are so excellent in their design and action that the s. w. reception now being obtained is very satisfactory.

The Canadian DX Relay

By B. L. Ahman, Jr.

THE CDXR will be two years old in December of this year. In these two years it has jumped to second place in size of radio clubs. Organized originally as a Canadian club exclusively it wasn't long before other American DXers began to apply for membership until now about 45 per cent are Canadian, 45 per cent are U. S. and the other ten per cent are from Egypt, Holland, Belgium, Scotland, England, South Africa, Australia, New Zealand, Alaska, Newfoundland, Porto Rico, Cuba and Hawaii.

The Club has a Courtesy Programs Committee of 35 members with a coast-to-coast international tip period broadcast weekly over the best known and most popular radio stations. A list of the stations which have agreed to participate in broadcasting CDXR tips is given below.

The CDXR Bulletin is published weekly. The Club plans for a number of contests to be conducted next year. The CDXR is behind any plan for interclub co-operation and is particularly interested in helping the novices in DX by educating them in the proper way to make radio reports and in identifying foreign stations.

Members may join for one month for 25 cents as a trial. They may then join for a half-year for one dollar or a full year for \$1.75. Further information may be secured from F. H. Bisset, President, Goderich, Ont., or from B. L. Ahman, Jr., Publicity Manager, 3313 Westerwald Ave, Baltimore, Md.

The following stations comprise the international chain which will broadcast a weekly period of DX tips CFCF, Montreal; CFCT, Victoria; CFCY, Charlottetown; CFNB,

Fredericton; CFQC, Saskatoon; CFRB, Toronto; CHAB, Moose Jaw; CHNS, Halifax; CHWC, Regina; CJCA, Edmonton; CJOR, Vancouver; CKBI, Prince Albert; CKCK, Regina; KECA and KFI, Los Angeles; KFYZ, Bismarck; KDKA, Pittsburgh (KDKA DX Club program) KUOA, Fayetteville; KIDO, Boise; KOA, Denver; WBBM, Chicago; WBZ, Boston; WCAU, Philadelphia; WCCO, Minneapolis; WCSC, Charleston; WFEA, Manchester; WCSH, Portland; WJSV, Washington; WOWO, Fort Wayne; WQAM, Miami; WSB, Atlanta. All stations will broadcast either on Friday or Saturday nights.

On All Waves In ENGLAND

By Dudley C. Stent*

W E DXers in England concentrate mostly on reception of stations in North and South America, although one of the British members of the IDA has two Aussies verified. In England we do not count anything as DX unless it is over 2000 miles away, therefore reception of foreign stations in Europe does not interest us.

Reception of American stations in England is seldom possible before 9:30 p.m. GMT and after 6:30 a.m., so most of our DX work is done during the early hours of the morning. Many of the more powerful stations in the USA are regarded by us as 'locals' and in this group are WTIC, WCAU, WIOD, WBZ, etc. These stations can be received regularly at full loudspeaker volume any day between October and April.

It is generally accepted among British DXers that the best medium wave DX reception occurs about a week before the new moon. It is a curious phenomenon that whenever North American stations are inaudible, the South Americans are heard at very good strength.

I am 16 and have been DXing on the medium waves for just over two years and on the short waves for nearly nine months. During that time I have heard on the m. w. about 40 stations in the U. S. and Canada and on the s. w., using a PYE 3-tube receiver with an R. I. superhet converter, France, Germany, Africa, America, Spain, Portugal, Denmark, China, Italy, USSR, Argentine, Holland, Belgium, Canada, and Norway. I have thus heard four continents and only want VK2ME to have heard all continents. My log contains 220 s. w. stations. Some of the m. w. stations I have received on my 3-tube all-mains receiver are WNAC, WPG, WTAM, WBAL, WEA, WGY, WSB, WJZ, KDKA, WABC, WKAQ, WBT, WHAM, WENR, WOR, KSL, WJSV, XER, LR3-4-9.

"Trusting that this report of reception in England will be of interest both to American and English readers of your fine magazine and that any American reader who is interested in radio in England will get in touch with me, I am, yours faithfully."

**Esperance, High Road, Whetstone, London N 20, England.*

DX Troubles in California

By Sheridan H. Martin

I BOUGHT my first copy of R-DEX in November, 1932, when I got my Eveready Model 52. It was then I became a convert. I dabbled in DX that winter, running up a log of about 60 stations. This included two catches which I have never clearly heard since—KGMB and KGU. Such is DX. In 1933 I went in a little harder for DXing. In 1933 my log grew about 200. In 1934 I began to get R-DEX regularly. As a result my log now stands at 635 active stations. This includes seven South Americans, 40

Asiatics and 21 from Oceania. I have all the Japanese stations. This season I intend to begin all over again and start collecting verifications.

"A word about reception conditions here in Pasadena. The Japanese are excellent here from September to December, inclusive. In fact they are so good that they are a nuisance. Last year I used to listen to the English news practically every night at 2 a.m. over JOIK—this in September in summer static that most of the middle-westerners couldn't punch through. The more powerful Japs start coming in as early as 10 p.m. PST on good nights. KZRM, Manila, usually comes in faint but clear about 2 a. m. if the Japs are very good. XGOA is another one heard here almost every night. I find the Alaskans and Hawaiians very hard to tune in, even their carriers being seldom heard. In February the Aussies and New Zealanders start coming in well. They are heard with fair volume until that old demon static rears its ugly head. The most reliable is 2YA which can be heard almost every night in season. On the 'miracle nights' I have heard 2YA, 4YA, 6WF, F31CD, ZBW, XGOD, RW28, YV1BC, YV3BC, CP4, HJN, CX24, CX26, XOST, JOUK, JOCG, JODG, JQAK, 5DN, 4BC, 4BH, 7ZL, 2KY, 2GB and 2UE.

"I want to urge radio stations to give more consideration to the Pacific Coast when making up their DX programs. Do you realize that there are 52 channels occupied by Coast stations until midnight, many of them on until 1 a.m.? This means that from 60 to 85 channels are worthless for DXing according to the selectivity of the receiver. DX programs should *never* start until after midnight PST and 1 a. m. is even better.

"One more thing to get off my soul. May all 24-hour stations blow out their tubes, burn out their mikes and, finally, get caught seven kilo-

cycles off frequency with a raw a. c. note and get their licenses revoked. I am afflicted with nine of them."

New West Coast S. W. Club

By Don H. Townsend

FOR a long time there has been recognized a need for the formation of an organization to foster cooperation between the short-wave fans of the Pacific region in supplying each other with station information. Eastern and middle-Western clubs receive most of their station information on reception in their sections. Stations heard in the West go unnoticed because they are not heard in the other sections and therefore are reported only by a few western fans. Because of the small number of reports on these stations and because they are heard only in the West, little notice is given them.

Stations heard in the other sections of the country are not always heard in the West and the members of this region are therefore confused and try for many stations that are not to be heard in this part of the U. S.

Several prominent short-wave fans of the Pacific Coast region have got together and are organizing the "Pacific States Short Wave Club." This club is primarily designed to supply fans west of the Rockies with an efficient s. w. news service on stations being heard in the Pacific states. It will publish a monthly bulletin containing information on and a list of, stations being heard in the West. Special news will be supplied members by tip cards between issues of the bulletin. Other activities will be arranged later.

The membership dues in this organization will be one dollar per year. Active membership is open to all fans interested in the short waves that live in or west of the Rockies. All such fans are asked to advise the

Pacific States Short Wave Club in care of either the business manager, John D. Clark, 752 Contra Costa Ave., Berkeley, Calif., or the president Don H. Townsend, Jr., 208 Stillwater Ave., Fallon, Nevada.



Principals in the coming DX duel—Dick Arlen and Bing Crosby—listening to the short wave receiver manufactured by McMurdo Silver.

Radio Stars are DX Rivals

AS SOON as a pair of super short wave radio sets arrive in Hollywood, Bing Crosby and Dick Arlen are to stage a station-finding battle that will last a week, the loser to write a check for one thousand dollars. The two stars, both enthusiastic dial twirlers, have ordered identical sets from McMurdo Silver, Chicago radio expert, who designed the equipment taken to the Antarctic by Rear Admiral Richard E. Byrd.

The sets are due to arrive in Hollywood soon and the great contest will start. With special doublet antennae raised above their Toluca Lake

homes, Arlen and Crosby will then begin combing the ether for Russia, Germany, Japan, Australia and all countries sending out radio broadcasts. At the end of the week the star having logged the most stations will receive the prize money. Both Crosby and Arlen plan to add the money to a trust fund they are creating for their children.

Since Crosby realizes that the comparatively weak Byrd station, KFZ, will clinch the championship honors, he is erecting an antennae which is tuned to 8,820 kcs. Arlen, on the other hand, plans to concentrate on Skameback, Denmark; Geneva, Switzerland, ZGE in the Malayan States, Rabat, Morocco; Nairobi, Kenya; and Sydney, Australia.

The Beginner's Story

(Continued from page 19)

ary has 6 turns also closely wound, as on the first coil. The 40 to 80 meters coil has 24 turns on the secondary wound so as to average 16 turns to one inch of length; the primary has 7 turns. The 80 to 200 meters coil has 50 turns on the secondary and 15 turns on the primary, all closely wound.

The variable condenser (VC) used to tune the secondaries of the r.f. transformers or plug-in coils, has a maximum capacity of .00014 microfarad. The tiny antenna condenser (AC) is about 35 mmfds. capacity. The choke coil (CC) should have an inductance of 2.7 millihenrys. Regeneration or feed-back is controlled by the oscillation condenser (OC) which has a capacity of 250 mmfds. The detector gridleak (GL) has a resistance of 2 to 5 megohms, and its condenser (GC) has a capacity of 100 mmfds. The audio amplifying stage is the conventional type and is connected to the detector output through a high-ratio (6 to 1) audio-frequency transformer.

(Next month we shall discuss still further the different methods of receiving short waves—converters and all-wave receivers).

The Foreign Station DX CONTEST

AS A demonstration of the ability of present-day receivers to cover the world, the recent contest of the International DXers Alliance of Bloomington, Illinois, was a huge success. Altogether there were 95 entrants in this contest from four continents and a grand total of 1530 verifications were submitted to the Judges. Verifications were entered from 45 countries including all continents.

This contest was for the reception and verification of stations on the broadcast band only and short wave stations did not count. The reception was in the period from October first, 1933, to March 31st, 1934. The fact that in these six months 95 listeners were able to hear and verify 1530 stations, all of them at least 2000 miles distant from their receivers, is ample proof that foreign reception on the b. c. b. is fairly consistent and not too difficult.

Many Different Sets

The variety of sets used by the contestants is interesting. Twelve used sets of their own constructions, nine used Philco, six Majestic, five RCA-Victor, four Scott, four Crosley, three Midwest, three Pilot, two GE, two Kolster, two Lincoln, two Zenith, two Atwater Kent and two Patterson. Other sets represented were Radiotrope, Stromberg-Carlson, Silver-Marshall, Arbophone, Western Electric, Lyric, Jackson-Bell, Balkite, Serenade, Brunswick and several foreign receivers.

D. L. Davis, Jr., with the Fleet Air Base, Pearl Harbor, Hawaii, turned in a total of 114 verifications from stations in Canada, Japan, Mexico, Philippines, Australia, New Zealand and the U. S. His receiver is an RCA-Victor R-24A, 8-tube, a. c.

R. T. Coales, 54-Chelsea Road, Southsea, England, using a home-built 6-valve Superheterodyne, reported 71 verifications from the

U. S., Canada, Mexico, Newfoundland, Cuba, Bolivia and Argentine.

H. Harding Jones, 2531 Rainbow Drive, Honolulu, Hawaii, received 74 verifications from stations in the U. A., Australia, New Zealand, Mexico, Canada and Japan. He does not give the make of his set.

John S. Bohm, Gronland, 105 Malung, Sweden, using a five-valve Telefunken, turned in 70 verifications from Newfoundland, Venezuela, Bolivia, Canada, Algeria, Canada, Argentine, Mexico, Porto Rico, and 59 from the U. S.

Francis Wiseman, 517a Finchley Road, London, using a Scott 1934 12-tube Deluxe, submitted a total of 69 veries from the U. S., Newfoundland, Argentine, Mexico, Canada, and Porto Rico.

Covering the World

Evan B. Roberts, Wenham Street, Danvers, Mass., using a Scott All-Wave, 1933 model, submitted seven verifications from Japan, seven from Australia, five from Italy, and one each from the following cities: Moravska-Ostrava, Bratislava, Brno, Prague, Flensburg, Geilsburg, Koln, Stuttgart, Frankfurt, Hamburg, Leipzig, Munich, Stockholm, Goteborg, Paris, Fecamp, Strasbourg, Lyons, Lille, Sottens, Beromunster, Cork, Athlone, Lodz, Lwow, Copenhagen, Alger, Rabat, Belgrade, Zagreb, Modonna, Budapest, Viipuri, Danzig, Bergen, Graz, Wein, Barcelona, Buenos Aires, La Paz and St. Pierre, Miquelon Islands. From his home in Massachusetts, Mr. Roberts covered practically the entire world from Japan and Australia on the west to Russia and Hungary on the east. "The World at his Finger Tips" may well be the slogan of Mr. Roberts.

As this is written the judges have not finished their tabulations and the winners of the contest have not been announced. The results of this contest which was most efficiently

staged by the IDA, may well prove encouraging to DXers everywhere. Excellent logs were submitted from British Columbia and California on the West Coast to Nova Scotia and Florida on the East Coast. The interior was well represented by contestants from Nevada, Michigan, Ohio, Tennessee, Illinois, Montana, and other states.

Where All Radio is DX

A rather remarkable record is that of A. C. Lyell, P. O. Box 4536, Johannesburg, Union of South Africa. Located as he is in the extreme southern part of the African continent, practically all of his reception must come from stations more than 2000 miles distant while the great majority of the stations are more than 6000 miles away. Mr. Lyell did not get into the contest until the latter part of January thus having a three-month handicap. It required two months at the fastest for his reports and verifications to travel even if answered immediately. He was not clear whether s. w. stations were to be counted and wasted much time tuning in s. w. stations. In spite of all these handicaps, however, Mr. Lyell submitted 53 verifications within the time limits of the contest. He was caught with 35 more outstanding which he had to sacrifice. Included in Mr. Lyell's log are KOB, Albuquerque, KZRM in Manila, KNX in Hollywood, KFI in Los Angeles, XEPN in Piedras Negras, WBT in Charlotte, KSL in Salt Lake City and LR-2-4-5 and 9 in Buenos Aires—a remarkable record. On the short waves he brought in VE9GW, Bowmanville, PRADO, LSX, PLV, KWX, J1AA, HJ4ABE and HC2RL among many.

Mr. Lyell uses a Pilot Dragon receiver, A. C. with eight tubes.

Don't miss that program you want to hear. Use the RADEX Program "States." Mark down your favorite programs in the spaces provided. See subscription blank on page 96.

As I See the

THE successful rebroadcasting of programs from overseas by the National Broadcasting Company and the Columbia Broadcasting System has caused a tremendous interest in shortwaves. Many persons who have never had an interest in radio reception other than picking up their favorite programs from local stations are contemplating the purchase of short-wave equipment with which they can hear international programs directly from the country of origination. To these prospective high frequency fans many problems present themselves, and the biggest problem, naturally, is the choice of a good receiver.

Buying a Set

We cannot tell anyone what kind of a set he should get because this depends on his previous experience in tuning radios, the type of entertainment he wants, and the amount he can spend on a set. We can, however, point out some things to be avoided.

Because of the fact that RADEX is a DXer's magazine, it is reasonable to assume that 98% of our readers are DXers at heart. They are not as interested in hearing the commonplace stations as they are in hearing the seldom-heard little fellows. Therefore, one must not pay too much attention to what some owners say about their receivers. A friend may recommend an "Oompah 12" because he has had it only two weeks and already logged DJC and EAQ with it; because of this being his first foreign reception he naturally is quite enthusiastic about it. An old timer, trying the same set, is apt to be thoroughly disgusted if it fails to bring in some much closer but harder to get station, such as

SHORT WAVES

• • • By PAGE TAYLOR

VE9HX in Halifax or XETE in Mexico City.

Times Have Changed

A few years ago, a broadcast band DXer, living, let us say, in New York City, certainly would not buy a set on a salesman's recommendation that he would hear WCAU, WBZ, WTAM or even KFI. The same man today, turning to shortwaves, is usually attracted by an advertisement reading: "Log regularly such stations as GSB England! EAQ Spain! Reach out 10,000 miles to bring in VK2ME in Sydney, Australia."

Such stations as GSB, EAQ, VK2ME, DJC and many others are *locals* on a shortwave receiver just as WLW is a local on a conventional set. EAQ in Madrid is even more regularly and satisfactorily received than KFI or WTAM.

Two Tubes or Twelve?

A big radio set with from 10 to 20 tubes, equipped with "static eliminators", multi-pronged tubes and enclosed in the latest style "Console Moderne" may be the pride of its owner, but it isn't much good if his reception is limited to a few local s.w. stations. The owner of such a set, if a genuine DXer, is usually pained to learn that the kid next door is listening to Java and Nazaki in the mornings and tiny 5 to 10 watt South Americans in the evenings, with a much simpler receiver.

A good s.w. set can be gotten for nearly any price, varying from twenty to a thousand dollars or more. We know of very good receivers selling for as low as \$35 and we know of some very poor ones for \$400. Buyers with a limited budget can get a good radio if they demand a carefully built set using dependable parts and a simple but time-tested circuit. Rather than try to get the largest



This vivacious and golden haired contralto, Carolyn Rich, is Ferde Grofe's choice in soloists. She was recruited from vaudeville to radio in 1932 and has been featured as the "Lady of the Cameo" on her own sustaining program.

number of tubes and doo-dads he can for his money.

The Phenomena of Short Waves

There are some salesmen who will try to convince an unknowing customer that a multi-tubed set is necessary to pick up distant stations, and this is an argument that is rather easy to put over because it seems logical. A brief discussion of the propagation of shortwaves will prove the fallacy of this statement.

The one thing that makes long distance reception possible on shortwaves is neither a powerful receiver nor a fancy circuit, but a physical fact, the fact that surrounding the earth at a distance of from 80 to 200 miles is a layer of ionized particles, called the Kennelly-Heaviside layer. Newer theories mention another, the Appleton layer, and it may be possible that shortwave fans owe a vote of thanks to sun spots (or the lack of

them), ultra-violet rays and cosmic rays as well.

The Sky Wave

The generally accepted theory of shortwave transmission is that high frequencies are transmitted out towards space and that they are reflected back to earth by the Kennelly-Heaviside layer. These waves are called sky waves. A ground wave is also emitted but this is soon absorbed by buildings, mountains, or the earth itself. Let us take, as an example, W2XAF in Schenectady, N. Y. W2XAF, like all s.w. stations, emits two waves. The ground wave is strong enough to be heard for some distance but it is completely absorbed before reaching the Pacific Coast. The height of the Kennelly-Heaviside layer at the particular time is such that the sky wave is reflected back to earth in the vicinity of Australia, permitting our friends "down under" to hear the station, while it is inaudible in California.

Skip Distance Varies

As the height of the Kennelly-Heaviside layer is dependent, among many other things, upon the sun, the height varies during the day, and also with the seasons. These ionized layers are at their minimum height when the sun is brightest and at their maximum height at night. As the height of the layer varies, so the angle at which a radio wave is reflected from it varies, a fact which accounts for the variance in signal intensity throughout the day or night from a given station.

We know, from many years experience, that it is not possible for American East Coast listeners to hear VK2ME on its 28.5 meter wavelength at noon-time, although they are on the air daily at that time in telephone communication with London. The best receiver in the world will not receive it because neither the ground wave nor the sky wave is present in Eastern USA at that time.

The Varying Factors

When signals from VK2ME are being reflected towards America (Sunday mornings just before day-break on 31.28 meters), and the height of the layers of ionized particles out in space is right, when the sun spots are behaving, when magnetic storms are still, when local disturbances are quiet and a thousand and one other conditions permit, perfect reception of VK2ME can be obtained. The chap with a two-tube rig and a pair of headphones will have to remove the phones from his head to save his ears, and the fellow with a four tube regenerative outfit will have to hook in the loudspeaker to save his headset. The man with a ten-tube superhet will get louder reception, but will not be able to use the added volume. He will get somewhat clearer reception, but not much more intelligible than the chap with the two-tuber.

When none of the above mentioned conditions prevail, no one will hear VK2ME, regardless of equipment used.

Picking Up KFZ Direct

If the prospective purchaser does much shopping around he will surely hear the old bromide about listeners picking up stations better than Riverhead. "Oh yes," the salesman will say, "one of our men hears Byrd direct from Little America even better than the rebroadcast."

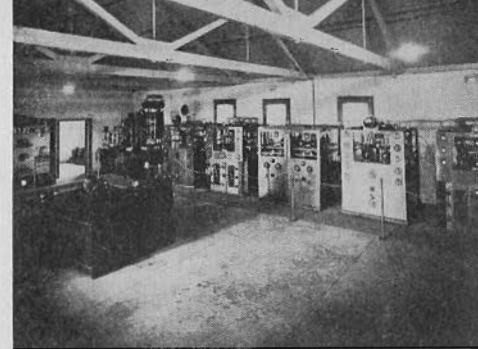
This statement might have been true in 1930 but it is hardly true in 1934. Signals from KFZ are not radiated in all directions, but are concentrated into a beam which is directed towards the central receiving station located at Platanos, Argentina. The signals are then sent over land wires to Buenos Aires, thence to the powerful beam transmitters at Hurlingham. Here 20 kilowatt station LSX relays the signals to Riverhead, Long Island, where they are picked up on highly directional, diversity antennae. It is this diversity array that accounts

for the high quality of reception obtained by Riverhead.

The station on Long Island receives LSX on three separate aeriels, and each aerial is connected to a separate receiver, each of which is accurately tuned to LSX. The aeriels are separated from each other at a distance of about a thousand feet, an arrangement which tends to minimize fading; it has been found that at the moment a signal is weak on one aerial it is strong on another. The outputs of these three receivers are fed into a control section where they are combined, then "piped" to New York City and out over the networks.

It seems unreasonable to believe that a casual shortwave listener, located in midst of electrical interference, can do better than Riverhead, which is miles away from any kind of electrical device. Riverhead uses directional antennae, pointed accurately towards Hurlingham, while our own aeriels are put up more or less haphazardly, as concerns direction, and might even be highly directional towards the North Pole. Our own receivers are usually A. C. operated, while Riverhead uses batteries; our own sets are not always at their best as we cannot constantly work on them nor can we change the tubes too often. The RCA sets are kept constantly at their highest efficiency. And, with our admittedly inferior apparatus, we attempt to reach all the way to Little America, while Riverhead resorts to a relay.

There are, of course, many fortunate tuners who have had KFZ, but surely not as well nor as consistently as Buenos Aires. Mr. Geo. Acker's reception is typical. "On KFZ's 22.64 meter wavelength I came across a *very weak* voice transmission in English," he writes. "This was *evidently* the Byrd Expedition, as LSX was on the air at the time talking to KFZ." Note, however, that Mr. Acker was not *positive* of the identification.



The transmitting studio of VK3ME installed at Braybrook, near Melbourne, Victoria, Australia. This short wave transmitter was designed and manufactured in Australia by Amalgamated Wireless (A'sia) Ltd.

When Sets Are "All-Wave"

Some irresponsible manufacturers describe their radios as "All-Wave Sets," while in reality they are merely duo-wave receivers. An all-wave set should really receive *all waves*, from 15 meters up through the conventional broadcast band. There are too many radios on the market today advertised as all-wave sets which only go down to 100 meters or so. Such sets will receive police calls and amateurs, and very little else. All foreign shortwave broadcasting is done under 70 meters and satisfactory reception is obtained only below 50 meters. To obtain the utmost in results, a receiver, whether all-wave or just straight shortwave, should tune at least as low as 15 meters (20,000 kilocycles or 20 megacycles). We mean, they should *tune* that low; many sets have the dials calibrated to read 15 meters or even less, but will not tune in stations below 19 or 20 meters.

It is probable that an overanxious salesman will say that this is an insignificant difference, because these high frequencies are too much in their infancy for satisfactory reception. This statement would be true if he were speaking of 10 meters or lower, but we have a list of 30 stations using voice between 10 and 15 meters, and there are 131 stations on voice between 15 and 19 meters. The

30 stations below 15 meters are heard once in a while by experienced dial twisters, but a large majority of the 131 stations in the 15 to 19 meter group is regularly heard and enjoyed.

Number of Tubes

For reliable loud speaker reception it is generally agreed that no less than four or five tubes should be used. If four tubes, one radio frequency stage, a regenerative detector, and two audio stages. If five tubes, a radio frequency stage followed by a regenerative detector, an audio stage and a push-pull audio stage. Superheterodynes employing 8 or more tubes are reliable. Super-regenerative and t.r.f. sets are not generally available nor are they recommended, unless one is experimenting in ultra-shortwaves, in which case super-regeneration is used.

Regenerative sets continue to be the favorite of many veteran tuners. When radio was young, regenerative sets were called "bloopers" because they had the disagreeable habit of getting into all the neighbors' radios. This fault no longer exists, however. Regenerative sets are usually straight shortwave, or if they do offer a broadcast band, this band is not very satisfactory except for local stations. All-wave sets are generally superheterodynes. One type is as good as the other. The RCA Receiving Station on Long Island uses both types, although foreign s.w. broadcasts are picked up on superhets. Contrary to popular belief, these receivers are comparatively simple in design, using only three intermediate stages and two audio stages.

Adapters and Converters

Adapters are no longer used and should be avoided. Converters are used if one has a good broadcast band set which he does not care to discard for one of the all-wave type. A converter is employed to convert a broadcast receiver into a shortwave

receiver without any mechanical connection between the two units. Good converters give very nearly as good results as straight shortwave sets but require a little knack in tuning, a knack which is easily acquired, however.

Your Radio Friends

(Continued from page 22)

attendance record at the College Inn in Chicago for the second consecutive year. Rogers has proved to be one of the greatest all-time drawing cards for the young folks of the Windy City. * * *

The billing of "radio's loveliest lark" by which Jane Froman is known in theatres, grew out of a remark by Dr. Sigmund Spaeth, world-famous music critic, author and commentator. Dr. Spaeth happened to be passing one of the NBC studios and walked in while Jane was singing. After a minute, Dr. Spaeth turned to a companion and said, "There is the loveliest lark radio has." The billing has stuck to her ever since. * * *

A waiter spilled a cup of coffee in a New York restaurant a few years ago. And two young men at a table, until that moment total strangers, fell into conversation over the incident. When they got up to leave a new black-face team of entertainers had been formed. The diners were Pat Padgett and Pic Malone, now well known to audiences as Pic and Pat and Molasses 'n' January. * * *

Ralph Kirbery, NBC's Dream Singer, is still single and fancy free. He remains a bachelor, according to his own explanation, because of his love of fishing and other outdoor activities. Says Ralph: "I like the girls too much to play a mean trick and marry one of them. I'd leave her home alone too much while I went fishing, hunting and golfing."

Vital Statistics of the SHORT WAVES

• • • By PAGE TAYLOR

RECEPTION on the conventional broadcast band has always been very nearly impossible in tropical countries because of the severe atmospherics prevalent for about ten months in the year, so it is not strange that these countries have remained several years behind the times as far as radio is concerned.

With the increased reliability of shortwave equipment and the availability of good receivers at a reasonable cost, however, it is pleasing to note how quickly some countries have grasped the opportunities offered by shortwaves. The Netherland East Indies were first to use shortwaves extensively for local broadcasting, with the Republic of Colombia following a close second. These countries now are veritably teeming with high frequency stations. And now Venezuela is building up a broadcasting system based on shortwaves. We understand that YV3RC in Caracas is the key station of a network which includes YV5RMO in Maracaibo, YV4RV in Caracas, and occasionally YVQ in Maracay on 6.672 megacycles.

A New Venezuelan

We are indebted to the Chicago Shortwave Radio Club for information on a new Venezuelan station which will commence broadcasting at about the time this magazine is mailed to our readers. YV6RV, in the city of Valencia, State of Carabobo, will work simultaneously on 675 and 6030 kilocycles; 6030 kilocycles equals 49.72 meters. YV6RV will be known as "La Voz de Carabobo," and its owners, the Sres. Hermann and Williams Degwitz, will appreciate reports from listeners inter-

cepting programs on either frequency. The Degwitz brothers will honor the Chicago Club by dedicating their inaugural program to its members.

According to information received from H. N. Walker, our Australian reporter, there are two radio networks in Netherlands India, with key stations in Bandoeng and Sourabaya. No information is available at this time concerning the Sourabaya network.

Data From Oceania

The Bandoeng group is owned by the Netherland India Broadcasting Co., and goes under the name NIROM, a word formed from the initials of the Dutch name of the company, N. V. Nederlandsch In-



Introducing Peter Biljo, batoneer of the Russian Balalaika Orchestra. This is one of Colombia's first features now back on the air after an absence of several years.

dische Radio Omroep Moatschappij. The stations operated by this group are: YDA, Bandoeng, 6,116 kcs., 49.02 meters, 1.5 kilowatts. YDA is now on the air.,

YDA2, Batavia, 4382 kcs., 69.28 meters, 150 watts. YDA2 was formerly known as Tandjong Priok.

YDB, Sourabaya, 6136 kcs., 49.67 meters.

YDB2, Samarang, 4360 kcs., 68.65 meters.

YDB and YDB2 will be on the air before winter, and there is a possibility that the Bandoeng and Sourabaya transmitters will be heard here.

Mr. Walker also contributes the following data on Javanese telephone stations:

PMN, Bandoeng, 10260 kcs., works Sydney.

PLP, Bandoeng, 11000 kcs., works Sumatra and the Celebes.

YBG, Medan, Sumatra, 10425 kcs., works Bandoeng, PLP.

PNI, Macassar, Celebes, 8775 kcs., works PLP and YBZ, Menado, Celebes, 7680 kcs., works PLP and PNI.

A Change in Names

We have become so used to calling France, France, and Germany, Germany, that it is only with an effort that we remember to call a country by its new name when a change is made. Countries do change their names occasionally. When Russia and Siberia became the Union of Socialist Soviet Republics it took us several years to become reconciled to the change. (After a few letters addressed to "Russia" were returned we remember to address them to the U. S. S. R.). Now another major change has been made. In fact, it occurred a year ago. The Dutch East Indies no longer exist, but are now known as Netherland India. When the world governments were officially notified of the change by The Hague, they were also reminded that the Netherlands is the correct name for Holland. RADEX will try to remember these changes in future listings.

Logs New Peruvian

"I have a Midwest 16-tube radio which offers all the variety one could ask for," writes an enthusiastic user, Volney Blanchard, 7229A St. James St., Wauwatosa, Wisc. "I have been getting JVM, Tokio (Nazaki) regularly around 6 a. m., CST, with fair quality and good volume on 10740 kcs. Last Saturday night I logged a new station, OA4AP, Lima, Peru, which I heard until 11 p. m. They announced in Spanish and English after every selection, and asked for reports on reception. They have practically dispensed with English since. Last night I heard PRADO calling "La Voz del Tropico" in Costa Rica. It was all in Spanish and I didn't get the name of the city and do not believe any call letters were given. This conversation lasted from about 10 o'clock until midnight. I received the Costa Rican on approximately 6700 kcs. I also heard HC2RL calling relatives and friends around New York.

"I have had 11 South Americans, KNRA, IRM, I2RO, VK2 and 3ME, Daventry, Zeesen, CT1AA, COC, etc., etc. My DXing is limited to Sundays and evenings as a rule." No wonder Mr. Blanchard is proud of his radio.

Verifies HJ3ABD

Supplementing the Peruvian data in the paragraph preceding, Robert L. Weber, West McHenry, Ill., thoughtfully mentions the wavelength used, 38.5 meters. He believes the call sign is OA4AB, and gives the address as All American Cables Co., Box 858, Lima. Mr. Weber heard them announce that they were moving up to 51.9 meters but could not hear them on the higher wavelength. "I also received a verification from JYR, from the Chief Engineer, giving their frequency as 7880 kcs., and saying that they relay JOAK," Mr. Weber's letter continues. "One of my prizes is a veri from HJ3ABD, received just five and a half months after writing for it. ORK, Brussels, in their letter of verification, say that they work daily on 29.04 meters from 12:45 to 2:15

p. m., EST. From 12:45 to 1 p. m. there is a daily talk in French, then for the next hour a musical program, followed by a fifteen minute talk in Flemish to conclude the broadcasting. They sign off with the national hymn, Brabanconne."

OA4AB is also reported by O. Ingmar Oleson of Ambrose, N. Dak., who says they are heard almost nightly from 9 until 11:30 p. m. or midnight. He says their programs feature primarily American popular recordings.

Picks Up KNRA

"I note that several fans report Berlin and London the best Europeans on the air," comments D. I. Gross, P. O. Box 6052, W. Asheville, N. Car. "I heartily agree with them as I have had wonderful reception every night all summer, except during electrical storms. DJC and DJD were not on several nights at about the time of the Nazi uprising, however. Here is some news regarding KNRA: I picked them up one night, a Friday, about 9:30 p. m., EST, on about 6.2 megs. Signals was about QSA4, R7 with some QRM, but on the whole, quite good. I now use, almost exclusively for Europeans, an RCA World-Wide antenna. It runs due North and South. I find this far better than any Lynch antenna but believe this may be because it runs N. and S., whereas the Lynch runs Northeast by Southwest. The Lynch works very good for South Americans and brings in less static than a straight aerial.

BBC Verifications

"I see that Mr. A. C. Lyell, Cape Town, reports that the British Broadcasting Corp. does not verify. The chief engineer writes me that this is not due to lack of courtesy, but because they broadcast on two wavelengths, using two transmitters simultaneously, making exact identification difficult. Their programs are published in advance in 'World-Radio.'"

Mr. Gross uses a Scott All-Wave-15 and would like to hear from other users. The BBC does not give explicit verifications because of the fact that



Victor Young, featured with his orchestra on the Chevrolet program every Sunday evening over an NBC-WEAF network, and author of "Sweet Sue" and many other songs. He wrote the basic melody of "Sweet Sue" on the back of an envelope, under a lamp-post, while on the way to a show.

their programs are published in advance all over the world, but they do acknowledge reports, which is all that can be expected of them. The courtesy cards from Daventry can be considered verifications, and all contest judges so far have so accepted them. In the recent Denton Trophy Contest, one card was considered as a QSL from all the Daventry transmitters, GSA through GSG.

Mr. Gross also brought up some important points concerning International Reply Coupons. Coupons should always be sent to stations when requesting a reply, and when purchasing Coupons, care must be exercised that they are properly stamped. A coupon is made void if no postmark appears, or if the postmark is on the wrong side. It must be stamped in the circle on the left side, labelled "Timbre du bureau d'origine."

The "Seth Parker"

The good ship "Seth Parker" has

finally heaved anchor and resumed its "round the world cruise." The split between the NBC and the skipper Phillips Lord has, to all appearances, been patched up. Rocky Point has been heard testing with KNRA, and a program was heard over the networks from Haiti. Probably the "South African" picture, being filmed in Jamaica, is finished, or it may be that the appearance on the scene of RCA engineers for the purpose of dismantling the transmitter caused him to have a change of heart. Anyway, station KNRA has been re-inserted in our lists, and tuners who have not yet logged the station should try to do so, as it is problematical how long the "cruise" will continue.

Home-Made Reception

"I wish to report reception of a few catches during the summer months on my 3-tube Doerle, battery operated set which I built myself," states Leon Papernow, 2204 Cralendon Rd., Brooklyn, N. Y. "In the recent international commercial rebroadcasts on Sundays at 9 p. m., the following phone circuits were heard: GSW, R9, sending the London program; DIQ, R8-9, sending Berlin's portion; GBS, R7, relaying Paris to New York. During the rebroadcasts from Austria and the Swiss phones did all the relaying. HBJ on 20.6 meters returned to the air to send the program to the NBC. Their identifying signal is a beat of a metronome, as is that of most European broadcasting stations. Incidentally, has anyone heard PRADO on the 19 meter band? I heard them on a special program on a Sunday from 5:45 to 6:15 p. m., EST. The announcements were all Spanish: "Allo, allo, Estacion El Prado, Riobamba, Ecuador."

Weak Signals from KFZ

"I am sending in some information which I gleaned during the past week," contributes Geo. W. Acker, 267 N. Lyman St., Wadsworth, Ohio. "On Monday afternoon I came across LSX near 5 p. m. I decided that they were on the air to talk with Little America, so started on a hunt. On KFZ's 22.64

meter wavelength I came across a very weak voice transmission, in English. This was evidently the Byrd Expedition, as I managed to hear must talk concerning KFZ. LSX was coming up in good shape. The next evening they were no doubt at it again, as I caught LSX talking to the Bay of Whales station around 9 p. m. Conditions, however, were so bad that I could not manage KFZ direct. VK3ME and VK3LR were also best around 6 and 6:30 a. m., after which they began to drop out, although they held on until signing off at 7. This morning W1XAZ was extra strong. They come on at 6 a. m. and as they develop strength they almost completely engulf VK3LR, being but a hair-line away. However, when Boston is not so extra strong, which is often enough, 3LR rides in right beside them nicely.

The Egyptian Station

"What time does SUV, Cairo, work? I caught a weak swish on its freq. (10014 kcs.) Sunday morning around 6-7 a. m. I hung onto it for a long time, and came back to it time and again, but could hear no speech. I have had this station several times and one morning could just faintly make out that English was used."

According to our British reporter, Robt. M. Pybus, VUB at Bombay, India, has moved down to 9565 kcs. and is conducting tests on this frequency irregularly between 10 a. m. and 2 p. m., EST. We do not believe it has been heard in North America, but it may be worth trying for.

Schedule of Singapore

Station ZHI, Broadcast House, 2 Orchard Road, Singapore, Straits Settlements, works on 49.8 meters with a power of only 90 watts, which almost precludes any possibility of the station being heard in this country. The schedule, according to information received from the Radio Service Co., operators of the station, is Monday, Wednesday and Thursday from 5:40 to 8:40 a. m., EST. Our readers "down under" who have the good fortune of hearing ZHI should report on

the Wednesday programs only, when requesting a QSL, as these are the only programs of which a log is kept.

Some Queries

"The other morning I logged JVM, 27.9 meters, from 7 a. m. until a quarter to nine, when they signed off," commences a note from Norman F. Kriebel, 116 Bethlehem Pike, Ambler, Pa. "I believe this station is in Nagasaki, Japan, and I would like to have the address so I can write for a confirmation."

"Also, I would like the address of ORK in Belgium, which I find broadcasting daily from 2:45 to 4:15 p. m., EDST, on about 29 meters."

"What boat has the call letters NABD?"

We do not yet have the street address of the new Japanese telephone stations. The stations with the JY- prefix should be addressed to the Chief Engineer, Kemikawa-Cho, Chiba-Ken, Japan, and the stations with the JV- prefix, to the Japan International Telephone Company at Nazaki, Japan.

The address of ORK is, Regie des Telegraphes et des Telephones, Direction des Radiocommunications, Bruxelles, Belgium.

NABD is the call assigned the warship Indianapolis.

Has 65 of 100 Best

Mr. M. Horlick, 22 N. Glenellen Ave., Youngstown, Ohio, is another Midwest 16 booster. His letter follows: "I see where different radio fans were inquiring about the Midwest 16. I have one and can only say that it is OK. I have 65 shortwave sets out of the 100 Best as given in your lists. I get Germany, England, France, LSX at Buenos Aires on Monday and Thursday from 9 to 11 p. m., and stations on the broadcast band from all over the country. All my stations are logged between the hours of 8:30 a. m. and 11:30 p. m., on an aerial running east and west, 100 feet long and about 33 feet high."

For Canadian Fans

"I am listing a few shortwave stations that perhaps will be a help to

your Canadian readers," surmises S. H. Watson, 14 Arlington Apt., Edmonton, Alta. "These are sure bets and should not take much finding, even for new fans. These stations were picked up on my Victor 6-tube Globe Trotter. GSA, Davenport, England, 49 meter band, every night, and VK2ME, Sydney, Australia, 31 meter band, Saturday night and Sunday morning, comes in better at night, while a few months ago it was best in the late afternoon. I have not mentioned stations in the States as I can always pick them up, such as Wayne, Schenectady, Chicago, etc."

Verifying EAQ

We have been asked why some persons get QSL cards from EAQ, verifying their reception, while other only get program sheets from the International Broadcasting Co. of London, although reports are sent to Madrid. Transradio Espanola, operators of EAQ, will always verify by QSL card when an International Reply Coupon is enclosed, never otherwise. When no Coupon is sent, the report is turned over to the IBC, a London organization which broadcasts commercial programs over the Madrid station.

A New Serial

Beginning in the November issue, Mr. Dashiell will present a series of articles each dealing with the new radio sets offered by the leading manufacturers. In each issue for several months, Mr. Dashiell will discuss these receivers, their circuits and unusual features so that our readers may have full knowledge regarding the new sets.

This series of articles should be of general interest as well as of particular value to those who desire to purchase new receivers.

Among the makes to appear in early issues are the Midwest, Scott, Atwater Kent, Philco, and General Electric.

Back issues containing The Beginner's Story are available—ten for \$1.75.

The Old DX Season and THE NEW

WHAT spring is to the golf addict, the autumn months are to the radio enthusiast. Before the mud of spring has dried, the golfer gets out his clubs and polishes them up lovingly. This time of the year the DXer gets out his old log, notes the season's changes and prepares to add the new stations to his list. In the September issue we published nearly 200 changes that were made in frequencies, locations, calls and power during the summer vacations. Many of these changes will make it possible for our readers to hear stations they never heard before. When a station changes frequencies, it oftentimes eliminates interference that has theretofore prevented listeners from logging stations on adjacent channels. The scientific DXer consequently studies these changes with great care and notes the effect they will have upon his possible reception of stations he needs. A few copies of the September issue containing these changes, are still available.

From "Old Kentucky"

"I had a very successful season last year," reports James T. Spalding, 2012 Alexander, Louisville, Ky. "A careful check of my log shows the following received from Dec. 22, 1933 to July 15, 1934 using a Philco 16-L part of the time: U. S. s. w., 36; U. S. b. c. b., 206; Foreign s. w. 121; Foreign b. c. b. 29; Police, 91; hams, planes, ships, etc., bring the total up to 854. Up to this time I haven't had any luck with TP's or TA's owing to bad location and indifferent aerial but I have lately moved to a more suitable place and erected a long L aerial for b. c. so watch my smoke. Some of my latest veries include Pontoise on all three frequencies, I2RO, HBP, the German s. w. stations, VE9GW and CJRX, XETE. I also have reports out to HJ1ABB, PRA3, PHI. The latter

comes in on 17,775 early mornings until Boundbrook interferes. I also have HI1A, 7½ watts in Dominica and VK2ME. According to information received, COC had a bad fire and is off the air while rebuilding a more powerful station. HVJ is on Saturdays 9:00-9:30 a. m. CST and irregular the rest of the week according to a letter from the station director. A careful check of RADEX for the last six months shows only three reports from Kentucky. Are we lazy down here or what's wrong? Let's have more reports from Kentucky. Would be glad to have letters from any DXers especially foreigners."

Learns Code

"After listening to dozens of code stations which had merely been interference to me, I began to learn code a few months ago," observes Dr. Harold R. Jacobs, 91-05 Boulevard, Rockaway Beach, N. Y. "There are always dozens of code stations on so that the DXer need never lack material for practice. And logging these stations is easier than it would seem. Of course one must memorize the dots and dashes. I find dozens of stations which appear to do nothing all day and night except announce their call letters. For example, OXR or HAS or FXX can be heard at any hour, it seems, sending VVVV de OXR-OXR-OXR or whatever the call may be, over and over, interminably. There is no difficulty in logging them and they are a great help to one trying to learn the code by himself. I think that this field, which represents a step in the logical progression of the DXer, has been largely overlooked. Where these steps lead, I don't know—maybe to delirium! My log now totals 1089, including 607 on the b. c. b. with veries from PP, LR-5, HJN, YV1BC, Radio Normandie. I have 212 on s. w. excluding amateurs which I do not log. I also have 270 code stations. All in

all, I have heard 51 countries." Clement Van Velsor, writes that WCNW, Brooklyn, 1500 kcs., gives lessons in code daily from 4:15 to 4:30 p. m. EST.

"Iowa on the Air"

Robert W. Gorsuch, 431 Main St., Grinnell, Iowa, advises us that the radio stations of that state will join in presenting "Iowa on the Air" on Sunday morning, December 16th. The leading DX clubs are co-operating by not scheduling any program for the morning mentioned. Prizes are to be offered for the most distant reports and the most complete reports. These prizes will cover the reception of each of the stations taking part. The CDXR, the IDA and the NNRC will each offer two one-year memberships as prizes.

The following stations have signified their intention to take part in the "Iowa on the Air" program: WHO, KFNF, KFJB, WOI, KMA, WMT, KSO, KSCJ, KGCA, KWLC, KFGQ, KOIL and KWCR. WHO has purchased a new \$30,000 vertical antenna, 500 feet in height, which it is hoped will be erected in time for this program. DXers everywhere are urged to give this program publicity in their correspondence, bulletins, tip broadcasts, and otherwise and Courtesy Program Committees are asked to keep the morning of December 16th clear.

Further details of the program and the prize awards will appear in later issues of this magazine.

All Continents, 28 Countries

"I find in checking the log I compiled while living in Claremont, N. H., that I have heard 956 stations and have verified 840, the last one being PX1, 1015 kcs., Hilversum, Holland. Can anyone give me the power of this station? I find that my New Hampshire residence brought me 28 countries including every continent and that very little fellow, TJW, Bermuda, with seven and one-half watts." This report comes from Robert R. Rawstron, "The Cordial Granite State DX Fan," who has recently returned to his

former home in Massachusetts and will live at 96 Leeds Street, Worcester. "I have done no DXing in Worcester as yet, but find reception rather poorer than in New Hampshire due to the numerous factories working double shifts. I have no high hopes of Worcester equalling my former home and so I won't be disappointed. Won't some of you fellow DXers in Worcester and vicinity drop me a line? My veries are bound and easy to look at. I still have the B-16 Midwest and feel I bought the best for my money."

The Season's Signal

"I was glad to see the September issue of RADEX in the mail this morning for it means a new DX season is about to start," exclaims Robert Base, 4105 Alto Road, Windsor Hills, Baltimore, Md. "Also it meant the addition of another station to my log without even turning on my radio! This is how—one August 7th, I got up to see how my new Scott, which I recently bought, would work on the frequency checks. I received quite a few stations including KXO, KLS, KGDM, KFAC, KPJM, KWG, WBNO. I also received the Dothan, Ala., station but I could not seem to get the exact call letters although I knew they were not WHET. When my RADEX came this morning, I looked up the call letters and found that they had been changed to WAGF, so I added it to my log. Short wave verifications received this summer were YV4BSG, YV5BMO, HC2RL, IRM and HI1A. I am looking forward to the 1934 DX season with 726 heard and 605 verified. My 2000-mile stations total 90 heard and 71 verified"

Great Luck with TP's

"I want to thank you for getting me started on foreign DX. This was through the February, 1933, copy of RADEX," begins H. H. Diedrich, 2420 Fifth Ave., Moline, Ill. "During the past season, I have logged the following trans-Pacific stations with a good portion verified: 3AR, 4QG, 5CK, 5CL, 2BL, 2CO, 3LO, 2UW, 4RK, 2KY, 4BC, 2GB, 2UE, 2SM, 2HD, 3UZ, 3BO, 4TO,

3DB, 3HA, 2YA, 3YA, 4YA, JOAK-1, JOBK-2, JOHK, JOIK, KZRM, KGU and KGMB. In South America, I have logged and verified LR4, LR5, HJN, YV1BC, and CX26. I have used a small battery set about eight years old, t. r. f., the power of which would equal about two of the modern tubes. I find that the smaller the set, the greater the thrill, the greater the feeling of achievement. I have a total of 850 stations, foreign and domestic. I do not recognize short wave or count any s. w. stations in my total." There's a claim to set the critics wild.

The Port of Entry

Nova Scotia continues to be the American terminus for the foreign signals. Philip H. Robinson, Shelburne, N. S., writes: "My verified include FQN, LR5, YV1BC, OKP, Copenhagen, Lyons, Poste Parisien, Breslau, Frankfurt, Hamburg, Heilsberg, Langenberg (Köln), Leipzig, Hilversum, Budapest, Athlone, Milan, Rome, Trieste, Turin, Barcelona EAJ1, Bero-munster, Sottens, Rabat, Algiers, 4QG, 2UE and 2YA. My best catch was the verified reception of XGOA, Nanking. Letters are out to LR2, LR3, LR6, CP4, ZP1, CX12, CX26, OKB, Fecamp, Bordeaux, Toulouse, Berlin, Nurnberg, Stuttgart, 3YA and 4YA, all positively identified. My receiver is a 1929 eight-tube Balkite using 227s and 245s. I use an 'Ollie Ross' ground and a 300 foot aerial although in the evenings I have to cut this down to fifty feet or less in order to gain selectivity which my set lacks, being a t. r. f."

Uses a 1924 Relic

"I have been a DX fan for several years, but not until the fall of 1932 did I start to go in for verifications," narrates Joe Enz, 97 Morgan Ave., Brooklyn, N. Y. "I was like several other persons writing to radio stations, I did not enclose postage. I have changed now since I have started reading RADEX and up to date I have logged over 500 stations. I use an old 1924 battery set which regenerates, a Grebe five-tube using A battery and 135 volts eliminator. This set is a

wonderful DXer and had brought me KGW, KXL, KGBU, KERN, KXA, KRKD, KMTR among many. I have received one European, Berlin on about 842. I never write to the station unless I am positive and I send a report covering from half to an hour with information concerning selections, volume, fading, static and weather conditions."

Needs New England

L. D. Irvine, Box 652, Abilene, Texas, picked up his first copy of RADEX on an Abilene news stand in August, 1933, and began DXing at once. "To date, I have heard and definitely identified 412 stations," he reports. "On short waves I have heard 48 stations including airport, police and commercial broadcast and phone; the best of these are VE9GW, XETE, HJ1ABB, XEBT, and YV3BC. On the b. c. b. my log now stands at 364, of which 96 are 100 watts or less. I have all states except Maine, Vermont and New Hampshire. Can anyone give me tips on these three states? I have 26 Mexicans, E Porto Rico, 1 Cuban, 2 SA's, 3 Canadians and 1 Alaskan. Not so bad for one year considering the reputation of bad reception here in Texas. My set is an all-wave Emerson."

Need Only 57 More

"And now a little resume of my log," adds Carl Forestieri, "The Bronx Owl," 463 E. 185 St., New York City. "On the b. c. b. I have heard 734 stations and verified 681. Of these 84 were over 200 miles from my location with 82 verified. I have 35 states complete with 31 of them completely verified. According to the midsummer RADEX I have to log 57 more stations in the U. S. with only four W's which, I believe, are not on the air as yet. I started on the short waves only last March and have heard 72 stations in 21 countries. Of these 47 are already verified. My best are VK2-VK3ME, VK3LR, HI1A, Rabat, CT1AA, HCJB, HCRL and YVQ. The best clear foreign station is DJD. A dandy catch was LS2 on June 18th, testing its new

transmitter built entirely in Argentine."

News From West Coast

"After today KQW belongs to Ralph Brunton who also owns KJBS," informs Henri DePaulin, 3366 Pierce St., San Francisco. "He is going to remodel KQW with new equipment and the two stations will now be known as the Northern California Broadcasting System. I have a Majestic Century Six with which I have logged 200 stations with most of them verified. Of these 64 are 500 watts or under with CFCT at Victoria the lowest at 50 watts. A week or so ago I bought a Stewart-Warner converter and an RCA World-wide Antenna. I now have a few more on the log including three of Japan's and GSB at Daventry. GSB came in great out here for four nights and then was heard no more. Would be glad to hear from anyone having the same sets I have."

Uses Umbrella Aerial

"When I wrote you last fall, I had about 450 stations," recalls T. R. Grosvenor, S. Hillside, Wichita, Kans. "Now I have 688. Not having started verifying until about January 1st, 1933, I only have about 275 veries on hand now. Best veri to date is HJN but have a report out to LR5. I now have an umbrella-type aerial 40 feet high with six ribs totaling 200 feet. The east coast monitor tests rip through on that like nobody's business. During the past season, I logged nine of the "big ten" in Japan, 3UZ, 2YA on 570, KGU, CX26, LR5."

Mr. Grosvenor encloses the following in regard to their organization. "The Mid-continent Letter Exchange is something new in the DX field. We are not a DX club in the strict sense. We gather letters from all parts of the world and forward the condensed version to our members. These letters contain queries, station changes, DX experiences, etc. We do not attempt to issue a DX calendar leaving that to the DX clubs and established

publications. Further information may be had by writing to Mid-continent Letter Exchange, 247 S. Hillside, Wichita, Kans. Dues are fifteen cents a month with a joining fee of 25 cents. Will be very glad to hear from all those interested especially those in foreign countries."

KTRB Now on the Air

Warren E. Winkley, P. O. Box 12, Hughson, Calif., wrote under date of April 28th that, in spite of the fact that DXers in various parts of the country were reporting KTRB in Modesto, Calif., those who live within nine miles are unable to secure any information concerning them. He and a friend went to Modesto but found no signs of a transmitter so he concluded that they had not yet started to build. This, of course, was three months ago and the station may now be testing. Mr. Winkley reports that the experimental television station in Bakersfield, W6XE, are broadcasting every Wednesday and Friday night from 8 to 9 PST. In spite of the terrific intermittent static," he says, "I have pushed my log up to 570 but so far have only 130 verified with 25 reports out. My latest veries are from JOJK, KNOW, CHAB, KGCR, JOQK and KGMB. Of the Aussies 2BL is still the most consistent and 3YA of the Zedders. XGOA is very weak with only occasional snatches being heard."

With reference to KTRB at Modesto, Fred W. Hanssen, 220 S. Santa Cruz St., Ventura, Calif., writes that this station came on the air Monday morning, May 21, with their first test program. Their slogan, he says, is "The Voice of Central California." "LR2 in Buenos Aires," says Mr. Janssen, "has been coming through out here fine business on the 910 kc. channel since XEW moved to 890. We are located far enough away from CRCM in Montreal so that we are not bothered by their signals a great deal when looking for LR2. This tip might prove helpful to some of your readers out here on the West Coast.

"Incidentally, I won the first prize for being the farthest listener reporting on the last CMPN DX program," confesses Mr. Janssen, "It was a handsome Cuban police club with my name engraved on it and was donated by the Havana Police department through the kindness of Captain Octavio Soler. I am much enthused about it as it is the first prize I have ever won although I have tuned in and verified nearly 630 broadcasting stations.

More DX News from Britain

"In a former letter I said I would be pleased to correspond with American DXers," writes F. R. Crowder, 12, Belle Vue Place, Belle Vue Road, Leeds 3, Yorkshire, England. "Since writing, however, I have been appointed General European Representative for the IDA. We have about 50 members over here with whom I keep up a regular correspondence. In view of this, I fear I would not be able to answer any of the USA fellows that might write to me. I thought it only fair to let you and them know.

"I myself have just completed a fairly successful DX season, having received 52 verifications from stations on the b. c. b. all more than 2000 miles distant. My best ver is KDB, 100 watts. Other notable veries are KGO, KFI, KGB, KGW, KOH, KSO, WREN, KVOR, etc. Some of the above veries (so I am told by my American friends) are considered quite good catches even in the USA."

The Frequency Checks

The frequency checks last season were manna for our DXers. We have no information as yet as to whether or not these checks are to be continued. A number of the broadcasting stations are listing them, however, instead of regular DX programs so it is probable that they are to be continued for some little time longer. "Last week I received 30 new stations, 29 of them on frequency checks," Frank Wheeler, 406 Eagle Point, Lakeside, Erie, Pa., wrote in



This is Mazine whose deep contralto voice is heard to the accompaniment of Phil Spitalny's girl ensemble. Mazine is nineteen. Spitalny has made a great orchestra out of his girls.

May. These boosted my all time log (192801934) to 568, and my current log (Sept., 1932, to May, 1934) to 464. The frequency checks surely increase a fellow's log. Wouldn't it be great if other countries did the same?"

Fun Logging Amateurs

"I have a Halson 5-tube superhet and a home-made 2-tube receiver," preambles Arthur Phillips, Jr., 720 Linwood Road, Birmingham, Ala. "In January I started logging amateur stations on the 20, 80 and 160 meter bands. I now have 400 amateurs in the U. S., Mexico, Hawaii, Puerto Rico and South America. On the two-tube set I have 25 foreign stations. My best are GSB-GSA, DJC, VK2ME and KNRA. KNRA was logged May 5th at 7:30 p.m. EST coming in Q5R9 on 32 meters. He was talking to WDN. I am fourteen years old and would like to hear from any other SWL's that would like to write."

October DX Calendar

Continued from front cover

Wednesday Morning (Continued)

3:10-3:30	WRBX 1410 250	Roanoke
	WHBC 1200 100	Canton
	KGIW 1420 100	Alamosa
3:20-3:40	WMBG 1210 100	Richmond
	WTRC 1310 50	Elkhart
	KICA 1370 100	Clovis
3:30-3:50	WBCM 1410 500	Bay City
	KGHI 1200 100	Little Rock
3:40-4:00	WGH 1310 100	Newport News
	WGBF 630 500	Evansville
	KIDW 1420 100	Lamar
3:50-4:10	WOCL 1210 50	Jamestown
	WROK 1410 500	Rockford
	KBTM 1200 100	Jonesboro
4:00-4:20	WQAN 880 250	Scranton
	WBOW 1310 100	Terre Haute
	KFBB 1280 1000	Great Falls
4:10-4:30	WHEC 1430 500	Rochester
	WOSU 570 750	Columbus
	KGFL 1370 100	Roswell
4:20-4:40	WSAZ 1190 1000	Huntington
	WBEO 1310 100	Marquette
4:30-4:50	WGAL 1500 100	Lancaster
	WKBN 570 500	Youngstown
4:40-5:00	WCAZ 1070 100	Northfield
	KFJB 1200 100	Carthage
	WACO 1420 100	Marshalltown
4:50-5:10	WKBF 1400 500	Indianapolis
	WACO 1420 100	Waco
5:00-5:20	WDZ 1070 100	Tuscola
	KGDE 1200 100	Fergus Falls
5:10-5:30	WLBL 900 2500	Stevens Point
	WLB 1250 1000	Minneapolis
5:20-5:40	WBAA 1400 500	W. Lafayette
	WIL 1200 100	St. Louis
5:30-5:50	WTAD 1440 500	Quincy
	KGHF 1320 250	Pueblo
5:40-6:00	WXYZ 1240 1000	Detroit

October 17

2:00-2:30	KWTO 560 1000	Springfield
3:00-3:30	KSO 1320 250	Des Moines
3:00-5:00	WOPI 1500 100	Bristol

October 24

3:00-5:00	XED 1160 500	Guadalajara
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October 31

5:30-5:45	WFBG 1310 100	Altoona
5:30-6:00	WRAW 1310 100	Reading

October 10, 17, 24, 31

2:00-2:30	WROK 1410 500	Rockford
10:00-1:00	CMBX 1185 250	Havana
2:30-4:30	CKMO 1410 100	Vancouver
6:00-6:30	WASH 1270 500	Grand Rapids

Thursday Mornings

2:00-2:20	WSOC 1210 100	Charlotte
2:10-2:30	WSPA 1420 100	Spartanburg
2:20-2:40	WFBC 1300 250	Greenville
2:30-2:50	WSGN 1310 100	Birmingham
2:40-3:00	WJBO 1420 100	Baton Rouge
2:50-3:10	WGCM 1210 100	Gulfport
3:00-3:15	KREG 1500 100	Santa Ana
3:00-3:20	WRDW 1500 100	Augusta
	WHBY 1200 100	Green Bay
	WDAH 1310 100	El Paso
3:10-3:30	WKAQ 1240 1000	San Juan
	WJMS 1420 100	Ironwood
	KLUF 1370 100	Galveston
3:20-3:40	WCSF 1360 500	Charleston
	WEDC 1210 100	Chicago
	KTSM 1310 100	El Paso
3:30-3:50	WBIG 1440 500	Greensboro
	KGKL 1370 100	San Angelo
3:40-4:00	WCOA 1340 500	Pensacola
	WSBC 1210 100	Chicago
	KFPN 1310 15	Greenville
3:50-4:10	WQBC 1360 500	Vicksburg
	KFIZ 1420 100	Fond du Lac
	KMAC 1370 100	San Antonio

4:00-4:20	WDBO 580 250	Orlando
	WEBQ 1210 100	Harrisburg
	KFYD 1310 100	Lubbock
4:10-4:30	WNBR 1430 500	Memphis
	WMPC 1200 100	Lapeer
	KONO 1370 100	San Antonio
4:20-4:40	WQAM 560 1000	Miami
	WHBF 1210 100	Rock Island
4:30-4:50	WDAE 1220 1000	Tampa
	WKBB 1500 100	Muskegon
	KFJM 1370 100	Grand Forks
4:40-5:00	WJEM 990 500	Tupelo
	WCBS 1210 100	Springfield
4:50-5:10	WCOG 880 500	Meridian
	WKBV 1500 100	Richmond
	KFGQ 1370 100	Boone
5:00-5:20	WTAX 1210 100	Springfield
	KGBX 1310 100	Springfield
5:10-5:30	WTOG 1260 1000	Savannah
	WHBD 1370 100	Mount Orab
	KCMC 1420 100	Texarkana
5:20-5:40	WHBU 1210 100	Anderson
5:30-5:50	WIBM 1370 100	Jackson
	KGFF 1420 100	Shawnee
5:40-6:00	WOMT 1210 100	Manitowoc
	KNOW 1500 100	Austin

October 18

1:01:1:09	CFCY 630 500	Charlottetown
	CMJP 1360 75	Moron
2:00-3:00	KFH 1300 1000	Wichita

October 4, 11, 18, 25

12:00-3:00	WCNW 1500 100	Brooklyn
3:00-4:00	XEFI 720 250	Chihuahua

Friday Mornings

	October 5	
2:00-3:00	CMJP 1360 75	Moron
3:00-3:20	WJW 1210 100	Akron
	KRMD 1310 100	Shreveport
3:10-3:30	WPAD 1420 100	Paduach
	KOTN 1500 100	Pine Bluff
3:20-3:40	WSEN 1210 100	Columbus
3:30-3:50	WELL 1420 50	Battle Creek
	KGEK 1200 100	Sterling
3:40-4:00	WALR 1210 100	Zanesville
	KFPL 1310 100	Dublin
3:50-4:10	WMBC 1420 100	Detroit
4:00-4:20	WCAT 1200 100	Rapid City
	WFDF 1310 100	Flint
	KGCU 1240 250	Mandan
4:10-4:30	WFBG 1200 100	Cincinnati
4:20-4:40	WGAR 1450 500	Cleveland
4:30-4:40	KLPM 1240 250	Minot
	WCLG 1200 100	Janesville
	KGFG 1370 100	Oklahoma City
4:40-5:00	WCLS 1310 100	Joliet
	KABC 1420 100	San Antonio
4:50-5:10	WJBL 1200 100	Decatur
	KFJZ 1370 100	Fort Worth
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
	WLBG 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

October 19

1:01-1:09	CFCY 630 500	Charlottetown
3:01-3:09	CHSJ 1120 100	St. John

October 5, 12, 19, 26

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

	October 6	
2:10-2:30	WBRB 1210 100	Red Bank
2:20-2:40	WWRU 1500 100	Woodside
2:30-2:50	WGNV 1210 100	Chester
2:40-3:00	WMBQ 1500 100	Brooklyn

(Continued on page 62)

THE SHORTWAVE STATIONS OF THE WORLD BY FREQUENCIES

In the list of stations arranged by frequencies, the frequency is given first, in megacycles followed by the wavelength in meters. The location of each station given in the frequency list is given as it is announced over the air.

A complete list of station addresses appears in the May issue of RADEX.

Continued from the September Number

KEY TO SYMBOLS IN PARENTHESES:

Capital letters indicate type of service, as follows:
A, Point-to-point, Condition A, Inverted modulation.
B, Point-to-point, Condition B, Intelligible speech.
E, Experimental.
F, Forestry service.
G, Airway ground station.
P, Police.
R, Relay (broadcasting).
SS, Ship to shore, or shore to ship, communication.

Small letters following the hyphen concern verifications, as follows:
a, verifies for return postage.
b, verifies only occasionally.
c, does not verify.
x, address given alphabetically in address list.
y, address not given.
z, no information available.
1, 2, 3, figures indicate key numbers in address list.

10.290 29.14	HPC, Panama City, Panama (B-cy) Phones Hialeah
10.296 29.12	LSL, Buenos Aires, Argentina (A-b-1)
10.330 29.02	ORK, Brussels, Belgium (B-bx) ORK, Brussels, Belgium (R-ax), Daily at 1 p.m.
10.335 29.01	ZFD, Hamilton, Bermuda (A-cy)
10.350 28.97	LSX, Buenos Aires, Argentina (B-cy) LSX, Buenos Aires, Arg. (R-ax; address letters to LR4)
10.370 28.91	WCG, Rocky Point, N. Y. (E-cy)
10.400 28.83	KEZ, Bolinas, Calif. (E-cy)
10.410 28.80	KES, Bolinas, Calif. (E-cy)
10.465 28.64	WKC, Rocky Point, N. Y. (E-cy)
10.520 28.50	CFA4, Drummondville, P. Q. (B-a-6) VK2ME, Sydney, Australia (A-a-3)
10.550 28.42	WOK, Lawrenceville, N. J. (A-cy)
10.610 28.25	WEA, Rocky Point, N. Y. (E-cy)
10.613 28.25	EDN, Madrid, Spain (B-a-28), Phones Canaries EDX, Madrid, Spain (B-a-28), Phones Chile
10.630 28.20	WED, Rocky Point, N. Y. (E-cy)
10.660 28.12	JVN, Nazaki, Japan (B-z)
10.740 27.92	JVM, Nazaki, Japan (A-z)
10.761 27.86	GBP, Rugby, England (A-a-16)
10.840 27.66	KWV, Dixon, Calif. (A-cy)
10.890 27.53	CMA, Havana, Cuba (B-b-31)
10.962 27.35	OCI, Lima, Peru (B-c-25)
11.187 26.80	XAM, Merida, Mex. (B-bx), Phones Mexico City
11.711 25.60	Radio Coloniale, Pontoise, France (R-ax)
11.720 25.58	CJRX, Winnipeg, Man. (R-a-33)
11.725 25.57	PHI, Hulzen, Holland (R-ax)
11.750 25.51	GSD, Daventry, England (R-a-17)
11.760 25.50	DJD, Zeelen, Germany (R-a-14)
11.790 25.43	WIXAL, Boston, Mass. (R-ax), Re- lays WEEI
11.800 25.40	I2RO, Rome, Italy (R-ax)
11.830 25.34	W2XE, Wayne, N. J. (R-ax), Relays WABC
11.865 25.27	GSE, Daventry, England (R-a-17)
11.870 25.25	W8XX, Pittsburgh, Pa. (R-ax), Re- lays KDKA
11.898 25.20	Rdo., Coloniale, Pontoise, France (R-ax)
11.950 25.08	KKQ, Bolinas, Calif. (E-cy)
12.000 24.99	RNE, Moscow, USSR. (R-ax)
12.148 24.68	GBS, Rugby, England (A-a-16)
12.241 24.41	GBU, Rugby, England (A-a-16)
12.394 24.19	DAF, Norden, Germany (SS-a-15)
12.660 23.68	CZA, Drummondville, P. Q. (SS-a-6)
12.780 23.46	GBC, Rugby, England (SS-a-16)
12.785 23.45	IAC, Coltano, Italy (SS-a-19)
12.820 23.38	CNR, Rabat, Morocco (B-a-same address as "Rabat"), Rabat, Morocco (R-ax)
12.830 23.36	HJA3, Barranquilla, Colombia (B-cy)
12.840 23.35	WOO, Ocean Gate, N. J. (SS-cy) WOY, Lawrenceville, N. J.
12.930 23.18	WAW, Hialeah, Fla. (B-cy)
13.074 22.94	JYK, Tokio, Japan
13.185 22.74	KFY, Forward Base, Little America (B-cy) KFZ, Main Base, Little America (B-cy)
13.200 22.71	CFU, Rossland, B. C. (Consolidated Mining & Smelting Co. of Canada, Ltd.) KFY, Forward Base, Little America (B-cy) KFZ, Main Base, Little America (B-cy) KNRA, "Seth Parker" (B-a-37)
13.245 22.64	KFY, Forward Base, Little America (B-cy) KFZ, Main Base, Little America (B-cy)
13.260 22.61	KFY, Forward Base Little America (B-cy) KFZ, Main Base, Little America (B-cy)

13.337 22.48	YVQ, Maracay, Venezuela (B-cy) Phones Hialeah
13.390 22.39	WMA, Lawrenceville, N. J. (A-cy)
13.435 22.31	WKD, Rocky Point, N. Y. (E-cy)
13.465 22.26	WKC, Rocky Point, N. Y. (E-cy)
13.480 22.24	WAJ, Rocky Point, N. Y. (E-cy)
13.500 22.09	GBB, Rugby, England (A-a-16)
13.610 22.03	JYK, Kemikawa-Cho, Chiba-Ken, Japan (R-z)
13.671 21.93	HAS, Budapest, Hungary (E-a-39)
13.690 21.90	KKZ, Bolinas, Calif. (E-cy)
13.780 21.75	KKW, Bolinas, Calif. (E-cy)
13.816 21.70	SUZ, Cairo, Egypt (B-a-10)
13.870 21.61	WIY, Rocky Point, N. Y. (E-cy)
13.900 21.57	WQP, Rocky Point, N. Y. (E-cy)
13.984 21.44	GBA, Rugby, England (A-a-16)
14.000 to 14.400	(20.82 to 21.42 meters), amateur band. Phones from 14.150 to 14.250 megs.
14.450 20.75	GBW, Rugby, England (A-a-16)
14.470 20.72	WMF, Lawrenceville, N. J. (A-cy)
14.480 20.70	LSN, Buenos Aires, Arg. (A-b-1) YNA, Managua, Nicaragua (B-cy), Phones
14.530 20.65	LSA, Buenos Aires, Arg. (A-b-1)
14.545 20.69	HPF, Panama City, Panama (B-cy) Phones Hialeah TGF, Guatemala City, Guatemala (B-cy) Phones Hialeah TIN, Cartago, Costa Rica (B-b-9) TIU, Cartago, Costa Rica (B-b-9)
14.590 20.55	WMN, Lawrenceville, N. J. (A-cy)
14.682 20.42	PSF, Rio de Janeiro, Brazil (A-b-4)
14.800 20.26	WQV, Rocky Point, N. Y. (E-cy)

14.815 20.23	WQL, Rocky Point, N. Y. (E-cy)
14.830 20.21	WKU, Rocky Point, N. Y. (E-cy)
14.930 20.08	HJB, Bogota, Colombia (B-cy)
14.969 20.03	EDQ, Madrid, Spain (B-a-28)
14.980 20.01	KAY, Manila, P. I. (A-cy)
15.040 19.93	WQG, Rocky Point, N. Y. (E-cy)
15.055 19.91	WNC, Hialeah, Fla. (B-cy)
15.104 19.85	RAU, Tashkent, USSR. (B-cy)
15.120 19.83	HVJ, Vatican City (R-ax)
15.140 19.81	GSF, Daventry, England (R-a-17)
15.200 19.73	DJB, Zeelen, Germany (R-a-14)
15.210 19.71	W8XX, Pittsburgh, Pa. (R-ax), Re- lays KDKA
15.234 19.68	Rdo., Coloniale, Pontoise, France (R-ax)
15.250 19.66	WIXAL, Boston, Mass. (R-ax), Re- lays WEEI
15.270 19.64	W2XE, Wayne, N. J. (R-ax), Relays WABC
15.300 19.70	CPS, La Paz, Bolivia (R-ax)
15.340 19.55	W2XAD, Schenectady, N. Y. (R-ax) Relays WGY
15.355 19.52	KWU, Dixon, Calif. (A-cy)
15.415 19.45	KWO, Dixon, Calif. (A-cy)
15.454 19.40	Rdo., Coloniale, Pontoise, France (R-ax)
15.620 19.19	JVS, Nazaki, Japan (A-z)
15.650 19.16	JVE, Nazaki, Japan (A-z)
15.762 19.02	JYT, Kemikawa-Cho, Chiba-Ken, Japan (R-z)
15.821 18.95	OCJ, Lima, Peru (B-c-25)

15.860 18.90	CEC, Santiago, Chile (B-c-7)
15.863 18.90	FTK, Ste. Assise, France (B-a-11)
16.030 18.71	KKP, Kahuku, Hawaii (A-cy)
16.150 18.56	GBX, Rugby, England (A-a-16)
16.162 18.55	PSA, Rio de Janeiro, Brazil (A-b-4)
16.270 18.48	WLK, Lawrenceville, N. J. (A-cy)
16.380 18.30	XGN, Shanghai, China (B-a-8)
17.080 17.55	GBC, Rugby, England (SS-a-16)
17.122 17.51	HAT, Budapest, Hungary (B-a-39)
17.120 17.51	WOO, Ocean Gate, N. J. (SS-cy) WOY, Lawrenceville, N. J.
17.260 17.37	CMA1, Havana, Cuba (B-c-31) DAF, Norden, Germany (SS-a-15)
17.310 17.32	CZA, Drummondville, P. Q. (SS-c-6) W3XL, Boundbrook, N. J. (R-a-37)
17.512 17.12	DFB, Nauen, Germany (B-a-13)
17.533 17.10	VWZ, Kirkee, Poona, India (B-z)
17.600 17.04	KFY, Forward Base, Little America (B-cy) KFZ, Main Base, Little America (B-cy)
17.620 17.01	KFY, Forward Base, Little America (B-cy) KFZ, Main Base, Little America (B-cy)
17.710 16.93	CJAS, Drummondville, P. Q. (A-c-6)
17.720 16.92	HSP, Bangkok, Siam (BX-a-27)
17.760 16.88	DJE, Zeelen, Germany (E-a-14)
17.770 16.87	IAC, Coltano, Italy (SS-a-10)
17.775 16.87	PHI, Hulzen, Holland (R-ax)
17.780 16.86	W3XL, Boundbrook, N. J. (R-a-37) W8XX, Pittsburgh, Pa. (R-ax) W9XAA, Chicago, Ill. (R-ax)
17.790 16.85	GSG, Daventry, England (R-a-17)

17.830 16.82 PCV, Kootwijk, Holland (A-b-18)	18.860 15.89 WKM, Rocky Point, N. Y. (E-cy)	19.895 15.07 LSG, Buenos Aires, Arg. (A-b-1)
17.860 16.78 WQC, Rocky Point, N. Y. (E-cy)	18.958 15.82 LSR, Buenos Aires, Arg. (B-b-1)	19.980 15.01 KAX, Manila, P. I. (A-cy)
17.880 16.76 WQI, Rocky Point, N. Y. (E-cy)	18.963 15.81 GAG, Rugby, England (A-a-16)	20.028 14.97 DHO, Nauen, Germany (B-a-13)
18.020 16.64 KQJ, Bolinas, California (E-cy)	19.121 15.68 LSM, Buenos Aires, Arg. (A-b-1)	OPL, Leopoldville, Belgian Congo (B-ax)
18.116 16.55 LSV, Buenos Aires, Arg. (B-b-2)	19.182 15.63 ORG, Brussels, Belgium (B-ax)	20.100 14.91 WQY, Rocky Point, N. Y. (E-cy)
18.170 16.50 PMC, Bandoeng, Java (A-a-22)	19.220 15.60 WKF, Lawrenceville, N. J. (A-cy)	20.368 14.72 GAA, Rugby, England (A-a-16)
18.180 16.49 CGA, Drummendville, P. Q. (A-c-6)	19.240 15.58 DFA, Nauen, Germany (B-a-13)	20.606 14.55 PMB, Bandoeng, Java (A-a-22)
18.193 16.48 GAW, Rugby, England (A-cy)	19.270 15.57 PPU, Rio de Janeiro, Brazil (A-b-5)	20.820 14.40 LSV, Buenos Aires, Arg. (B-b-2)
18.296 16.39 YVR, Maracay, Venezuela (B-cy)	19.282 15.55 FTM, Ste. Assise, France (B-a-11)	20.849 14.38 EDM, Madrid, Spain (B-a-28)
18.304 16.38 GAS, Rugby, England (A-a-16)	19.418 15.44 EDQ, Madrid, Spain (B-a-28)	EHY, Madrid, Spain (B-a-28)
18.350 16.34 WLA, Lawrenceville, N. J. (A-cy)	19.500 15.38 LSQ, Hurlingham, Buenos Aires, Arg.	21.020 14.27 LSN, Buenos Aires, Arg. (A-b-1)
18.400 16.29 PCK, Kootwijk, Holland (A-b-18)	19.506 15.37 IRW, Rome, Italy (B-a-20)	21.060 14.24 KWN, Dixon, Calif. (A-cy) Phones
18.444 16.25 HJY, Bogota, Colombia (B-cy)	19.519 15.36 EDN, Madrid, Spain (B-a-28)	Kokohead, Hawaii
18.611 16.11 GAU, Rugby, England (A-a-16)	EDX, Madrid, Spain (B-a-28)	WKA, Lawrenceville, N. J. (A-cy)
18.670 16.06 OCI, Lima, Peru (B-cy)	Phones Chile	21.069 14.23 PSA, Rio de Janeiro, Brazil (A-b-4)
18.690 16.04 XGK, Shanghai, China (B-b-8)	19.596 15.30 LSF, Buenos Aires, Arg. (A-b-1)	21.128 14.19 LSM, Buenos Aires, Arg. (A-b-1)
18.820 15.93 PLE, Bandoeng, Java (A-a-22)	19.680 15.24 CEC, Santiago, Chile (B-c-7)	21.410 14.00 WKK, Lawrenceville, N. J. (A-cy)
18.856 15.90 ZSS, Capetown, Union of S. Africa (A-z)	19.684 15.23 EAQ, Madrid, Spain (B-a-29)	21.460 13.97 W1XAL, Boston, Mass. (R-ax)
	19.820 15.13 WKN, Lawrenceville, N. J. (A-cy)	21.470 13.96 GSH, Daventry, England (R-a-17)
		21.540 13.92 W8XK, Pittsburgh, Pa. (R-ax)
		22.291 13.45 GBU, Rugby, England (A-a-16)

The RADEX Short Wave Converter is invaluable for short wave listeners. Just set the dial to the time in your zone and the time for all parts of the world is instantly shown. Complete with a Radio Map of the World.

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

C — The Shadow

KLRA WABC WBIG WBRC WCAU
WDAE WDBJ WDBO WDD WDSU
WGST WHEC WKBN WKBW WLAC
WMBG WNOX WQAM WREC
WSFA WSJS WTOG

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

R — Billy Batchelor

WBEN WCAE WCHS WFAE WEEI
WFBF WFI WGY WJAR WRC
WTAG WTAM WTIC WWJ

B — Lowell Thomas

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

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

B — Ames 'n' Andy

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

C — Myrt and Marge

CKLW KRLD WABC WADC WBT
WCAO WCAU WDAE WDBO WDRC
WEAN WFBL WGR WHK WJAS
WJSV WKRC WNAC WOKO WQAM
WSPD WTOG WWVA

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

R — Gene and Glenn

WBEN WCHS WFAE WEEI WFBF
WFLA WGY WIOD WIS WJAR
WJAX WPTF WRC WTAM WNNC

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 WORC WWVA

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

C — Beake Carter

CKLW KMBCKMOX WABC WBBM
WBT WCAO WCAU WCCO WGR
WHAS WHK WJAS WJSV WNAC

R — Frank Buck Adventures

KSD WBEN WCAE WCHS WDAF
WEAF WGY WLIT WMAQ WOW
WRC WSAI WTAM

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

R — Richard Himber and Orchestra

KSD WBEN WCAE WCHS WDAF
WEAF WEEI WFBF WGY WHO
WJAR WLIT WMAQ WOW WRC
WSAI WTAG WTAM WTIC

B — Jan Garber and Orchestra

KDKA KDYL KFI KGO KGW

KHQ KOA KOIL KOMO KSO KWCR
KWK KBAL WBZ WBZA WGAR
WHAM WJR WJZ WKBW WLS WLW
WMAL WREN WSYR

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

C — Edwin C. Hill

CFRB CKAC CKLW KGKO KMBC
KMOX KOH KRLD KVOR WABC
WADC WBIG WBT WCAU WCCO
WDBE WDBJ WDNC WDRC WFBL
WGST WHP WICC WJSV WLBZ
WMT WNAC WORC WQAM WREC
WSFA WTOG WWVA

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

R — Voice of Firestone

CFCF CRCT WBEN WCAE WCHS
WDAF WEAF WEEI WFBF WGY
WJAR WLIT WMAQ WRC WSAI
WTAG WTAM WTIC WWJ

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

C — Evan Evans, Baritone

CFRB CKAC KDB KERN KFBK
KFH KFPY KFRC KGB KGKO
KGMB KHJ KLRA KLZ KMJ
KMOX KOH KOIN KOL KOMA
KRLD KSCJ KSL KTRH KTSB
KTUL KVI KWG WABC WACO
WADC WALA WBIG WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDNC WDD WDSU
WFBL WFEA WGST WHAS WHEC
WHP WIBW WICC WISN WJAS
WKBW WKRC WLAC WLW WLBZ
WMAS WMBG WMBR WMT WNAC
WNOX WOKO WORC WPG WQAM
WREC WSFA WSJS WSPD WTOG

R — A. & P. Gypsies

KSD WBEN WCAE WCHS WDAF
WEAF WEEI WGY WHO WJAR
WLIT WMAQ WOC WOW WTAM
WTAM WTIC WWJ

B — Sinclair Minstrels

KDKA KFYR KOA KOIL KPRC
KSO KSTP KTBS KTHS KVOO
KWK WAPI WBAL WBZ WJAZ
WDAF WEBC WFAA WFLA WGAR
WHAM WIBA WIOD WIS WJAX
WJDX WJR WJZ WKY WLS WLW
WMC WOAI WPTF WREN WRVA
WSB WSM WSMB WSOC WTMJ
WNNC

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

C — Fray and Braggiotti

CFRB CKAC CKLW KFAB KFH
KGKO KLRA KLZ KMOX KOH
KOMA KRLD KSCJ KSL KTRH
KTSB KTUL KVOR WABC WACO
WADC WALA WBBM WBIG WBNS
WBRC WBT WCAO WCAU WCCO

WDAE WDBJ WDBO WDNC WDOD
WDRC WDSU WEAN WFBL WFBM
WFEA WGST WHAS WHK WHP
WIBW WICC WISN WJAS WJSV
WKBW WKRC WLAC WLW WLBZ
WMAS WMBG WMBR WMT WNAC
WNOX WOKO WORC WPG WQAM
WREC WSFA WSJS WSPD WTOG

C — Billy Batchelor

KDB KERN KFBK KFPY KFRC
KGB KHJ KOIN KOL KVI KWG

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

C — Lud Gluskin and Orchestra

CKLW KMBC KMOX WABC WADC
WBBM WCAO WCAU WDRC WEAN
WFBL WFBM WHAS WHK WJAS
WJSV WKBW WKRC WNAC WOKO
WOWO WSPD

R — Colgate House Party

KDYL KFI KFYR KGO KGW KHQ
KOA KORO KPRC KSD KSTP
KTBS KVOO WBEN WCAE WCHS
WDAF WDAY WEAF WEBC WEEI
WFAA WFBF 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
WWNC

B — Princess Pat Players

KDKA KOIL KSO KWCR KWK
KBAL 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 KFRC KGB KHJ KLZ KMBC
KMJ KMOX KOIN KOL KRLD
KSL KVI KWG WAAB WABC
WADC WBBM WBNS WCAO WCAU
WCCO WDRC WDSU WEAN WFBL
WFBM WHAS WHK WIBW WJAS
WJSV WKBW WKRC WOKO WOWO
WSPD

R — Contented Program

KDYL KFI KGO KGW KHQ KOA
KOMO KSD WBEN WCAE WCHS
WDAF WEAF WEEI WFAA WFBF
WGY WHO WJAR WLIT WLW
WMAQ WOC WOW WRC WTAM
WTAM WTIC WWJ

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

C — Fats Waller, Songs

CKAC KDB KFH KGKO KLRA
KLZ KMBC KOH KOIN KOMA
KRLD KTRH KTSB KTUL KVOR
WAAB WABC WACO WALA WBIG

MONDAY (Continued)

WBRC WBT WCAO WADC WDAE
WDBJ WDBO WDNC WDDO WDSU
WFLB WFBM WGST WHAS WHEC
WHP WIBW WIP WJAS WJSV
WKBN WKBW WLAC WLBW
WMBG WNOX WOKO WPG WQAM
WREC WSBT WSFA WSJS WSPD
WTOC

C — Myrt and Marge

KDB KERN KFBK KFPY KFCR
KGB KHJ KLRA KLZ KMBC KMJ
KMOX KOIN KOL KMA KSL KVI
KWG WBBM WBRC WCCO WDSU
WFBM WGST WHAS WLAC WREC

B — Amos 'n' Andy

KOIL KPRC KSTP KTHS KWK
WBAP WCKY WDAF WENR WFAA
WGAR WHAM WJR WKY WMC
WOAI WREN WSB WSM WSBM
WTMJ

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

C — Glen Gray and Orchestra
CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KMBC KMOX
KOH KMA KRLD KSL KTRH
KTSB KVRB WABC WACO WADC
WALA WBIG WBNS WBRC WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDDO WDRC WDSU WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WIC WISN WJAS
WJSV WKBW WKBW WLAC WLBW
WLBZ WMAS WMBG WNAC WNOX
WOKO WORC WPG WQAM WREC
WSBT WSFA WSJS WSPD WTOC

R — Gene and Glenn

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

C — Edwin C. Hill

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

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

R — Voice of Firestone
KDYL KFI KFSD KFYR KGH
KGIR KGO KGU KGW KHQ KOA
KOMO KSD KSTP KTAR WDAF
WDAE WDCB WHO WIBA WKBF
WOC WOW WTMJ

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

C — Enoch Light and Orchestra
CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KMBC KOH
KOH KMA KRLD KSL KTRH
KTSB KVRB WABC WACO WADC
WALA WBIG WBNS WBRC WBT
WCAO WCAU WDAE WDBJ WDBO
WDNC WDDO WDSU WEAN WFBL
WFBM WFEA WHEC WHK WHP
WJAS WJSV WKBW WLAC WLBW
WLBZ WMAS WMBG WNAC WOKO
WPG WQAM WREC WSBT WSFA
WSJ WSPD WTOC

TUESDAY

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

C — Edward Wurtzbach's Orchestra
CKLW KFAB KFH KGKO KLRA
KLZ KOH KMA KRLD KSCJ
KTRH KTSB KTUL KVRB WBBM
WBIG WBRC WCAO WCCO WDAE
WDBJ WDBO WDDO WHP WIBW

WISN WJSV WKRC WMT WNAJ
WNOX WSFA WSJS WSPD WTOC

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

C — Modern Mountaineers
CKLW KGKO KLRA KLZ KMBC
KMOX KOH KMA KRLD KSCJ
KSL KTRH KTSB KTUL KVRB
WAAB WABC WBIG WBRC WCAU
WDAE WDBJ WDBO WDNC WDDO
WDRB WDSU WEAN WFEA WGST
WHAS WHEC WHK WHP WISN
WJAS WJSV WKBW WLAC WLBW
WLBZ WMAS WMT WNAJ WNOX
WOKO WORC WQAM WREC WSFA
WSJS WSPD WTOC WWVA

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 — Peter Biljo and Orchestra
CFRB CKLW KFAB KFH KGKO
KLRA KLZ KOH KMA KRLD
KSCJ KSL KTRH KTSB KTUL
KVRB WABC WACO WALA WBIG
WBRC WBT WCAO WCAU WCCO
WDAE WDBJ WDBO WDNC WDDO
WDRB WDSU WFEA WGR WGST
WHEC WHP WICC WISN WJAS
WKBW WLAC WLBW WLBZ WNAC
WNAX WNOX WOKO WORC WQAM
WREC WSFA WSJS WSPD WTOC

R — Gene and Glenn, See Monday

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

C — Whisping Jack Smith
WABC WCAO WCAU WDRB WEAN
WFBL WGR WJAS WJSV WNAC
WOKO WORC

B — Household Musical Memories

KDKA KOIL KSO KWCW KWK
WBAL WBZ WBZA WENR WJZ
WMAL WREN

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

R — Frank Buck, See Monday

C — Boake Carter, See Monday

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

C — Frank Munn; Muriel Wilson
CKLW KMBC KMOX WABC WADC
WBBM WCAO WCAU WDRB WEAN
WFBL WFBM WGR WHAS WHK
WJAS WJSV WKRC WNAC WOKO
WOWO WSPD

R — Leo Reisman and Orchestra

WBEN WCAE WCHS WDAF WDAE
WDAF WGBE WHEI WFBW WFLA
WGY WHO WIOD WIS WJAX WJAX
WJDX WKBF WKY WLW WMAQ
WMC WOAI WOC WOW WPTF
WRC WRVA WSB WSM WSBM
WSOC WTAG WTAM WTMJ WWJ
WWNC

B — Eno Crime Clues

KDKA KOIL KSO KWCW KWK
WBAL WBZ WBZA WGR WJR
WJZ WLS WLW WMAL WREN
WSYR

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

B — Lawrence Tibbett

CFRC CRCT KDKA KOIL KSO
KWCW WBAL WBZ WBZA WGR
WHAM WJZ WLS WMAL WREN
WSYR

C — Abe Lyman; Vivienne Segal

CFRB CKLW KMBC KMOX WABC
WBBM WCAO WCAU WCCO WDRB
WEAN WFBL WFBM WGR WHEC
WHK WJSV WKRC WNAC WOKO

R — Wayne King and Orchestra

KPRC KSD KSTP WBEN WCAE
WCHS WDAF WDAF WDAF WFAA
WFI WGY WHO WJAX WKBF
WKY WMAQ WMC WOAI WOC
WOW WRC WSAI WSB WSM WSBM
WTAG WTAM WTMJ WTVJ WWJ

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

C — Billy Batchelor
KDB KERN KFBK KFPY KFCR
KGB KHJ KMJ KOIN KOL KVI
KWG

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

C — Bing Crosby; Boswell Sisters
CKLW KDB KERN KFBK KFPY
KFCR KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KSL
KTUL KVI KWG WABC WADC
WBBM WBT WCAO WCAU WCCO
WDSU WEAN WFBL WFBM WHAS
WHK WJAS WJSV WKBW WKRC
WNAC WOKO WORC WOWO WREC
WSPD

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

B — Mrs. Franklin D. Roosevelt
KDKA KOIL KSO KWCW KWK
WBAL WBZ WBZA WCKY WENR
WGR WHAM WJR WJZ WMAL
WREN WSYR

R — Seconyland Sketches

WBEN WCHS WDAF WHEI WGY
WJAR WTAG WTMJ

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

C — Glen Gray; Walter O'Keefe
CFRB CKAC CKLW KDB KERN
KFAB KFBK KFPY KFCR KGB
KGKO KGBB KHJ KLO KLRA
KLZ KMBC KMJ KMOX KOH
KOH KMA KRLD KSCJ KSL
KTRH KTSB KTUL KVI KVRB
KWG WABC WACO WADC WALA
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDNC WDDO WDRB WDSU
WEAN WFBL WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WICC WIP WISN WJAS
WJSV WKBW WKRC WLAC WLBW
WLBZ WMAS WMBD WMBG
WMBR WMT WNAC WNAX WNOX
WOKO WORC WOWO WPG WQAM
WREC WSBT WSFA WSJS WSPD
WTOC WWVA

R — Palmolive Beauty Box Theatre

CFRC CRCT KDYL KFI KFSD
KFPY KGHG KGR KGO KGW
KHQ KOA KOMO KPRC KSD KSTP
KTAR KTHS KTHS WAVE WCAE
WDAF WGBE WHEI WFBW WFLA
WGY WHO WIOD WIS WJAX WJAX
WJDX WKBF WKY WLW WMAQ
WMC WOAI WOC WOW WPTF
WRC WRVA WSB WSM WSBM
WSOC WTAG WTAM WTMJ WWJ
WWNC

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

C — Melodic Strings
KDB KGKO KOIN KSL KTRH
WABC WADC WBBM WBIG WBNS
WCAO WDBJ WDDO WDSU WFBM
WHEC WHK WHP WICC WMT
WNAX WSBT WSFA

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

C — Al Kavelin and Orchestra
KLRA WAAB WABC WBIG WBRC
WBT WCAO WDAE WDBJ WDBO
WDNC WDDO WDRB WDSU WGST

TUESDAY (Continued)

WJSV WLAC WMBG WNOX WQAM
WREC WSFA WSJS

B — Amos 'n' Andy, See Monday

C — Myrt and Marge, See Monday

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

Frank Dailey and Orchestra
CKAC CKLW KDB KFBK KFH
KGKO KLRA KLZ KMBC KOH
KOMA KSCJ KTRH KTSB KTUL
KVRB WABC WACO WADC WALA
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDDO WDRB WDSU WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHP WICC WISN WJAS
WJSV WKBW WLAC WLBW WLBZ
WMAS WMBD WMBG WNAC
WNAX WNOX WOKO WORC WQAM
WREC WSBT WSFA WSJS WSPD

R — Gene and Glenn, See Monday

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

R — Leo Reisman and Orchestra
KDYL KFI KGO KGW KHQ KOA
KOMO KSD WDAF WHO WLW
WOC WOW WSB WSM WSBM
WTMJ

WEDNESDAY

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

C — Edw. Wurtzbach, See Tuesday

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

B — Amos 'n' Andy, See Monday

C — Myrt and Marge, See Monday

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

C — Vera Van, Songs

CFRB CKAC CKLW KFAB KFH
KGKO KLRA KLZ KOH KMA
KRLD KSCJ KSL KTRH KTSB
KTUL KVRB WABC WACO WADC
WALA WBIG WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDDO WDRB WDSU WEAN
WFEA WGR WGST WHEC WHK
WHP WJAS WKBW WLAC WLBW
WLBZ WMAS WMBG WNAC WNOX
WOKO WORC WQAM WREC WSFA
WSJS WSPD WTOC

R — Gene and Glenn, See Monday

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

B — Irene Rich for Welch
KDKA KOIL KSO KWCW WAVE
WBAL WBZ WBZA WCKY WENR
WJZ WMAL WMC WREN WSB
WSM WSYR

C — Silver Dust, See Monday

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

R — Frank Buck, See Monday

C — Boake Carter, See Monday

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

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

B — Eno Crime, See Tuesday

R — Jack Pearl with Cliff Hall

CFRC CRCT, KDYL KFI KFYR

KGO KGW KHQ KOA KOMO KPRC
KSD KTAR KTHS KTHS KVOO
WAVE WBAF WBEN WCAE WCKY
WCHS WDAF WDAY WDAF WDBE
WEEI WFBW WFLA WGY WHO
WIBA WIOD WIS WJAX WJAX
WJDX WKV WLIT WMAQ WMC
WOAI WOC WOW WPTF WRC
WRVA WSAI WSB WSM WSBM
WTAG WTAM WTMJ WTVJ WWNC

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

C — Edwin C. Hill, See Monday

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

C — Everett Marshall and Vanities
CFRB CKAC CKLW KDB KERN
KFBK KFPY KFCR KGB KHJ
KLZ KMBC KMJ KMOX KOIN
KOL KOMA KRLD KSL KVI KWG
WABC WBBM WBT WCAO WCAU
WCCO WDSU WGR WHAS WHK
WIBW WJAS WJSV WKRC WLAC
WNAC

R — Wayne King, See Tuesday

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

C — Mickey Cochrane, Baseball
CKLW KMBC KMOX WABC WADC
WBBM WCAO WCAU WDRB WEAN
WFBL WFBM WHAS WHK WJAS
WJSV WKBW WKRC WNAC WSPD

B — Warden Lawes in Sing Sing

KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KWCW
KWK WBAL WBZ WBZA WGR
WJZ WKBF WLS WMAL WREN
WSYR

R — Fred Allen; Lennie Hayton

KPRC KSD KSTP KTHS KVOO
WBEN WCAE WCHS WDAF WDAF
WDBE WEEI WFAA WFBW WGY
WHO WIOD WIS WJAX WJAX
WLIT WLW WMAQ WMC WOAI
WOC WOW WPTF WRC WRVA
WSB WSM WSBM WTAG WTAM
WTIC WTMJ WWJ

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

C — Emory Deutsch and Orchestra
CFRB CKAC CKLW KFAB KFH
KGKO KLRA KLZ KMBC KMOX
KOH KMA KRLD KSCJ KSL
KTRH KTSB KTUL KVI WABC
WACO WADC WALA WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDDO WDRB WDSU WEAN WFBL
WFBM WFEA WGST WHEC WHK
WHP WIBW WICC WISN WJAS
WJSV WKBW WKRC WLAC WLBW
WLBZ WMAS WMBG WMBR WMT
WNAC WNAX WNOX WOKO WORC
WPG WQAM WREC WSFA WSJS
WSPD WTOC

C — Billy Batchelor, See Monday

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

C — Burns and Allen
CKLW KMBC KMOX KMA KRLD
KSCJ KTRH KTSB WABC WADC
WBBM WBIG WBT WCAO WCAU
WCCO WDRB WDSU WEAN WFBL
WFBM WHK WJAS WJSV WKBW
WKRC WNAC WOKO WORC WOWO
WSPD

B — John McCormack, Tenor

KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KSO KWCW KWK
WBAL WBZ WBZA WENR WGR
WJZ WKBF WMAL WREN WSYR

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

C — Byrd Expedition Broadcast
CKLW KDB KERN KFAB KFBK
KFLH KFPY KFCR KGB KHJ KLRA
KLZ KMBC KMJ KMOX KOIN KOL
KOMA KRLD KSL KTRH KTSB
KVI KWG WABC WACO WADC
WBBM WBNS WBT WCAO WCAU
WCCO WDAE WDRB WDSU WEAN
WFBL WFBM WGST WHAS WHEC
WHK WHP WIBW WJAS WJSV
WKBW WKRC WLAC WLBZ WMBG
WMT WNAC WNAX WOKO WORC
WOWO WQAM WREC

R — Guy Lombardo and Orchestra

KPRC KSD KTHS KTHS KVOO
WAVE WBEN WCAE WCHS WDAF
WDAF WEEI WFAA WFBW WFLA
WGY WHO WIOD WIS WJAX WJAX
WJDX WKBF WKY WLIT WLW
WMAQ WMC WOAI WOC WOW
WPTF WRC WRVA WSB WSM
WSBM WTAG WTAM WTMJ WWJ
WWNC

B — Dennis King; Louis Katzman

KDKA KDYL KFI KFYR KGO KGW
KHQ KOA KOIL KOMO KSO KSTP
KWCW KWK WBAL WBZ WBZA
WCKY WDAY WECB WENR WFAA
WGR WHAM WJR WJZ WMAL
WREN WSYR WTMJ

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

B — Harry Richman; Jack Denny

KDYL KFYR KOA KOIL KPRC
KSO KVOO KWCW KWK WBAL
WCKY WDAY WECB WENR WFAA
WGR WHAM WJR WJZ WKY
WMAL WREN WRVA WSYR WTMJ

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

C — Nick Lucas, Songs
CKAC CKLW KFH KGKO KLRA
KLZ KMBC KOH KOIN KMA
KRLD KSL KTRH KTSB KTUL
KVRB WAAB WABC WACO WADC
WALA WBIG WBRC WBT WDAE
WDBJ WDBO WDNC WDDO WDRB
WDSU WFBL WFBM WGST WHEC
WHP WIBW WIP WJAS WJSV
WKBW WLAC WLBW WMBG
WNOX WOKO WQAM WREC WSBT
WSFA WSJS WSPD WTOC

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 — Edwin C. Hill, See Monday

R — Gene and Glenn, See Monday

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

R — Fred Allen; Lennie Hayton
KDYL KFI KGO KGW KHQ KOA
KOMO

THURSDAY

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

C — Edw. Wurtzbach, See Tuesday

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

C — Eddie Dooley, Football Talks
WABC WBIG WBT WCAU WDBJ
WDRB WEAN WFBL WFEA WHEC
WHP WIBW WICC WJAS WKBW
WLBZ WMAS WMBG WNAC WOKO
WORC WSJS

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

C — Fats Waller's Rhythm Club
CKLW KFH KGKO KLRA KMBC
KMOX KOH KMA KRLD KSCJ
KSL KTRH KTSB KTUL KVRB
WBIQ WBRC WCAO WDAE WDBJ

THURSDAY (Continued)

WDDB WDNC WDOF WDSU WFBL
WGLO WHAS WHEC WHK WHP
WISN WJAS WKWB WLAC WLWB
WMAQ WMT WNAX WNOX WOKO
WQAM WREC WSFA WSJS WSPD
WTOC

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 — Jack Smith, See Tuesday

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

R — Frank Buck, See Monday

C — Boake Carter, See Monday

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

C — Kate Smith

CFRB CKAC CKLW KDB KFAB
KFH KGKO KLRA KIZ KMBC
KOH KSCJ KTRH KTSK KTUL
KVROR WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCOO WDAE WDBJ WDBO
WDNC WDOF WDSU WFLB WFLC
WGBL WFBM WFEA WGLC WGR
WGST WHEC WHK WHP WICW
WISN WJAS WLAC WLWB WLBZ
WMAQ WMT WNAX WNOX WOKO
WORC WPG WQAM WREC WSFA
WSJS WSMK WSPD WWVA

R — Rudy Vallee and Orchestra

CFRC CRCT KDYL KFYP KHQ
KPRC KSD KSTP KTAR KTHS
KVVO KAPL WBAF WBBN WCAE
WCSH WDAF WDAY WEAF WECB
WEEI WFBF WFI WFLA WGY
WHO WIOD WIS WJAR WJAX
WJDX WKY WMAQ WMC WOAI
WOC WOW WPTF WRC WRVA
WSM WSMB WTAG WTAM WTMJ
WTMJ WWJ WWNC

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

C — Glen Gray; Walter O'Keefe

CFRB CKAC CKLW KDB KERN
KFAB KFBK KFPY KFCR KGB
KGKO KGBB KHJ KLO KLRA KLZ
KMBC KMJ KMOX KOH KOIN
KOL KOMA KRLD KSCJ KSL
KTRH KTSK KTUL KVI KVROR
KWG WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCOO WDAE WDBJ
WDBO WDNC WDOF WDRS WDSU
WEAN WFLB WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WICC WIP WISN WJAS
WJSV WKBN WKRC WLAC WLWB
WLBZ WMAQ WMBD WMBG
WMBR WMT WNAX WNOX WOKO
WORC WOW WPG WQAM WREC
WRSB WSFA WSJS WSPD WTOP
WTVZ

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

C — Bar X Days and Nights

CKLW KMBC KMOX WABC WBBM
WCAO WCAU WDRS WEAN WFLB
WFBM WHAS WHK WJAS WJSV
WKWB WKRC WNAC

R — Maxwell House Show Boat
KDYL KFI KFSD KGLH KGIR
KGO KGW KHQ KOA KOMO KPRC
KSD KSTP KTAR KTBBS WAPI

WAVE WBAF WBBN WCAE WCHS
WDAF WEAF WEEI WFBF WFI
WFLA WGY WHO WIOD WIS WJAR
WJAX WJDX WKBF WKY WLW
WMAQ WMC WOAI WOC WOW
WRC WRVA WSAI WSB WSM
WSMB WTAG WTAM WTMJ WTMJ
WWJ WWNC

B — Death Valley Days

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

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

C — Billy Batchelor, See Monday

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

C — Fred Waring's Pennsylvanians
CKLW KDB KERN KFAB KFBK
KFH KFPY KFCR KGB KHJ KLRA
KLZ KMBC KMJ KMOX KOH
KOL KOMA KRLD KSCJ KSL
KTRH KTSK KTUL KVI KVROR
KWG WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCOO WDAE WDBJ WDBO
WDNC WDOF WDRS WDSU
WEAN WFLB WFBM WFEA WGLC
WGST WHAS WHEC WHK WHP
WIBW WICC WISN WJAS WJSV
WKBN WKWB WKRC WLAC
WLWB WLBZ WMAQ WMBG
WMBR WMT WNAX WNOX WOKO
WORC WOW WPG WQAM WREC
WRSB WSFA WSJS WSPD WTOP

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

C — 15 Minutes in Hollywood

CFRB CKAC CKLW KIZ KMBC
KMOX KOMA KRLD KSL KTRH
KTSK KTUL WABC WACO WBBM
WBNS WBT WCAO WCAU WCOO
WDAE WDBO WDRS WDSU WEAN
WFLB WGST WHEC WHK WJAS
WJSV WKRC WLAC WMBR WNAC
WOKO WQAM WSPD

R — Paul Whiteman; Al Jolson

CFRC CRCT KDYL KFI KFYP
KGO KGW KHQ KOA KOMO KPRC
KSD KSTP KTAR KTBBS KTHS
WBAF WBBN WCAE WCHS WDAF
WDAY WEAF WECB WEEI WFBF
WFI WGY WHO WIBA WJAR WKY
WLW WMAQ WOAI WOC WOW
WRC WTAG WTAM WTMJ WWJ

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

B — Archer Gibson, Organist

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

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

C — Tim Gutzler

CFRB CKLW KFAB KFH KLRA
KLZ KMBC KMOX KOH KOMA
KRLD KSCJ KSL KTRH KTSK
KTUL KVROR WABC WACO
WADC WALA WBBM WBIG WBNS
WBRC WBT WCAO WCAU WCOO
WDAE WDBJ WDBO WDNC WDOF
WDRS WDSU WEAN WFLB WFBM
WFEA WGLC WGST WHP WIBW
WICC WISN WJAS WJSV WKBN
WKWB WLAC WLWB WLBZ WMAQ
WMBD WMBG WMT WNAX WNOX
WOKO WORC WPG WQAM WREC
WRSB WSFA WSJS WSPD WTOP

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

C — Vera Van, Songs
CKLW KDB KFH KGKO KLRA
KLZ KMBC KOH KOIN KOMA
KRLD KTRH KTSK WAAB WABC
WACO WADC WALA WBIG WBRC
WBT WCAO WDAE WDBJ WDBO
WDNC WDOF WDRS WDSU WFLB
WFBM WGST WHAS WHEC WHP
WIBW WIP WJAS WJSV WKWB
WLAC WLWB WMBG WNOX
WOKO WQAM WREC WRSB WSFA
WSJS WSPD WTOP

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

Joe Haymes and Orchestra

CFRB CKLW KDB KFAB KFH
KGKO KLRA KLZ KMBC KOH
KOMA KRLD KSCJ KSL KTSK
KTUL KVROR WABC WACO WBBM
WBIG WBNS WBRC WBT WCAO
WCOO WDBJ WDBO WDNC WDOF
WDRS WDSU WEAN WFLB WFEA
WGST WHAS WHEC WHK WIBW
WICC WIP WJAS WJSV WKBN
WKWB WLAC WLWB WLBZ WMAQ
WMBD WMBG WMT WNAX WNOX
WNOX WOKO WORC WPG WQAM
WREC WRSB WSFA WSJS WSPD
WTOP

R — Gene and Glenn, See Monday

FRIDAY

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

C — H. V. Kaltenborn

CFRB CKLW KFAB KFH KGKO
KLRA KLZ KMOX KOH KOMA
KSCJ KSL KTRH KTSK KTUL
KVROR WABC WADC WBBM
WBIG WBNS WBRC WBT WCAO
WCAU WDAE WDBJ WDBO WDNC
WDOF WDRS WDSU WFLB WGLC
WGST WHAS WHEC WHP WIBW
WISN WJSV WKWB WLAC WLWB
WMBG WMT WNAX WOKO WORC
WQAM WREC WSFA WSJS WSMK
WSPD WTOP WWVA

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

C — Edw. Wurtzbech, See Tuesday

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

C — Esther Velas and Orchestra

CKLW KFH KGKO KLRA KLZ
KMBC KMOX KOH KOMA KRLD
KSCJ KSL KTRH KTSK KTUL
KVROR WABC WADC WBBM WBIG
WBNS WBRC WCAU WDAE WDBJ
WDBO WDNC WDOF WDRS WDSU
WEAN WFLB WFEA WGST WHAS
WHEC WHP WISN WJAS WKWB
WLAC WLWB WLBZ WMAQ WMT
WNAX WNOX WOKO WORC WQAM
WREC WRSB WSFA WSJS WSPD WTOP
WWVA

B — Lowell Thomas, See Monday

R — Billy Batchelor, 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 — Silver Dust, See Monday

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

R — Frank Buck, See Monday

C — Boake Carter, See Monday

FRIDAY (Continued)

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

R — Cities Service Concert

CRCT KDYL KOA KPRC KSD
KSTP KTBBS KTHS KVVO KYW
WBAF WBBN WCAE WCHS WDAF
WEAF WECB WEEI WFAA WFBF
WGY WHO WJAR WKY WLIT
WOAI WOC WOW WRC WRVA
WSAI WTAG WTAM WTMJ WTMJ
WWJ

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

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

C — True Story Court

CKLW KMBC WABC WADC WBBM
WCAO WCAU WCOO WDRS WEAN
WFLB WHK WJAS WJSV WKWB
WKRC WNAC WOKO

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

C — March of Time

CKLW KDB KERN KFBK KFPY
KFCR KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KSL KTRH KVI
KWG WABC WCAO WCAU WCOO
WDRS WDSU WEAN WFLB WFBM
WGN WGR WGST WHAS WHK
WJAS WJSV WKRC WNAC WOKO
WSPD

R — Frank Munn; Abe Lyman

KSD WBBN WCAE WCHS WDAF
WEAF WEEI WFBF 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 WCKY
WFAA WGAR WHAM WJZ WKY
WLS WMAL WOAI WREN WSB
WSM WSMB WSYR

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

C — Billy Batchelor, See Monday

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

C — Hollywood Hotel

CFRB CKAC CKLW KALE KDB
KERN KFAB KFBK KFH KFPY
KFCR KGB KGKO KGMB KHJ
KLO KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KSCJ KSL KTRH KTSK
KTUL KVI KVROR KWG WABC
WACO WADC WALA WBBM WBIG
WBNS WBT WCAO WCAU WCOO
WDAE WDBJ WDBO WDNC WDOF
WDRS WDSU WEAN WFLB WFBM
WFEA WGR WGST WHAS WHEC
WHK WHP WIBW WICC WIP WISN
WJSV WKBN WKRC WLAC WLWB
WLBZ WMAQ WMBD WMBG WMBR
WMT WNAX WNOX WNOX WOKO
WORC WOW WPG WQAM WREC
WRSB WSFA WSJS WSPD WTOP
WWVA

R — Pick and Pat

KSD WBBN WCAE WCHS WDAF
WEAF WFBF WGY WHO WJAR
WLIT WMAQ WOC WOW WRC
WSAI WTAG WTAM WTMJ WWJ

B — Armour Program

KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KPRC KSD KSTP
KTAR KWK WAPI WAVE WBAL
WBZ WBZA WECB WENR WFAA
WFLA WGAR WHAM WIOD WJAX
WJR WJZ WKY WMC WOAI WREN

WRVA WSB WSM WSMB WTMJ
WWNC

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 WBBN
WCAE WCHS WDAF WEAF WECB
WEEI WFAA WFBF WGY WHO
WJAR WKY WLIT WMAQ WMC
WOAI WOC WOW WRC WSAI WSB
WSM WSMB WTAG WTAM WTMJ
WTMJ WWJ

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

C — Carille, London, Warwick Sisters

CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KMBC KMOX
KOH KOMA KRLD KSCJ KSL
KTRH KTSK KTUL WAAB WABC
WACO WADC WALA WBIG WBNS
WBRC WCAO WCAU WCOO WDAE
WDBJ WDBO WDNC WDOF WDRS
WDSU WEAN WFBM WFEA WGR
WGST WHAS WHK WHP WIBW
WICC WJAS WJSV WLAC WLWB
WLBZ WMAQ WMBD WMBG WMT
WNAX WNOX WOKO WORC WQAM
WREC WSFA WSJS WSPD WTOP

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

C — Cliff Edwards, Ukulele Ike

CKAC CKLW KFH KGKO KLRA
KLZ KMBC KOH KOMA KRLD
KSL KTRH KTSK KTUL KVROR
WAAB WABC WACO WADC WALA
WBBM WBIG WBRC WBT WCAO
WDAE WDBJ WDBO WDNC WDOF
WDRS WDSU WFLB WFBM WGLC
WGST WHAS WHK WHP WIBW
WJAS WJSV WKWB WLAC WLWB
WMBG WNOX WOKO WQAM WREC
WSFA WSJS WSPD WTOP

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 — 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 KFCR
KGB KHJ KLZ KMBC KMJ KMOX
KOL KOL KSL KVI KWG WHAS
WOKO

SATURDAY

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

B — John Herrick, Baritone

KDKA KOIL KSO KWCR KWK
WBAL WCKY WGAR WJZ WKBF
WMAL WMAQ

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

C — Jerry Cooper, Baritone

CFRB CKAC CKLW KFAB KFH
KGKO KLRA KLZ KOH KOIN
KOMA KRLD KSCJ KTRH KTSK
KTUL KVROR WABC WACO WADC
WALA WBIG WBNS WBRC WBT
WCAO WCAU WCOO WDAE WDBJ
WDBO WDNC WDOF WDRS WDSU
WFEA WGLC WGR WGST WHAS
WHEC WHK WHP WIBW WICC
WJAS WJSV WLAC WLWB WLBZ
WMAQ WMBD WMBG WMT WNOX
WOKO WORC WQAM WREC WSFA
WSJS WSMK WSPD WTOP WWVA

B — Frank Black; John B. Kennedy

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

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 — Mary Eastman, Soprano

CFRB CKLW KFAB KGKO KLRA
KLZ KMBC KMOX KOH KOMA
KRLD KSCJ KTRH KTSK KTUL
KVROR WABC WACO WADC WALA
WBBM WBNS WBRC WBT WCAO
WCOO WDAE WDBJ WDBO WDNC
WDOF WDRS WDSU WEAN WFLB
WFBM WFEA WGLC WGR WGST
WHEC WHK WICC WJAS WJSV
WLAC WLWB WLWB WMAQ WMBG
WMT WNAC WNAX WNOX WOKO
WORC WQAM WREC WSFA WSJS
WSMK WSPD WWVA

R — Floyd Gibbons; Nat Shilkret

KPRC KSTP WAPI WBAF WBBN
WCHS WEAF WFI WFLA WGY
WHO WIOD WJAR WKY WLW
WMAQ WMC WOW WRC WRVA
WSB WSMB WTAG WTAM WTMJ
WTMJ WWJ

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

C — Easy Revue

CFRB CKAC KLRA KLZ KMBC
KMOX KOMA KRLD KSL KTRH
KTSK WABC WBBM WBSR WCAO
WCAU WCOO WDOF WDRS WDSU
WEAN WFLB WFBM WGR WGST
WHAS WHK WIBW WJAS WJSV
WKRC WLAC WMT WNAC WOKO
WORC WOW WREC

R — Swift Program

KDYL KFI KGO KGW KHQ KOA
KOMO KPRC KSD KSTP KTBBS
WBAF WBBN WCAE WCHS WDAF
WEAF WECB WEEI WFAA WFBF
WFI WGY WHO WIBA WJAR WKY
WLIT WLW WMAQ WOAI WOC
WOW WRC WTAG WTAM WTMJ
WTMJ WWJ

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

C — Fats Waller's Rhythm Club

CKAC CKLW KFH KGKO KLRA
KLZ KMBC KMOX KOH KOMA
KRLD KSCJ KSL KTRH KTSK
KVROR WABC WADC WALA WBBM
WBIG WBNS WBRC WBT WCAO
WCAU WCOO WDAE WDBJ WDBO
WDNC WDOF WDRS WDSU WEAN
WFLB WFBM WFEA WGLC WGR
WGST WHEC WHK WHP WICC
WISN WJAS WJSV WLAC WLWB
WLBZ WMBD WMBG WMT WNAC
WNOX WOKO WORC WPG WQAM
WREC WSFA WSJS WSMK WSPD
WTOP WWVA

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

C — Leith Stevens and Orchestra

CFRB CKLW KFH KGKO KLRA
KLZ KMBC KOH KOMA KRLD
KSCJ KTRH KTSK KTUL KVROR
WABC WACO WADC WALA WBIG
WBNS WBRC WBT WCAO
WCAU WCOO WDAE WDBJ WDBO
WDNC WDOF WDRS WDSU WFLB
WFBM WFEA WGLC WGR WGST
WHEC WHK WHP WIBW WICC
WJAS WJSV WLAC WLWB WLBZ
WMAQ WMBD WMBG WMT WNOX
WOKO WORC WQAM WREC WSFA
WSJS WSMK WSPD WTOP WWVA

B — Frank Black; John B. Kennedy

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

SATURDAY (Continued)

R — One Man's Family

CFRC KDYL KFYR KOA KPO
KPRC KSD KSTP KTBS KTBS
KVVO WBNB WCAE WDAF WDAY
WEAF WFBF WFI WFLA WGY
WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WMAQ WMC
WOAI WOC WOW WRC WRVA
WSAI WSB WSMB WTAG WTAM
WWJ WNNC

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

R — Gibson Family Musical

KDYL KFI KFYR KGO KGW KHQ
KOA KOMO KSD WBNB WCAE
WCSE WDAF WDAY WEAF WECB
WEEI WFBF WFI WGY WIBA
WJAR WLW WMAQ WOW WRC
WTAG WTAM WTIC WTMJ WWJ

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

C — Manhattan Serenaders

CFRB CKLW KFH KGKO KLRA
KLZ KMBC KOH KOMA KRLD
KSCJ KTRH KTSB KTUL KFOR
WAAB WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDOD WDRC WDSU WFLB
WFBM WFEA WGL WGLC WGR
WGST WHEC WHK WHP WIBW
WICC WJAS WJSV WLAC WLWB
WLWB WMAQ WMBD WMBG WMT
WNOX WOKO WORC WQAM WREC
WSFA WSJS WSMK WSPD WTOC
WWVA

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

C — Elder Milchiaux and Congregation

CFRB CKLW KDB KFH KGKO
KLRA KLZ KMBC KOH KOIN
KOMA KRLD KSCJ KTRH KTSB
KTUL KFOR WAAB WABC WACO
WADC WALA WBIG WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDNC WDOD WDRC
WDSU WFLB WFBM WFEA WGR
WGST WHEC WHK WHP WIBW
WICC WJAS WJSV WLAC WLWB
WLWB WMAQ WMBD WMBG WMT
WNOX WOKO WORC WQAM WREC
WSFA WSJS WSPD WTOC WWVA

B — National Barn Dance

KDKA KDYL KFI KGO KGW KHQ
KOA KOMO KPRC KSD KTRH
KTSB WDAF WDAY WEAF WECB
WEEI WFBF WFI WGY WJAR
WOC WOW WRC WSAI WTAG
WTAM WWJ

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

C — Sylvia Froese, Songs

CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KOH KOIN
KOMA KRLD KSCJ KTRH KTSB
KTUL WAAB WABC WADC WALA
WBRC WBT WDAE WDBJ WDBO
WDNC WDOD WDRC WDSU WFLB
WFBM WFEA WGST WEAS WHP
WIBW WIP WJAS WJSV WLAC
WLWB WMBG WNOX WOKO
WQAM WREC WSFA WSJS WSPD
WTOC

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

C — Joe Haymes and Orchestra

CFRB CKAC CKLW KDB KFH
KGKO KLZ KMBC KMOX
KOH KOIN KRLD KSCJ KTRH
KTSB KTUL KFOR WABC WACO
WADC WALA WBBM WBRC WBT
WCAO WCAU WCCO WDAE WDBJ
WDBO WDNC WDOD WDRC WDSU
WEAN WFLB WFBM WFEA WGST

WHEC WHP WIBW WICC WISN
WJAS WJSV WKBW WLAC WLWB
WLWB WMAQ WMBD WMBG WMT
WMAQ WNAQ WNOX WOKO WORC
WQAM WREC WSFA WSJS WSPD

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

R — Floyd Gibbons; Nat Shilkret

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 KFBK KFH KGKO KLRA
KLZ KMBC KOMA KRLD KSCJ
KSL KTRH KTUL WACO WADC
WALA WBBM WBIG WBNS WBT
WCAO WCCO WDAE WDBJ WDBO
WDOD WDSU WFLB WFEA WGST
WHAS WHEC WHK WHP WIBW
WICC WISN WJAS WJSV WKBW
WLAC WLWB WLWB WMAQ WMBD
WMT WNAQ WNOX WOKO WORC
WPG WQAM WREC WSFA WSJS
WSPD WTOC

R — Major Bowes' Family

KDYL KFYR KOA KPRC KSTP
KTBS KVOO WAPI WCAE WDAF
WDAY WEAF WECB WFAA WFBF
WFLA WGY WHO WIOD WJAR
WJAX WKY WMAQ WMC WOAI
WOC WRC WRVA WSAI WSMB
WTAG WTAM WNNC

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

C — Tite Gular

CKLW KMBC KMOX WABC WADC
WBBM WCAO WCAU WDRC WEAN
WFLB WFBM WGR WHAS WHK
WJAS WJSV WKRC WMAQ WNAQ
WOKO WORC WOW WSPD

R — Chicago Round Table

WBNB WCHS WDAF WEAF WEEI
WFBF WFI WGY WHO WJAR
WOC WOW WRC WSAI WTAG
WTAM WWJ

B — Radio City Symphony

CFRC CRCT KDKA KDYL KFI
KFIYR KGO KGW KHQ KOA KOIL
KOMA KPRC KSD KVOO WAPI
WBAL WBZ WBZA WCKY WDAY
WECB WGR WHAM WIS WJDX
WJR WJZ WKY WMAL WOAI
WREN WSMB WSYR WNNC

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

C — Church of the Air

CFRB CKLW KFH KLRA KLZ
KMBC KOH KOMA KRLD KSCJ
KSL KTRH KTUL KFOR WAAB
WABC WACO WALA WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDOD WDRC WDSU WFLB WGR
WGST WHAS WHEC WHP WISN
WJAS WJSV WKBW WLAC WLWB
WMBD WMT WNAQ WOKO WORC
WPG WQAM WREC WSBT WSJS
WSPD WWVA

R — Dale Carnegie, Talks

WBNB WCAE WDAF WEAF WFBF
WFI WGY WJAR WRC WSAI
WTAG WTAM WTIC WWJ

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

C — Compinsky Trio

CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KMBC KOH
KOIN KOMA KRLD KSCJ KSL
KTRH KTUL KFOR WABC WACO
WADC WALA WBBM WBIG WBNS
WBRC WBT WCAO WCAU WCCO

WDAE WDBJ WDBO WDNC WDOD
WDRC WDSU WFLB WGR WGST
WHEC WHK WHP WJAS WJSV
WKBW WLAC WLWB WMBD
WMT WNAQ WOKO WORC WPG
WQAM WREC WSBT WSFA WSJS
WSPD WTOC WWVA

R — Miss Bab-o's Surprise

WBNB WCAE WCHS WDAF WEAF
WEEI WFBF WFI WGY WHO
WJAR WMAQ WOW WRC WSAI
WTAG WTAM WWJ

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

C — Manhattan Moods

CFRB CKLW KFH KGKO KLRA
KLZ KMBC KMOX KOH KOMA
KRLD KSCJ KSL KTRH KTSB
KTUL WABC WACO WADC WALA
WBBM WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDOD WDRC WDSU WEAN WFLB
WFEA WGST WHAS WHEC WHP
WIBW WICC WJAS WKBW WKBW
WLAC WLWB WLWB WMAQ WMT
WNAQ WNOX WOKO WORC WPG
WQAM WREC WSBT WSFA WSJS
WSPD WWVA

R — Mohawk Treasure Chest

KDYL KFI KGO KGW KHQ KOA
KOMO WBNB WCAE WCHS WEAF
WEEI WFBF WGY WHO WJAR
WLIT WLW WMAQ WOC WOW
WRC WTAG WTAM WTIC WWJ

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

C — Abram Chasins, Piano Pointers

CFRB CKLW KFH KGKO KLRA
KLZ KMBC KMOX KOH KOMA
KRLD KSCJ KSL KTRH KTSB
KTUL WABC WACO WADC WALA
WBRC WBT WCAO WCAU WCCO
WDAE WDBJ WDBO WDNC WDOD
WDRC WDSU WEAN WFLB WFEA
WGST WHAS WHEC WHP WIBW
WICC WJAS WJSV WKBW WKBW
WLAC WLWB WLWB WMAQ WMT
WNAQ WNOX WOKO WORC WPG
WQAM WREC WSBT WSFA WSJS
WSPD WWVA

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

C — Lazy Dan, Minstrel Man

CKLW KMBC KMOX KRLD WABC
WBBM WCAO WCAU WCCO WHAS
WHK WJAS WJSV WKBW WKRC
WMBG

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

C — Symphonic Hour

CFRB CKAC CKLW KFBK KFH
KGKO KLRA KLZ KMBC KMOX
KOH KOIN KOMA KRLD KSCJ
KSL KTRH KTSB KTUL KFOR
WABC WADC WALA WBIG WBNS
WBRC WCAO WCAU WCCO WDAE
WDBJ WDBO WDNC WDOD WDRC
WDSU WEAN WFLB WFBM WFEA
WGR WGST WHAS WHEC WHK
WHP WIBW WICC WISN WJAS
WJSV WKBW WLAC WLWB WLWB
WMAQ WMBG WMT WNAQ WNOX
WOKO WORC WQAM WREC WSBT
WSJS WSPD WTOC

R — Talkie Picture Time

WAPI WBNB WCAE WCHS WDAF
WEAF WEEI WFBF WGY WHO
WJAR WJDX WLIT WMAQ WMC
WOC WOW 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

SUNDAY (Continued)

KOMO WBNB WCAE WCHS WDAF
WEAF WEEI WFBF WGY WJAR
WLIT WLW WMAQ WOW WRC
WTAG WTAM WTIC WWJ

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

C — Buffalo Variety Workshop

CFRB CKAC CKLW KDB KFH
KLRA KLZ KMBC KMOX KOH
KOIN KOMA KRLD KSCJ KSL
KTRH KTUL KFOR WABC WADC
WALA WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDOD WDRC WDSU WEAN
WFLB WFBM WFEA WGR WGST
WHEC WHP WIBW WICC WISN
WJAS WJSV WLWB WLWB WMAQ
WMBD WMT WNAQ WNOX WOKO
WQAM WREC WSBT WSFA WSJS
WSPD WTOC

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

R — Tony Wons

KDYL KFI KFSB KFYR KGO KGW
KHQ KOA KOMO KSTP KTAR
WAPI WECB WJDX WMC WSB
WSMB WSMB

C — Oregon on Parade

CFRB CKAC CKLW KDB KFH
KGKO KLRA KLZ KMBC KMOX
KOH KOIN KOMA KRLD KSCJ
KSL KTRH KTUL KFOR WABC
WADC WALA WBIG WBNS WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDNC WDOD WDSU
WEAN WFLB WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WICC WISN WJAS WKBW
WLAC WLWB WLWB WMAQ WMT
WNAQ WNOX WOKO WORC WPG
WQAM WREC WSFA WSJS
WSPD WTOC

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

R — Big Ben Dream Drama

WBNB WCAE WCHS WDAF WEAF
WEEI WFBF WFI WGY WJAR
WMAQ WOC WOW WRC WSAI
WTAG WTAM WTIC

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

C — Freddie Martin and Orchestra

CKLW KDB KERN KFBK KFH
KFPY KFRG KGB KHJ KLRA KLZ
KMBC KMB KMOX KOIN KOL
KOMA KRLD KSL KTRH KTSB
KTUL KYI KWG WABC WADC
WBBM WBIG WBNS WBRC WBT
WCAO WCAU WCCO WDOD WDRC
WDSU WEAN WFLB WFBM WGR
WGST WHAS WHEC WHK WIBW
WJAS WJSV WKBW WKRC WLAC
WLWB WMAQ WMBG WNAQ WOKO
WORC WOW WREC WSPD

R — Roses and Drums

KDKA KOIL KPRC KSD KTSB
KWCR KWK WBAL WBPB WBZ
WBZA WENR WGR WHAM WJZ
WKY WLW WMAL WOAI WREN
WSYR

R — Sentinels Serenade

WBNB WCAE WCHS WDAF WEAF
WEEI WFBF WFI WGY WJAR
WMAQ WOW WRC WSAI WTAG
WTAM WTIC WWJ

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

C — Poets' Gold; David Ross

CFRB CKAC KDB KFH KGKO
KLRA KLZ KMBC KMOX KOH
KOIN KOMA KRLD KSCJ KTRH
KTSB KTUL KFOR WAAB WABC
WADC WBIG WBNS WBRC WBT

WCAO WCAU WCCO WDAE WDBJ
WDBO WDNC WDOD WDRC WDSU
WEAN WFLB WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WICC WISN WJAS WJSV
WKRC WLAC WLWB WLWB WMBD
WNOX WOKO WORC WOW WPG
WQAM WREC WSBT WSFA WSJS
WSPD WTOC

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

R — Tony Wons

CFRC CRCT KPRC KTHS KVOO
WBAF WBNB WCAE WCHS WDAF
WEAF WEEI WFI WGY WHO
WIS WJAR WKY WLW WMAQ
WOAI WOV WPTF WRC WRVA
WSOC WTAM WTIC WWJ WNNC

C — Frank Crumit; Julia Sanderson

CKLW KFH KMBC KMOX KOMA
KTUL WAAB WABC WADC WBNS
WCAO WCAU WDRC WDSU WEAN
WFLB WFBM WGR WHAS WHEC
WHK WICJ WJSV WMAQ WOKO
WORC WSPD WWVA

B — American Bosch Explorers Club

KDKA KDYL KFI KFYR KGO
KOW KHQ KOA KOIL KOMO
KSO KSTP KWCR KWK WAPI
WAVE WBAL WBZ WBZA WCKY
WDAY WECB WENR WGR WHAM
WIBA WJDX WJR WJZ WKBF
WMAL WMC WREN WSB WSM
WSYR

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

C — Nick Lucas, Songs

CFRB CKAC CKLW KDB KFBK
KGKO KLRA KLZ KMBC KMOX
KOH KOIN KOMA KRLD KSCJ
KSL KTRH KTSB KTUL KFOR
WABC WADC WBBM WBIG WBRC
WBT WCAO WCAU WCCO WDAE
WDBJ WDBO WDNC WDOD WDRC
WDSU WFLB WHK WHP WIBW
WJAS WJSV WKBW WKBW WLAC
WMT WNOX WOKO WORC WPG
WQAM WREC WSBT WSFA WSJS
WSPD WTOC WWVA

R — Catholic Hour

KDYL KFYR KOHL KOIR KGW
KOA KOMO KPO KPRC KSTP
KTAR KTBS KVOO WAPI WBAF
WBNB WCAE WCHS WDAF WDAY
WEAF WECB WEEI WENR WFBF
WFLA WGY WHO WIBA WIOD
WIS WJAR WJAX WJDX WKY
WLIT WMC WOAI WOC WOW
WRC WRVA WSAI WSB WSM
WSMB WTAG WTAM WWJ WNNC

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

C — Summer Musicale

CFRB CKAC CKLW KDB KFBK
KFG KOHL KPRC KSD KTSB
KSCJ KSL KTRH KTSB KTUL
KFOR WABC WADC WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDBJ WDBO WDNC WDOD
WDRC WDSU WEAN WFLB WFBM
WFEA WGST WHAS WHP WIBW
WICC WJAS WJSV WKBW WKBW
WLAC WLWB WLWB WMAQ WMT
WNAQ WNAQ WNOX WOKO WORC
WREC WSBT WSFA WSJS WTOC
WWVA

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

C — Smiling Ed McConnell

CKLW KMBC KMOX WABC WBBM
WBNS WCAU WCCO WDRC WEAN
WFLB WFBM WFEA WHAS WHK

WHP WISN WJAS WJSV WKBW
WKRC WNAQ WWVA

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
WDRC WEAN WFLB WGR WHAS
WHK WJAS WJSV WKBW WKRC
WNAQ WOW WWVA

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

C — Richard Himber and Orchestra

CKLW KFH KMBC KMOX KOMA
KRLD KTUL WABC WADC WBBM
WBNS WBT WCAO WCAU WCCO
WDRC WDSU WEAN WFLB WFBM
WHK WJAS WJSV WKBW WKBW
WKRC WNAQ WNOX WSBT WSPD

R — Jack Benny

KDYL KFYR KGO KGW KHQ
KOA KOMO KPRC KSD KTSB
KTHS WAVE WBNB WCAE WCHS
WDAF WDAY WEAF WECB WEEI
WFAA WFBF WFI WFLA WGY
WHO WIBA WIOD WIS WJAR
WJAX WJDX WKY WLIT WLW
WMAQ WMC WOAI WOC WOW
WPTF WRC WRVA WSB WSM
WSMB WTAG WTAM WTAR WTIC
WTMJ WWJ WNNC

B — Charles Previn and Orchestra

KDKA KDYL KFI KGO KGW KHQ
KOA KOIL KOMO KPRC KSO
KSTP KWCR KWK WBAL WBAF
WBZ WBZA WECB WGR WHAM
WIBA WJDX WJR WJZ WLS
WLW WMAL WMC WOAI WREN
WSB WSM WSMB WSYR WTMJ

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

C — Buddy Rogers; Jeanie Lang

CKLW KMOX WABC WADC WBBM
WBNS WBRC WCAO WCAU WDRC
WEAN WFLB WFEA WHK WICC
WJAS WKBW WLWB WMAQ WMBR
WNAQ WOKO WORC WSBT WSFA
WWVA

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

R — Fitch Program; Wendell Hall

CFRC KSD WBNB WCAE WCHS
WEAF WFBF WGY WHO WJAR
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 — Columbia Variety Hour

CFRB CKLW KDB KFBK KFH
KGKO KLRA KLZ KMBC KMOX
KOH KOIN KOMA KRLD KSCJ
KSL KTRH KTSB KTUL KFOR
WABC WADC WALA WBIG WBNS
WBRC WBT WCAO WCAU WCCO
WDBJ WDNC WDOD WDRC WDSU
WEAN WFLB WFBM WFEA WGR
WGST WHAS WHEC WHK WHP
WIBW WICC WISN WJAS WKBW
WLAC WLWB WLWB WMAQ WMT
WNAQ WNAQ WNOX WOKO WORC
WREC WSBT WSFA WSJS WTOC
WWVA

R — Chase and Sanborn Hour

CFRC CRCT KDYL KFI KFYR
KGO KGW KHQ KOA KOMO KPRC
KSD KSTP KTAR KTHS KVOO
WAPI WAVE WBNB WBZ WCAE
WCHS WDAF WDAY WEAF
WECB WFAA WFBF WFLA WGY
WHO WIOD WIS WJAR WJAX
WJDX WKY WLIT WLW WMAQ
WMC WOAI WOC WOW WPTF
WRC WRVA WSB WSM WSMB

SUNDAY (Continued)

WTAG WTAM WTIC WTMJ WWJ
WWNC

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

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

B — **Gulf Headliners**

KDKA KPRC KTBS WAVE WBAL
WBZ WBZA WFAA WFLA WJAR
WHAM WIOD WIS WJAX WJDX
WJR WJZ WLW WMAL WOAI
WRVA WSM WSMB WSYR WWNC

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

C — **Fred Waring's Pennsylvanians**
CFRB CKAC CKLW KDB KERN
KFAB KFBK KFH KFPY KFRG
KGB KHJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KSCJ KSL KTRH KTSB
KTUL KYI KYOR KWG WABC
WACO WADC WALA WBBM WBNS
WBRC WBT WCAU WCCO WDAE
WDBJ WDBO WDNC WDOE WDRC
WDSU WEAN WFBL WFBM WFEA
WGR WGST WHAS WHEC WHK
WHP WIBW WICW WISN WJAS
WJSV WKBN WKRC WLAC WLWB
WLWB WMBM WMBR WMT WNAC
WNAX WNOX WOKO WORC WOWO
WPG WQAM WREC WSFA WSJS
WSPD WTOG

R — **Album of Familiar Music**

CFCC CRCT KDYL KFI KGO KGW
KHQ KOA KOMO KPRC KSD KSTP

KVOO WBNB WCAE WCSH WDAF
WEAF WEEL WFAA WFBR WFI
WFLA WGY WHO WIOD WIS WJAR
WJAX WJDX WKY WMAQ WMC
WOAI WOC WOW WPTF WRC
WRVA WSAI WSM WSMB WTAG
WTAM WTMJ WWJ WWNC

B — **Walter Winchell**

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

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

R — **Hall of Fame**

CFCC CRCT KDYL KFI KGO KGW
KHQ KOA KOMO KPRC KSD KSTP
KTBS KTHS WBNB WCAE WCSH
WDAF WEAF WEEL WFAA WFBR
WFI WGY WHO WJAR 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
WJAR WHAM WJR WJZ WMAL
WREN WSYR

C — **Wayne King, See Monday**

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

C — **Howard Barlow; Mary Eastman**
CFRB CKAC CKLW KFH KFCO
KLZ KMBC KMOX KOMA KRLD
KSL KTRH KTSB KTUL KYOR

WAAB WABC WACO WADC WBBM
WBIG WBNS WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDOE WDRC WDSU WEAN WFBL
WGR WGST WHEC WHK WHP
WJAS WJSV WKRC WLAC WMBR
WMT WOKO WPG WQAM WREC
WSJS WSPD WTOG

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

R — **Fitch Program; Wendell Hall**

KDYL KFI KFYR KGO KGW KHQ
KOA KOMO KPRC KSTP KTBS
WAVE WBAF WDAF WDAY WECB
WIBA WKY WOAI WTMJ

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 WBAF WKY WOAI

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

C — **Glen Gray and Orchestra**

CFRB CKAC CKLW KFBK KFH
KGO KLRA KLZ KMBC KOH
KRLD KSCJ KTRH KTSB KTUL
KVOR WABC WACO WADC WALA
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDOE WDRC WDSU WEAN
WFBL WFBM WFEA WGR WGST
WHAS WHEC WHK WHP WIBW
WICW WISN WJAS WJSV WKBN
WLAC WLWB WLWB WMAF WMBD
WMT WNAC WNAX WOKO WPG
WQAM WREC WSBT WSFA WSJS
WSPD WTOG

C — **Richard Himber and Orchestra**

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

Myrt and Marge, 7:00 and 11:00 p.m. daily, except
Sat. and Sun., C

One Man's Family, 9:00 p.m. Saturday, R

Princess Pat Players, 9:30 p.m. Monday, B

Irene Rich, 7:30 p.m. Wednesday, B

Roses and Drums, 5:00 p.m. Sunday, B

The Shadow, 6:30 p.m. Mon. and Wed., C

Sootyland Sketches, 9:30 p.m. Tuesday, R

Talkie Picture Time, 3:00 p.m. Sunday, R

Tastyest Theatre, 9:45 p.m. Sunday, B

True Story Court, 8:30 and 11:30 p.m. Friday, C

PIANO AND ORGAN

Abram Chasins, 2:15 p.m. Sunday, C

Carlile and London, 10:45 p.m. Friday, C

Frax and Braggiotti, 9:15 p.m. Monday, C

Archer Gibson, 10:30 p.m. Thursday, B

Ohman and Arden, 9:30 p.m. Sunday, R

POPULAR PROGRAMS

Album Familiar Music, 9:30 p.m. Sunday, R

A & P Gypsies, 9:00 p.m. Sunday, R

Miss Babo's Surprise, 1:30 p.m. Sunday, R

Major Bowes' Family, 11:30 a.m. Sunday, R

Buffalo Variety, 4:00 p.m. Sunday, C

Byrd Expedition, 10:00 p.m. Wednesday, C

Camel Program, 10:00 p.m. Tues.; 9:00 p.m. Thurs., C

Chase and Sanborn, 8:00 p.m. Sunday, R

Cities Service, 8:00 p.m. Friday, R

Columbia Variety, 8:00 p.m. Sunday, C

Contented Program, 10:00 p.m. Monday, R

Colgate House Party, 9:30 p.m. Monday, R

Fleischmann Variety, 8:00 p.m. Thursday, R

Forty-Five Minutes in Hollywood, 10:00 p.m. Thursday, C

Gibson Family Musical, 9:30 p.m. Saturday, R

Gulf Headliners, 9:00 p.m. Sunday, B

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

Manhattan Merry-Go-Round, 9:00 p.m. Sunday, R

Manhattan Moods, 2:00 p.m. Sunday, C

Manhattan Serenaders, 10:00 p.m. Saturday, C

March of Time, 9:00 p.m. Friday, C

Maxwell House Show Boat, 9:00 p.m. Thursday, R

Maybelline Musical, 3:30 p.m. Sunday, R

Mohawk Treasure Chest, 2:00 p.m. Sunday, R

National Barn Dance, 10:30 p.m. Saturday, B

Oregon on Parade, 4:30 p.m. Sunday, C

Palmolive Beauty Box, 10:00 p.m. Tuesday, R

Poet's Gold, 6:15 p.m. Sunday, C

Radio City Party, 9:00 p.m. Saturday, B

Roxy Revue, 8:00 p.m. Saturday, C

Silken Strings, 7:00 p.m. Sunday, B

Silver Dust Serenaders, 7:30 p.m. Mon., Wed., and Fri., C

Sinclair Minstrels, 9:00 p.m. Monday, B

Sentinel Serenade, 5:00 p.m. Sunday, R

Swift Program, 8:00 p.m. Saturday, R

Tony Wons, 4:30 and 5:30 p.m. Sunday, R

Voice of Firestone, 8:30 and 11:30 p.m. Monday, R

Ward's Family Theatre, 7:30 p.m. Sunday, C

RELIGIOUS

Catholic Hour, 6:00 p.m. Sunday, R

Church of the Air, 1:00 p.m. Sunday, C

Elder Michaux, 10:30 p.m. Saturday, C

Salt Lake Choir, 11:30 a.m. Sunday, C

SINGERS

Irene Beasley, 9:30 p.m. Friday, B

Boswell Sisters, 9:00 p.m. Tuesday, C

Jerry Cooper, 7:00 p.m. Saturday, C

Bing Crosby, 9:00 p.m. Tuesday, C

Jessica Dragonette, 8:00 p.m. Friday, R

Mary Eastman, 10:30 p.m. Sunday; 7:45 p.m. Saturday, C

Cliff Edwards, 11:00 p.m. Friday, C

Evan Evans, 9:00 p.m. Monday, C

Sylvia Froos, 11:00 p.m. Saturday, C

Gene and Glenn, 7:15 and 11:15 p.m. daily, except
Sat. and Sun., R

Tito Gulzar, 12:30 p.m. Sunday, C

Wendell Hall, 7:45 and 11:00 p.m. Sunday, R

Annette Hanshaw, 9:00 p.m. Thursday, R

John Herick, 6:45 p.m. Wednesday, B

Dennis King, 10:00 p.m. Sunday, C

Jeannie Lang, 7:30 p.m. Sunday, R

Frances Langford, 9:30 p.m. Monday, R

Larry Dan, 2:30 p.m. Sunday, C

Elizabeth Lennox, 8:30 p.m. Wednesday, C

Nick Lucas, 6:00 p.m. Sunday; 11:00 p.m. Wednesday, C

Smiling Ed McConnell, 6:30 p.m. Sunday, C

John McCormack, 9:30 p.m. Wednesday, B

Everett Marshall, 8:30 p.m. Wednesday, C

Martha Mears, 7:30 p.m. Saturday, R

James Melton, 9:00 and 12:00 p.m. Wednesday, R

Modern Mountaineers, 6:45 p.m. Tuesday, C

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

Virginia Rea, 9:30 p.m. Sunday, R

Harry Richman, 10:30 p.m. Wednesday, B

Carson Robison, 9:00 p.m. Thursday, C

Larry Ross, 9:00 p.m. Thursday, R

Sanderson-Crumit, 5:30 p.m. Sunday, C

Mme. Schumann-Heink, 10:00 and 11:15 p.m. Sunday, B

Vivienne Segal, 9:00 p.m. Friday, R; 8:30 p.m. Tuesday, C

Mary Small, 1:30 p.m. Sunday, R

Whispering Jack Smith, 7:30 p.m. Tues., Thurs. and Sat., C

Kate Smith, 8:00 p.m. Thursday, C

Gladys Swarthout, 8:30 and 11:30 p.m. Sunday; 10:00 p.m. Tuesday, R

Tamara, 9:00 p.m. Sunday, R

Conrad Thibault, 9:00 p.m. Thursday, R

Lawrence Tibbett, 8:30 p.m. Tuesday, B

Vera Van, 7:15 p.m. Wednesday; 11:00 p.m. Thursday, C

Fats Waller, 11:00 p.m. Monday; 6:45 p.m. Thurs.; 8:45 p.m. Sat., C

Muriel Wilson, 8:00 p.m. Tuesday, C

TALKS

American-Bosch Explorers, 5:30 p.m. Sunday, B

Boake Carter, 7:45 p.m. daily, except Sat. and Sun., C

Chicago Round Table, 12:30 p.m. Sunday, R

Mickey Cochrane, 9:00 p.m. Wednesday, C

Eddie Dooley, 6:30 p.m. Thurs., Fri. and Sat., C

Floyd Gibbons, 7:45 and 12:00 p.m. Saturday, R;

9:30 p.m. Friday, B

Edwin C. Hill, 8:15 and 11:15 p.m. Mon., Wed. and Fri., C

H. V. Kaltenborn, 6:00 p.m. Friday, C

John B. Kennedy, 8:30 p.m. Tuesday; 10:30 p.m. Wednesday; 9:00 p.m. Saturday, B

Mrs. Franklin D. Roosevelt, 9:30 p.m. Tuesday, B

Lowell Thomas, 6:45 p.m. daily, except Sat. and Sun., B

Voice of Experience, 6:45 p.m. Sunday, C

Walter Winchell, 9:30 p.m. Sunday, B

Don Bestor's romance with his wife started when she bandaged his hurt thumb; she was a dancer in the Terrace Garden chorus in Chicago and he the band-leader . . . It cost Dan Landt \$500 to marry Lois Benson because the Landt Trio (all brothers) had agreed that the first to succumb to Cupid would pay that forfeit. . . Fred Allen observed his 39th birthday on May 31.

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Standard

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

CONCERTS

Compinsky Trio, 1:30 p.m. Sunday, C
Emery Deutsch, 9:15 p.m. Wednesday, C
Radio City Symphony, 12:30 p.m. Sunday, B
Symphonic Hour, 3:00 p.m. Sunday, C

DANCE BANDS

Victor Arden, 8:30 p.m. Wednesday, C
Frank Black, 9:00 p.m. Saturday, B
Frank Dalley, 11:15 p.m. Tuesday, C
Jack Denny, 10:30 p.m. Wednesday, B
Jan Garber, 8:00 p.m. Monday, B
Lud Gluskin, 9:30 p.m. Monday, C
Glen Gray, 10:00 p.m. Tues.; 9:00 p.m. Thurs., C
Phil Harris, 9:00 p.m. Friday, B
Joe Haymes, 11:15 p.m. Thurs.; 11:45 p.m. Sat., C
Lennie Hayton, 9:00 and 12:00 p.m. Wednesday, R
Richard Himber, 8:00 p.m. Monday, R; 7:00 and 11:30 p.m. Sunday, C
Al Kavelin, 11:00 p.m. Tuesday, C
Wayne King, 8:30 p.m. Tues. and Wed., R; 10:00 p.m. Sunday and Monday, C
Enoch Light, 11:45 p.m. Monday, C
Guy Lombardo, 10:00 p.m. Wednesday, R
Abe Lyman, 9:00 p.m. Friday, R; 8:30 p.m. Tuesday, C
Freddie Martin, 5:00 p.m. Sunday, C
Charles Previn, 7:00 p.m. Sunday, B
Leo Reisman, 8:00 and 11:30 p.m. Tuesday, R
Buddy Rogers, 7:30 p.m. Sunday, C
Leith Stevens, 9:00 p.m. Saturday, C

Rudy Vallee, 8:00 p.m. Thursday, R
Esther Velas, 6:45 p.m. Friday, C
Fred Waring, 9:30 p.m. Sunday and Thursday, C
Paul Whiteman, 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
Jack Benny, 7:00 p.m. Sunday, R
Burns and Allen, 9:30 p.m. Wednesday, C
Joe Cook, 9:30 p.m. Monday, R
Easy Aces, 8:00 p.m. Wed., Thurs. and Fri., C
Jake and Lena, 7:15 and 11:15 p.m. daily, except Sat. and Sun., R
Walter O'Keefe, 10:00 p.m. Tues.; 9:00 p.m. Thurs., C
Jack Pearl, 8:00 p.m. Wednesday, R
Pick and Pat, 9:30 p.m. Friday, R

DRAMA

Bar X Days, 9:00 p.m. Thursday, C
Big Ben Dream, 4:45 p.m. Sunday, R
Billy Batchelor, 6:45 p.m. daily, except Sat. and Sun., R; 9:15 p.m. daily, except Sat. and Sun., C
Frank Buck, 7:45 p.m. daily, except Sat. and Sun., R
Death Valley Days, 9:00 p.m. Thursday, B
Eno Crime Clues, 8:00 p.m. Tues. and Wed., B
First Nighter, 10:00 p.m. Friday, R
Warden Lawes, 9:00 p.m. Wednesday, B

October DX Calendar

(Continued from page 49)

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	Oklahoma City
	WNYC	810	500	New York
	WWAE	1200	100	Hammond
3:30-3:50	WTAW	1120	500	College Station
	WOV	1130	1000	New York
	WLBC	1310	100	Muncie
	KASA	1210	100	Elk 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
5:15-5:15	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

October 20

3:01-3:09	CHSJ	1120	100	St. John
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KEY TO SYMBOLS

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.
- n No information available.

Fourth Column Symbols

- B National "Blue" network.

12:00-8:00	KGIR	1360	1000	Butte
		1360	1000	Butte
12:00-12:30	WGAR	1450	500	Cleveland
12:00-3:00	WGES	1360	500	Chicago
1:00-3:00	TGX	1400	150	Guatemala

The Revelers, who are real veterans in the radio game, will celebrate their thirteenth anniversary on the air this October. The famous quartette began broadcasting from the old Westinghouse studio in Newark in the days when it was a triumph if their program was picked up by a workman stationed on the roof with a crystal set.

* * *

Wilfred Glenn, the Reveler's famous basso, entertains his weekend guests with plenty of good fishing. Glenn goes out in his sloop Halcyon every morning and any of his guests who care to join him are always welcome.

* * *

If you like dude ranches, you'd enjoy yourself at Carson Robison's Pleasant Valley Farm. For the famous radio hillbilly wears the big hat, flannel shirt and leather chaps of the cowpuncher and conducts his farm just like a ranch.

As Shown in the Index by Frequencies and Dial Numbers.

- C Columbia network.
- D Daytime only.
- Dn Daytime with occasional evening hours.
- F Canadian Radio Brdsg. 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 Sunday's Time on the Air

540 kilocycles 555.2 meters

CJRM ak 1000 F Moose Jaw, Sask.

550 kilocycles 545.1 meters

CENB ak	500	F	Fredericton, N. B.
KPUO ae	500	2 (1)	St. Louis, Mo.
KPYR ae	1000	N (2.5)	Bismarck, N. D.
KOAC ak	1000		Corvallis, Ore.
KSD ak	500	2R (1)	St. Louis, Mo.
KTSA ak	1000	C	San Antonio, Texas
TISO ak	250		San Jose, C. R.
WDEV ae	500	D	Waterbury, Vt.
WGR ae	1000	C	Buffalo, N. Y.
WKRC ak	1000	C (2.5)	Cincinnati, Ohio

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.
TGW 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.

570 kilocycles 526.0 meters

FON z	250	574	St. Pierre, Miquelon
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.

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	Topeka, Kans.
WTAG ae	500	R (1)	Worcester, Mass.

590 kilocycles 508.2 meters

CMW ae	1400	595	Havana, Cuba
KHO ak	1000	N (2.5)	Spokane, Wash.
WEEL ae	1000	R	Boston, Mass.
WKZO ae	1000	D	Kalamazoo, Mich.
WOW ae	1000	R (2.5)	Omaha, Neb.
XEPN ak	5000		Piedras Negras, Coah.

600 kilocycles 499.7 meters

CFCF ae	500		Montreal, Que.
CFCO ak	100	F	Chatham, Ont.
CJOR ak	500		Vancouver, B. C.
KFSD ae	1000	N	San Diego, Calif.
WCAC ak	500	2	Storrs, Conn.
WCAO 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.

A-11-24
C-8:30-12:30; 15-16:30; 21:15-22:15
C-8-24
P-Silent
C-12:30-15; 16:30-21:15
C-7-14; 15-23:30
C-11-24
E-10:45-12
E-9-1
E-7-1

C-8:30-15; 18-22
M-8-23:30
P-8:30-1
C-7:45-17:45
C-12-14:30
E-10:20-14; 16:30-18; 21-24
C-8-1
E-6-13; 14-16:30; 18-21; 24-1
C-8-24
E-8-23
P-7-23

L-.....
C-8-23:30
P-8-23
P-7:45-24
E-9-24
E-9-1
C-8-24
E-Silent
E-8-24
C-8-24
E-7:30-0:30

E-12-23:30
E-11-14; 16-20:30
M-Silent
P-8:30-23
C-Silent
E-12-18
E-8-24
C-8-24
E-10-24

E-10-15
P-9-24
E-10-23:30
E-9-18
C-6:30-0:30
C-5-24

E-12:30-23
E-9:30-12:15; 13:30-15; 19-20:15
P-10:30-21
P-8-24
E-Silent
E-9-24
E-8-1
C-8-24
C-7-24

KCYS
600
DIAL

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

With Sunday's Time on the Air

610 kilocycles 491.5 meters

KFRC ak 1000 C (2.5) San Francisco, Calif.
KZRM ak 5000 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 C (1) Philadelphia, Pa.
WJAY ae 500 D Cleveland, Ohio
XFX ak 500 Mexico City, D. F.

P-8-24
L-10:30-13:15; 15-22:30
C-.....
E-8-23
E-8-1
E-8-17:45
C-.....

620 kilocycles 483.6 meters

KGW ak 1000 N (2.5) Portland, Ore.
KTAR ak 1000 N Phoenix, Ariz.
WFLA ae 1000 Na (2.5) Clearwater, Fla.
WLIB 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-8-24
M-8-23
E-8-24
E-9-Sunset
E-8:45-24
E-8-24
C-7:30-0:30
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.
KFRU ak 500 I Columbia, Mo.
KGFX ak 200 D Pierre, S. D.
WGBF ae 500 I Evansville, Ind.
WMAL ak 250 B (.5) Washington, D. C.
WOS ak 500 1D Jefferson City, Mo.
WPRO ak 250 Providence, R. I.

A-8:30-23:30
C-7-21:30
P-0-2; 11-16; 17:30-22
C-7:30-21
C-.....
C-8:30-19
E-8-24
C-Silent
E-9-24

640 kilocycles 468.5 meters

CMQ z 340 645 Havana, Cuba
KFI ak 5000 N Los Angeles, Calif.
WAIU ae 500 Columbus, Ohio
WOI ae 500 D Ames, Iowa
XEOX ak 250 Saltillo, Coah.

E-.....
P-9-23
E-6:15-18
C-Irregular
C-.....

650 kilocycles 461.3 meters

WSM ae 5000 N Nashville, Tenn.

C-8-23:30

660 kilocycles 454.3 meters

WAAW ak 500 D Omaha, Neb.
WEAF ak 5000 R New York, N. Y.
XEAL z 1000 Mexico City, D. F.

C-8-17
E-8-1
C-.....

670 kilocycles 447.5 meters

WMAQ ck 5000 N Chicago, Ill.

C-8-1

680 kilocycles 440.9 meters

CMAF ak 1000 Havana, Cuba
CMCQ z 1000 Havana, Cuba
HJN ak 500 681 Bogota, Colombia
KFEQ ae 2500 D St. Joseph, Mo.
KPO ak 5000 N San Francisco, Calif.
RDN z 500 San Salvador, E. S.
VAS ak 2000 685 Glace Bay, N. S.
VOWR ck 500 681 St. John's, Nfld.
WPTF ae 1000 DnN Raleigh, N. C.

E-12:30-15; 19-23
E-.....
L-.....
C-8-17:45
P-8-24
L-.....
A-23-23:10; 0-0:10
L-11-18:30
E-10-Sunset

690 kilocycles 434.5 meters

CFRB ae 10000 C Toronto, Ont.
CJGJ ak 100 F Calgary, Alta.
NAA ak 1000 Arlington, Va.
XET ck 500 Monterrey, N. L.

E-10-0:30
M-9:30-10:45; 18-19:15
E-10-10:15; 11:15-12; 21:55-22
C-9-15

700 kilocycles 428.3 meters

WLW ak 50000 N Cincinnati, Ohio

E-8-1:30

INDEX BY FREQUENCIES AND DIAL NUMBERS

With Sunday's Time on the Air

710 kilocycles 422.3 meters

KMPC ae 500 Dn Beverly Hills, Calif.
KPCB ae 250 Seattle, Wash.
TIFB z 30 714 San Jose, C. R.
WOR ak 5000 Newark, N. J.
XEN ak 1000 711 Mexico City, D. F.

P-6:30-17:15; 20-1
P-5:30-Sunset; 22-4
C-.....
E-10-0:30
C-9-10; 13-16; 19-24

720 kilocycles 416.4 meters

KZEG ak 1000 Manila, P. I.
WGN ck 50000 Chicago, Ill.
XEFI ae 250 Chihuahua, Chih.

L-9-10:30; 13:15-15
C-9-1:30
C-11-15; 20-22:30

730 kilocycles 410.7 meters

CFPL ak 100 F London, Ont.
CJCA ah 500 F Edmonton, Alta.
CKAC ak 5000 C Montreal, Que.
CMK ae 3150 Havana, Cuba

E-11-12:30; 18:30-23:30
M-10:45-16; 17-22:30
E-10-30-1
E-10-12; 18-24

740 kilocycles 405.2 meters

KMMJ ae 1000 D Clay Center, Neb.
KTRB ak 250 D Modesto, Calif.
WHEB ak 250 D Portsmouth, N. H.
WSB ah 50000 N Atlanta, Ga.

C-8-9:30; 13-16:30
P-.....
E-8-12; 14-17:30
C-6:55-24

750 kilocycles 399.8 meters

KGU aj 2500 N Honolulu, T. H.
WJR ak 10000 B Detroit, Mich.
XEAM z 50 Nuevo Laredo, Tams.

L-8:45-22:30
E-8-24
C-.....

760 kilocycles 394.5 meters

CMCQ z 1000 767 Havana, Cuba
KXA ae 250 (.5) Seattle, Wash.
WBAL ae 10000 BSy Baltimore, Md.
WEW ae 1000 D St. Louis, Mo.
WJZ ck 50000 BSy New York, N. Y.
XEBC ak 5000 Agua Caliente, L. C.

E-.....
P-7-Sunset; 21-22
E-21-24
C-9:30-17
E-8-1
P-.....

770 kilocycles 389.4 meters

KFAB ae 5000 CSy Lincoln, Neb.
WBBM ae 25000 CSy Chicago, Ill.

C-9-17:45; 20:30-21:30; 22-24
C-8-2:15

780 kilocycles 384.4 meters

CHWK ak 100 F Chilliwack, B. C.
CMBS ak 150 Havana, Cuba
CMCF ak 250 Havana, Cuba
KELW ae 500 2 Burbank, Calif.
KFQD ae 1000 D Brookings, S. D.
KQHL ck 250 Anchorage, Alaska
KQHL ak 1000 N (2.5) Billings, Mont.
KTM ak 500 2 (1) Los Angeles, Calif.
WEAN ae 500 C (.25) Providence, R. I.
WMC aj 1000 N (2.5) Memphis, Tenn.
WTR ae 500 N Norfolk, Va.
KEYZ z 10000 Mexico City, D. F.

P-17:55-22
E-Silent
E-12-14
P-10-13; 17-20; 4-6
C-Silent
L-17-19
M-9-16; 19-23
P-6-10; 13-17; 20-4
E-8-1
C-8-24
E-9-24
C-10-23

790 kilocycles 379.5 meters

CMJK ak 150 Camaguey, Cuba
KGO ak 7500 N San Francisco, Calif.
WGY ak 50000 R Schenectady, N. Y.

E-10-12:30; 16-23
P-8-24
E-9-0:30

800 kilocycles 374.8 meters

TIGP z 75 San Jose, C. R.
WBAP ak 50000 Na Fort Worth, Tex.
WFAC ak 50000 Na Dallas, Tex.
WTBO ae 250 Cumberland, Md.

C-.....
C-10-12; 15-18; 21-24
C-8-10:30; 12-15; 18-21
E-Silent

KCYS.
800
DIAL

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

With Sunday's Time on the Air

810 kilocycles 370.2 meters

WCCO ae 50000 C Minneapolis, Minn. C-8-24
WNYC ak 500 N New York, N. Y. C-10-19:30
XFC z 350 Aguascalientes, Ags. C-.....

820 kilocycles 365.6 meters

WHAS aj 50000 C Louisville, Ky. C-8-24
XEP z 500 Mexico City, D. F. C-.....
XETW dk 500 Mexico City, D. F. C-.....

830 kilocycles 361.2 meters

CMC ae 500 835 Havana, Cuba E-8-23
KOA ak 50000 N Denver, Colo. M-8-24
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-7-21
WRUF ae 5000 Dn Gainesville, Fla. E-8:30-19:15

840 kilocycles 356.9 meters

CFQC z 1000 F Saskatoon, Sask. M-11-23
CRCT ak 5000 F Toronto, Ont. E-11-24
VOGY ak 400 St. John's, Nfld. L-Silent

850 kilocycles 352.7 meters

KIEV aj 250 D Glendale, Calif. P-6-17:15
WWL ae 10000 New Orleans, La. C-10-19:45
XEXX z 500 Mexico City, D. F. C-.....

860 kilocycles 348.6 meters

WABC ae 50000 C New York, N. Y. E-8-1
WHB ae 500 D Kansas City, Mo. C-7-17:45
XEMO ak 2000 865 Tijuana, B. C. P-.....

870 kilocycles 344.6 meters

WENR ak 50000 Na Chicago, Ill. C-8-12:30; 15:30-18; 20-1
WLS ae 50000 Na Chicago, Ill. C-12:30-15:30; 18-20

880 kilocycles 340.7 meters

CFJC ak 100 F Kamloops, B. C. P-18-19:30
CRCO ak 1000 F Ottawa, Ont. E-17-24
KFKA ak 500 2 (1) Greeley, Colo. M-Silent
KLX ae 1000 Oakland, Calif. P-12-23
KPOF ak 500 2 Denver, Colo. M-7:30-9; 15-16; 19:30-21
KSEI ck 250 (.5) Pocatello, Idaho M-10-23
WCOC ae 500 (1) Meridian, Miss. C-7:30-14
WGBI ae 500 1 Scranton, Pa. E-13-22:30
WPHR z 500 Petersburg, Va. E-.....
WQAN ae 250 1 Scranton, Pa. E-Silent
WSUI ae 500 Iowa City, Iowa C-16-17; 18-22
YV2RC z 100 882 Caracas, Venez. L-.....

890 kilocycles 336.9 meters

CJIC z 100 D S. Ste. Marie, Ont. E-Irregular
CMX ae 1000 Havana, Cuba E-Silent
COA z 500 Havana, Cuba E-.....
KARK ak 250 (.5) Little Rock, Ark. C-8-9:45; 11-12; 16:30-18; 19:45-21
KFNF ak 500 2 (1) Shenandoah, Iowa C-8-9:30; 14-16; 17-18:45
KUSD ae 500 2 Vermillion, S. D. C-Silent
WGST aeh 250 C (1) Atlanta, Ga. C-7-24
WILL ak 250 2 (1) Urbana, Ill. C-Silent
WJAR ae 500 R Providence, R. I. E-9-1
WMMN ae 250 (.5) Fairmont, W. Va. E-10:40-21
XEW ak 50000 Mexico City, D. F. C-10-24

900 kilocycles 333.1 meters

KGA ak 5000 N Spokane, Wash. P-8-24

INDEX BY FREQUENCIES AND DIAL NUMBERS

With Sunday's Time on the Air

KGBU ak 500 Ketchikan, Alaska L-10-24
KHJ ae 1000 C (2.5) Los Angeles, Calif. P-8-24
WBEN ae 1000 R Buffalo, N. Y. E-9-24
WJAX aeh 1000 N Jacksonville, Fla. E-9-24
WKY ae 1000 N Oklahoma City, Ok. C-8-24
WLBL ak 2500 D Stevens Point, Wis. C-Silent

910 kilocycles 329.6 meters

CJAT ak 250 F Trail, B. C. P-10:30-13:30; 17:30-22
CMHW z 100 Cienfuegos, Cuba E-18:30-21:30
CRCM ak 5000 F Montreal, Que. E-.....
TICR z 75 911 San Jose, C. R. C-.....

920 kilocycles 325.9 meters

CMCD ah 500 925 Havana, Cuba E-12-23:30; 1-3
HHK ae 1000 Port-au-Prince, Haiti E-Silent
KOMO ak 1000 N Seattle, Wash. P-8-23
KPRC ae 1000 N (2.5) Houston, Texas C-7-24
KVOD ae 500 Denver, Colo. M-8-1
WAAF ak 500 D Chicago, Ill. C-6-Sunset
WBOS ae 500 D Babson Park, Mass. E-8-16:30
WPHN ak 100 (.25) Philadelphia, Pa. E-8-22
WRAX ak 250 D Philadelphia, Pa. E-8-22
WWJ ak 1000 R Detroit, Mich. E-8-24
XEAA z 200 Mexicali, B. C. P-12-14; 17-19
XEKL z 500 Leon, Guan. C-13-16
XEOK z 2500 Tijuana, B. C. P-.....

930 kilocycles 322.4 meters

CFAC ak 100 F Calgary, Alta. M-9-11; 13-17; 18:30-20:30
CFCH ak 100 F North Bay, Ont. E-11-12:15; 18:30-23
CFCL ae 100 Prescott, Ont. E-19-20:30
CHNS ae 500 F Halifax, N. S. A-18-24
CKPC ae 100 F Brantford, Ont. E-9:30-23
CKPR ak 50 F Fort William, Ont. E-17-22
CMJF z 200 Camaguey, Cuba E-.....
KGBZ ak 1000 2 (2.5) York, Neb. C-9:15-11; 13:30-16; 16:30-18; 19-20:30
KMA ak 1000 2 (2.5) Shenandoah, Iowa C-8-9:15; 11:15-13:30; 15-16:30; 18-19; 20:30-23
KROW ak 500 (1) Oakland, Calif. P-8-1
WBRC ak 1000 C Birmingham, Ala. C-8:30-23
WDBJ ae 1000 C Roanoke, Va. E-8-24

940 kilocycles 319.0 meters

CMKM z 100 Manzanillo, Cuba E-.....
KOIN ak 1000 C (2.5) Portland, Ore. P-8-24
VOAS ak 100 St. John's, Nfld. L-Silent
WAAT ae 500 D Jersey City, N. J. E-6:30-18
WAVE ak 1000 N Louisville, Ky. C-8-24
WCSH ae 1000 R (2.5) Portland, Maine E-9-24
WDAY ae 1000 N (2.5) Fargo, N. D. C-8-24
WHA ak 1000 D (2.5) Madison, Wis. C-Silent
XEFO ak 5000 Mexico City, D. F. C-11-15; 18-24

950 kilocycles 315.6 meters

CMHD dk 250 Calbarien, Cuba E-8-21
CRCS z 100 F Chicoutimi, Que. E-.....
KFWB ak 1000 (2.5) Hollywood, Calif. P-8-23:30
KMBC ae 1000 C (2.5) Kansas City, Mo. C-8-24
WRC ae 500 R (1) Washington, D. C. E-8-24
XEAW ak 10000 Reynosa, Tams. C-17-1

960 kilocycles 312.3 meters

CKY ak 15000 F Winnipeg, Man. C-11-13:30; 18:30-22:30
CMBY z 250 Havana, Cuba E-.....
CMCW dk 150 965 Havana, Cuba E-15-22
CMJL z 50 Camaguey, Cuba E-.....
YVIRC ak 5000 Caracas, Venez. L-9:30-12; 15-16; 20-23

970 kilocycles 309.1 meters

KJR z 5000 N Seattle, Wash. P-8-24
WCFL ae 1500 B Chicago, Ill. C-8-24

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WIBG ak 100 D	Glenside, Pa.	E-9:30-Sunset	
XES dk 250	Tampico, Tams.	C-11-15	
980 kilocycles	303.9 meters		
CMGF ak 100 987	Matanzas, Cuba	E-.....	
KDKA bk 50000 B	Pittsburgh, Pa.	E-9-1	
XEAE ak 200	Mexicala, B. C.	P-12-24	
XEU ak 250	Veracruz, Ver.	C-7-8; 12-16; 18-23	
990 kilocycles	302.8 meters		
TITV z 7.5 999	San Jose, C. R.	C-.....	
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-.....	
1000 kilocycles	299.8 meters		
KFVD ak 250 Dn	Los Angeles, Calif.	P-8-18:30; 21:15-24	
WHO ak 50000 R	Des Moines, Iowa	C-9-24	
1010 kilocycles	296.9 meters		
CHML ael 50 F	Hamilton, Ont.	E-11-21	
CHWC ak 500 3F	Regina, Sask.	M-16:30-21:30	
CKCD ak 100	Vancouver, B. C.	P-20:45-21	
CKCK ak 500 3F	Regina, Sask.	M-11-16:30; 21-23	
CKCO z 100	Ottawa, Ont.	E-.....	
CKIC ak 50	Wolfville, N. S.	A-Irregular	
CKWX ak 100	Vancouver, B. C.	P-7-24	
CMBD z 150	Ciego de Avila, Cuba	E-.....	
CMBZ ak 100	Havana, Cuba	E-12-18	
CMJO ak 50	Ciego de Avila, Cuba	E-9-13; 18-22	
KGGF ak 1000 2	Coffeyville, Kans.	C-13:30-17	
KOW ae 1000	San Jose, Calif.	P-9-22	
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-9-24	
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-11-22:30	
CKLW ae 5000 C	Windsor, Ont.	E-8-1	
CMHI ak 150 1037	Santa Clara, Cuba	E-10-12; 16-17; 21-22	
CMKC z 150 1034	Santiago, Cuba	E-.....	
XEB ak 10000	Mexico City, D. F.	C-9-23	
1040 kilocycles	288.3 meters		
CMGH ak 15	Matanzas, Cuba	E-.....	
KRLD ae 10000 C	Dallas, Texas	C-8-24	
KWJJ ak 500	Portland, Ore.	P-7-Sunset; 21-3:15	
WKAR ak 1000 D	East Lansing, Mich.	E-Silent	
WTIC ak 50000 R	Hartford, Conn.	E-9-24	
1050 kilocycles	285.5 meters		
CMJG z 50	Camaguey, Cuba	E-.....	
CRCK z 1000	Quebec, Que.	E-.....	
KFBI ak 5000 Dn	Abilene, Kans.	C-8-19:15	
KNX ak 50000	Hollywood, Calif.	P-7-22:30	
1060 kilocycles	282.8 meters		
CMBG z 225	Havana, Cuba	E-.....	
CMGB ak 150	Havana, Cuba	E-11-13; 21-24	
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-9:30-Sunset	
XEA ak 125	Guadalajara, Jal.	C-8:30-9; 20-23	

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1070 kilocycles	280.2 meters		
KJBS ak 100 Dn	San Francisco, Calif.	P-O-Sunset	
WCAZ dk 100 D	Carthage, Ill.	C-Silent	
WDZ ak 100 D	Tuscola, Ill.	C-9:30-16	
WTAM ck 50000 R	Cleveland, Ohio	E-7-1	
1080 kilocycles	277.6 meters		
VOKW z 30 1085	St. John's Nfld.	L-.....	
WBT ae 50000 C	Charlotte, N. C.	E-10-24	
WBCD ak 5000 1Dn	Zion, Ill.	C-8:30-11:30; 15-Sunset	
WMBI ae 5000 1Dn	Chicago, Ill.	C-11-15:30	
XEAF z 750	Nogales, Son.	C-.....	
XEMA z 50	Tampico, Tams.	C-.....	
1090 kilocycles	275.1 meters		
CMGI z 30 1094	Colon, Cuba	E-.....	
KMOX ak 50000 C	St. Louis, Mo.	C-8-24	
WESG ak 1000	Elmira, N. Y.	E-10-18:15	
1100 kilocycles	272.6 meters		
CMCU ak 150	Havana, Cuba	E-10-12; 13-16; 18-21	
CMHA z 50 1103	Sagua la Grande, C.	E-.....	
COX z 200	Havana, Cuba	E-.....	
CRCV ak 1000 F	Vancouver, B. C.	P-11-15:15	
KGDM ak 250 D	Stockton, Calif.	P-O-Sunset	
KWKH ae 10000 C	Shreveport, La.	C-19:45-24	
TIRCA ak 500	San Jose, C. R.	C-.....	
WLWL ae 5000 1	New York, N. Y.	E-15:15-16; 20-21:15	
WPG ak 5000 1C	Atlantic City, N. J.	E-9-15:15; 16:30-19:30; 21:15-1	
XEFG ak 250 1105	Mexico City, D. F.	C-.....	
1110 kilocycles	270.1 meters		
KSOO ak 1000 Dn (2.5)	Stour Falls, S. D.	C-9:30-18:30	
WRVA ae 5000 N	Richmond, Va.	E-10-23	
1120 kilocycles	267.7 meters		
CHLP z 100	Montreal, Que.	E-17-23	
CHSJ ae 100 F	St. John, N. B.	A-.....	
CKOC ae 500 F (1)	Hamilton, Ont.	E-10:30-23	
CMHJ ae 40 1125	Glenfuegos, Cuba	E-11-14; 18-22	
KFIO ak 100 D	Spokane, Wash.	P-8-17	
KFSG ag 500 a	Los Angeles, Calif.	P-10:30-12:45; 14:30-16:30; 18:30-24	
KRKD ak 500 a	Los Angeles, Calif.	P-7:45-10:30; 12:30-19	
KRSC ck 100 D	Seattle, Wash.	P-7-Sunset	
WDEL ak 250 (.5)	Wilmington, Del.	E-10:30-22	
WISN ak 250 (1)	Milwaukee, Wis.	C-8:30-16; 17-24	
WTAW ae 500	College Station, Tex.	C-Silent	
XENT ck 50000	Nuevo Laredo, Tams.	C-7:30-24	
1130 kilocycles	265.3 meters		
KSL ae 50000 C	Salt Lake City, Utah	M-7:30-24	
WJJD ak 20000 Dn	Chicago, Ill.	C-7-18:45	
WOV ag 1000 D	New York, N. Y.	E-8-15:15; 16:30-18	
1140 kilocycles	263.0 meters		
CMCG z 150	Havana, Cuba	E-.....	
CMCO z 150 1145	Havana, Cuba	E-.....	
KVOO ak 25000 1N	Tulsa, Okla.	C-7:30-20:15	
WAPI ae 5000 1N	Birmingham, Ala.	C-8:30-Sunset; 20:15-23:30	
1150 kilocycles	260.7 meters		
CMJH ak 50	Ciego de Avila, Cuba	E-8-8:30; 10-15; 17:30-22:30	
WHAM ae 50000 B	Rochester, N. Y.	E-9-1	
XEH ak 250	Monterrey, N. L.	C-Silent	
XEWZ z 100	Mexico City, D. F.	C-.....	
1160 kilocycles	258.5 meters		
WOWO ae 10000 1C	Fort Wayne, Ind.	C-7:30-18:45; 19:30-24	
WVVA ak 5000 1C	Wheeling, W. Va.	E-7:30-20:30	
XED ck 500	Guadalajara, Jal.	C-8-9; 12-15:30; 19-23	

KCY5.

1160

DIAL

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1170 kilocycles

CMJE z 50
WCAU ae 50000 C

1180 kilocycles

CMBX ak 150
CMCJ ak 400
KEX ak 5000
KOB ae 10000
WDGY ak 1000
WINS ae 1000
WMAZ ae 1000
XEFA z 500

1190 kilocycles

HJ z 15
VE9J ak 10
VONF ak 5000
WATR ak 100
WOAI ak 5000
WSAZ ak 1000

1200 kilocycles

CHAB ak 100
CKTB ak 100
KADA z 100
KBTM ak 100
KFJB ak 100
KFJD ae 100
KFJX ak 100
KGDE ak 100
KGDK ak 100
KGJF ae 100
KGHI ak 100
KGVO ak 100
KMLB ak 100
KOOS ae 100
KSUN ck 100
KVOS ak 100
KWG ak 100
WABI ak 100
WBBZ ak 100
WBHS z 100
WBNO ck 100
WCAT ak 100
WCAZ ak 100
WGLO ak 100
WFAM ak 100
WFBE ak 100
WHBC ak 100
WHBY ak 100
WIBX ak 100
WIL ak 100
WJBC ak 100
WJBL ae 100
WJBW ak 100
WKBO ak 100
WKJC ae 100
WLVA ck 100
WMPC ak 100
WNBO ae 100
WRBL ak 100
WWAE ae 100
YV3BC ak 100
10-AK ak 15
10-BP ak 25
10-BQ ak 15
10-BU ak 50

1210 kilocycles

CHNC ak 100
CKBI ak 100
CKCH ak 100
CKMC ak 50
CMJI ak 150

256.3 meters

Camaguey, Cuba
Philadelphia, Pa.

254.1 meters

Havana, Cuba
Havana, Cuba
Portland, Ore.
Albuquerque, N. M.
Minneapolis, Minn.
New York, N. Y.
Macon, Ga.
Mexico City, D. F.

252.0 meters

Santo Domingo, D. R.
Montmagny, Que.
St. John's Nfld.
Waterbury, Conn.
San Antonio, Texas.
Huntington, W. Va.

249.9 meters

Moose Jaw, Sask.
St. Catharines, Ont.
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.
LaSalle, 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.

247.8 meters

New Carlisle, Que.
Prince Albert, Sask.
Hull, Que.
Cobalt, Ont.
Ciego de Avila, Cuba

254.1 meters

Havana, Cuba
Havana, Cuba
Portland, Ore.
Albuquerque, N. M.
Minneapolis, Minn.
New York, N. Y.
Macon, Ga.
Mexico City, D. F.

252.0 meters

Santo Domingo, D. R.
Montmagny, Que.
St. John's Nfld.
Waterbury, Conn.
San Antonio, Texas.
Huntington, W. Va.

249.9 meters

Moose Jaw, Sask.
St. Catharines, Ont.
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.
LaSalle, 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.

247.8 meters

New Carlisle, Que.
Prince Albert, Sask.
Hull, Que.
Cobalt, Ont.
Ciego de Avila, Cuba

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KASA ck 100
KDLR ak 100
KFJI ak 100
KFOR ak 100
KFPW ak 100
KFVS ae 100
KFXM ak 100
KGY ak 100
KIEM ak 100
KPPC ak 50
KWEA z 100
KWV z 100
KWTN ak 100
WALR ak 100
WBAX ae 100
WBBL ak 100
WBRB ak 100
WCBW ak 100
WCRW ae 100
WEBQ ae 100
WEDC ae 100
WFAS ak 100
WGBB ae 100
WGCN ae 100
WGNV ak 100
WHBF ak 100
WHBU ak 100
WIBU ak 100
WJBY ak 100
WJEJ ah 100
WJIM z 100
WJW ak 100
WKFI ak 100
WKOK ak 100
WMBG ak 100
WOCL ak 50
WOMT ae 100
WQDX ae 100
WSBC ae 100
WSBN ak 100
WSIX ak 100
WSOC ak 100
WTAX ak 100
XEC z 50
XEE z 50
XEFJ ak 100
XEFV ae 100
XEMZ z 30
XETH ak 100

Elk City, Okla.
Devils Lake, N. D.
Klamath Falls, Ore.
Lincoln, Neb.
Fort Smith, Ark.
Cape Girardeau, Mo.
San Bernardino, Cal.
Olympia, Wash.
Eureka, Calif.
Pasadena, Calif.
Shreveport, La.
Hilo, Hawaii
Watertown, S. D.
Zanesville, Ohio
Wilkes Barre, Pa.
Richmond, Va.
Red Bank, N. J.
Springfield, Ill.
Chicago, Ill.
Harrisburg, Ill.
Chicago, Ill.
White Plains, N. Y.
Freeport, N. Y.
Gulfport, Miss.
Chester, N. Y.
Rock Island, Ill.
Anderson, Ind.
Poynette, Wis.
Gadsden, Ala.
Hagerstown, Md.
Lansing, Mich.
Akron, Ohio
Greenwood, Miss.
Sunbury, Pa.
Richmond, Va.
Jamestown, N. Y.
Manitowoc, Wis.
Thomasville, Ga.
Chicago, Ill.
Columbus, Ohio
Springfield, Tenn.
Charlotte, N. C.
Springfield, Ill.
Toluca, D. F.
Durango, Dgo.
Monterrey, N. L.
Juarez, Chih.
Tijuana, B. C.
Puebla, Pue.

1220 kilocycles

CMHK z 50
KFKU ae 1000
KFW ak 1000
KWSC ae 1000
WCAE ak 1000
WDAE ae 1000
WREN ak 1000

245.8 meters

Cruces, Cuba
Lawrence, Kas.
Seattle, Wash.
Pullman, Wash.
Canton, N. Y.
Pittsburgh, Pa.
Tampa, Fla.
Lawrence, Kas.

1230 kilocycles

CJOC ak 100
CMCA z 150
COK z 250
KGGM ak 250
KYA ae 1000
WFBM ae 1000
WNAC ak 1000

243.8 meters

Lethbridge, Alta.
Havana, Cuba
Havana, Cuba
Albuquerque, N. M.
San Francisco, Calif.
Indianapolis, Ind.
Boston, Mass.

1240 kilocycles

CJCB ak 1000
CMHB z 30
KGGU ak 250
KLPK ak 250
KTAT ak 1000
KTFI ae 1000

241.8 meters

Sydney, N. S.
San Spiritus, Cuba
Mandan, N. D.
Minot, N. D.
Fort Worth, Texas
Twin Falls, Idaho

KCY.S.
1240
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WKAQ ae 1000 San Juan, P. R. E-11-17
 WXYZ ak 1000 Detroit, Mich. E-9-24
 XEAI z 100 Mexico City, D. F. C-.....

1250 kilocycles 239.9 meters

KFOX ae 1000 Long Beach, Calif. P-6-24
 WCAL ah 1000 2 (2.5) Northfield, Minn. C-8:15-9:30; 15-16
 WDSU ak 1000 C New Orleans, La. C-8-24
 WHBI ak 1000 1 (2.5) Newark, N. J. E-7-10; 12:30-18:30; 21-24
 WLB ak 1000 2 Minneapolis, Minn. C-Silent
 WNEW ae 1000 1 (2.5) Newark, N. J. E-10-12; 18:30-20; 0-4
 WTCN ak 1000 2 Minneapolis, Minn. C-9:30-15; 16-19; 20-24

1260 kilocycles 238.0 meters

CFTP ak 100 Edmonton, Alta. M-.....
 KOIL ak 1000 B (2.5) Council Bluffs, Iowa C-8-1
 KPAC z 500 D Port Arthur, Texas C-.....
 KRCV ak 500 Westaco, Texas C-12-15
 KUOA ak 1000 D Fayetteville, Ark. C-11-13; 16-17:30
 KVOA ak 500 Tucson, Ariz. M-7-9; 11-15; 18-21
 WLBW ae 1000 C Erie, Pa. E-7-1
 WNBX ak 500 D Springfield, Vt. E-10:30-12
 WTOG ae 1000 C Savannah, Ga. E-8-24

1270 kilocycles 236.1 meters

CMBC ae 150 1 Havana, Cuba E-14-23
 CMCP z 150 1 Havana, Cuba E-.....
 HIX ak 1000 Santo Domingo, D.R. E-.....
 KGCA ak 100 2D Decorah, Iowa C-10:45-24
 KOL ae 1000 C (2.5) Seattle, Wash. P-8-24
 KFOR ae 1000 C Colorado Spgs., Colo. M-8-23
 KWLC ak 100 2D Decorah, Iowa C-Silent
 WASH ak 500 a Grand Rapids, Mich. E-9-24
 WFRB ae 500 R Baltimore, Md. E-8-1
 WJDX ae 1000 N (2.5) Jackson, Miss. C-10:30-23
 WOOD ak 500 a Grand Rapids, Mich. E-9-24
 XFB ak 1000 Jalapa, Ver. C-.....

1280 kilocycles 234.2 meters

KFBB ae 1000 (2.5) Great Falls, Mont. M-9-21
 WCAM ae 500 1 Camden, N. J. E-10:15-12:30; 15-17
 WCAP ae 500 1 Asbury Park, N. J. E-6-10:15; 12:30-15; 20-21
 WDOO ae 1000 C (2.5) Chattanooga, Tenn. C-7-23:30
 WIBA ae 500 N (1) Madison, Wis. C-7:30-24
 WORC ak 500 C Worcester, Mass. E-9-23:30
 WRR ak 500 Dallas, Texas C-7:30-23
 WTNJ ak 500 1 Trenton, N. J. E-17-20; 21-24

1290 kilocycles 232.4 meters

KDYL ak 1000 N Salt Lake City, Utah M-6:30-1
 KLCN z 100 D Blytheville, Ark. C-10:30-16:30
 WEBC ae 1000 N (2.5) Superior, Wis. C-7-23
 WJAS ak 1000 C (2.5) Pittsburgh, Pa. E-9-24
 WNBZ z 50 D Saranac Lake, N. Y. E-.....
 WNEL z 500 P San Juan, P. R. A-.....

1300 kilocycles 230.6 meters

CMKJ z 20 Guantanamo, Cuba E-.....
 HIZ z 10 Santo Domingo, D.R. E-.....
 KALE ak 500 3C Portland, Ore. P-9-22:30
 KFAC ak 1000 Los Angeles, Calif. P-8-23
 KFH ak 1000 C2 Wichita, Kans. C-8-24
 KFJR sg 500 3 Portland, Ore. P-Silent
 VOAC z 40 St. John's, Nfld. L-.....
 WBBR ae 1000 1 Brooklyn, N. Y. E-8-11; 15-20
 WEVD ak 1000 1 New York, N. Y. E-11-15; 20-21; 22-23; 0-1
 WFAB ae 1000 1 New York, N. Y. E-21-22; 23-24
 WFCB ak 250 (1) Greenville, S. C. E-8:30-14; 18-22:15
 WHAZ ae 500 1 Troy, N. Y. E-Silent
 WIOD ae 1000 N Miami, Fla. E-8-24

1310 kilocycles 228.9 meters

CHCK ak 50 Charlottetown, P.E.I. A-11-13:30; 16-17; 19-20:30
 CJKL z 100 Kirkland Lake, Ont. E-.....

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CJLS z 100 Yarmouth, N. S. A-.....
 CKCV ak 50 Quebec, Que. E-Silent
 CMCY ak 500 1316 Havana, Cuba E-20:30-22:30
 KCRJ ak 100 D Jerome, Ariz. M-Silent
 KFBK ak 100 C Sacramento, Calif. P-8-24
 KFPL dkh 100 Dublin, Texas C-Silent
 KFPM ae 15 Greenville, Texas C-Silent
 KFXXR ak 100 (25) Oklahoma City, Ok. C-9:30-21:30
 KFYO ak 100 (25) Lubbock, Texas C-8-12; 16-18
 KGBX ak 100 Springfield, Mo. C-17:45-22
 KGCX ak 100 (25) Wolf Point, Mont. M-11-12:30
 KGEZ aj 100 Kalispell, Mont. M-9-14
 KGFW ak 100 Kearney, Neb. C-8:30-13
 KIT ak 100 Yakima, Wash. P-9-17; 19:30-21:30
 KMED ck 100 (25) Medford, Ore. P-10-12
 KRMD ak 100 Shreveport, La. C-7-21
 KTSM ak 100 El Paso, Texas M-8-9:15; 13-16
 KXRO ak 100 Aberdeen, Wash. P-10-19
 WAML ak 100 Laurel, Miss. C-12-19
 WBEO ae 100 Marquette, Mich. C-9-13:30
 WBOW ak 100 Terre Haute, Ind. C-9-22:30
 WBRE ak 100 Wilkes Barre, Pa. E-10:30-21:30
 WCLS ae 100 Joliet, Ill. C-9-14; 18-20
 WDAH ak 100 8 El Paso, Texas M-9:30-12; 19:30-20:30
 WEBR ae 500 Buffalo, N. Y. E-9-24
 WEXL ak 50 Royal Oak, Mich. E-8-24
 WFBG ae 100 3 Altoona, Pa. E-10:45-12:45; 15:30-16:30; 18:15-22
 WFDF am 100 Flint, Mich. E-9-24
 WGH ae 100 Newport News, Va. E-9-15:30; 18-22:30
 WHAT ak 100 4 Philadelphia, Pa. E-9-10:15; 20-24
 WJAC ae 100 3 Johnstown, Pa. E-16:30-22:15
 WLBC ak 50 6 (1) Muncie, Ind. C-10-16:30
 WLNH ak 100 Laconia, N. H. E-.....
 WMBO ak 100 Auburn, N. Y. E-17-19
 WNBH ae 100 (25) New Bedford, Mass. E-11:45-23:20
 WOL ae 100 (25) Washington, D. C. E-12-18
 WRAW ak 100 Reading, Pa. E-18:30-20:30
 WROL ak 100 Knoxville, Tenn. C-8:30-23
 WSAJ ae 100 Grove City, Pa. E-16:30-17:30
 WSGN ak 100 (2.5) Birmingham, Ala. C-9-21
 WSJS ak 100 C Winston-Salem, N.C. E-8-24
 WTEL ah 100 4 Philadelphia, Pa. E-11:30-14; 16-19
 WTJS ak 100 (25) Jackson, Tenn. C-10-15:30
 WTRC ak 50 6 (1) Elkhart, Ind. C-11-12; 17-21
 XECW z 10 Mexico City, D. F. C-.....
 XEFC ak 100 Merida, Yuc. C-12-18
 XEFW ak 250 Tampico, Tams. C-11-14
 XETB z 125 Torreon, Coah. C-.....
 XEX ak 125 Monterrey, N. L. C-.....
 XFA z 5 Aguascalientes, Ago. C-.....

1320 kilocycles 227.1 meters

KGHF ak 500 Pueblo, Colo. M-10-16
 KGBM ak 250 C Honolulu, T. H. L-8:30-22
 KID ae 250 (5) Idaho Falls, Idaho M-6-23
 KSO ak 250 B Des Moines, Iowa C-7-1
 WADC ae 1000 C (2.5) Akron, Ohio E-8-24
 WORK ak 1000 N York, Pa. E-10:45-18
 WSMB ak 500 New Orleans, La. C-7-24

1330 kilocycles 225.4 meters

KGB ag 1000 C (2.5) San Diego, Calif. P-8-24
 KMO ak 250 Tacoma, Wash. P-6:45-23
 KSCJ aj 1000 1C (2.5) Sioux City, Iowa C-8-23
 KTRH z 500 C (2.5) Houston, Texas C-8-24
 WDRR ae 1000 C Hartford, Conn. E-10-24
 WSAI ak 1000 R (2.5) Cincinnati, Ohio E-8-24
 WTAQ ae 1000 1 Eau Claire, Wis. C-8-17:45

1340 kilocycles 223.7 meters

KFPY ak 1000 C Spokane, Wash. P-9-24
 KGDY ak 250 D Huron, S. D. C-.....
 KGNO ak 250 Dodge City, Kans. C-10:30-19
 WCOA ak 500 Pensacola, Fla. C-10:30-15

KCY5
 1340
 DIAL

CUT OUT ON
 DOTTED LINES

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WFEA	ae	500	C	Manchester, N. H.	E-8:45-23
WSPD	ae	1000	C (2.5)	Toledo, Ohio	E-9-24
XFD	z	250		Orizaba, Ver.	C-.....

1350 kilocycles 222.1 meters

KIDO	ak	1000	(2.5)	Boise, Idaho	M-10:30-16:30
KWK	ae	1000	B (2.5)	St. Louis, Mo.	C-7-24
WAWZ	ae	250	1	Zarephath, N. J.	E-6-9; 11-12:30; 15-16:30; 19-20:30
WBNX	ae	250	1	New York, N. Y.	E-12:30-15; 16:30-18
WEHC	ae	500	D	Charlottesville, Va.	E-10-12

1360 kilocycles 220.4 meters

CMJP	ak	75	.....	Moron, Cuba	E-10-12; 20:22
CMKF	z	30	1363	Holquin, Cuba	E-.....
KGIR	ak	1000	.....	Long Beach, Calif.	P-7-23
KGIR	ak	1000	N	Butte, Mont.	M-9-23:15
WCSC	ae	500	(1)	Charleston, S. C.	E-9-14; 19-21
WFBL	ak	1000	C (2.5)	Syracuse, N. Y.	E-9-1
WGES	ae	500	.....	Chicago, Ill.	C-8-17; 23-1
WQBC	ak	500	(1)	Vicksburg, Miss.	C-10-21
WSBT	ak	500	.....	South Bend, Ind.	C-8-24

1370 kilocycles 218.8 meters

CKCW	z	100	.....	Moncton, N. B.	A-.....
CMCN	z	250	1375	Havana, Cuba	E-.....
CMCR	z	150	1375	Havana, Cuba	E-9-23
CMGE	z	30	1375	Cardenas, Cuba	E-.....
KCRC	ak	100	2 (.25)	Enid, Okla.	C-11-15
KERN	ak	100	.....	Bakersfield, Calif.	P-8-24
KFGQ	ak	100	.....	Boone, Iowa	C-8:30-9; 14:30-16; 19:30-21; 23-24
KFJM	ak	100	.....	Grand Forks, N. D.	C-7-21
KFJZ	ae	100	.....	Fort Worth, Texas	C-8-23
KGAR	ae	100	(.25)	Tucson, Ariz.	M-9:30-21
KGFL	bk	100	2	Oklahoma City, Ok.	C-8-11; 15-18; 19-24
KGFL	ak	100	4	Roswell, N. M.	M-15-17:30
KGKL	ak	100	(.25)	San Angelo, Texas	C-8:15-14
KICA	ak	100	4	Clovis, N. M.	M-9:30-14
KLUF	z	100	(.25)	Galveston, Texas	C-.....
KMAC	ak	100	5	San Antonio, Texas	C-7-9; 11-12:30; 14-16; 18-20; 22-0:30
KONO	ak	100	5	San Antonio, Texas	C-9-11; 12:30-14; 16-18; 20-22
KRE	ak	100	.....	Berkeley, Calif.	P-10-22
KRKO	ak	50	.....	Everett, Wash.	P-12-14
KSLM	z	100	.....	Salem, Ore.	P-.....
KUJ	ak	100	.....	Walla Walla, Wash.	P-7:45-22
KVL	ak	100	.....	Seattle, Wash.	P-16:30-19; 21:30-24
KWKK	z	100	.....	Kansas City, Mo.	C-.....
KWYO	z	100	.....	Sheridan, Wyo.	M-10-23
WAGF	ak	100	D	Dothan, Ala.	C-8-17:15; 19-21
WBTM	ak	100	.....	Danville, Va.	E-10-1
WCBM	ae	100	(.25)	Baltimore, Md.	E-.....
WDAS	ae	100	(.25)	Philadelphia, Pa.	E-9-23
WGL	ak	100	C	Fort Wayne, Ind.	C-14-24
WGLC	ak	100	.....	Hudson Falls, N. Y.	E-9-24
WHBD	ak	100	.....	Mount Orab, Ohio	E-10-19
WHBQ	ak	100	.....	Memphis, Tenn.	C-10:30-21
WHDF	ak	100	(.25)	Calumet, Mich.	E-10-14; 16:30-20:30
WIBM	ak	100	.....	Jackson, Mich.	E-9-24
WJTL	ae	100	.....	Atlanta, Ga.	E-11-17:30; 19:45-21:30
WLLH	ak	100	(.25)	Lowell, Mass.	E-13:30-15
WMBR	ak	100	C	Jacksonville, Fla.	E-7-24
WPFB	ak	100	.....	Hattiesburg, Miss.	C-11-12; 13:30-16:30; 19-20:30
WQDM	ae	100	D	St. Albans, Vt.	E-10-14
WRAC	ak	100	.....	Williamsport, Pa.	E-18-22
WRDO	ae	100	.....	Augusta, Maine	E-10:30-13:30
WRJN	ak	100	.....	Racine, Wis.	C-10:30-14:30; 17-22:30
WSVS	ak	50	D	Buffalo, N. Y.	E-Silent
XEFE	z	100	.....	Nuevo Laredo, Tama.	C-.....
XEFZ	ae	100	.....	Mexico City, D. F.	C-20-22
XEI	ak	125	.....	Morelia, Mch.	C-19-21
XZZZ	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-9-24

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WALA	ae	50	0	C	Mobile, Ala.	C-9-22
WKBH	ae	1000			LaCrosse, Wis.	C-10-12:15
WSMK	ak	200	2C		Dayton, Ohio	E-8-24

1390 kilocycles 215.7 meters

CJRC	ck	100	.....	.....	Winnipeg, Man.	C-.....
HIH	ak	15	1395	.....	San Ped. de Macoris, DR	E-12:30-14:30; 18:30-20:30
KLRA	ae	1000	C (2.5)	.....	Little Rock, Ark.	C-7-23
KOY	ae	500	(1)	.....	Phoenix, Ariz.	M-.....
WHK	ae	1000	C (2.5)	.....	Cleveland, Ohio	E-8:30-24

1400 kilocycles 214.2 meters

KLO	ae	500	C	.....	Ogden, Utah	M-9-24
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-10:30-11:30; 19-20:30
WBAA	z	500	.....	.....	W. Lafayette, Ind.	C-Silent
WBBC	ae	500	2 (1)	.....	Brooklyn, N. Y.	E-7-10:30; 15-16:30; 21-22:30
WKBK	ak	500	N (1)	.....	Indianapolis, Ind.	C-8-24
WLTH	ak	500	2	.....	Brooklyn, N. Y.	E-13:30-16:30; 22:30-0:30
WVFW	ak	500	2	.....	Brooklyn, N. Y.	E-12-13:30; 16:30-18

1410 kilocycles 212.6 meters

CKFC	ak	50	5	.....	Vancouver, B. C.	P-10:45-18; 19:30-21
CKMO	ag	100	5	.....	Vancouver, B. C.	P-.....
KGRS	ae	1000	1	.....	Amarillo, Texas	C-6-10; 11-15; 17-19:30; 22-24
WAAB	ak	500	C	.....	Boston, Mass.	E-9-23
WBCM	ae	500	.....	.....	Bay City, Mich.	E-9-24
WDAG	ae	1000	1 (2.5)	.....	Amarillo, Texas	C-10-11; 15-17; 19:30-22
WHBL	ae	500	4	.....	Sheboygan, Wis.	C-13-16:30; 18-19:30
WHIS	ak	250	2	.....	Bluefield, W. Va.	E-9-17
WRBX	ak	250	2 (.5)	.....	Roanoke, Va.	E-17-23
WROK	ak	500	4	.....	Rockford, Ill.	C-10-13; 16:30-18; 19:30-22:30
WSFA	ak	500	C	.....	Montgomery, Ala.	C-7-22:30

1420 kilocycles 211.1 meters

CKGB	ak	100	.....	.....	Timmins, Ont.	E-.....
CKNC	ak	100	F	.....	Toronto, Ont.	E-11-23:15
KABC	ak	100	.....	.....	San Antonio, Texas	C-8:30-21:30
KBPS	aj	100	4	.....	Portland, Ore.	P-Silent
KCMC	ak	100	.....	.....	Texarkana, Ark.	C-11-14; 18-20
KFIZ	ak	100	.....	.....	Fond du Lac, Wis.	C-Silent
KGFF	ak	100	.....	.....	Shawnee, Okla.	C-10-15-21
KGCG	ak	100	.....	.....	San Francisco, Cal.	P-9-12:30
KGW	ak	100	1	.....	Alamosa, Colo.	M-Silent
KGIX	ak	100	P	.....	Las Vegas, Nev.	M-Silent
KICK	z	100	.....	.....	Carter Lake, Iowa	C-.....
KIDW	z	100	1	.....	Lamar, Colo.	M-6-10; 12:30-15:30; 18-21
KORE	ae	100	.....	.....	Eugene, Ore.	P-10-15; 18-21
KUMA	ak	100	.....	.....	Yuma, Ariz.	M-11-12; 18-21
KXL	ae	100	4 (.25)	.....	Portland, Ore.	P-8-24
WACO	ak	100	C	.....	Waco, Texas	C-8-14; 17-22:30
WAGM	ae	100	.....	.....	Presque Isle, Maine	E-10:30-0:30
WAZL	ak	100	2	.....	Hazleton, Pa.	E-11-20
WEED	ak	100	D	.....	Rocky Mount, N. C.	E-9-14
WEHS	ak	100	a	.....	Cicero, Ill.	C-16-20
WELL	ak	50	.....	.....	Battle Creek, Mich.	E-10-23
WGPC	ak	100	D	.....	Albany, Ga.	C-8-14
WHDL	ak	100	D	.....	Tupper Lake, N. Y.	E-11:15-14:15
WHFC	ae	100	a	.....	Cicero, Ill.	C-7-16; 20-1
WILM	aj	100	2	.....	Wilmington, Del.	E-Silent
WJBO	z	100	D	.....	Baton Rouge, La.	C-.....
WJMS	ak	100	.....	.....	Ironwood, Mich.	C-10-19
WKBI	ak	100	a	.....	Cicero, Ill.	C-Silent
WLAP	ak	100	(.25)	.....	Lexington, Ky.	C-9-23
WLBF	ak	100	.....	.....	Kansas City, Kans.	C-9-23
WLEU	z	100	DP	.....	Erie, Pa.	E-.....
WMAS	ak	100	C (.25)	.....	Springfield, Mass.	E-8-24
WMBC	ae	100	(.25)	.....	Detroit, Mich.	E-9:30-24
WMBH	ak	100	(.25)	.....	Joplin, Mo.	C-10-15:30; 19:30-21:30
WNRA	ak	100	D	.....	Muscle Shoals, Ala.	C-9-13; 16-21
WPAD	ak	100			Paducah, Ky.	C-7-9; 10-14; 15-22:30
WSPA	ae	100	(.25)		Spartanburg, S. C.	E-10-22

KCI

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DIA

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1430 kilocycles 209.7 meters

KECA	ak	1000	(2.5)	Los Angeles, Calif.	P-7-23
KGNF	ak	500	D	North Platte, Neb.	C-Silent
KWCR	ak	250	B (.5)	Cedar Rapids, Iowa	C-8-24
WBNS	ae	500	C (1)	Columbus, Ohio	E-8-24
WHEC	ae	500	C (1)	Rochester, N. Y.	E-8-24
WHP	ak	500	C (1)	Harrisburg, Pa.	E-9-1
WNBR	ae	500	.....	Memphis, Tenn.	C-9-30-12; 17-21
WOKO	ae	500	C (1)	Albany, N. Y.	E-9-1

1440 kilocycles 208.2 meters

KDFN	ak	500	.....	Casper, Wyo.	M-10-11
KLS	ae	250	D	Oakland, Calif.	P-10-16:30
KXYZ	ak	500	.....	Houston, Texas	C-8-15-13; 14:30-22
TIFS	z	7.5	1441	Cartago, C. R.	C-.....
WBIG	ae	500	C (1)	Greensboro, N. C.	E-8-23
WBCA	aj	250	a	Allentown, Pa.	E-12-13:30; 18-23
WMBD	ae	500	3C (1)	Peoria, Ill.	C-8-12; 20:30-24
WSAN	aj	250	a	Allentown, Pa.	E-Silent
WTAD	ak	500	3	Quincy, Ill.	C-12-13:30; 15:30-20:30

1450 kilocycles 206.8 meters

CFCT	ae	50	.....	Victoria, B. C.	P-11-12:30; 18:30-21
CKX	ak	500	F	Brandon, Man.	C-18:45-20:30
KTBS	ck	1000	N	Shreveport, La.	C-8-24
TIEP	z	7.5	.....	San Jose, C. R.	C-.....
WGAR	ak	500	B (1)	Cleveland, Ohio	E-7-1
WHOM	ae	250	.....	Jersey City, N. J.	E-8-24
WSAR	ae	250	.....	Fall River, Mass.	E-Silent
WTFI	ak	500	.....	Athens, Ga.	E-9-14:30; 20-21:30

1460 kilocycles 205.4 meters

KSTP	ae	10000	N (25)	St. Paul, Minn.	C-8-24
WJSV	ak	10000	C	Washington, D. C.	E-8-1

1470 kilocycles 204.0 meters

WLAC	ak	5000	C	Nashville, Tenn.	C-8-23:30
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1480 kilocycles 202.6 meters

KOMA	ak	5000	C	Oklahoma City, Ok.	C-8-24
WKBW	ae	5000	C	Buffalo, N. Y.	E-9-30-24

1490 kilocycles 201.2 meters

WCKY	ae	5000	B	Covington, Ky.	E-8-24
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1500 kilocycles 199.9 meters

CHGS	ae	50	F	Summerside, P.E.I.	A-11-13; 15-23
KDB	ak	100	C	Santa Barbara, Calif.	P-8-24
KGFI	ak	100	(.25)	Corpus Christi, Tex.	C-7-15; 18-22
KGFK	ak	100	.....	Moorhead, Minn.	C-9-21
KGKB	ak	100	.....	Tyler, Texas	C-9-15-13; 18:30-20
KGKY	ck	100	.....	Scottsbluff, Neb.	M-10-24
KNOW	ak	100	.....	Austin, Texas	C-9-14:30; 18-22
KOTN	ak	100	D	Pine Bluff, Ark.	C-11-17:30
KPJM	ak	100	.....	Prescott, Ariz.	M-17:30-19
KPO	ak	100	.....	Wenatchee, Wash.	P-8:30-20:30
KREG	ak	100	.....	Santa Ana, Calif.	P-11-12:45; 19-23
KXO	ae	100	.....	El Centro, Calif.	P-9-15
WCNW	ak	100	1 (.25)	Brooklyn, N. Y.	E-9-11; 23-3
WDNC	ak	100	C	Durham, N. C.	E-7:30-24
WGAL	ae	100	.....	Lancaster, Pa.	E-11-20
WHEF	z	100	(.25)	Kosciusko, Miss.	C-6-24
WJBK	ae	100	.....	Detroit, Mich.	E-9-Sunset; 21-24
WKBW	ak	100	.....	E. Dubuque, Ill.	C-9-14
WKBZ	ak	100	.....	Richmond, Ind.	C-Silent
WKEU	ak	100	.....	Muskegon, Mich.	E-Silent
WMBQ	ae	100	1	LaGrange, Ga.	C-15-18
WMEX	z	100	P (.25)	Brooklyn, N. Y.	E-7-23
				Chelsea, Mass.	E-.....

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WNBF	ae	100		Binghamton, N. Y.	E-10:30-12; 13:30-21:30
WOPI	ae	100		Bristol, Tenn.	E-10:30-14; 16-21:15
WRDW	ak	100	.....	Augusta, Ga.	E-9:45-21:30
WRGA	ak	100	.....	Rome, Ga.	C-9-15; 18-21
WSYB	ak	100	.....	Rutland, Vt.	E-10-12
WWRL	ak	100	1 (.25)	Woodside, N. Y.	E-8-9; 11-19
WWSW	ae	100	(.25)	Pittsburgh, Pa.	E-10:30-23

1510 kilocycles 198.6 meters

CFRC	ak	100	.....	Kingston, Ont.	E-Silent
CKCR	ak	100	.....	Waterloo, Ont.	E-10:13; 17-22

1530 kilocycles 196.0 meters

WIXBS	z	1000	.....	Waterbury, Conn.	E-.....
W9XB	Y	z	1000	Kansas City, Mo.	C-8-1

1550 kilocycles 193.4 meters

W2XR	z	1000		Long Isl. City, N. Y.	E-Silent
W6XAI	z	1000		Bakersfield, Calif.	P-.....

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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.

ALABAMA				Janesboro				880	1000	CONNECTICUT								
Birmingham				KBTV	1200	100	KPPW				930	1000	Bridgeport					
WAPI 1140				Little Rock				Pasadena				WICC 600		250 C				
WBRC 930				KARK	890	250	KROG 1210				50	Hartford						
WSGN 1310				KGHI	1200	100	Sacramento				WDRC 1330		1000 C					
Dothan				KLRA	1390	1000 C	KFBK 1310				100 C	WTIC 1040		50000 R				
WAGF 1370				Pine Bluff				San Bernardino				Storrs						
Gadsden				KOTN	1500	100	KFXM 1210				100	WCAC 600		500				
WBJY 1210				Texarkana				San Diego				Waterbury						
Huntsville				KCMC	1420	100	KFSD 600				1000 N	WATR 1190		100				
WBHS 1200				CALIFORNIA				KGB 1330				1000 C	WIXBS 1530		1000			
Mobile				Bakersfield				San Francisco				DELAWARE						
WALA 1380				KERN	1370	100 C	KFRK 610				1000 C	Wilmington						
Montgomery				W6XAI	1550	1000	KGCC 1420				100	WDEL 1120		250				
WSFA 1410				Berkeley				KGO 790				7500 N	WILM 1420		100			
Muscle Shoals				KRE	1370	100	KJBS 1070				100	DISTRICT OF COLUMBIA						
WNRA 1420				Beverly Hills				KPO 680				50000 N	Washington					
ALASKA				KMPC 710				500	KTAB 560				1000	WJSV 1460				10000 C
Anchorage				Burbank				KYA 1230				1000 N	WMAL 630				250 B	
KFOD 780				KELW 780				500	San Jose				WOL 1310				100	
Ketchikan				El Centro				KQW 1010				1000	WRC 950				500 R	
KGBU 900				KXO 1500				100	Santa Ana				FLORIDA					
ARIZONA				Eureka				KREG 1500				100	Clearwater					
Jerome				KIEM 1210				100	Santa Barbara				WFLA 620				1000 N	
KCRJ 1310				Fresno				KDB 1500				100 C	Gainesville					
Lowell				KMJ 580				500 C	Stockton				WRUF 830				5000	
KUN 1200				Glendale				KGDM 1100				250	Jacksonville					
Phoenix				KIEV 850				250	KWG 1200				100 C	WJAX 900				1000 N
KOY 1390				Hollywood				COLORADO				WMBR 1370				100 C		
KTAR 620				KFWB 950				1000	Alamosa				Miami					
Prescott				KMTR 570				1000	KGIV 1420				100	WIOD 1300				1000 N
KPJM 1500				KNX 1050				50000	Colorado Springs				WQAM 560				1000 C	
Tucson				Long Beach				KVOR 1270				1000 C	Orlando					
KGAR 1370				KFOX 1250				1000	Denver				Pensacola					
KVOA 1260				KGER 1360				1000	KLZ 560				1000 C	St. Petersburg				
Yuma				Los Angeles				KOA 830				50000 N	Tampa					
KUMA 1420				KECA 1430				1000	KPOF 880				500	WDAE 1220				1000 C
ARKANSAS				KFCAC 1300				1000	KVOD 920				500	GEORGIA				
Blytheville				KFI 640				50000 N	Grand Junction				Albany					
KLCN 1290				KFSG 1120				500	KFXJ 1200				100	WGPC 1420				100
Fayetteville				KFVD 1000				250	Greely				Athens					
KUOA 1260				KGFJ 1200				100	KFKA 880				500	WTFI 1450				500
Fort Smith				KHJ 900				1000 C	KIDW 1420				100					
KFPW 1210				KKRD 1120				500	Pueblo									
Hot Springs				KTM 780				500	KGHF 1320				500					
KTHS 1060				Modesto				Sterling										
				KTRB 740				250	KGEK 1200				100					
				Oakland														
				KLS 1440				250										

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Atlanta	890	500	C	Tuscola	1070	100	Wichita	1300	1000	C	Calumet	1370	100
WGST	890	500	C	WDL	1070	100	KFH	1300	1000	C	WHDF	1370	100
WJTL	1370	100		Urban	890	250					Detroit		
WSB	740	50000	N	WILL	890	250	KENTUCKY				WJBK	1500	100
Augusta				Zion			Covington	1490	5000	B	WJR	750	10000
WRDW	1500	100		WCB	1080	5000	Lexington				WMBC	1420	100
Columbus				INDIANA			WLAP	1420	100		WWJ	920	1000
WRBL	1200	100		Anderson			Louisville				WXYZ	1240	1000
LaGrange				WHBU	1210	100	WAVE	940	1000	N	East Lansing		
WKEU	1500	100		Elkhart			WHAS	820	50000	C	WKAR	1040	1000
Macon				WTRC	1310	50	Paducah				WFLD	1310	100
WMAX	1180	1000		Evansville			LOUISIANA				Grand Rapids		
Rome				WGBF	630	500	Baton Rouge				WASH	1270	500
WRGA	1500	100		Fort Wayne			WJBO	1420	100		WOOD	1270	500
Savannah				WGL	1370	100	Monroe				Ironwood		
WTOC	1260	1000	C	WOWO	1160	10000	KMLB	1200	100		WJMS	1420	100
Thomasville				Gary			New Orleans				Jackson		
WQDX	1210	100		WIND	560	1000	WBNO	1200	100		WIBM	1370	100
HAWAII				Hammond			WDSU	1250	1000	C	Kalamazoo		
Hilo				WWAE	1200	100	WJBW	1200	100		WKZO	590	1000
KWTV	1210	100		Indianapolis			WSMB	1320	500	N	Lansing		
Honolulu				WKBF	1400	500	WVWL	850	10000		WJIM	1210	100
KGMB	1320	250	C	Muncie			Shreveport				Lapeer		
KGU	750	2500	N	WLBC	1310	100	Marquette				WMPG	1200	100
IDAHO				Richmond			KTBS	1450	1000	N	WBEQ	1310	100
Boise				WBK	1500	100	KWEA	1210	100		WKBZ	1500	100
KIDO	1350	1000		South Bend			KWKH	1100	10000	C	Royal Oak		
Idaho Falls				WFBM	1230	1000	MAINE				WEXL	1310	50
KID	1320	250		WKB	1400	500	Augusta						
Nampa				WSTB	1360	500	WRDO	1370	100		MINNESOTA		
KFXD	1200	100		Terre Haute			Bangor				Fergus Falls		
Pocatello				WBOV	1310	100	WABI	1200	100		KGDE	1200	100
KSEI	900	250		West Lafayette			WLBZ	620	500	C	Minneapolis		
Twin Falls				WBAA	1400	500	Portland				WCCO	810	50000
KTFI	1240	500		IOWA			WCSH	940	1000	R	WDGY	1180	1000
ILLINOIS				Ames			Presque Isle				WLB	1250	1000
Bloomington				WOI	640	5000	WAGM	1420	100		WTCN	1250	1000
WJBC	1200	100		Boone			MARYLAND				Moorhead		
Carthage				KFGO	1370	100	Baltimore				KGFK	1500	100
WCAZ	1070	100		KICK	1420	100	WBA	1060	10000	B	Northfield		
Chicago				Cedar Rapids			WCAO	600	500	C	WAL	1250	2500
KYW	1020	10000	N	KWCR	1430	250	WGBM	1370	100		St. Paul		
WAAF	920	500		Council Bluffs			WFB	1270	500	R	KSTP	1460	10000
WBBM	770	25000	C	KOIL	1260	1000	Cumberland				MISSISSIPPI		
WCLF	970	1500	B	Decorah			WTBO	800	250		Greenwood		
WCRW	1210	100		KGCA	1270	100	Hagerstown				WKFI	1210	100
WEDC	1210	100		KWLC	1270	100	WJEJ	1210	100		Gulfport		
WENR	870	50000	N	Des Moines			MASSACHUSETTS				WGCM	1210	100
WGES	1360	500		KSO	1320	250	Babson Park				WPFB	1370	100
WGN	720	50000	N	WHO	1000	50000	WBSO	920	500		Jackson		
WJJD	1130	20000		Iowa City			Boston				WJDX	1270	1000
WLS	870	50000	N	WLSU	880	500	WAB	1410	500	C	WLNH	1310	100
WMAQ	670	50000	N	Marshalltown			WBZ	990	50000	B	WHEF	1500	100
WMBI	1080	5000		KFJB	1200	100	WEEI	950	1000	R	WHDH	830	1000
WSBC	1210	100		Shenandoah			WHDH	830	1000		WNAC	1230	1000
Cicero				KFN	890	500	WFLA	1500	100		WMEX	1500	100
WEHS	1420	100		KMA	930	1000	Fall River				WSAR	1450	250
WHFC	1420	100		KSCJ	1330	1000	Lowell				WLLH	1370	100
WKBI	1420	100		WMT	600	1000	New Bedford				WNBH	1310	100
Decatur				KANSAS			Springfield				WBZA	990	1000
WJBL	1200	100		Abilene			Dodge City				WMB	1440	500
East Dubuque				KFBI	1050	5000	KGNO	1340	250		Quincy		
WKBB	1500	100		Joliet			WLB	1420	100		WTAD	1440	500
WEBQ	1210	100		WCL	1310	100	Lawrence				Rockford		
Joliet				WHL	1310	100	KFKU	1220	1000		WROK	1410	500
WCL	1310	100		Peoria			WREN	1220	1000	B	Rock Island		
WMBD	1440	500	C	WMBD	1440	500	Manhattan				WHBF	1210	100
WLB	1440	500	C	WMBD	1440	500	KSAC	580	500		Springfield		
Quincy				WMBD	1440	500	WIBW	580	1000	C	WCB	1210	100
WTAD	1440	500		WMBD	1440	500					WTAX	1210	100
Rockford				WMBD	1440	500							
WROK	1410	500		WMBD	1440	500							
Rock Island				WMBD	1440	500							
WHBF	1210	100		WMBD	1440	500							
Springfield				WMBD	1440	500							
WCB	1210	100		WMBD	1440	500							
WTAX	1210	100		WMBD	1440	500							

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CFAC 930 100	Calgary, Alta.
Calgary Herald, Southam Bldg.	
CFCH 600 500	Montreal, Que.
Mt. Royal Hotel	
CFCH 930 100	North Bay, Ont.
Capitol Theatre Bldg.	
CFCH 1030 10000	Calgary, Alta.
Toronto Gen. Trust Bldg.	
CFCH 600 100	Chatham, Ont.
Wm. Pitt Hotel	
CFCT 1450 50	Victoria, B. C.
620 View St.	
CFCY 630 500	Charlottetown, P.E.I.
143 Great George St.	
CFJC 880 100	Kamloops, B. C.
Wilcox-Hall Bldg.	
CFJC 930 100	Prescott, Ont.
Victoria Hall	
CFNB 550 500	Fredericton, N. B.
York St.	
CFPL 730 100	London, Ont.
Richmond St.	
CFQC 840 1000	Saskatoon, Sask.
216 First Ave., No.	
CFRB 690 10000	Toronto, Ont.
37 Bloor St. W.	
CFRC 1510 100	Kingston, Ont.
Queens University	
CFTP 1260 100	Edmonton, Alta.
Birks Bldg.	
CHAB 1200 100	Moose Jaw, Sask.
Grant Hall Hotel	
CHCK 1310 50	Charlottetown, P.E.I.
36 Upper Hillsboro St.	
CHGS 1500 50	Summerside, P. E. I.
190 Water St.	
CHLP 1120 100	Montreal, Que.
Sun Life Bldg.	
CHML 1010 50	Hamilton, Ont.
47 Main St. E.	
CHNC 1210 100	New Carlisle, Que.
Dr. Charles Houde	
CHNS 930 500	Halifax, N. S.
Lord Nelson Hotel	
CHRC 580 100	Quebec, Que.
CHRC, Ltd., Victoria Hotel	
CHSJ 1120 100	St. John, N. B.
Admiral Beatty Hotel	
CHWC 1010 500	Regina, Sask.
Kitchener Hotel	
CHWK 780 100	Chilliwack, B. C.
Wellington Ave.	
CJAT 910 250	Trail, B. C.
Trail Amateur Radio Assn.	
CJCA 730 500	Edmonton, Alta.
10122-100A St.	
CJCB 1240 1000	Sydney, N. S.
318 Charlotte St.	
CJCJ 690 100	Calgary, Alta.
New Albertan Bldg.	
CJGX 630 500	Yorkton, Sask.
188 Grain Exchange Bldg.	
CJIC 890 100	S. Ste. Marie, Ont.
72 Pine St.	
CJKL 1310 100	Kirkland Lake, Ont.
O. J. Thorpe	
CJLS 1310 100	Yarmouth, N. S.
Laurie L. Smith, Grand Hotel	
CJOC 1230 100	Lethbridge, Alta.
Marquis Hotel	
CJOR 600 500	Vancouver, B. C.
G. C. Chandler, Hotel Grosvenor	

CJRC 1390 100	Winnipeg, Man.
Royal Alexandra Hotel	
CJRM 540 1000	Moose Jaw, Sask.
311 Main St. No.	
CKAC 730 5000	Montreal, Que.
980 St. Catherine St. W.	
CKBI 1210 100	Prince Albert, Sask.
Canada Bldg.	
CKCD 1010 100	Vancouver, B. C.
142 Hastings St. W.	
CKCH 1210 100	Hull, Que.
Standish Hall Hotel	
CKCK 1010 500	Regina, Sask.
1853 Hamilton St.	
CKCL 580 100	Toronto, Ont.
444 University Ave.	
CKCO 1010 100	Ottawa, Ont.
272 Somerset St. W.	
CKCR 1510 100	Waterloo, Ont.
24 King St. So.	
CKCV 1310 50	Quebec, Que.
254 Ave. Marguerite	
CKCW 1370 100	Moncton, N. B.
Moncton Brdcastg. Co., Ltd.	
CKFC 1410 50	Vancouver, B. C.
Hemlock & 12th Ave.	
CKGB 1420 100	Timmins, Ont.
R. H. Thompson, Press Bldg.	
CKIC 1010 50	Wolfeville, N. S.
Acadia University	
CKLW 1030 5000	Windsor, Ont.
Guaranty Trust Bldg.	
CKMC 1210 50	Cobalt, Ont.
R. L. MacAdam	
CKMO 1410 100	Vancouver, B. C.
1604 Bekins Bldg.	
CKNC 1420 100	Toronto, Ont.
805 Davenport Road	
CKOC 1120 500	Hamilton, Ont.
Wentworth Bldg.	
CKOV 630 100	Kelowna, B. C.
Okanagan Broadcasters, Ltd., Box 243	
CKPC 930 100	Brantford, Ont.
Arcade Bldg.	
CKPR 930 50	Fort William, Ont.
Royal Edward Hotel	
CKTB 1200 100	St. Catharines, Ont.
E. T. Sandell, Welland House	
CKUA 580 500	Edmonton, Alta.
University of Alberta.	
CKWX 1010 100	Vancouver, B. C.
Hotel Georgia	
CKX 1450 500	Brandon, Man.
Rosser Ave.	
CKY 960 15000	Winnipeg, Man.
Sherbrooke St.	
CMAF 680 1000	Havana, Cuba
1 y 8 Rept. Miramar	
CMBC 1270 150	Havana, Cuba
Domingo Fernandez, Maximo Gomez No. 139	
CMBD 1010 150	Havana, Cuba
Luis Perez Garcia, Centre Gallego	
CMBG 1060 225	Havana, Cuba
John L. Stowers, Hospital No. 100	
CMBS 780 150	Havana, Cuba
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CMBX 1185 150	Havana, Cuba
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CMBY 965 250	Havana, Cuba
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CMCA 1230 150	Havana, Cuba
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CMCB 1060 150	Havana, Cuba
Metropolitan Bldg.	
CMCD 925 250	Havana, Cuba
Calle G y 25, Vedado	
CMCF 780 250	Havana, Cuba
Raoul Karman, P. O. Box 647	
CMCG 1140 150	Havana, Cuba
Emilie Perera, San Miguel No. 62	
CMCH 1185 400	Havana, Cuba
Rafael Rodriguez, Esteves No. 4	
CMCN 1375 250	Havana, Cuba
Reina y Ave. Buen Retiro, Marianao	
CMCO 1145 150	Havana, Cuba
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CMCP 1270 150	Havana, Cuba
Calzada de Luyane No. 132	
CMCQ 680 1000	Havana, Cuba
Vista Alegre No. 80, Vibora	
CMCR 1375 150	Havana, Cuba
Milagros No. 35, Vibora	
CMCU 1100 150	Havana, Cuba
San Francisco No. 13, Vibora	
CMCW 965 150	Havana, Cuba
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CMCY 1316 500	Havana, Cuba
Manuel D. Autran, Calle G 215, Vedado	
CMGE 1375 30	Cardenas, Cuba
Genaro Sebatier, Cespedes No. 180	
CMGF 987 100	Matanzas, Cuba
G. Betancourt No. 51	
CMGH 1040 15	Matanzas, Cuba
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CMGI 1094 30	Colon, Cuba
Armando Linanza, Marti No. 35	
CMHA 1103 50	Sagua la Grande, Cuba
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CMHB 1245 30	San Spiritus, Cuba
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CMHD 950 250	Calbarren, Cuba
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Romoualde Ugalde, Hotel Bristol	
CMHK 1225 50	Cruces, Cuba
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CMHW 910 100	Cienfuegos, Cuba
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CMJC 1382 150	Camaguey, Cuba
Feliciano Isaac, Cisneros y G. Gomez	
CMJE 1170 50	Camaguey, Cuba
Manuel Fernandez, Hnos. Aguerre No. 2	
CMJF 930 200	Camaguey, Cuba
John L. Stowers, Republica No. 88	
CMJG 1050 50	Camaguey, Cuba
Jose Antonio Lefran, Maceo No. 1	
CMJH 1150 50	Ciego de Avila, Cuba
Luis Marauri, Vista Hermosa	
CMJI 1210 150	Ciego de Avila, Cuba
Gilberto Gessa Lopez, Independencia 95	
CMJK 790 150	Camaguey, Cuba
Cia. Nacional de Radio, Finlay	
CMJL 960 50	Camaguey, Cuba
Enrique Artime, Cuba No. 27	
CMJO 1010 50	Ciego de Avila, Cuba
Jose M. Rey, C. Central & Maceo	
CMJP 1360 75	Moron, Cuba
Cesar Canall, Callejas No. 28	

CMK 730 3150	Havana, Cuba
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CMKC 1034 150	Santiago, Cuba
J. A. Saco, Alta 23	
CMKF 1363 30	Holguin, Cuba
Libertad esq. Arias	
CMKJ 1300 20	Guantanamo, Cuba
Luis Morlot, East Giro 11	
CMKM 940 100	Manzanillo, Cuba
Jesus Armeste, Merchant y P. Figuerado	
CMQ 645 340	Havana, Cuba
25 Numero 445, Vedado	
CMW 595 1400	Havana, Cuba
Troncoso y Gil, Apdo. 1010	
CMX 890 1000	Havana, Cuba
Casa "Lavin," Ave. de la Republica 99A	
COA 890 500	Havana, Cuba
Juan Fernandez, Aguilar 126, Altes	
COK 1230 250	Havana, Cuba
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CRCM 910 5000	Montreal, Que.
1231 St. Catherine St. W.	
CRCO 880 1000	Ottawa, Ont.
Chateau Laurier Hotel	
CRCS 950 100	Chicoutimi, Que.
4 Rue Larouche	
CRCT 840 5000	Toronto, Ont.
805 Davenport Road	
CRCV 1100 1000	Vancouver, B. C.
C. N. R. Station Bldg.	
FQN 574 250	St. Pierre, Miq.
HHK 920 1000	Port-au-Prince, Haiti
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HIM 1395 15	San Pedro de M., D.R.
Domingo Dominguez	
HJ 1195 15	Santo Domingo, D. R.
Tuto Baez, Hostos 34	
HIX 1270 1000	Santo Domingo, D. R.
J. R. Saladin, Director General	
HIZ 1300 10	Santo Domingo, D. R.
Abbes and Garcia	
KABC 1420 100	San Antonio, Texas
Texas Theatre Bldg.	
KADA 1200 100	Ada, Okla.
C. C. Morris	
KALE 1300 500	Portland, Ore.
Kale, Inc., New Heathman Hotel	
KARK 890 250	Little Rock, Ark.
N. S. L. Bldg.	
KASA 1210 100	Elk City, Okla.
E. M. Woody, Casa Grande Hotel	
KBPS 1420 100	Portland, Ore.
E. 12th & Hoyt Sts.	
KBTM 1200 100	Jonesboro, Ark.
Jay P. Beard	
KCMC 1420 100	Texarkana, Ark.
M. P. Mims, Box 865	
KCRC 1370 100	Enid, Okla.
Enid Radiophone Co., Oxford Hotel	
KCRJ 1310 100	Jerome, Ariz.
Chas. C. Robinson, Drawer D.	
KDB 1500 100	Santa Barbara, Calif.
15-17 E. Haley St.	
KDFN 1440 500	Casper, Wyo.
Donald Lewis Hathaway	
KDKA 980 5000	Pittsburgh, Pa.
Hotel Wm. Penn	

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KDLR 1210 100 Devils Lake, N. D.	KFSD 600 1000 San Diego, Calif.
KDLR, Inc. , 1025 3rd Street	U. S. Grant Hotel
KDYL 1290 1000 Salt Lake City, Utah	KFSG 1120 500 Los Angeles, Calif.
Ezra Thompson Bldg.	1100 Glendale Blvd.
KECA 1430 1000 Los Angeles, Calif.	KFUO 550 500 St. Louis, Mo.
1000 S. Hope St.	801 De Mun St.
KELW 780 500 Burbank, Calif.	KFVD 1000 250 Los Angeles, Calif.
3702 Magnolia Park Blvd.	E. L. Cord, 645 S. Mariposa
KERN 1370 100 Bakersfield, Calif.	KFVS 1210 100 Cape Girardeau, Mo.
Elk's Club	Oscar C. Hirsch, Box 275
KEX 1180 5000 Portland, Ore.	KFWB 950 1000 Hollywood, Calif.
Oregonian Bldg.	Warner Bros. Motion Pictures, Inc.
KFAB 770 5000 Lincoln, Neb.	KFXD 1200 100 Nampa, Idaho
Cornhusker Hotel	Frank E. Hurt, 1024 12th Ave., S.
KFAC 1300 1000 Los Angeles, Calif.	KFXJ 1200 100 Grand Jct., Colo.
E. L. Cord, 645 So. Mariposa	Hillcrest Manor
KFBB 1280 1000 Great Falls, Mont.	KFXM 1210 100 San Bernardino, Calif.
Burrey Broadcast., Inc.	California Hotel
KFBI 1050 5000 Abilene, Kans.	KFXR 1310 100 Oklahoma City, Okla.
Box 345	541 Hightower Bldg.
KFBK 1310 100 Sacramento, Calif.	KFYO 1310 100 Lubbock, Texas
Sacramento Bee	Kirksey Bros., Hotel Lubbock
KFDM 560 500 Beaumont, Texas	KFYR 550 1000 Bismarck, N. D.
Beaumont Hotel, P. O. Box 2950	320 Broadway
KFDY 780 1000 Brookings, S. D.	KGA 900 1000 Spokane, Wash.
South Dakota State College	1023 W. Riverside Ave.
KFEQ 680 2500 St. Joseph, Mo.	KGAR 1370 100 Tucson, Ariz.
Schnelder Bldg.	142 S. 6th Ave.
KFGQ 1370 100 Boone, Iowa	KGB 1330 1000 San Diego, Calif.
924 W. 2nd St.	1012-1st St.
KFH 1300 1000 Wichita, Kans.	KGBU 900 500 Ketchikan, Alaska
124 1/2 S. Market St.	Mile 5, Wards Cove Rd.
KFI 640 50000 Los Angeles, Calif.	KGBX 1310 100 Springfield, Mo.
1000 S. Hope St.	KGBX, Inc., C. of C. Bldg.
KFIO 1120 100 Spokane, Wash.	KGBZ 930 1000 York, Neb.
213 Riverside Ave.	KGBZ Broadcasting Co., 715 Grant Ave.
KFIZ 1420 100 Fend du Lac, Wis.	KGCA 1270 100 Decorah, Iowa
18 W. 1st St.	Charles W. Greenley, 201 Water St.
KFJB 1200 100 Marshalltown, Iowa	KGCU 1240 250 Mandan, N. D.
1603 W. Main St.	404 W. Main St.
KFJI 1210 100 Klamath Falls, Ore.	KGCC 1310 100 Wolf Point, Mont.
KFJI Broadcasters, Inc., Willard Hotel	E. E. Krebsbach
KFJM 1370 100 Grand Forks, N. D.	KGDE 1200 100 Fergus Falls, Minn.
University of North Dakota	C. L. Jaren
KFJR 1300 500 Portland, Ore.	KGDM 1100 250 Stockton, Calif.
622 Lumbermen's Bldg.	E. F. Pepper, 42 S. Calif. St.
KFJZ 1370 100 Fort Worth, Texas	KGDY 1340 250 Huron, S. D.
Texas Hotel	Voice of S. D., Inc., 347 Dakota Ave.
KFKA 880 500 Greeley, Colo.	KGEK 1200 100 Sterling, Colo.
Box 735	Elmer G. Beehler, 109 W. 2nd St.
KFKU 1220 1000 Lawrence, Kans.	KGER 1360 1000 Long Beach, Calif.
University of Kansas	435 Pine Ave.
KFNF 890 500 Shenandoah, Iowa	KGEZ 1310 100 Kallispell, Mont.
407 Sycamore St.	Donald C. Treloar, Box 1
KFOR 1210 100 Lincoln, Neb.	KGFF 1420 100 Shawnee, Okla.
Howard Shuman, Hotel Lincoln	9th & Bell Sts.
KFOX 1250 1000 Long Beach, Calif.	KGFG 1370 100 Oklahoma City, Okla.
220 E. Anaheim St.	Okla. Broadcasting Co., 1113 N. Broadway
KFPL 1310 100 Dublin, Texas	KGFI 1500 100 Corpus Christi, Texas
C. C. Baxter, Box 176	Eagle Broadcasting Co., Inc., P. O. Box 1508
KFPM 1310 15 Greenville, Texas	KGFI 1200 100 Los Angeles, Calif.
New Furniture Co.	Ben S. McGlashan, 1417 S. Figueroa
KFPW 1210 100 Fort Smith, Ark.	KGFK 1500 100 Moorhead, Minn.
Goldman Hotel	722 Center Ave.
KFPY 1340 1000 Spokane, Wash.	KGFL 1370 100 Roswell, N. M.
Symons Bldg.	KGFL, Inc., 507 N. Main St.
KFQD 780 250 Anchorage, Alaska	KGFW 1310 100 Kearney, Neb.
411-4th Ave.	Midway Hotel
KFRC 610 1000 San Francisco, Calif.	KGFX 630 200 Pierre, S. D.
1000 Van Ness Ave.	Dana McNeil, 510 Summit Ave.
KFRU 630 500 Columbia, Mo.	KGGC 1420 100 San Francisco, Calif.
KFRU, Inc., 9th and Elm Sts.	230 Eddy St.

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KGGF 1010 1000 Coffeyville, Kans.	KLRA 1390 1000 Little Rock, Ark.
Coffeyville Journal Bldg.	Arkansas Broadcasting Co., Box 550
KGGM 1230 250 Albuquerque, N. M.	KLS 1440 250 Oakland, Calif.
Franciscan Hotel	Warner Bros., 2201 Telegraph Ave.
KGHF 1320 250 Pueblo, Colo.	KLUF 1370 100 Galveston, Texas
C. P. Ritchie, 113 Broadway	Geo. R. Clough, 3327 Ave. P.
KGHI 1200 100 Little Rock, Ark.	KLX 880 1000 Oakland, Calif.
Lloyd Judd Co., Marion Hotel	Tribune Tower
KCHL 780 1000 Billings, Mont.	KLZ 560 1000 Denver, Colo.
5th & N. Broadway	Shirley-Savoy Hotel
KGIR 1360 1000 Butte, Mont.	KMA 930 500 Shenandoah, Iowa
KGIR, Inc., 121 W. Broadway	Earl E. May Seed & Nursery Co.
KGIW 1420 100 Alamosa, Colo.	KMAC 1370 100 San Antonio, Texas
Leonard E. Wilson, 326 N. Commercial	W. W. McAllister, Blue Bonnet Hotel
KGIX 1420 100 Las Vegas, Nev.	KMBC 950 1000 Kansas City, Mo.
J. M. Heaton, Box 656	Pickwick Hotel
KGKB 1500 100 Tyler, Texas	KMED 1310 100 Medford, Ore.
115 S. College	Mrs. W. J. Virgin, Sparta Bldg.
KGKL 1370 100 San Angelo, Texas	KMJ 580 500 Fresno, Calif.
KGKL, Inc., St. Angelus Hotel	Van Ness & Calaveras Sts.
KGKO 570 500 Wichita Falls, Texas	KMLB 1200 100 Monroe, La.
9th St. & Indiana Ave.	Francis Hotel
KGKY 1500 100 Scottsbluff, Neb.	KMMJ 740 100 Clay Center, Neb.
Hillard Co., Inc., 1517 1/2 Broadway	The M. M. Johnson Co.
KGMB 1320 250 Honolulu, T. H.	KMO 1330 250 Tacoma, Wash.
Honolulu Broadcasting Co., Box 2663	KMO, Inc., Hotel Winthrop
KGNF 1430 500 North Platte, Neb.	KMOX 1090 50000 St. Louis, Mo.
Great Plains Broadcasting Co., W. 12th St.	401 S. 12th St.
KGNO 1340 250 Dodge City, Kans.	KMPC 710 500 Beverly Hills, Calif.
First Natl. Bank Bldg.	9631 Wilshire Blvd.
KGO 790 7500 San Francisco, Calif.	KMTR 570 500 Hollywood, Calif.
111 Sutter St.	KMTR Radio Corp., 915 N. Formosa Ave.
KGRS 1410 1000 Amarillo, Texas	KNOW 1500 100 Austin, Texas
E. B. Gish, Bellaire Park	Driskill Hotel
KGU 750 2500 Honolulu, T. H.	KNX 1050 25000 Hollywood, Calif.
Kaplanian at South St.	West. Broadcast Co., Inc., 1558 N. Vine St.
KGOV 1200 100 Missoula, Mont.	KOA 830 50000 Denver, Colo.
Mosby, Inc., 240 N. Higgins	General Electric Co., 1370 Kramera St.
KGOW 620 1000 Portland, Ore.	KOAC 550 1000 Corvallis, Ore.
325 Adler St.	Oregon State Agricultural College
KGY 1210 100 Olympia, Wash.	KOB 1180 10000 Albuquerque, N. M.
KGY, Inc., 11th and Capitol Way	Albuquerque Journal, Box 667
KHJ 900 1000 Los Angeles, Calif.	KOH 1300 500 Reno, Nev.
7th at Bixel	440 N. Virginia St.
KHQ 590 1000 Spokane, Wash.	KOIL 1260 1000 Council Bluffs, Iowa
Sprague Ave. & Post St.	Mons. Motor Oil Co.
KICA 1370 108 Clovis, N. M.	KOIN 940 1000 Portland, Ore.
Southwest Broadcasting Co.	KOIN, Inc., New Heathman Hotel
KICK 1420 100 Carter Lake, Iowa	KOL 1270 1000 Seattle, Wash.
Red Oak Radio Corp.	Northern Life Tower
KIDA 1320 258 Idaho Falls, Idaho	KOMA 1480 5000 Oklahoma City, Okla.
Park Ave. & Broadway	Biltmore Hotel
KIDO 1350 1000 Boise, Idaho	KOMO 920 1000 Seattle, Wash.
Hotel Boise	Skinner Bldg.
KIDW 1420 100 Lamar, Colo.	KONO 1370 100 San Antonio, Texas
Lamar Broadcasting Co., Box 688	Mission Broadcast Co., St. Anthony Hotel
KIEM 1210 100 Eureka, Calif.	KOOS 1200 250 Marshfield, Ore.
Redwood Bldg. Co., Vance Hotel	H. H. Hanseth, Hall Bldg.
KIEV 850 250 Glendale, Calif.	KORE 1420 100 Eugene, Ore.
Cannon System, Ltd., Glendale Hotel	733 Willamette St.
KIT 1310 100 Yakima, Wash.	KOTN 1500 100 Pine Bluff, Ark.
109 1/2 E. Yakima Ave.	William H. Chaplin, Hotel Pines
KJBS 1070 100 San Francisco, Calif.	KPAC 1260 500 Port Arthur, Texas
1380 Bush St.	Port Arthur College
KJR 970 5000 Seattle, Wash.	KOY 1390 500 Phoenix, Ariz.
Skinner Bldg.	621 N. Central Ave.
KLCN 1290 100 Blytheville, Ark.	KPCB 710 100 Seattle, Wash.
C. L. Lintzenloh, Main and Division St.	Tower Bldg.
KLO 1400 500 Ogden, Utah	KPJM 1500 100 Prescott, Ariz.
405-25th St.	Scott & Sturm, P. O. Box 782
KLPM 1240 250 Minot, N. D.	KPO 680 50000 San Francisco, Calif.
John B. Cooley, Box 707	111 Sutter St.

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KPOF	800	500	Denver, Colo.
Pillar Of Fire, 1845 Champa St.			
KPPC	1210	50	Pasadena, Calif.
585 E. Colorado St.			
KPQ	1500	100	Wenatchee, Wash.
KPQ Bldg.			
KPRC	920	1000	Houston, Texas
2204 Shell Bldg.			
KQV	1350	500	Pittsburgh, Pa.
KQV Broadcasting Co., Investment Bldg.			
KQW	1010	1000	San Jose, Calif.
87 E. San Antonio St.			
KRE	1370	100	Berkeley, Calif.
2345 Channing Way			
KREG	1500	100	Santa Ana, Calif.
3rd & Sycamore Sts.			
KRGV	1260	500	Weslaco, Texas
KRGV, Inc.			
KRKD	1120	500	Los Angeles, Calif.
815 Spring Arcade Bldg.			
KRKO	1370	50	Everett, Wash.
Lee Mudgett, 2814 Rucker Ave.			
KRLD	1940	10000	Dallas, Texas
KRLD Radio Corp., Adolphus Hotel			
KRND	1310	100	Shreveport, La.
Jefferson Hotel			
KROW	930	500	Oakland, Calif.
1803 Franklin St.			
KRSC	1120	100	Seattle, Wash.
RadioSalesCorp., Washington Athletic Club			
KSAC	500	500	Manhattan, Kans.
State College of Agriculture			
KSCJ	1330	1000	Sioux City, Iowa
Perkins Bros. Co., 415 Douglas St.			
KSD	550	500	St. Louis, Mo.
12th & Olive Sts.			
KSEI	900	250	Pocatello, Idaho
Radio Service Corp., 141 S. 6th Ave.			
KSL	1130	50000	Salt Lake City, Utah
Vermont Bldg.			
KSLM	1370	100	Salem, Ore.
Oregon Radio, Inc.			
KSO	1320	250	Des Moines, Iowa
Des Moines Register & Tribune			
KSOO	1110	1000	Sioux Falls, S. D.
Sioux Falls Brdcast. Assn., Carpenter Hotel			
KSTP	1460	10000	St. Paul, Minn.
St. Paul Hotel			
KSUM	1200	100	Lowell, Ariz.
Copper Electrical Co., Drawer C			
KTAB	560	1000	San Francisco, Calif.
5th & Mission Sts.			
KTAR	620	1000	Phoenix, Ariz.
116 N. Central Ave.			
KTAT	1240	1000	Fort Worth, Texas
Ft. Worth Natl. Bank Bldg.			
KTBS	1450	1000	Shreveport, La.
Box 1642			
KTFI	1240	1000	Twin Falls, Idaho
Radio Broadcasting Corp., Box 521			
KTHS	1060	10000	Hot Springs, Ark.
Chamber of Commerce, Box 886			
KTM	780	500	Los Angeles, Calif.
214 S. Vermont St.			
KTRB	740	250	Modesto, Calif.
McTammany & Bates			
KTRH	1330	1000	Houston, Texas
KTRH Broadcasting Co., Rice Hotel			
KTSA	550	1000	San Antonio, Texas
Southwest Broadcasting Co., Plaza Hotel			
KTSM	1310	100	El Paso, Texas
P.O. Box 1976			

KTUL	1400	250	Tulsa, Okla.
National Bank of Tulsa Bldg.			
KTW	1220	1000	Seattle, Wash.
77th Ave. & Spring St.			
KUJ	1370	100	Walla Walla, Wash.
KUJ, Inc., Marcus Whitman Hotel			
KUMA	1420	100	Yuma, Ariz.
Dr. A. H. Schermann, Box 267			
KUOA	1260	1000	Fayetteville, Ark.
KUOA, Inc., Washington Hotel			
KUSD	890	500	Vermillion, S. D.
University of South Dakota			
KVI	570	1000	Tacoma, Wash.
W. R. Rust Bldg.			
KVL	1370	100	Seattle, Wash.
KVL, Inc., 5th and Virginia St.			
KVOA	1260	500	Tucson, Ariz.
Cons. Natl. Bank Bldg.			
KVOD	920	500	Denver, Colo.
Continental Oil Bldg.			
KVOO	1140	25000	Tulsa, Okla.
Wright Bldg.			
KVOR	1270	1000	Colorado Spg., Colo.
Mining Exchange Bldg.			
KVOS	1200	100	Bellingham, Wash.
115 W. Magnolia St.			
KWCR	1430	250	Cedar Rapids, Iowa
Hotel Montrose			
KWEA	1210	100	Shreveport, La.
Spring & Fannin Sts.			
KWFF	1210	100	Hilo, Hawaii
Hilo Broadcasting Co., Ltd.			
KWG	1200	100	Stockton, Calif.
Medico-Dental Bldg.			
KWJJ	1940	500	Portland, Ore.
622 S. W. Salmon St.			
KWK	1350	1000	St. Louis, Mo.
Thomas Patrick, Inc., Hotel Chase			
KWKC	1370	100	Kansas City, Mo.
39th & Main Sts.			
KWKH	1100	10000	Shreveport, La.
Spring & Fannin Sts.			
KWLC	1270	100	Decorah, Iowa
Luther College			
KWSC	1220	1000	Pullman, Wash.
State College of Washington			
KWTN	1210	100	Watertown, S. D.
Citizens Bank Bldg.			
KWTO	560	1000	Springfield, Mo.
KGBX Inc.			
KWYO	1370	100	Sheridan, Wyo.
Big Horn Brdcastg. Co.			
KXA	760	250	Seattle, Wash.
American Radio Tel. Co., 218 Bigelow Bldg.			
KXL	1420	100	Portland, Ore.
KXL Broadcasters, Multnomah Hotel			
KXO	1500	100	El Centro, Calif.
F. M. Bowles, Box 140			
KXRO	1310	100	Aberdeen, Wash.
KXRO, Inc., Hotel Morek			
KXYZ	1440	250	Houston, Texas
Fannin & Rusk Sts.			
KYA	1230	1000	San Francisco, Calif.
988 Market St.			
KYW	1020	10000	Chicago, Ill.
310 S. Michigan Ave.			
KZEG	720	1000	Manila, P. I.
Erlanger & Galing, Inc.			
KZRM	618.5	50000	Manila, P. I.
601 Escolta			
NAA	690	1000	Arlington, Va.
United States Navy			

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RDN	680	500	San Salvador, E. S.
Republ. of El Salvador			
TGW	565	10000	Guatemala, Gua.
Gobierno de Guatemala			
TGX	1400	150	Guatemala City
TICR	912	75	San Jose, C. R.
Government of Costa Rica			
TIEA	833	7.5	San Jose, C. R.
TIEP	1450	7.5	San Jose, C. R.
TIFB	714	30	San Jose, C. R.
TIFS	1441	7.5	Cartago, C. R.
TIGA	1014	30	Cartago, C. R.
TIGP	800	75	San Jose, C. R.
Gonzalo Pinto H. Apt. 225			
TIRCA	1100	500	San Jose, C. R.
Perry Gilton, Apt. 225			
TISO	550	250	San Jose, C. R.
P. F. Saborio, Apt. 1354			
TITV	999	7.5	San Jose, C. R.
TIVL	835	30	San Jose, C. R.
TIXA	014	7.5	San Jose, C. R.
Vincent Lines C			
VAS	685	2000	Glacé Bay, N. S.
Canadian Marconi Co., Ltd.			
VE9EK	1195	10	Montmagny, Que.
J. A. Marquis, P. O. Box 52			
VOAC	1300	40	St. John's, Nfld.
VOAS	940	100	St. John's N. F.
Ayre & Sons, Ltd., Water St.			
VOGY	840	400	St. John's, N. F.
Newfoundland Hotel			
VOKW	1085	30	St. John's, N. F.
Cyril L. Perkins, Box 5039 East			
VONF	1195	5000	St. John's N. F.
Dominion Broadcasting Co., Ltd., Box 135			
VOWR	681	500	St. John's, N. F.
Wesley United Church, Box 157			
WAAB	1410	500	Boston, Mass.
21 Brookline Ave.			
WAFF	920	500	Chicago, Ill.
836 Exchange Ave.			
WAAT	940	300	Jersey City, N. J.
Bremer Broadcasting Corp., 50 Journal Sq			
WAAB	660	500	Omaha, Neb.
Omaha Grain Exchange			
WABC	860	50000	New York, N. Y.
485 Madison Ave.			
WABI	1200	100	Bangor, Maine
First Universalist Society, Park St.			
WACO	1420	100	Waco, Texas
Amicable Bldg.			
WADC	1320	1000	Akron, Ohio
Allen T. Simmons, P. O. Box 29			
WAGF	1370	100	Dorham, Ala.
P.O. Box 25			
WAGM	1420	100	Presque Isle, Me.
Aroostook Broadcasting Corp., Main St.			
WAIU	640	500	Columbus, Ohio
Deshler-Wallick Hotel			
WALA	1380	500	Mobile, Ala.
Battle House			
WALR	1210	100	Zanesville, Ohio
First Trust & Savs. Bank Bldg.			

WAML	1310	100	Laurel, Miss.
Southland Radio Corp., Box 26			
WAPI	1140	5000	Birmingham, Ala.
Protective Life Bldg.			
WARD	1400	500	Brooklyn, N. Y.
427 Flatbush Ave., Ext.			
WASH	1270	500	Grand Rapids, Mich.
Grand Rapids Natl. Bank Bldg.			
WATR	1190	100	Waterbury, Conn.
47 Grand St.			
WAVE	940	1000	Louisville, Ky.
WAVE, Inc., 1525 Brown Hotel			
WAWZ	1350	250	Zarephath, N. J.
Pillar of Fire.			
WAZL	1420	100	Hazleton, Pa.
Hazleton Broadcasting Service, Inc.			
WBAA	1400	500	West Lafayette, Ind.
Purdue University			
WBAL	1060	10000	Baltimore, Md.
Lexington Bldg.			
WBAP	800	50000	Fort Worth, Texas
Blackstone Hotel			
WBAX	1210	100	Wilkes-Barre, Pa.
John H. Stenger, Jr., 70 S. Main St.			
WBBC	1400	500	Brooklyn, N. Y.
552-54 Atlantic Ave.			
WBBL	1210	100	Richmond, Va.
1627 Monument Ave.			
WBBM	770	25000	Chicago, Ill.
WBBM Broadcasting Corp., Wrigley Bldg.			
WBBR	1300	1000	Brooklyn, N. Y.
124 Columbia Heights			
WBBZ	1200	100	Ponca City, Okla.
C. L. Carrell, 407 W. South Ave.			
WBCM	1410	500	Bay City, Mich.
James E. Davidson, Hotel Wenonah			
WBEN	900	1000	Buffalo, N. Y.
WBEN, Inc., Hotel Statler			
WBOQ	1310	100	Marquette, Mich.
146 W. Washington St.			
WBHS	1200	100	Huntsville, Ala.
Virgil V. Evans			
WBIG	1440	500	Greensboro, N. C.
Box 408			
WBNO	1200	100	New Orleans, La.
Hotel Barbere			
WBNS	1430	500	Columbus, O.
33 N. High St.			
WBNX	1350	250	New York, N. Y.
260 E. 161st St.			
WBOQ	860	50000	New York, N. Y.
Atlantic Broadcasting Corp.			
WBOW	1110	100	Terre Haute, Ind.
Banks of Wabash, Inc., 19 Beach Block			
WBRB	1210	100	Red Bank, N. J.
63 Broad St.			
WBRF	930	1000	Birmingham, Ala.
Bankhead Hotel			
WBRE	1310	100	Wilkes-Barre, Pa.
Louis G. Baltimore, 16 N. Main			
WBSO	920	500	Babson Park, Mass.
Drawer B			
WBT	1080	50000	Charlotte, N. C.
Station WBT, Inc., Wilder Bldg.			
WBTM	1370	100	Danville, Va.
Miller Bldg.			
WBZ	990	50000	Boston, Mass.
Hotel Bradford			
WBZA	990	1000	Springfield, Mass.
Hotel Kimball			
WCAC	600	500	Storrs, Conn.
Connecticut State College			

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WCAD 1228 500 Canton, N. Y.
 St. Lawrence University
WCAE 1228 1000 Pittsburgh, Pa.
 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. 5th.
WCCO 810 50000 Minneapolis, Minn.
 Nicolet Hotel
WCFL 970 1500 Chicago, Ill.
 666 Lake Shore Drive
WCHS 580 500 Charleston, W. Va.
 WOBV, 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 Fiske, 1625 Pitkin Ave.
WCOA 1340 500 Pensacola, Fla.
 San Carlos Hotel
WCOC 830 500 Meridian, Miss.
 Box 603
WCRW 1210 100 Chicago, Ill.
 Clinton R. White, 2756 Pine Grove Ave.
WCSC 1360 500 Charleston, S. C.
 Francis Marion 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.
 WDAE Brdestg. 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
WDOO 1280 1000 Chattanooga, Tenn.
 WDOO Broadcasting Corp., Hotel Patten
WDRC 1330 1000 Hartford, Conn.
 WDRC, 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 Denmark, 3860 Ogden Ave.
WEED 1420 100 Rocky Mount, N. C.
 Wm. Avera Wynne, Box 221
WEEI 590 1000 Boston, Mass.
 182 Tremont St.
WEEU 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
WFER 1270 500 Baltimore, Md.
 7 St. Paul St.
WFDF 1310 100 Flint, Mich.
 Union Industrial Bldg.
WFEA 1340 500 Manchester, N. H.
 Carpenter Hotel
WFI 560 500 Philadelphia, Pa.
 WFI Broadcasting Co., 801 Market

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WFLA 620 1000 Clearwater, Fla.
 Box 119
WGAL 1500 100 Lancaster, Pa.
 WGAL, Inc., 8 W. King St.
WGAR 1450 500 Cleveland, Ohio
 WGAR Broadcasting Co., Hotel Statler
WGBB 1210 100 Freeport, N. Y.
 H. H. Carman, 64 S. Grove St.
WGBF 630 500 Evansville, Ind.
 519 Vine St.
WGBI 800 500 Scranton, Pa.
 116 N. Washington Ave.
WGCM 1210 100 Gulfport, Miss.
 Great Southern Hotel
WGES 1360 500 Chicago, Ill.
 128 N. Crawford Ave.
WGH 1310 100 Newport News, Va.
 2813 Washington Ave.
WGL 1370 100 Fort Wayne, Ind.
 F. C. Zieg, 213 W. Main St.
WGLC 1370 100 Hudson Falls, N. Y.
 Colonial Display House
WGN 720 50000 Chicago, Ill.
 WGN, Inc., Tribune Tower
WGNV 1210 100 Chester, N. Y.
 Peter Goelet (Orange County)
WGPC 1420 100 Albany, Ga.
 Rylander Theatre Bldg.
WGR 550 1000 Buffalo, N. Y.
 Rand Bldg.
WGST 890 250 Atlanta, Ga.
 Ansley Hotel
WGY 790 50000 Schenectady, N. Y.
 1 River Road
WHA 940 2500 Madison, Wis.
 University of Wisconsin
WHAM 1150 50000 Rochester, N. Y.
 100 Carlson Road
WHAS 820 50000 Louisville, Ky.
 300 W. Liberty St.
WHAT 1310 100 Philadelphia, Pa.
 Public Ledger Bldg.
WHAZ 1300 500 Troy, N. Y.
 8th St.
WHB 860 500 Kansas City, Mo.
 WHB Broadcasting Co., Scarritt Bldg.
WHBC 1200 100 Canton, Ohio
 Edw. P. Graham, 319 Tusc. St., W.
WHBD 1370 100 Mount Orab, Ohio
 F. P. Moler
WHBF 1210 100 Rock Island, Ill.
 Hotel Harms
WHBI 1250 1000 Newark, N. J.
 100 Shipman St.
WHBL 1410 500 Sheboygan, Wis.
 Press Publishing Co., Press Bldg.
WHBQ 1370 100 Memphis, Tenn.
 Brdestg. Sta. WNBQ, Inc., Hotel Claridge
WHBU 1210 100 Anderson, Ind.
 Anderson Broadcasting Corp., Box 816
WHBY 1200 100 Green Bay, Wis.
 WHBY, Inc., Bellin Bldg.
WHDF 1370 100 Calumet, Mich.
 Box 643
WHDH 830 1000 Boston, Mass.
 Matheson Radio Co., 62 Boylston
WHDL 1420 100 Tupper Lake, N. Y.
 Iroquois Hotel
WHEB 740 250 Portsmouth, N. H.
 Box 522, 39 Congress St.
WHEC 1430 500 Rochester, N. Y.
 WHEC, Inc., 40 Franklin St.

WHEF 1500 100 Kosciusko, Miss.
 417 W. Adams St.
WHFC 1420 100 Cicero, Ill.
 WHFC, Inc., 6138 W. Cermak Road
WHIS 1410 250 Bluefield, W. Va.
 Bland St.
WHJB 620 250 Greensburg, Pa.
 Penna. Radio Supply House
WHK 1390 1000 Cleveland, Ohio
 1311 Terminal Tower
WHN 1010 1000 New York, N. Y.
 1540 Broadway
WHO 1000 50000 Des Moines, Iowa
 Central Brdestg. Co., 914 Walnut St.
WHOM 1450 250 Jersey City, N. J.
 2870 Boulevard
WHP 1430 500 Harriburg, Pa.
 WHP, Inc., 218 Locust St.
WIBA 1280 1000 Madison, Wis.
 111 King St.
WIBG 970 100 Glenside, Pa.
 WIBG, Inc., Keswick Bldg.
WIBM 1370 100 Jackson, Mich.
 WIBM, Inc., 306 W. Michigan Ave.
WIBU 1210 100 Paynetta, Wis.
 Wm. C. Forrest, R. F. D. No. 3
WIBW 580 1000 Topeka, Kans.
 11th & Topeka Blvd.
WIBX 1200 100 Utica, N. Y.
 WIBX, Inc., 1st Natl. Bank Bldg.
WICC 600 250 Bridgeport, Conn.
 Southern Conn. Broadcasting Corp.
WIL 1200 100 St. Louis, Mo.
 Melbourne Hotel
WILL 890 250 Urbana, Ill.
 University of Illinois
WILM 1420 100 Wilmington, Del.
 920 King St.
WIND 560 1000 Gary, Ind.
 504 Broadway
WINS 1180 1000 New York, N. Y.
 110 E. 58th St.
WIOD 1300 1000 Miami, Fla.
 Herald Bldg.
WIP 610 500 Philadelphia, Pa.
 Gimbel Bldg.
WIS 1010 1000 Columbia, S. C.
 Station WIS, Inc., 1811 Main St.
WISN 1120 250 Milwaukee, Wis.
 123 W. Michigan St.
WJAC 1310 100 Johnstown, Pa.
 WJAC, Inc., Locust St.
WJAG 1060 1000 Norfolk, Neb.
 Norfolk Daily News
WJAR 890 500 Providence, R. I.
 Outlet Co., Weybossett St.
WJAS 1290 1000 Pittsburgh, Pa.
 Chamber of Commerce Bldg.
WJAX 900 1000 Jacksonville, Fla.
 City of Jacksonville
WJAY 610 500 Cleveland, Ohio
 1224 Huron Road
WJBC 1200 100 Bloomington, Ill.
 Kaskaskia Broadcasting Co.
WJBK 1500 100 Detroit, Mich.
 6559 Hamilton Ave.
WJBL 1200 100 Decatur, Ill.
 Gushard Bldg.
WJBO 1420 100 Baton Rouge, La.
 Baton Rouge Broadcasting Co., Inc.
WJBW 1200 100 New Orleans, La.
 C. C. Carlson, 2743 Dumaine St.

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WJBY 1210 100 Gadsden, Ala.
Gadsden Broadcasting Co., 112 N. 8th St.
WJDX 1270 1000 Jackson, Miss.
Lamar Life Bldg.
WJEJ 1210 100 Hagerstown, Md.
Lovely Dame Bldg.
WJEM 990 500 Tupelo, Miss.
Britt A. Rogers, Jr.
WJIM 1210 100 Lansing, Mich.
Capital City Bldg.
WJJD 1130 20000 Chicago, Ill.
WJJD, Inc., 201 N. Wells St.
WJMS 1420 100 Ironwood, Mich.
WJMS, Inc., St. James Hotel
WJR 750 10000 Detroit, Mich.
WJR, Inc., Fisher Bldg.
WJSV 1460 10000 Washington, D. C.
Shoreham Bldg.
WJTL 1370 100 Atlanta, Ga.
Oglethorpe University
WJW 1210 100 Akron, Ohio
WJW, Inc., 41 S. High St.
WJZ 760 50000 New York, N. Y.
30 Rockefeller Plaza
WKAQ 1240 1000 San Juan, P. R.
Radio Corp. of Porto Rico, P. O. Box 358
WKAR 1040 1000 East Lansing, Mich.
Michigan State College
WKBB 1500 100 East Dubuque, Ill.
Richard W. Hoffman
WKBF 1400 500 Indianapolis, Ind.
540 N. Meridian St.
WKBH 1380 1000 LaCrosse, Wis.
WKBH, Inc., 409 Main St.
WKBZ 1420 100 Cicero, Ill.
WKBZ, Inc., 6138 W. Cermak Road
WKBW 570 500 Youngstown, Ohio
17 N. Champion St.
WKBO 1200 100 Harrisburg, Pa.
Penn Harris Hotel
WKBV 1500 100 Richmond, Ind.
Knox Radio Corp., Box 308
WKBW 1480 5000 Buffalo, N. Y.
Rand Bldg.
WKBZ 1500 100 Muskegon, Mich.
Karl L. Ashbacher & Sons
WKEU 1500 100 LaGrange, Ga.
Radio Station WKEU, 906 Hill St.
WKFI 1210 100 Greenwood, Miss.
J. Pat Scully, Box 302
WKJC 1200 100 Lancaster, Pa.
16 W. King St.
WKOK 1210 100 Sunbury, Pa.
1150 N. Front St.
WKRC 550 1000 Cincinnati, Ohio
WKRC, Inc., Hotel Alms
WKY 900 1000 Oklahoma City, Okla.
Plaza Court Bldg.
WKZO 590 1000 Kalamazoo, Mich.
John E. Fetzler, Burdick Hotel
WLAC 1470 5000 Nashville, Tenn.
159-4th Ave. No.
WLAP 1420 100 Lexington, Ky.
Main & Esplanade
WLB 1250 1000 Minneapolis, Minn.
University of Minnesota
WLBC 1310 100 Muncie, Ind.
D. A. Burton, Anthony Bldg.
WLBK 1420 100 Kansas City, Kans.
WLBK Broadcasting Co., Huron Bldg.
WLBL 900 2500 Stevens Point, Wis.
Wisconsin Dept. of Agriculture and Markets

WLBW 1260 1000 Erie, Pa.
Broadcasters of Pennsylvania, Inc.
WLBZ 620 500 Bangor, Me.
Maine Broadcasting Co., Inc., 100 Main
WLEU 1420 100 Erie, Pa.
WLLT 560 500 Philadelphia, Pa.
8th & Market Sts.
WLLH 1370 100 Lowell, Mass.
Albert S. Moffat, Box D
WLNH 1310 100 Lenoir, N. H.
523 Main St.
WLS 870 50000 Chicago, Ill.
1230 W. Washington Blvd.
WLTH 1400 500 Brooklyn, N. Y.
305 Washington St.
WLVA 1200 100 Lynchburg, Va.
915 Main St.
WLW 700 50000 Cincinnati, Ohio
1329 Arlington St.
WLWL 1100 5000 New York, N. Y.
415 W. 59th St.
WMAI 630 250 Washington, D. C.
712-11th St., N. W.
WMAQ 670 5000 Chicago, Ill.
Merchandise Mart
WMAZ 1420 100 Springfield, Mass.
WMAZ, Inc., 70 Chestnut St.
WMAZ 1180 1000 Macon, Ga.
211 Cotton Ave.
WMBC 1420 100 Detroit, Mich.
7310 Woodward Ave.
WMBD 1440 500 Peoria, Ill.
114 N. Madison St.
WMBQ 1210 100 Richmond, Va.
914 W. Broad St.
WMBH 1420 100 Joplin, Mo.
1334 Roosevelt St.
WMBI 1000 5000 Chicago, Ill.
153 Institute Place
WMBO 1310 100 Auburn, N. Y.
WMBO, Inc., Metcalf Bldg.
WMBQ 1500 100 Brooklyn, N. Y.
Paul J. Gollhofer, 96 Leonard St.
WMBR 1370 100 Jacksonville, Fla.
F. J. Reynolds, Carling Hotel
WMC 780 1000 Memphis, Tenn.
WMC, Inc., Hotel Gayoso
WMCA 570 500 New York, N. Y.
1697 Broadway
WMEX 1500 100 Chelsea, Mass.
The Northern Corp.
WMNN 890 250 Fairmount, W. Va.
A. M. Rowe, Inc., 325 Main St.
WMPC 1200 100 Lapeer, Mich.
81 Liberty St.
WMT 600 500 Waterloo, Iowa
3rd & Lafayette Sts.
WNAC 1230 1000 Boston, Mass.
21 Brookline Ave.
WNAD 1010 500 Norman, Okla.
University of Oklahoma
WNAX 570 1000 Yankton, S. D.
House of Gurney, Inc., 2nd and Capital St.
WNBK 1500 100 Binghamton, N. Y.
Arlington Hotel
WNBH 1310 100 New Bedford, Mass.
251 Union St.
WNBO 1200 100 Washington, Pa.
319 E. Beau St.
WNBK 1430 500 Memphis, Tenn.
Memphis Broadcasting Co., Hotel DeVoy

WNBX 1260 500 Springfield, Vt.
WNBX Broadcasting Corp., 59 Main St.
WNBZ 1290 50 Saranac Lake, N. Y.
Smith & Mace, 70 Broadway
WNEL 1290 500 San Juan, P. R.
Box 1252
WNEW 1250 1000 Newark, N. J.
Wodaam Corp., 1000 Broad
WNOX 550 1000 Knoxville, Tenn.
WNOX, Inc., Hotel Andrew Johnson
WNRA 1420 100 Muscle Shoals, Ala.
Kathryn Jones, P. O. Box 486, Sheffield, Ala.
WNYC 810 500 New York, N. Y.
Centre & Duane Sts.
WOAI 1190 50000 San Antonio, Texas
Southland Industries, Inc., 1038 Navarro
WOCL 1210 50 Jamestown, N. Y.
A. E. Newton, 840 N. Main St.
WOI 640 5000 Ames, Iowa
Iowa State College
WOKO 1430 500 Albany, N. Y.
WOKO, Inc., Hotel Ten Eyck
WOL 1310 100 Washington, D. C.
American Broadcasting Co., Annapolis Hotel
WOMT 1210 100 Manitowish, Wis.
Francis M. Kadow, Box 326
WOOD 1270 500 Grand Rapids, Mich.
Grand Rapids Natl. Bank Bldg.
WOPI 1500 100 Bristol, Tenn.
22nd & State Sts.
WOR 710 5000 Newark, N. J.
147 Market St.
WORC 1280 500 Worcester, Mass.
Alfred F. Kleindienst, 60 Franklin St.
WORK 1320 1000 York, Pa.
York Broadcasting Co., 15 S. Beaver St.
WOS 630 500 Jefferson City, Mo.
State Highway Control, Capitol Bldg.
WOSU 570 750 Columbus, Ohio
Ohio State University
WOV 1130 1000 New York, N. Y.
16 E. 42nd St.
WOW 590 1000 Omaha, Neb.
Woodmen of the World, 4th and Farnam
WOWO 1160 10000 Fort Wayne, Ind.
Main Auto Supply Co., 213 W. Main
WPAD 1420 100 Paducah, Ky.
2201 Broadway
WPEN 920 100 Philadelphia, Pa.
22nd & Walnut Sts.
WPFB 1370 100 Hattiesburg, Miss.
Otis P. Eure, Box 530
WPG 1100 5000 Atlantic City, N. J.
Convention Hall
WPHR 880 100 Petersburg, Va.
WLBG, Inc., Medical Arts Bldg.
WPRO 630 250 Providence, R. I.
Cherry & Webb Bldg. Co., 15 Chestnut
WPTF 680 5000 Raleigh, N. C.
324 Fayetteville St.
WQAM 550 1000 Miami, Fla.
Miami Bldg. Co., Inc., 327 N. E. 1st Ave.
WQAN 880 250 Scranton, Pa.
Scranton Times, 149 Penn Ave.
WQBC 1360 500 Vicksburg, Miss.
Delta Broadcasting Co., Hotel Vicksburg
WQDM 1370 100 St. Albans, Vt.
42 N. Main St.
WQDX 1210 100 Thomasville, Ga.
Stevens Luke, 135 E. Jackson St.
WRAK 1370 100 Williamsport, Pa.
WRAK, Inc., 244 W. 4th St.

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WRAW 1310 100 Reading, Pa.
Reading Broadcasting Co., 533 Penn St.
WRAX 920 250 Philadelphia, Pa.
WRAX Broadcasting Co., 217 S. Broad St.
WRBL 1200 100 Columbus, Ga.
Royal Theatre Bldg.
WRBX 1410 250 Roanoke, Va.
P. O. Box 2389
WRC 950 500 Washington, D. C.
National Press Bldg.
WRDO 1370 100 Augusta, Me.
WRDO, Inc., Augusta House
WRDW 1500 100 Augusta, Ga.
Virgil V. Evans Co., 309 8th St.
WREC 600 500 Memphis, Tenn.
WREC, Inc., Hotel Peabody
WREN 1220 1000 Lawrence, Kans.
Jenny Wren Co., 8th and Vermont St.
WRGA 1500 100 Rome, Ga.
10 Third Ave.
WRJN 1370 100 Racine, Wis.
Racine Broadcasting Corp., Hotel Racine
WRK 1410 500 Rockford, Ill.
109 So. Water St.
WROL 1310 100 Knoxville, Tenn.
Stuart Broadcasting Corp., 624 S. Gay
WRR 1220 500 Dallas, Texas
City of Dallas, Hilton Hotel
WRUF 830 5000 Gainesville, Fla.
State University
WRVA 1110 5000 Richmond, Va.
Larus & Bros Co., Inc., 22nd and Gary St.
WSAI 1330 1000 Cincinnati, Ohio
Crosley Radio Corp., 1329 Arlington
WSAJ 1310 100 Grove City, Pa.
Grove City College, 418 Poplar St.
WSAN 1440 250 Allentown, Pa.
WSAN, Inc., 39 10th St.
WSAR 1450 250 Fall River, Mass.
Academy of Music Bldg.
WSAZ 1190 1000 Huntington, W. Va.
WSAZ, Inc., P. O. Box 729
WSB 740 50000 Atlanta, Ga.
Atlanta Journal, 7 N. Forsyth St.
WSBC 1210 100 Chicago, Ill.
Gene T. Dyer, 1258 S. Michigan Ave.
WSBT 1360 500 South Bend, Ind.
South Bend Tribune, 225 W. Colfax Ave.
WSEN 1210 100 Columbus, Ohio
Columbus Broadcasting Corp., 144 S. High
WSFA 1410 500 Montgomery, Ala.
Jefferson Davis Hotel
WSGN 1310 100 Birmingham, Ala.
R. B. Broyles, Tutwiler Hotel
WSIX 1210 100 Springfield, Tenn.
638 Tire & Vulcanizing Co.
WSJS 1310 100 Winston-Salem, N. C.
Winston-Salem Journal Co., 416 N. Marshall
WSM 650 50000 Nashville, Tenn.
301-7th Ave. No.
WSMB 1320 500 New Orleans, La.
WSMB, Inc., Maison Blanche Bldg.
WSMK 1380 200 Dayton, Ohio
S. M. Krohn, Jr., 4th and Main St.
WSOC 1210 100 Charlotte, N. C.
WSOC, Inc., Box 730
WSPA 1420 100 Spartanburg, S. C.
Virgil V. Evans, Ravenel and Avant St.
WSPD 1340 1000 Toledo, Ohio
Toledo Broadcasting Co., 505 Jefferson
WSUI 880 500 Iowa City, Iowa
State University of Iowa

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WSUN 620 1000	St. Petersburg, Fla.
Chamber of Commerce	
WSVS 1370 50	Buffalo, N. Y.
666 E. Delavan Ave.	
WVYB 1500 100	Rutland, Vt.
Phillip Welas Music Co., 80 West St.	
WSYR 570 250	Syracuse, N. Y.
E. Onondaga & S. Warren Sts.	
WTAD 1440 500	Quincy, Ill.
Illinois Brdcastg. Corp., State and 6th	
WTAG 580 500	Worcester, Mass.
18 Franklin St.	
WTAM 1070 50000	Cleveland, Ohio
1367 E. 6th St.	
WTAQ 1330 1000	Eau Claire, Wis.
Gillette Rubber Co., Hotel Eau Claire	
WTAR 780 500	Norfolk, Va.
WTAR Radio Corp., Walnwright Bldg.	
WTAW 1120 500	College Station, Tex.
Agricultural and Mechanical College	
WTAX 1210 100	Springfield, Ill.
WTAX, Inc., 416 E. Capitol Ave.	
WTBO 800 250	Cumberland, Md.
Associated Brdcastg. Corp., Box 794	
WTCN 1250 1000	Minneapolis, Minn.
Weeley Temple Bldg.	
WTEL 1310 100	Philadelphia, Pa.
Broad & Erie Ave.	
WTFI 1450 500	Athens, Ga.
133 E. Washington St.	
WTIC 1040 50000	Hartford, Conn.
26 Grove St.	
WTJS 1310 100	Jackson, Tenn.
Sun Publishing Co., Sun Bldg.	
WTMJ 620 1000	Milwaukee, Wis.
The Journal Co., 333 W. State St.	
WTNJ 1280 500	Trenton, N. J.
Trenton Brdcastg. Co., Stacy Trent Hotel	
WTOC 1260 1000	Savannah, Ga.
Savannah Brdcastg. Co., P. O. Box 704	
WTRC 1310 50	Elkhart, Ind.
Truth Radio Corp., Hotel Elkhart	
WVFW 1400 500	Brooklyn, N. Y.
Paramount Brdcastg. Co., 1 Nevins St.	
WWAE 1200 100	Hammond, Ind.
402 Hammond Bldg.	
WWJ 920 1000	Detroit, Mich.
Evening News Assn., 616 Lafayette Blvd.	
WWL 850 10000	New Orleans, La.
Loyola University, Roosevelt Hotel	
WWNC 570 1000	Asheville, N. C.
Citizen Brdcastg. Co., Inc., Flatiron Bldg.	
WWRL 1500 100	Woodside, N. Y.
4130-48th St.	
WWSW 1500 100	Pittsburgh, Pa.
Hotel Schenley	
WWVA 1160 5000	Wheeling, W. Va.
Hawley Bldg.	
WXYZ 1240 1000	Detroit, Mich.
Madison Theatre Bldg.	
W1XBS 1530 1000	Waterbury, Conn.
61 Leavenworth St.	
W2XR 1550 1000	Long Island City, N. Y.
John V. L. Hogan	
W6XAI 1550 1000	Bakersfield, Calif.
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W9XBY 1530 1000	Kansas City, Mo.
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Francisco G. Elias, Hotel Central	
XEAI 1240 100	Mexico City, D. F.
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XEAL 660 1000	Mexico City, D. F.
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XEAO 560 250	Mexicali, B. C.
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XEAW 950 10000	Reynosa, Tams.
Internacional Broadcasting Co., S. A.	
XEAZ 1420 7	Leon, Guan.
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XEB 1030 10000	Mexico City, D. F.
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XEBC 760 2500	Agua Caliente, B. C.
Agua Caliente Hotel	
XECW 1310 10	Mexico City, D. F.
Maria Elena Bravode Cordero Ave. Juarez 104	
XED 1160 500	Guadalajara, Jal.
Cla. Radiofonografica, Apdo. 197	
XEE 1210 50	Durango, Dgo.
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XEFA 1180 500	Mexico City, D. F.
Eduardo Limon Segul, Meditarraneo 236	
XEFB 1420 100	Monterrey, N. L.
Jesus Quintanilla, P. O. Box 317	
XEFC 1310 100	Merida, Yuc.
J. Molina Font, Calle 59, 617	
XEFE 1370 100	Laredo, Tams.
R. T. Carransa, Km. 4 Carretera Laredo Mt.	
XEFG 1100 250	Mexico City, D. F.
Ricardo Gonzales Montero, Tepic 48	
XEFI 720 250	Chihuahua, Chih.
Feliciano Lopez Isles, Ap. 157	
XEFJ 1210 100	Monterrey, N. L.
R. Junco de la Vega, P. O. Box 188	
XEFO 940 5000	Mexico City, D. F.
Reforma No. 137	
XEFV 1210 100	Jaurez, Chih.
J. Onofre Meza Ave., Tlaxcala 1013	
XEFW 1310 70	Tampico, Tams.
J. E. Martinez, Salvador Diaz Miron 6	
XEFZ 1370 100	Mexico City, D. F.
Manuel Zetina, Calzada Nonoalco 481	
XEH 1150 250	Monterrey, N. L.
Tarnava y Cia, P. O. Box 147	
XEI 1370 125	Morelia, Mich.
Carlos Gutierrez M., F. I. Madero 545	
XEJ 1020 250	Juarez, Chih.
Juan G. Buttner, P. O. Box 111	
XEK 990 100	Mexico City, D. F.
Arturo Martinez, Jalapa No. 51	
XEKL 920 500	Leon, Guan.
5 de Mayo 26	
XEMA 1080 50	Tempeque, Tams.
Manuel M. Pier, Aretanos 10	
XEMO 860 1500	Tijuana, B. C.
Savoy Theatre Bldg., San Diego, Calif.	
XEMZ 1210 30	Tijuana, B. C.
Adolfo Labastida, Jr., Ave. D, 542	
XEN 710 1000	Mexico City, D. F.
Cerveceria Modelo Ave. Juarez 77	
XENT 1120 50000	Nuevo Laredo, Tams.
Box 410, Laredo, Texas	
XEOK 920 2500	Tijuana, B. C.
Carlos de la Sierra, Calle 5 a 312	
XEOX 640 250	Saltito, Coah.
Victoria No. 4, Altos.	

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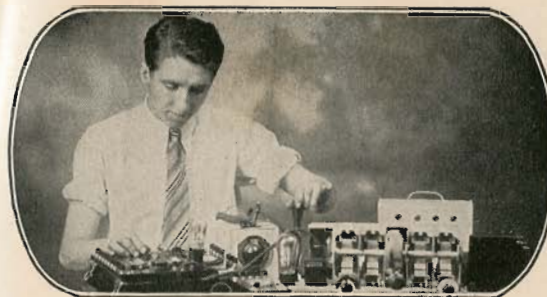
XEP 820 500	Mexico City, D. F.
Cia Difusora de Mexico S. A., Rembrandt 11	
XEPN 590 50000	Piedras Negras, Coah.
Piedras Negras Brdcastg. Co., Madero 53	
XES 970 250	Tampico, Tams.
Fernando Sada, Box 309	
XET 690 500	Monterrey, N. L.
P. O. Box 203, Hidalgo	
XETB 1310 125	Torreón, Coah.
Jose A. Berumen, R. Corona 317	
XETH 1210 100	Puebla, Pue.
Ramon Huerta G., Calle 17, Oriente 11	
XETW 820 500	Mexico City, D. F.
Rafael M. Pena, Ave. 16 de Sep. 83	
XEU 980 250	Veracruz, Ver.
Fernando Pazos Sosa, Independencia 98	
XEW 890 50000	Mexico City, D. F.
P. O. Box 2516	
XEWZ 1150 100	Mexico City, D. F.
Medellin e Insurgentes	
XEX 1310 125	Monterrey, N. L.
L. F. Petit Jean, P. O. Box 10	
XEXX 850 500	Mexico City, D. F.
Av. Pino Suarez 9	

KEYZ 780 10000	Mexico City, D. F.
Angel M. Diaz, Ave. Juarez 48	
KEZZ 1370 100	San Luis Potosi, SLP
Emilio Delgado R. Ave. Chicomse 32	
XFA 1310 5	Aguascalientes, Ags.
Apartado Postal 92	
XFB 1270 1000	Jalapa, Ver.
Gobierno del Estado de Veracruz	
XFC 010 350	Aguascalientes, Ags.
Gobierno del Estado de Aguascalientes	
XFD 1340 350	Orizaba, Ver.
Gobierno Estado de Veracruz	
XFO 940 5000	Mexico City, D. F.
Nat. Rev. Party, Ave. Morelos 110	
XFX 610 1000	Mexico City, D. F.
Secretaria de Educacion Publica	
10-AK 1200 15	Stratford, Ont.
M. I. Higgins, 151 Ontario St.	
10-BP 1200 25	Wingham, Ont.
W. T. Cruickshank, Box 65	
10-BQ 1200 15	Brantford, Ont.
12 Terrace Hill St.	
10-BU 1200 50	Canora, Sask.
Canora Radio Assn.	

THE MONTH'S CHANGES IN STATION DATA

POWER		NEW	
630	WPRO	Providence, R. I. from 100	
645	CMQ	Havana, Cuba, 500 to 340	
730	CMK	Havana, Cuba, 2000 to 3150	
780	CMBS	Havana, Cuba, 200 to 150	
790	CMJK	Camaguey, Cuba, 500 to 150	
925	CMCD	Havana, Cuba, 500 to 250	
950	CMHD	Calbarien, Cuba, 500 to 100	
1005	CMBZ	Havana, Cuba, 150 to 100	
1010	CMBD	Ciego de Avila, Cuba, 250 to 150	
1037	CMHI	Santa Clara, Cuba, 250 to 150	
1100	CMCU	Havana, Cuba, 500 to 150	
1103	CMHA	Sagua la Grande, Cuba, 500 to 50	
1125	CMHJ	Cienfuegos, Cuba, 60 to 40	
1140	CMCG	Havana, Cuba, 500 to 150	
1145	CMCO	Havana, Cuba, 500 to 150	
1185	CMBX	Havana, Cuba, 250 to 150	
1185	CMCJ	Havana, Cuba, 500 to 400	
1320	WSMB	New Orleans, La., 1000 to 500	
DELETED		FREQUENCIES	
550	WSVA	Staunton, Va.	
820	CMGC	Matanzas, Cuba	
834	CMGA	Colon, Cuba	
915	CMDE	Havana, Cuba	
1140	CMBW	Havana, Cuba	
1147	CMBJ	Havana, Cuba	
1185	CMBN	Havana, Cuba	
1205	CMGB	Matanzas, Cuba	
1240	CMJN	Camaguey, Cuba	
1249	CMAB	Pinar del Rio, Cuba	
1290	CMHL	Cienfuegos, Cuba	
1405	CMCM	Havana, Cuba	
1410	CMCH	Havana, Cuba	
1445	CMBL	Havana, Cuba	
1485	CMBK	Havana, Cuba	
1518	KIFS	Klamath Falls, Ore.	
CALLS		LOCATIONS	
1210	WBRB	Red Bank, N. J., formerly WJBI	
1250	WHBI	Newark, N. J., formerly WGCP	
1250	WTCN	Minneapolis, Minn., formerly WRHM	
1260	KPAC	Port Arthur, Texas, formerly KWWG	
1370	WLLE	Lexington, Mass., formerly WLEY	
CHAINS		LOCATIONS	
1200	KGEK	Sterling, Colo., from Yuma, Colo.	
1370	WLEY	Lowell, Mass., from Lexington, Mass.	
CHAINS		LOCATIONS	
1100	KWKH	Shreveport, La., new CBS	
1380	WSMK	Dayton, Ohio, new CBS	

KWO, Dixon, Calif., 15.415. Phones Hawaii and Manila.
 KWU, Dixon, Calif., 15.355. Phones Japan.
 KWX, Dixon, Calif., 7.610. Phones Hawaii.
 LSX, Monte Grande, Argentina, 10.350. Broadcasts 3-4 and 8-9 p.m. daily; Phones New York and Byrd.
 ORK, Ruysselede, Belgium, 10.330. Noon to 2 p.m.
 PHI, Hilversum, Netherlands, 17.775. 7-10.30 a.m.
 Police Stations, on frequencies: 1.596; 1.624; 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, Riobamba, Ecuador, 6.618. Thurs., 9-11.30 p.m.
 Also Sundays, 5-6 p.m., about 19 meters.
 Radio Coloniale, Pontoise, 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. (Replaces RNE temporarily).
 RNE, Moscow, U.S.S.R., 12.000. Temporarily off the air.
 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. Fri., Sat., 8-noon; Sun., noon to 9 p.m.; other days, 2-11 p.m. Relays CRCT and Canadian Radio Commission programs.
 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.
 W1XAL, Boston, Mass., 11.790. Sat., 5:30-11 p.m.; Sun., 6:30-8:30 p.m. 15.250, Sun., 10 a.m. to 1 p.m.
 W1XAZ, Mills, Mass., 9.570. 6 a.m. to midnight.
 W2XAD, Schenectady, N. Y., 15.340. Sun., Mon., Wed., Fri., 4-5 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., 6.060. 8 p.m. to 1 a.m. 9.590. Noon to 6 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.
 W8XX, 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.
 W9XAA, 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.
 XGL, Shanghai, China, 7.960.
 XGN, Shanghai, China, 16.380.
 XGO, Shanghai, China, 7.575.
 YDA, Bandoeng, Java, 6.116. A NITRON 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. 6:15-10 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, 10.060.
 ZFS, Nassau, Bahamas, 4.513.



Sometimes I think there ought to be a law to make everyone do a little studying every week. I didn't think that a year ago because it looked like all the cards were stacked against me. But I am surely making good money now. Maybe my story will show you the way to larger earnings also.

I Thought Radio Was a Plaything

But Now My Eyes Are Opened, and I'm Making Over \$50.00 a Week!

\$50 a week! Man alive, a year ago I thought anyone making that much was just plain lucky.

Twelve months ago I was just barely getting by. It was the same old story—a little job; a salary as small as the job.

If you had told me that twelve months later I would be making \$50 a week in my own Radio business—I'd have thought you were crazy.

But I am getting ahead of my story—let me tell you how it all started. I was hard up a year ago because I had been kidding myself—that's all—not because I had to be. I thought a fellow either had to be lucky or have a string of college degrees a half a mile long to make good money.

One day I picked up a magazine and the headline of an ad attracted me because it seemed to fit my case. It said, "I will show you how to start a spare time or full time Radio service business of your own WITHOUT CAPITAL."

"They're trying to kid somebody," I thought, "but I'll find out what it is all about anyway."

I wrote in and within a few days received a 64-page book telling about the opportunities in Radio, how I could prepare right at home in my spare time, and how they would show me how to start making money in my neighborhood selling and repairing Radio sets. It would probably have sounded too good to be true if the promises had not been backed up by nearly 100 letters from fellows who had taken their Course and were very enthusiastic about it.

What has happened since seems almost like a dream to me now. I started to take their Course and soon I was ready to start making money in my neighborhood—as much as \$5 and \$15 a week. It wasn't long until I had saved enough money to start a little business of my own.

That business has since grown to the point where I am clearing an average of \$50 a week. All this took place under the watchful guidance of my friends at the National Radio Institute. They also offered to train me for other lines—in case I wasn't interested in having my own business. Broadcasting stations, Radio Manufacturers, Operating on Board Ship, Servicing Sets, Aviation Radio, Television, Short Wave, Automobile and Police Radio are other fields their

training covers. And to think, until the day I wrote for that book, I'd been wailing, "I have never had a chance—will never have one because I have no pull and have never had the advantage of a good education!"

Friend—you may not be as bad off as I was—but think it over—are you satisfied? Are you making as much money as you need? Would you sign a contract to stay where you are for the next ten years at the same salary? Those are the things you have to think about—because no one is going to make it his business to push you ahead—you must make it your own business.

Take my tip—write for their book. It won't cost you anything—except a postage stamp. It shows you a lot of things which I don't believe you know now—a lot of facts and figures on the opportunities in this new, fast-growing field. Where the jobs are, what they pay, how to get ready for one. Beginners as well as experienced men are making as much as \$1,000 to \$2,000 a year more as a result of N. R. I. training. You place yourself under no obligation because the book is free and is gladly sent to anyone who is ambitious and wants to get ahead. Just address J. E. Smith, President National Radio Institute, Dept. 4KO, Washington, D. C.

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City State

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— Jean Harlow
(Paramount Pictures)



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— RICHARD ARLEN
(Paramount Pictures)



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— Claudette Colbert
(Paramount Pictures)



Better Foreign Reception
Hollywood's Gold "I am quite pleased with my Midwest. Many friends who have heard it are delighted with its performance. It brings in, without a doubt, the finest all-wave reception I have ever used!"
— Gloria Stuart
(Paramount Pictures)

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