THE JANUARY 1936

RADEX

The All-wave DX Log of the World





30c in Canada

When and Where to Tune for the Day's News The Short Wave Stations of the World



Equip Your Radio with Head Phones

A necessity to the hard-of-hearing and to those who want to listen-in when others in the house are asleep or ill. Shuts out the room noises and reduces the static.

The Perfect Phone Adapter

may be installed in any set in two minutes without tools. Merely insert the socket-adapters (A) under the audio power tube or tubes and leave them there. The toggle switch on box (B) cuts speaker in or out at will. The tips of the phones (E) are inserted in little jacks in the box which may be placed in or under the set.

Price of Adapter complete \$3.95 postpaid.

If you desire to use the Phones at a distance from the set (or use a second speaker in another room) you will need the extension cord and connector (C). Ten foot lengths, 50c.

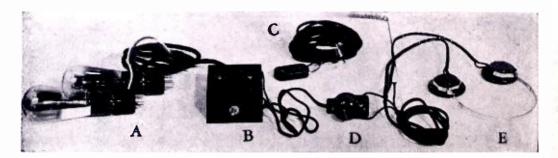
If you desire to regulate the volume of the set from a distance or cut out the "blurbs" or talks, you will need the Distant Volume Control (D). Price \$2.00.

Trimm Featherweight Head Phones of the very finest quality, \$8.05 postpaid. Others as low as \$2.75.

In ordering be sure to give make and model of receiver and a list of the tubes used.

In Ohio, add 3% for sales tax.

The Radex Press, Inc. Conneaut, Ohio





WHERE THE OTHERS'STOP

 Here's a target for distance sharpshooters all over the world to level guns at! Here is proof that the SCOTT ALLWAVE is the finest receiver in the world!

From F. L. Stitzinger in Pennsylvania comes this verified list of 34 foreign countries, 98 foreign stations, 1651 foreign programs -not merely logged, but verified! All within a short six months period! No other receiver in the world has equalled this verified world record performance during any six consecutive months tuning!-Argentine, Australia, Belgian Congo, Bermuda, Bolivia. Brazil, Belgium, Canada. Columbia. Costa Rica, Cuba. Denmark. Ecuador, England, Federated Malay States, France, Germany, Hawaii, Holland, Indo-China, Italy, Japan, Java, Kenya Colony, Mexico, Morocco, Peru, Portugal, Republic Dominica, Russia, Spain, Uruguay, Venezuela! Every station, every program. verified!

E. H. SCOTT, designer and custom-builder of world's finest radio receivers since 1924 MR.SCOTT'S

PERSONAL MESSAGE TO YOU

Says Mr. Scott: "Mr. Stitzinger's list is only one of thousands which SCOTT owners constantly send in to our laboratories — SCOTT owners receive and have verified owners receive and have verified 3 times as many foreign stations as are received on sets of other radio manufacturers . . SCOTT ALLWAVE receivers are giving distinguished service in more than 146 countries throughout the world. . . We have over 600 expert 'Installation and Service representatives' overentire United States alone—to give you instant States alone—to give you instant service should you ever need it. This, even though every SCOTT receiver carries five year guarantee of perfect service.

FACTS ARE YOUR GUARANTEE

Here is reception not even ap-proached by any other receiver anywhere on earth — regardless

of price! This is not "sales talk." These are vital facts—of deep interest to every DX enthusiast.

To enjoy the really great world music, to hear the tremendous events which are moulding history—still to be in tomorrow's headlines—you must have high Class "A" speaker power.

SCOTT 23 TUBE ALLWAVE has 35 Watts Strictly Class
"A" Power, 50 watts Class
"AB" power—6 times undistorted output of average receiver for vaster distances.

Bullet-Direct Variable Se-lectivity 2 to 16 KC-3 times better than selectivity of average receiver — to pierce through powerful local stations and bring in weak distant stations thousands of miles distant.

6 Microvolt Sensitivity Twice that of any other radio receiver.

25 to 16,000 Cycle Hi-Fidelity — provably twice the tonal range of any other high fidelity receiver—a fact which we can demonstrate in any comparative test.

Dial Calibration - accurate on all tuning bands for the first time in radio history.

Foreign Station Locator tunes in the short wave stations instantly.

More Important PERFORMANCE Features Than Any Other Receiver—including True Bass Control — True Separate Treble Control — 23 Tubes, New Highest Efficiency Type—Oversize Construction throughout — Includes many advanced laboratory developments which cannot be incorporated in production type radio receivers.

Compare It in Your Home

These celebrities demand the world's Inese celebrities demand the world's finest quality—all are SCOTT owners—Toscanini—Guy Lombardo—Eddie Cantor—Walter Winchell—Ted Husing—RudyVallee—Al Jolson—andhundreds more. The SCOTT is the choice of Presidents and Princes all over the world.

Unqualifiedly guaranteed to bring you more foreign stations with stronger volume, with more crystal clear tone, with less noise than any other receiver in the world—in your own home! 30 days' trial. You can own the SCOTT for no more than you would pay for an ordinary receiver.

The Secret of Superiority

How is such an unequalled guarantee possible? The SCOTT is strictly custombuilt — to highest precision standards known. Sent to you direct from laboratories—fully adjusted and proved, with various wide installation envise. nationwide installation service.

Read coupon below-NOW-and decide right now — without delay — to send for the most thrilling story of worldcovering performance in the history of

Visit our new permanent salon at 630 Fifth Ave., Rockefeller Center, New York City.



Builder of WORLD'S FINEST CUSTOM-BUILT RADIO RECEIVERS Since 1924

CRCK 1050 WF1L WBEN 900 WHEC WLW 700⁹ WNAC 1230 WIP 560 WTIC 1040 i Blue Net |WICC | 600| WTIC 10402 WHEC 1430 11:00 p.m. WCAE 1220 WEEL 590² 11:15 p.m. 11:05 p.m. W1BX-1200WOR 710 Midn't. 11:30 p.m. CFCF 600⁵ WEEI 590² WJAS 1290 WPRO 630 WEEI 590 CBS Sun. CFRB 690 WFBR 1270 WKJC 1200 WTAG 580 11:10 p.m. 11:20 p.m. Red Net² WCKY 1490

CENTRAL STANDARD TIME

	U	TOTAL I IVA	T SIV	NDAKL) lime
5:30 a.m.	WTMV 1500	WGST 890	WHBU 1210	WMT 600	KGEX 630 6:15 p.m. KSO 1430
KFNF 890	8:15 a.m.	WHBU 1210	WISN 1120	WSM 650	KMBC 950 KFNF 890 KTBS 1450
6:15 a.m.	KFJM 1370	WIND 560	WJJD 1130	WTAX 1210	KSTP 1460 KFRO 1370 WGN 720
KFEQ 680	KGFK 1500	WJTL 1370	WJTL 1370	WTMV 1500	WDAF 610 KFRU 630 WHBY 1200
WBAP 800 WFAA 800	WAAW 660	WMBH 1420	WMBD 1440	1:15 p.m.	WOC 1370 KFVS 1210 WJTL 1370
6:30 a.m.	8:30 a.m.	WROK 1410 WTAX 1210	WOC 1370	KPAC 1260	5:00 p.m. WLBC 1310 WMT 600
KASA 1210	KGKB 1500	WTMV 1500	WS1X 1210 WTMV 1500	KTBS 1450 KWTO 560 ²	KFEQ 680 WMFN 1210 WNBR 1430
KMBC 950	KLPM 1240	10:05 a.m.	WTRC 1310	1:30 p.m.	KFIZ 1420 WGL 1370 WNOX 560 KFJZ 1370 C.20 - WSFA 1410
WHO 1000	KSD 550	KLPM 1240	XEWZ 1150	WLBC 1310	
6:45 a.m.	KSTP 1460	10:15 a.m.	12:15 p.m.	WMBH 1420	KOMA 14905 KASA 1210 1200
KWBG 1420	KWBG 1420	CJGX 630	KGGF 1010	1:45 p.m.	WHBU 1210 KFOR 1210 KFPW 1210
7:00 a.m.	WCCO 810	WBOW 1310	WBRC 930	KFDY 780	WHO 10009 KWKC 1370 KSD 550
KABR 1420 KFJZ 1370	WGPC 1420 WJBO 1420	WDOD 1280 WJMS 1420	WCLS 1310	KGEX 630	WIRE 1400 WDOD 1280 WERM 1230
KRNT 1320	WSFA 1410	10:25 a.m.	WFBM 1230 WHBY 1200	WHEF 1500	Mand 1190 May 1000
WCCO 810	WTAQ 1330	WTCN 1250	WKBB 1500	2:00 p.m. WHBU 1210	WJTL 1370 WNBR 1430 KRNT13202
W1BW 580	8:45 a.m.	10:30 a.m.	WROK 1410	WJJD 1130	WMBD 1440 WSGN 1310 KRNT 13202 KTBS 14502
WMT = 600	KNOW 1500	KFOR 1210	WOWO 1160	WJTL 1370	WENT 650 6:45 p.m. WDOD 1280
WTAD 900	WSGN 1310	KGDE 1200	12:29 p.m.	WTMV 1500	WTCN 1950 KRGV 1260 WGBF 630c
WTCN 1250	9:00 a.m.	WBEO 1310	KFNF 890	2:15 p.m.	WTMV 1500 WKBH 1380 WIBW 580
KSO 1430 7:05 a.m.	Red & Bluea CBS	W1ND 560 ²	WRTN 1370	KWBG 1420	5:15 p.m. WSFA 1410 WQA1 11902
WSGN 1310	KGCA 1270	10:40 a.m. KFEQ 680	WTAW 1120 12:25 p.m.	WBAP 800	WCCO 810 6:55 p.m. 9:45 p.m.
7:15 a.m.	WDAF 610	10:45 a.m.	KDLR 1210	WFAA 800 WKEU 1500	WMC 780 KGDE 1200 WROK 1410
KGGF 1010	WGST 890	WKEU 1500	12:30 p.m.	WNAD1010b	5:20 p.m. 7:00 p.m. 10:00 p.m. KGGF 1010 KGKB 1500 KPRC 920
KPAC 1260	WHBU 1210	11:00 a.m.	KFEQ 680	2:20 p.m.	5:30 p.m. KWBG 1420 KVOO 1140d
WHO 1000	WHBY 1200	KFJZ 1370	KFJM 1370	WCCO 810	CBS WAVE 940 WDAY 940
WKEU 1500	WIND 560	KFNF 890	KWTO 560	2:25 p.m.	Red & Blue WBOW 1310 WENR 8705
7:20 a.m.	WKEU 1500	KSTP 1460	WAGF 1370	WTCN 1250	KASA 12102 WJTL 1370 WGST 890
WHB 860 WOI 640	WNOX 560 WOWO 1160	WHBU 1210 WSGN 1310	WIBA 1280 WJAG 1060	2:30 p.m.	KFAB 770 WKBB 1500 WHBU 1210
7:30 a.m.	WTMV 1500	WTMV 1500	WKBH1380 ²	KSTP 1460 KVOS 1210	KFJB 1200 WMBH 1420 WIBA 1280
KFRO 1370	WIND 5602	11:15 a.m.	WKEU 1500	WDAY 940	KPAC 1260 WTMV 1500 WIRE 1400 WOAI 1190 7:15 p.m. WMBD 1440
KGBZ 930	9:05 a.m.	WDAF 610	WNBR 1430	WIND 560	5:35 p.m. KFNF 890 WNBR 1430
KMBC 950	WILL 890	11:25 a.m.	12:35 p m.	3:00 p.m.	KVOO 1140d WJMS 1420 WOAI 1190
KSTP 1460	WRTN 1370	WDAY 940	WJMS 1420	KARK 890	WENR 870 7:30 p.m. WTMV 1500
KWTO 560	9:15 a.m.	11:30 a.m.	12:45 p.m.	KFJB 1200	5:40 p.m. WIND 560 XENT 910
WIBA 1280 WDSU 1250	KARK 890 KFEQ 680	KFPW 1210 KRNT 1320	KBTM 1200 KFIZ 1420	WHBU 1210	CKY 960 7:45 p.m. XEWZ 1150
XEFO 940	KPAC 1260	KWBG 1420	KFIZ 1420 KFRO 1370	WISN 1120 WLBC 1310	5:45 p.m. WRTN 1370 10:05 p.m. KFYO 1310 WTAD 900 WCCO 810
7:40 a.m.	KSTP 1460	WMT 600	KFYO 1310	WSGN 1310	KFYO 1310 WTAD 900 WCCO 810 WDAY 940 8:00 p.m. 10:10 p.m.
KFEQ 680	WLBC 1310	KSO 1430	KLPM 1240	WTMV 1500	WDSU 1250 KARK 890 Blue Net
7:45 a.m.	WMBD 1440	11:45 a.m.	KRGV 1260	3:05 p.m.	WFBM 1230 KFIZ 1420 10:15 p.m.
KRGV 1260	9:30 a.m.	KABR 1420	KSTP 1460	KFNF 890	WKEU 1500 KVOO 11402 CBS2
KVOO 1140 WNBR 1430	KFIZ 1420 KFYO 1310	KASA 1210 KGKB 1500	WBAA 8909 WBOW 1310	3:15 p.m.	WNOX 560 WHBU 1210 KLPM 1240
WOAI 1190	KTBS 1450	KVOO 1140	WCCO 810	WGST 890 3:30 p.m.	WTRC 1310 WTMV 1500 KSTP 1460 5:50 p.m. XENT 910a WGBF 6309
7:50 a.m.	KTWO 560	WBAA 890	WHO 1000	KSTP 1460	5:50 p.m. XENT 910a WGBF 6309 KSTP 1460 8:15 p.m. WHO 1000
KABR 1420	WJBC 1200	WCCO 810	WKBH 1380	WGBF 630c	KFJM 1370 KGBX 1230 WTCN 1250
KFNF 890	WJJD 1130	WDSU 1250	WLBC 1310	WHO 1000	5:55 p.m. 8:30 p.m. 10:30 p.m.
8:00 a.m.	WKBB 1500	WIND 560	WMFN 1210	3:45 p.m.	WMT 600 KFJZ 1370 Red Net ²
KARK 890	WMT 600	11:55 a.m.	WNOX 560	KABR 1420	6:00 p.m. KFOR 1210 WHO 10009
KFAB 770 KFYO 1310	$ m WTRC 1310$ $ m CBS^2$	KFAB 770 WOAI 1190	WSFA 1410	WKEU 1500	KARK 890 WIND 560a WRTN 1370
KFYO 1310 KGFW 1310	9:45 a.m.	WOAI 1190 . Noon	WTCN 1250 1:00 p.m.	WTAX 1210 4:00 p.m.	KFEQ 680 WEBQ 1210 10:45 p.m. KVOL 1310 8:45 p.m. WIND 560
WDAY 940	KMBC 950	CJGX 630	CKY 960	KBTM 1200	KVOL 1310 8:45 p.m. WIND 560 KWTO 560 <i>a</i> KFNF 890 11:00 p.m.
WFBM 1230	WJBO 1420^{2}	KARK 890	KCRC 1360	WHBU 1210	WHBY 1200 KGKB 1500 KMBC 950
WJJD 1130	KDLR 1210	KGEX 630	KFOR 1210	WTMV 1500	WJBO 1420 WSGN 1310 WHBU 1210
WJTL 1370	10:00 a.m.	KGNF 1430	KGKL 1370	4:15 p.m.	WTAQ 1330 9:00 p.m. WJTL 1370
WKBB 1500	KFVS 1210	KMBC 950	KRNT 1320	KWTO 560	WTAX 1210 KFYO 1310 WTMV 1500
WKBH 1380 WMBH 1420	KLCN 1290 KVOS 1210	KVOL 1310 WGPC 1420	WCBS 1420	WHB 860	WTMV 1500 KGKL 1370 XENT 910
WMFN 1210	WCCO 810	WHB 860	WDOD 1280 WHBU 1210	WJAG 1060 4:30 p.m.	6:10 p.m. KMBC 950 Midn't.
		17 113 300	11 11 12 10 12 10 1	4:50 h:111.	KLPM 1240 KRNT 1320 KSTP 1460

MOUNTAIN STANDARD TIME

6:00 a.m.	CHWC 1010	CHAB 1200	CKCK 1010	KICA 1370	KGVO 1260	12:30 p.m.	-2:30 p.m.
KFKA 880	KFEL 920	CKBI 1210	10:00 a.m.	KLZ 560	KGIR 1340	KFKA 880	KDYL 1290
7:45 a.m.	KVOR 1270	9:15 a.m.	KOY 1390	Noon	KIUP 1370	KGEZ 1310	KSUN 1200
KGKY 1500	8:15 a.m.	KDYL 1290	10:30 a.m.	KFEL 920	XEAF 990	1:00 p.m.	3:15 p.m.
KLZ 560	CFRN 1260	KICA 1370	KDFN 1440	KTAR 620	12:20 p.m.	CFCN 1030	CHCK 1010
8:00 a.m.	KGVO 1260	KIUL 1210	11:00 a.m.	12:15 p.m.	KOY 1390	KVOR 1270	3:30 p.m.
Red & Bluea	8:30 a.m.	KIUP 1370	XETB 1310	KFBB 1280	12:25 p.m.	2:00 p.m.	KIUL 1210
CBS Net ²	CBS Net ²	9:30 a.m.	11:45 a.m.	KGHL 780	KDFN 1440	KICA 1370	KSL 1130

3:45 p.m.	Red & Blue	6:00 p.m.	6:30 p.m.	CHWC 1010	8:30 p.m.	KVOR 1270	CFCN 1030
KLZ 560	CBS Net	KFKA 880	KGCX 13109	CJCJ 690	KDFN 1440	3:12 b·m.	KD1L 1400
4.00 p.ms	KIDW 1490	KOV 1390	6:45 p.m.	KVOR 1270	8:45 p.m.	Rine Met.	KGHL 780
CHWC 1010	5.00 p.ms	6-15 n.m.	KDFN 1440	XEFV 1210	XEAF 990	CBS Net*	KO 1 1390
KFEL 920	KVOR 1270	CHAB 1200	7:00 p.m.	8:15 p.m.	9:00 p.m.	9:30 p.m.	11.00 p.m
KICA 1370	5:30 p.m.	KGEZ 1310	7:00 p.m. KFEL 920	KICA 1370	CJRM 540	Red Net ²	11:00 p.m.
4:30 p.m.	KDFN 1440	KGVO 1260	8:00 p.m.	KLZ 560	KTSM 1310	10:00 p.m.	KTAR 620

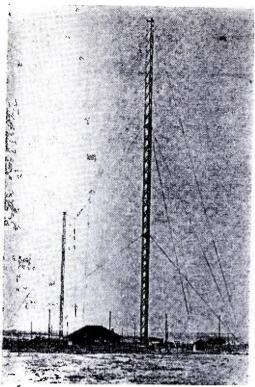
PACIFIC STANDARD TIME

6:00 a.m.	8:30 a.m.	10:15 a.m.	KOL 1270	KRSC 1120		7:00 p.m.	
KJBS 1070	CRCV 1100	KELW 780	KREG 1500				W6XAI 1550
KRSC 1120	KGFJ 1200	10:20 a.m.	KVI 570	2:15 p.m.		KIT 1310	
6:30 a.m.	KXRO 1310	KLX 880	KVOS 1200		KOOS 1390a		KLX 880
KOIN 940	8:45 a.m.	11:00 a.m.	W6XAI 1550	3:00 p.m.			KUJ 1370
6:45 a.m.	KOIN 940	KRSC 1120	12:20 p.m.	KJBS 1070		KRLC 1420	
KRLC 1420	KWJJ 1040	11:15 a.m.	KIT 1310	KQW 1010		KRSC 1120	KIT 1310
7:00 a.m.	9:00 a.m.	KOIN 940	12:30 p.m.	KRSC 1120	6:00 p.m.	KUJ 1370	ECOT 1970
CBS Net	KFRC 610	11:30 a.m.	KFPY 890	3:15 p.m.	KJBS 1070a	KVUS 1200a	KVOS 1900
Red & Bluea	KFXM 1210	CJAT 910	KIEM 1210		KROW 930	KXRO 1310	KYA 1230
KGDM 1100	KOOS 1390	KRKD 1120	KOOS 1390	3:30 p.m.	KFOX 1250		KVI 570a
KQW 1010	KRSC 1120	11:45 a.m.	KPQ 1500	CBS Net	KQW 10102		
KRSC 1120	KWG 1200	KGHF 1200	KRLC 1420	Red & Blue		KRSC 1120	1
KUJ 1370	9:15 a.m.	Noon	KTRB 740	3:45 p.m.	KFXM 1210		KFOX 1250
7:15 a.m.	KOL 1270	KFJR 1300	KXRO 1310	KFPY 890			KFRC 610
KERN 1370	KVOS 1200	KFRC 610	12:45 p.m.		KECA 1430		KFXM1210a
KFBK 1490	KGDM 1100	KJBS 1070	CKOV 630		KGFJ 12002		KGB 1330
KMJ 580	9:30 a.m.	KQW 1010	KFXM 1210		XEMO 860		KHJ 900
7:30 a.m.	KJR 970	KROW 930	1:00 p.m.	KRSC 1120		Red Net ²	TECA 40 000
CBS Net ²	KMPC 710	KRSC 1120	KGFJ 1200	4:15 p.m.		CKCD 1010	
7:45 a.m.	9:45 a.m.	KUJ 1370	KOIN 940	KOIN 940	CKWX 1010		10:36 p.m.
KFPY 890	KFI 640	12:05 p.m.	KRSC 1120		KFXM1210a		
KRKD 1120	KFOX 1250	KOAC 550		4:45 p.m.			10:45 p.m.
8:00 a.m.	9:51 a.m.	12:10 p.m.	1:30 p.m.				KGFJ 1200
KIT 1310	KPQ 1500	CHWK 780	KMPC 710	5:00 p.m.			KXA 760
KRSC 1120	10:00 a.m.	CKWX 1010	1:45 p.m.				11:00 p.m.
KUJ 1370	KJBS 1070	12:15 p.m.	CHWK 780				KFPY 890
8:15 a.m.	KQW 1010	KECA 1430	KRKD 1120	KGDM 1100			11:45 p.m.
KROW _a 930	KUJ 1370	KHSL 950	2:00 p.m.	5:30 p.m.	W6XAI 1550	9:15 p.m.	KROW 930

THE JANUARY DX CALENDAR

Special programs arranged by the stations for the benefit of distant listeners. The list of frequency check programs in detail may be found in the December issue. All times are in Eastern Standard in order that the programs may be arranged chronologically

that the p	ograms may	De arranged enrone	Mogream	,				
	=	Mornings uary 5		2:30- 3:30 2:81- 2:39 3:00- 5:00	CKCW	1370 1370 1300	Longview, Tex. Moncton, N.B. Troy, N.Y.	CDXR
12:01-13:30 VI:00- 2:00	WAPI 1140 CMKC 1250 CJLS 1310	Birmingham, Ala. Santiago, Cuba Yarmouth, N.S.	CDXR NNRC NNRC	3:01- 3:09	CJAT CHNC	910 1410	Trail, B. C. New Carlisle, P.Q.	
2:00- 3:00 2:00- 4:00 2:15- 2:45	CJLS 1310 CHAB 1200 WTBO 800		1CDXE	4:00- 5:00	WGBF	Janua	•	CDXR
3:00- 5:00 3:00- 6:00	CJOC 1230 FCC Freq	Lethbridge, Alta. uency Checks		12:01- 3:00 2:00- 4:00	WPAR WTMV WJBO	1500	Parkersburg, WVa. E.St. Louis, III. M Baton Rouge, La.	ACDXE
6:00- 7:00		Kansas City. Mo. ary 12	CDXR		KW&C	1220	Pullman, Wash.	CDXR
2:00- 3:00 2:00- 4:00	KFRO 1370 WJBO 1420	Longview, Tex. Baton Rouge, La.	NNRC	1:00- 3:00 1:00- 5:00 2:00- 4:00	CMJA KIUP XEWZ		Camaguey, Cuba Ourango, Colo.	asus
2:30- 4:30 2:40- 3:00 3:00- 5:00	KID 1320 CKCW 1370 WEEU 830	Idaho Falls, Ida. Moncton, N. B. Reading, Pa.	NNRC NNRC	3:00- 4:00 3:00- 4:30		1010	Mexico City, D.F. Vancouver, B.C. Kelowna, B.C.	CDXR
3:20- 4:00 3:40- 4:00	CJIC 1500 CKX 1120 WOL 1310	S. Ste. Marie, Ont. Winnipeg, Man. Washington, D. C.	NNRC			Janu		
4:00- 5:00 4:00- 6:00 4:30- 6:00	WJAS 1290 WHJB 620	Pittsburgh, Pa. Greensburg, Pa.	CDXR CDXR	2:00- 8:30 2:45- 3:00 3:00- 4:00	FCC KUJ XEF1		iency Checks Walla Walla, Wasi Chihuahua, Chi.	
4:40- 5:00	KQV 1380 CKFC 1410	Pittsburgh, Pa. Vancouver, B. C.	CDXR	3:30- 3:30	KID	Janua		CDXII
✓ 1 :00- 2:00	Janu CMKC 1250	ary 19 Santiago, Cuba	CDXR	3:00-6:00	CMOX	1320 Janua	Havana, Cuba	
1:01- 1:09 1:11- 1:19 1:21- 1:29 1:31- 1:39 1:41- 1:49 1:51- 1:59 2:11- 2:19	CMRC 1250 CRCS 950 CJCB 1240 CHNS 930 CHRC 580 CFCY 630 CJLS 1810 CHSJ 1120	Saluago, Cuba Chicoutimi, P.Q. Sydney, N.S. Halifax, N.S. Quebec, P.Q. Charlottetown, P.I Yarmouth, N.S. St. John, N.B.		1:01- 1:09 1:11- 1:19 1:21- 1:20 1:31- 1:39 1:51- 1:59 2:01- 2:09 2:11- 2:19	CRCS CJCB CHNS CHRC CJLS CFNB CHSJ	950 1240 930 580	Chicoutimi, P.Q. Sydney, N.S. Halifax, N.S. Quebec, P.Q. Yarmouth, N.S. Fredericton, N.B. St. John, N.B.	



Aerials of s.w. station VK3ME situated at the AWA radio center, Braybrook, Victoria.

			Chinganga, Chi. CDXI	к
3:01-3:09	CHNC	1410	New Carlisle, P.Q.	•
" 3:15- 3:30	KGGM	1230	Albuquerque, N.M.	
1			, 13, 20, 27	
1 2:01- 2:00	CMHW	810	Clenfuegos, Cuba	
1:00- 2:00	WGES	1360	Chleago, Ill.	

Tuesday Mornings January 7

Frequency Checks

2:00- 7:20 FCC

	3:00-	4:00	WNEL	1290	San Ju	an, P.R.	
				Janua	эгу 14		
_	3:30-	5:00	CKBI	1210	Prince	Albert,	Sask.
							NNRC
				Janua	ry 21		
	1:00-	4:00	WDAY	940	Fargo,	N.D.	
	4 121	1.20	CITT	1210	T/ (m) lor	A T Aka	∩ -•

T-101- 1.00	COLL	1010	minimu Lane, O	410.
2:00-3:30	KIUL	1210	Garden City, Kar	ns.
2:01-2:09	CFNB	580	Fredericton, N.B.	
		Janua	ary 28	
4:00- 5:00	WKAQ	1240	San Juan, P.R.	NNRC
	Jan	uary 7	, 14, 21, 28	
3:00- 4:00	KFXM	1210	San Bernardino,	Cal.
5:00- 5:15	WBNS	1430	Columbus, Ohio	

Wednesday Mornings

		Ja	nuary 1		
12:01- 6	:00 2	KEPN 5	90 Piedras	Negras,	
				Coah.	CDXR
1:00- 1	:30 V	VEBC 129	90 Superior,	Wisc.	
1:30- 2	:30 V	VSUI 8	30 Iowa Cit	y, Ia.	
8:00- 4	:00 C	HAB 120	00 Moose Ja	w, Sask	. CDXR
3:00- 5	:10 V	VIRE 140	00 Indianap	olls, Ind	CDXR
		Ja	nuary 8		
12:01-1	:00 X	EFW 13:	lo Tampico	, Tamps	CDXR
2:00- 6	:00 F	CC Fr	equency Che	cks	
*		Jac	nuary 15		
2:00- 2	:30 K	WTO 56	30 Springfie	ld, Mo.	
2:00- 4	:00 C	HAB 120	00 Moose Ja	w, S,	MCDXE

2:30- 3:00	WCMI	1310	Ashland, Ky.	
	WHBQ	1370	Memphis, Tenn.	NNRC
3:00-6:00	WOPI	1500	Bristoi, Tenn.	MARC
3:30-4:30	KIDW	1420	Lamar, Colo.	
4:00-4:30	KFNF	890		
4:00- 4:30 4:00- 5:00	WIL	1200		
			ary 22	
3:00-6:00	WOPI	1500	Bristol, Tenn.	CDXR
			ary 29	CDAR
2:00- 3:00	wo c	1370	Davenport, Ia.	NNRC
3:00-4:00	WNEL	1290	San Juan PR	MMIC
4:00- 4:30	KGNO	1340	San Juan, P.R. Dodge City, K.	MCDXE
4:15- 5:45	KGGF	1010	Coffeyville, K.	MCDXE
5:30-6:00	KFBI	1050	Abllene, Kans.	MCDXE
	Janu		8, 15, 22, 29	MODILE
1:30- 2:00	WKBB	1500	E. Dubuque, Ill.	
4:30- 5:00	WCAL	1250	Northfield, Minn	1.
	The	reday	Mornings	•
	• • • • • • • • • • • • • • • • • • • •	Janu		
2:00- 6:20	FCC	Frequ	uency Checks	
		Janu	ary 9	
2:00- 3:00	KIUN	1420	Pecos, Tex.	
	WRUF	830		
2:15- 2:30	WLLH	1370		
3:00- 4:00	CE90		Santiago, Chile	NRC
2.00	01400	Janua	outougo, Onne	NAC
5:10- 6:10	WFLA	620	Clearwater, Fla.	
1 5:15- 5:45	WALA	1380	Mobile, ala.	
5:30-6:00	WRAW		Reading, Pa.	CDXR
			9, 16, 23, 30	ODAIL
12:30- 1:15	KLRA	1390	Little Rock, Ark.	MCDYE
			lornings	MODAL
		Janu	arv 3	
2:00- 3:00	KDYL		Salt Lake City, U	CDXR
3:00-6:30	FCC	Frequ	ency Checks	. ODAR
		Janua		
2:15- 2:45	KPOF	880	Denver, Colo.	
4:30-6:00	CKNX	1200	Wingham, Ont.	
6:00-6:30	KFBI	1050	Abllene, Kans.	
		Janua		
2:00-3:00	WIXBS	1530	Waterbury, Cont	a.
•		Janua	ry 31	
1:00- 1:15	KPRC	920	Houston, Texas	
_	WLLH	1370	Lowell, Mass.	
2:15- 2:30	WCSH	940	Portland, Me.	
	Janua	ry 3, 1	0, 17, 24, 31	
12:01- 2:00	CFCN	1030	Calgary, Alta	
	Satı	ır.day l	Mornings	
		Janua	вгу 4	
2:10-6:30	FCC	Frequ	iency Checks	
3:30- 4:00	KSAC	580	Manhattan, Kans	3.
4:30-5:30	CKNX	1200	Wingham, Ont.	
		Janua	ry 18	,
12:01-5:00	KGVO	1260	Missoula, Mont.	
1:00- 2:00	WMBI	1080	Chicago, Ill.	NRC
1:41-1:49	CFCY	630	Charlottetown, P	
3:00- 4:00	CHML	1010	Hamilton, Ont.	CDXR
4:00-5:00	KMO	1330	Tacoma, Wash.	NNRC
		Janua	ry 25	
2:30-4:00	KADA	1200	Ada, Okla.	
3:00- 6:00	KWSC	1220	Pullman, Wash.	
	Janu	iary 4,	11, 18, 25	
12:30- 3:00	KLRA	1390	Little Rock, Ark.	NNRC
5:00- 6:00	WMFO	1370	Decatur, Ala.	NNRC
7:00- 8:00	WSBC	1210	Chicago, Ili.	NNRC

Harry O. Jones and Bill Ellis will present a weekly DX feature program over KFAC, 1300 kcs., each Thursday night from 9:15 to 9:30 PST. first program will be on December 12th. As this will be 12:15 to 12:30 EST, many in the Eastern States should hear this program. No doubt Bill will see that reports are promptly verified.

That NEW SET of Yours

• • • By the SHORT WAVE EDITOR

LARGE number of our readers are rich and don't know - it. Hundreds, perhaps even thousands of our readers have received new radios for Christmas and the chances are that nine out of ten of these new sets are all wave sets. We know that lots of these people are wondering what the shortwave bands are good for; despite millions of words written each year in variperiodicals about shortwaves, there still are too many persons who shortwaves are amateurs. think police and airways. The uninitiated seem to thing that highly complicated commercial receiving equipment is necessary to receive shortwave programs of real entertainment value.

Most of the all wave receivers on the market now, regardless of price, will provide reliable and interesting reception of overseas broadcasting stations on the shortwaves. It must be borne in mind, however, that very long distance reception, although approaching perfecoften times tion, is accomplished only by very careful tuning, and allowances must be made for the fact that these signals travel thousands of miles before reaching our aerials.

If readers will refer to the charts which have been printed in RADEX during the past several months, they will see how the various frequencies in the radio spectrum are allocated. This chart shows that on the shortwaves, broadcasting stations are not spread out from one end of the dial to the other, but are concentrated into several narrowly defined bands; the first thing for a person to do with any new receiver is to locate these bands on the dials. Fortunately, most sets indicate in some manner, such as a heavy line or a notation, the

location of the 16, 19, 25, 30 and 49 meter bands. Beginners should confine their tuning to the last two of these bands at first, and locate a few reliable stations.

Advice to Beginners

Anyone tuning shortwaves for the first time should not be discouraged if no foreign stations are heard; there are days when s.w. reception is poor, just as on the broadcast band. Happily, there are more good days than bad ones and on these good days stations roll in from every corner of the world.

"Suppose the stations do come in from every corner of the globe; can we understand and appreciate their programs, once they are tuned in?" someone may ask.

Most assuredly they can be appreciated and nearly always understood. Great strides have been made in the transmission of shortwaves. many high-powered stations such as those at Daventry, Zeesen, Madrid, Rome, Schenectady, Pittsburgh, Caracas, etc. Programs originating in London, Berlin, Rome or Paris can be heard with volume and clarity almost equal to that of a local station, and very nearly as con-These broadcasters are sistently. not satisfied with the remarkable progress they have made, but are constantly improving their equipment; within the next twelve months it is expected that at least four of the large European broadcasters will increase their power to 100,000 watts or more.

Programs can be understood because most of the organizations using the high frequencies realize they have a world-wide audience and have announcements made in several languages; the British and Australian stations are the only important

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stations which do not have multilingual announcements but as their language is English we have no trouble with them.

How to Tune

A few years ago magazines concerning shortwaves were in the habit of printing quite regularly, instructions for tuning s.w. sets. Such articles at that time were vitally necessary because it was no easy matter to pick up overseas stations and the tuning in of such stations required patience and practice. Those days are about gone, however, and tuning instructions become more superfluous each year.

On s.w. one is required to tune s-l-o-w-l-y; broadcasting stations are confined in very narrow bands and are of necessity bunched together. To find them the dials must be turned so slowly that the movement of the hand or indicator across the face of the dial is hardly perceptible. Every little "swish" or whistle must be suspected as these little sounds usually indicate the presence of a station. When such sounds are heard the tuner should "stand by" for a few moments as the station may be on the low end of a fade. Nearly all such sounds can be brought up to understandable volume if accurately tuned in; even the tone control is sometimes of help in such cases.

The volume control of any short-wave set should rarely be set for maximum volume while searching for stations, although it should be advanced enough that static is heard. If the set is equipped with "static eliminators" or "cross talk suppressors," the device should be set for maximum static. These devices work fine on BC sets, but completely cut out average strength shortwave signals.

If there is a tone control it seems that better success can be had if it is set for reproduction of "high notes," as it is easier to detect the presence of a station with the control in this position. After a station has

been found the tone control can be altered at will.

The new transmitters and modern receivers are so efficient that anyone with average patience and a good aerial should, and can, have foreign s.w. reception daily. Of course there are hard-to-get s.w. stations, just as on the BC band, and reception of these stations comes only after one is thoroughly familiar with his receiver.

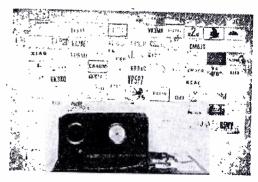
About the Programs

"Are the programs one hears worth the extra trouble required in picking them up?" is another often-repeated question.

We can safely say that anyone, regardless of his tastes, can find something of interest as every kind of a transmission conceivable is heard, from symphonies to hams. It would be a very dull person indeed who could not find something of interest among the police, the amateurs, airplanes, ships, sizzling news direct from the country of its origin. Strauss music from Berlin, Verdi from Rome, Elgar from London, tangoes from the Argentine samisen music from Japan.

In the first band below the broadcast band are the police alarm stations, and the amateur stations, as well as a large number of point-topoint stations in Alaska. If anyone is interested in DX he should try the police bands. There are some

(Continued on page 47)



Radio corner of F. D. Gilliland, 3621 Sutherland Road. Shaker Heights, Ohio.

NIGHT LIFE of the Radexers

• • • By CARLETON LORD

N virtually every field of human endeavor, we are permitted to experience the pleasant sensation of having reached or surpassed some previously-established goal or record. Whether it be the sprinter who tries for a "nine-second century," the mountain-climber who attempts to scale the heights of Mt. Everest or the commuter who hasn't missed the 8:15 in ten years, there is a reward of personal satisfaction for a job well done.

This is particularly true of DXing, where there are so many goals for the listener. The neophyte may look forward to the day when he has verified a station in every state and province; the more advanved DXer may be trying for his first transoceanic station; while the veteran may be seeking his twentieth Aussie or his thousandth verification.

Whatever the goal, no matter how modest, its achievement is always ample reward for the hours spent at the dials.

"When I tuned in CMOX on November 13th," remarks Raymond C. Corbett, 619 Twelfth St., San Francisco, Cal., "it was quite an occasion for me. Not only was it a good catch, but it was my 500th station on the broadcast band. For five years I had been trying for this goal and achieved it with the use of three receivers—an Amrad, a Philco, and the new Atwater Kent Model 337. CMOX was the 116th station more than 2000 miles distant and my third Cuban."

"My log stands at 493, but I am trying for 500 before November 26th, when my Scott will be a year old," recapitulates Joe Tamele, 13201 Coath Ave., Cleveland, Ohio. "I really have 523, but lost 30. I have noticed that some of the stations scheduled for the frequency checks

don't go on at the assigned time. Have been trying for WCAP and WNYC, but never seem to run into them."

During the November checks on the 7th, we tried for WMFN, KVOL and WMFD at the scheduled times, but didn't seem to make connections. Can our readers give us any information on these and other stations which are not operating according to the FCC assignments?

More About Club Co-Operation

"Regarding DX programs and the like," protests Raymond S. Swenson, 2325 Tenth St., Rockford, Ill., "I think it is wrong to have the larger clubs take the majority of the time per month as you suggested in the October issue. The best wav solve the problem is to have CPC picked from every organization in the inter-club plan. Each CPC man should then mention all of the clubs represented when writing to sta-This would lessen the work tions. of the committeemen and definitely Also, if one CPC prevent clashes. man had but ten or fifteen stations to work on, he would do a better job and the stations would be glad to cooperate under such conditions. While this suggestion is, of course open for arguments pro and con. I believe that it is the best way out and feel that it would be one of the greatest steps taken in the dedication field."

"As a member of four DX clubs," comments Harry Realff, Loon Lake, Sask., "I was much interested in the discussion on the inter-club co-operation plan in the October RADEX. Also, I noticed the letter in the November issue in regard to the merging of all clubs.

"It is pretty generally recognized that all possible co-operation between the various clubs is becoming

most essential, not only to further the interests of the listeners, but to foster the good-will and sympathy of the stations. The Inter-Club Co-Operation Plan was a big step in this direction, and Elwin Bullard cannot be commended too highly for his untiring efforts in this regard.

"However the plan is still open to improvement, chiefly because it does not allow for the opinions and actions of the stations concerned. As you pointed out, what will be the reaction of the broadcasters whose transmissions are ruled out by the cancellation clause? In my opinion, the answer is obvious—at best, a decided distaste for any more courtesy DX programs. Further, how about the CPC man who has expended time and effort arranging a special for his club? It will certainly be discouraging to him to find that his work has gone for naught and his program must be cancelled just because some other club had a prior claim.

"Your suggestion that CPCmen of each club get together and assign the time for each channel among themselves gives rise to an idea whereby the various clubs in the plan would form a Co-operative Courtesy Programs Committee. This would enable all specials to be dedicated to all of the participating clubs, would prevent clashes, and enable every club to retain its identity without the necessity of merging."

The plan of a common CPC has undoubtedly received the attention of club officials in the past. While it is true that it would eliminate clashing programs, it seems to us that it would tend to destroy the individuality of each club. Most clubs point with pride to the achievements of their CPC members, and the elimination of this committee might easily result in the loss of interest in the club itself by its members.

We are, of course, not attempting to pass judgment on any suggestion for the betterment of DXing. This is, after all, the prerogative of each individual listener and club member. We feel that the task of arranging non-conflicting courtesy programs is of the greatest importance to all DXers and we hope that our readers will feel free to express their opinions on the matter, at any time.

How To Tune The Japs

"For those who want to hear Japan and points East," informs Warren E. Winkley, Hughson, Cal. "I can give the following old and tried rules. Set the dial at 770, 830, 850, 870, 900, 1085 or 1175 any time between 5:00 and 6:00 AM, EST. and wait patiently. The Japs which come in best are heard on those frequencies. Remember that the JO's fade terribly, so don't give up if no signal is heard at first. XGOA on 660 comes through about the same time. They also fade quite a bit. but are heard here regularly in the winter with R9 volume. Of the Zedders, 1YA and 3YA are the best."

"A new Mexican, XERA, on 840 kcys, has just been heard," advises William Bundlie, 614 No. Sixth St., Grand Forks, N. D. "It is the companion of XEAW and is also run by Doctor Brinkley. Could this be a new call and frequency of the old XER at Villa Acuna?"

"Mark down two more Japanese stations." announces Miguel Rivera, P. O. Box 480, Hong Kong. "The first is JOHG, Kagoshima, 1050 kcys, 500 watts; and the second is JOIG Toyama, 1060 keys, watts. Reports to the former should be sent to the chief engineer, G. Tokushima, Kagoshima Broadcasting Station. A new station in Lima, Peru, is OAX4I, Radio Internacional. They transmit on 1100 keys daily from 8:00 to 10:00 PM, EST. Their address is Estacion Radiofusora Internacional, Pasaje Olaya, Lima, Peru. I understand that they are going to relay their programs via short waves and may be doing so already. OAX4A has changed its address to Paseo Colon and reports should be sent to the station's director, Gulillermo Lazarte. Besides transmitting on their regular frequency of 750 kcys, OAX4A occasionally uses 810 for an evening program."

"For the past week I have been hearing WIS testing on 560 kcys," submits Thomas Black, 143 Carroll St., Pittston, Pa. "On November 20th, CJKL was testing on 1310, and recently I have heard a W3XDD transmitting on 1340 kcys. Has anyone acquired any information on this station?" Would this be the test call of the Bell Laboratories at Whippany, N. J.?

"My first new station this year was WPAR," recalls Frank Wheeler, 406 Eagle Point, Lakeside, Erie, Pa., "and my log now stands at 705, with 150 verifications. Recently I logged 1YA for the 16th time since last February. This summer I put up a new lead-in and found that it took away 25 per cent of the noise."

Station Policies

"Checking over some forty-three back copies of RADEX," observes Clyde E. Lowe, 730 K Street, Merced, Cal., "I find that the big howl on not getting a reply from a station is just as loud today as it was four or five years ago. However, I have found that by giving the broadcasters information of value to them—fading, tone quality, volume, static, weather conditions—I can get a pretty fair percentage of replies."

"For years I have been reading what the stations think of reports and what form they should be in," writes Harold H. Mendler, 3154 Coney Island Ave., Brooklyn, N. Y. "Now I think it is time to let the stations know the DXer's side of the question.

"Some broadcasters do not verify correct reports and we realize that they have definite reasons for this policy. No station should verify a report which is of no value to them. On the other hand, a report which is helpful to them or to their engineers should be confirmed. When a station absolutely refuses to verify, they might turn the job over to some local DXer, who, I am sure, would be more than willing to assume the responsibility.

"To the station which will verify any report, correct or otherwise, we have the greatest contempt. Listeners are only human and usually welcome a criticism. For example, a reply from WMFF said: 'You got two numbers anyway. Report not so



Verification from Leipzig received by Don Reynolds, 9 Hudson View Terrace, Newhurgh, N. Y.

good. Better luck next time.' WCAP refused to verify an incorrect report. These stations do a lot to keep the DX game clean. We do not feel hurt upon the receipt of such answers. On the contrary, we try for them harder and have a greater satisfaction when they do verify."

"In my haste to get out a lot of reports recently," relates Alfred Razzondo, R.F.D. 1, Fayette City, Pa., "I got a letter to KWJJ in an envelope to KMO, and vice versa. Shortly afterward, I got a letter from the Studio Director of KMO, pointing out my error and ending up: 'Trusting you will get this verification ironed out and that we shall receive a report in the very near future which we can verify as being KMO.'

Subsequently I sent two more reports and got my veries. I did think it was rather decent of the station to write as they did."

By Way of Criticism

"We don't like the emphasis on logs this season," states M. Whelan. 2144 S. Downing St., Denver, Colo., "and my wife misses the personals and gossip about the radio stars. I use the September issue for my season's work and then tear out the articles of future issues and pass on the station lists to less fortunate friends. Instead of repeating the logs entirely, why don't you print just the changes for clipping and pasting to the September logs?"

Judging from the number of corrections listed in each issue. would hate to think of the appearance of the September-log after pasting in the changes occurring during eight or nine months. Then, too. what would happen to the "less fortunate friends" if there were no logs to pass on to them? The contents of the reports from readers is, of course, up to those who write in to us. We agree that tuning tips and information of that nature are more interesting than mere resumes of logs, but we don't write the letters and can only use what we receive.

"Will you ask your readers to check up on the station broadcasting between 715 and 720 keys?" inquiries Harold Wagner, 933 East Seventh St., Erie, Pa, "I have been hearing this station the past two evenings from 8:00 PM on. As near as I can determine, the announcer speaks in Spanish."

"Add another station to the list of those who will not verify," announces Joel H. Armontrout. 602 E. Magnolia St., Fitzgerald, Ga. "This is WKEU and I have a letter from the station management to that effect. Between 6:00 and 8:00 PM, I have been able to identify LR10, PRA3, LR6, LR3, LR4, LS2, LR2, LS1 and YV1RC. During the early mornings. I have heard PRC2 and

XGOA. Many TP's have been heard on their new frequencies."

"Of primary importance in the way of DX is the trade-in of my old 16X Philco for a new Model 116X. asserts George W. Acker, 267 N. Lv. man St., Wadsworth, Ohio. "You can imagine how pleased I was to find that it has three times as much peras the older model. I strung up a Philco aerial two weeks before ! traded, to see whether it would work on the 16X. It didn't do so well. but worked excellently when hooked in the newer model. now hearing countless small and semi-distant stations during the daytime which were never heard before. Previously, I was limited to fair reof stations like WBBM, WMAQ, WJJD, and WHO. Now they roll in with fine volume. In addition, I can hear WEAF, WJZ. WABC, KVOO. WFAA - WBAP. WIND, WTMJ, WSM, WOR, WGY. WCCO, WHAS, WLS, WCFL, WBZ. KYW, WTIC, KMOX and so on the the dial."

Radio For Shut-Ins

"Being a shut-in to whom radio furnishes most of my entertainment. I would like to have you put my name and address in RADEX as one who would appreciate correspondendence," requests Carl E. Sylvester, Box 213, Yale, Mich. "I would like to hear from listeners in all parts of the United States as well as Canada. Mexico, Porto Rico and Hawaii. I am a new DX fan, having been at it only since last April, when I secured my first copy of RADEX. I am using an RCA Victor R52 receiver and my aerial is a single copper wire, 75 feet long, running east-west. anyone identify a W8XAR heard on October 2nd at 0230 EST?"

"In your November issue, you had a discussion of reception on a crystal set," preambles Billy Snow, 302 Harrington St., St. Joseph. Mo. "One man says that overseas reception is the result of re-radiations by a nearby radio. Well, I've got a crystal

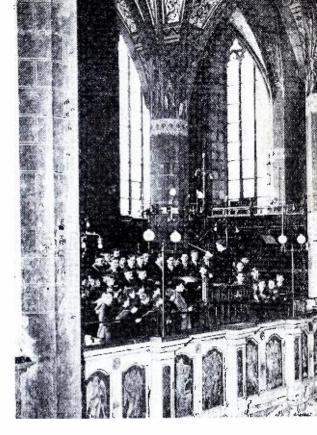
set a bum aerial and lead-in, yet in a week's time I received 25 stations on the broadcast band, including WCCO, WBT, KOA, WFAA, WBAP, WOAI, KSL, KVOO, XEPN, XENT. XEAW and WSM. I haven't tried to get a verification from any of these but I identified them all."

"Anyone who thinks he experiences man-made interference should try my location," bemoans Martin J. 212 No. 16th St., Inde-"Within a radius pendence, Kans. of a hundred yards are the following sources of noise: a hospital, with all of its electrical instruments and X-ray machines; a bottling works, with an electric bottling machine; two grocery stores, with meat and coffee grinders; a filling station, with all its electrical appliances; a barber shop; a garage with battery-chargers and the like: a refrigeration system for a beer concern; a main road over which three highways are routed; and a street car line. If there ever was an efficient interference department such as the French Post Office has. I wish someone would send it I believe I am located in a favorable position as far as signals reaching my aerial is concerned, but there's no way to shut out the accompanying noises."

"After looking over the September. October and November issues," admits Vernon Parker, U. S. Dam No. 53, Grand Chain, Ill., "I sure ampleased with the changes made. I enjoy the write-ups on new sets and I hope you will keep us readers informed on what is new along this line."

"I started DXing for the first time this fall," briefs Henry Bialoglowy, 47 Berkshire Ave., Bridgeport. Conn., "and in three mornings caught 18 stations. I would like to correspond with other DXers and will answer all letters faithfully."

"Like most readers of RADEX, I soon lose the cover of each issue," points out Victor Young, 83 Emery



Broadcasting the Children's Choir from the Thomaskirche at Hamburg, Germany, heard through the 100 kW "Mitteldeutscher" transmitter.

St., London. Ont. "When that is gone, it is often difficult to know just what issue I have. If you printed on the bottom of each page—RADEX for October, 1935, etc.—it would help a lot."

For the information of other cover-losers, the date of each issue is printed at the top of the masthead on page 2. To print the month at the bottom of each page would cut at least two lines from that page. Two lines cut from 112 pages would mean the loss of 224 lines in each issue. The average page runs some 54 lines high, so the loss of 224 lines would mean cutting about four pages of reading matter and information from each issue.

"Your information that KGGC and KRE are 24-hour stations is 50% correct," announces Roy Covert, who

neglected to give us his address. "KGGC is merely applying for unlimited time. Should they be granted such a license, the manager says that they will probably test 24 hours daily for only a few weeks. They will, however. increase their schedule somewhat. If readers know that KGGC is not a 24-hour station, the management will not be plagued with erroneous reception reports from embyro DXers. I have arranged with KSFO, San Francisco, to broadcast a special program from 4:00 to 4:30 AM, EST, on December 29th."

The All-Nighters Again

"I agree most heartily that it is selfish of the all-night stations to grab all the time on the air," maintains Paul Sampson, 1820 College Ave., Regina, Sask. "DXers are not the only ones to complain of this situation for stations on the blocked channels don't like it, either. They often wish to conduct tests when a nation-wide audience is desired, yet they are unable to do so. Possibly it would do some good for the blanketed stations to write the F.C.C. and explain their plight. DXers co-operated by sending politely-worded letters to Washington, pointing out how unfair it is to the station that plays the game, we might even have a certain silent time every night."

"As a Canadian DXer, I wish to back the remarks of Mr. Ashley V. R. Walcott on the channel hogs," exclaims Alfred H. Bacon. Thirteenth St. New Westminster. B. C. "From a Canadian point of view, this class of radio broadcasting has gone far enough and a general protest should be lodged with the authorities in Washington. The F.C.C. may not know that their frequency check transmissions have been seriously hampered by the channel hogs. With a concerted action on the part of all listeners. lovers of radio, DX clubs and blocked stations, we could present a sound

platform for the abolition of this allnight trash broadcasting."

"In reading the recent RADEX, I recalled quite a few memories of my early days as a DX hound," remembers G. K. Glass, 9284 Boleyn Ave., Detroit. Mich. "I had a home-made, three-tube set using the 'Reinartz Audio Regenerator' circuit. It was designed for spiderweb coils, but had a 70-turn plain coil to be switched in for broadcast work. I used only the BC coil-to eliminate switching -and added two stages of audio amplification. At the time, I lived in Uniontown, Pa., and compiled some wonderful records with this receiver. When we heard and verified 51 stations in one night, we were doing something. I wish I had kept all my souvenirs of those early days, but they have all been thrown away.

"Stations really verified reports then. WWJ sent out a handsome book about radio and PWX wrote a personal letter. I think it was 6KW in Tuinico, Cuba, that sent out a map showing all the stations of Cuba. Quite a few broadcasters sent weekly or monthly program sheets. I remember that KFI once gave a five-dollar gold piece for the first telegram from every state after a certain program. We got the same line of blarney from KFKB that we had from XER and now XEAW.

"From the time W8XAF (KDKA) first started their tests, I was a died-in-the-wool BCL.

"I guess this whole parade of memories was started by the mention of how exceptional results on a crystal set were traced to a near-by regenerative receiver. I marvelled for weeks about one of my friends hearing PWX, 1200 miles away, on a crystal and demonstrating it time and again. But crime will out and our more technical friends showed that the culprit was a three-tube blooper on a parallel aerial next door.

"My first tube was a double fila-

ment audion, with wires coming out both ends and held to the panel by binding posts and a clamp. That was a far cry from the metal do-dads we see in the new sets today."

"Having never heard a TP, I decided to stay up on the night of October 10th and see what I could get." reports Anthony C. Tarr, c/o District Quartermaster, Fort Lewis, Wash. "You can imagine my excitement when I logged no less than twelve of them-one Jap, two Zedders and nine Aussies. There were several others that I was unable to identify, but that was a swell start. For a while after that, I was unable to hear many more, but early in November they began to swarm all over the dial. The morning of November 10th was the best yet, with clear reception from JOHK. JOIK, JOQK, JOCK2, JOBK1, JOBK2, JOAK1, JOAK2, JOPK and JOGK. Strangely enough, the Aussies were very poor on that date. I wish somebody would give me a tip on how to verify these Japs. For an hour and a half, all that could be heard on one occasion was a man talking-and of course I don't understand Japanese. Recently I have heard a new Mexican on 820. The call sounded like XEMV and they announced their schedule as 6:00 AM to 10:00 PM. PST."

On Logging Stations

"With reference to the ever pertinent question of logging stations," comments Alfred J. Stansfield, President of the Universal DX Club, Oradell, N. J., "I believe a common and uniform system can be worked out if DXers will listen to reason. Several issues back, Mr. Spies outlined his suggestions, but did not reason out each of his points.

"The system which I favor contains four clauses: (1) maintain in your logs all stations which change frequency or location and count as a new catch any of these stations



This modern building houses the transmitting equipment of WTCN at Minneapolis, Minn.

which are received following the changes; (2) do not re-log stations which merely change call letters (Keep them in the log? Ed.); (3) maintain all deleted stations in the log; and (4) count as one station such combinations as WBZ-WBZA and WOOD-WASH.

"Relative to the first clause, stations which change frequency or location are really new stations which would be added to the log. Thus, one should re-log such stations when heard after the change.

"Why shouldn't we count stations again after a change in call? Well, just because an announcer identified a station under a different call doesn't mean that a receiver has accomplished another catch. This accounts for the second clause.

"Deleted stations should be maintained in every log because the log is a gauge of your radio, past and

(Continued on page 37)

Tuning The Scott High Fidelity

• • • By R. H. TOMLINSON

125 Terrace Ave., Port Chester, N. Y.

T WAS back in 1925 that a mild sensation was caused in the radio world when four world's records for long distance reception were established by a receiver designed and built by E. H. Scott, a Chicago radio engineer. In 1932, Mr. Scott again attracted attention when he recorded virtually every transmission from two Australian short wave stations during a period of twelve months.

Last winter, I had the opportunity to test the Scott All-Wave Fifteen, so it was with a sense of anticipation that I unboxed the latest in a line of custom-built receivers—the 23-tube Scott all-wave model—and began to hook it up.

Perhaps the first impression of the receiver's performance was a demonstration of its abnormally low noise level. With the aerial and ground still unconnected, the sensitivity and volume were turned on full. Instead of a blare of internal set noises and hisses, the receiver was remarkably quiet. This presaged the favorable signal-to-noise ratio so necessary to good DX reception.

Skimming over the dial, the next feature to be noticed was the accurate calibration of the receiver. Between 540 and 1500 kcys, the greatest error was only one kilocycle. Over 95% of the markings were right on the nose. The short wave bands also ran true in most cases. The largest error noticed was the 7.52-meg KKH coming in at 7.56, and that was close enough for me.

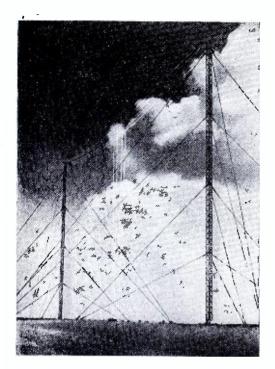
Getting down to some real DX, a listener cannot help but be impressed by the fine selectivity of the Scott receiver. Time and again, powerful local stations, many of them

within twenty-five miles of the receiver, were tuned out and European transmitters brought in on the loudspeaker.

Possibly the neatest bit of selectivity occurred when OKR, Bratislava, Czechoslovakia, operating on 1004 keys, was brought in from under the powerful WHN on 1010. The 2-KW Nurnberg, Germany, station on 1267 was separated from the jumbles on 1260 and 1270 with very litinterference. Another WOV on 1130, occasioned but slight overlapping on the Nyireghaza, Hungary, station HAE on 1122. was logged in one instance for 37 minutes. The 1086-kcy station at Zagreb, Yugoslavia, was tuned right through the 1090 locals. lier, France, on 1339, was logged in back of American stations on 1340. although interference was greater than in the other examples.

Additional Europeans logged during the latter part of November include Toulouse-which was heard with local volume practically every night; Liepzig, Berlin, Munich, Cologne, Hamburg, Frankfurt, Rennes, Bordeaux, Fecamp, Lyons, Strasbourg, Milan, Turin, Rennes, Rome, Hilversum, Poste ien, Prague, Copenhagen, West Regional, Midland Regional, London Regional, Bordeaux, Marseilles and a few others. In most cases, sufficient material for a good report was obtained.

Of the South Americans, very good split-frequency reception was to be had on the Brazilians, with PRF4 on 923, PRB4 on 965, PRB9 on 1017 and PRG3 on 1283 heard frequently. In Uurguay, CX8, CX14, CX16 and CX26 have been logged several times.



The aerial masts of the Raszyn transmitter, Warsaw No. 1, Poland.

In the Argentine, LR5 stands out for regular nightly reception, with LR1. LR2. LR3, LR4, LR6, LR10, LS2, LS8, LS4 and LV3 also being heard. LS4 was tuned one night when he slipped 3 keys below his frequency and was logged through WMAQ on HJN, Bogota, Colombia, has been logged several times on his new frequency of 695 kcys in spite 500-KW WLW of the on 700. another Colombian HJ3ABH is which is heard regularly on 625 YV1RC is like a local. Other southern stations to be heard were YV3RC: ZP9, in Paraguay, on 895 keys; HHK on 921, TGW on 1217, WNEL and WKAQ.

Trans-Pacific reception has been fair during the short time since the receiver was delivered. 2CO, 1YA and the new 3GI have been the best, with 2YA, 3YA, 5CL, 5CK, 2SM, 2GB, 2BL, 4QG, 4BC and 7NT stringing along behind.

The sensitivity of the Scott is very high as may be imagined from the

catches listed above. Not once have I been obliged to advance the volume control more than half way to bring in any foreign station with loud-speaker volume. Of course, the previously-mentioned favorable signal-to-noise ratio makes it possible to utilize as much sensitivity as may be required.

Reception on the short waves has been very good. All continents were logged within a week, with dozens of South Americans and Europeans being heard. Considering the time of the year, Japanese and Australian stations have come in very The 20 and 40 meter amawell. teur phone bands are red hot, with hams all over South America and Europe heard every morning and evening.

Even though the time of testing has been relatively short and the weather conditions have been very unsettled, the 23-tube Scott all-wave high-fidelity receiver has earned a 100% DX rating.

Another Shift Coming

REALLOCATION of frequencies, the like of which has not been seen since the "earthquake" of November, 1928, is in the offing. The Broadcast Division of the Federal Communications Commission has taken steps looking to an early revision of the entire broadcasting set-up. As a first step it adopted regulations governing the installation of antenna systems and requiring all stations to install modulation meters.

The Engineeering Department of the FCC has mapped out a plan which will bring about a horizontal increase in power from 1,000 watts to 5,000 watts at night on seven of the regional channels; bring up to 1,000 watts at night the stations on 17 regional channels, and fix a lower mileage separation on the remaining 16 regional channels with power from 250 to 1,000 watts.

The clear-channel recommendations

are expected from the Engineering Department within a month. Roughly, the proposal contemplates the setting aside of some 25 of the clear channels for superpower stations with a minimum of 50,000 watts, eventually to become 500,000. The whole matter of chain broadcasting is also due for a careful study. Some of the Commissioners are said to feel that the same program appears on altogether too many places on the dial.

The FCC declined to make public the frequency classifications on the ground that they might be changed before being passed upon. The National Association of Broadcasters, however, publishes them in a bulletin to members as follows:

Regional channels on which stations would be permitted to increase power horizontally at night from 1,000 to 5,000 watts with 5,000 watts day: 590, 610, 620, 920, 940 and 950 kcs.

Channels on which maximum night power will be 1,000 watts and day power 5,000 watts: 1010, 1220, 1230, 1240, 1250, 1260, 1270, 1280, 1290, 1300, 1320, 1330, 1340, 1350, 1360, 1380 and 1390 kcs.

So-called "city channels" on which stations would be assigned with power of from 250 to 1,000 watts at night, and up to 5,000 watts day, with reduced mileage separations: 550, 560, 570, 580, 600, 630, 780, 880, 930, 1120, 1400, 1410, 1430, 1440 and 1450 kcs.

Watch future issues of this magazine for new developments.

The Frequency Charts

We present herewith the last of a series of graphic diagrams illustrating the division of the radio bands. These began in the May, 1935, issue of this magazine. The complete set shows in the plainest way possible just how the different frequencies are allotted. Back issues are available.

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Around the World on the SHORT WAVES

● ● By PAGE TAYLOR

HE Republic of Mexico is in the spotlight this month. Within the past few weeks more shortwave stations have appeared in Mexico than ever had existed there before. It seems that most of the major broadcasting stations are installing s.w. auxiliaries. The high frequency situation as it exists at the present time is summed up in the following paragraphs.

In Mexico City, D. F., are XBJQ, XEBI, XEBT, XECR, and XEXA. The first of these, XBJQ, is owned by the National Bank of Mexico, P. O. Box 2825, and for a few weeks relayed the programs of XEW. This station was silent for a while but a few listeners report that it has returned to the air on a somewhat irregular schedule. Persons interested in QSL cards should not fail to log this station as we understand they have a very attractive souvenir for listeners.

A station XEBI works on 5980 kcs. nightly between 10 and 11 pm, EST. Further details on this station are not known except that the address is Apartado 2874, Mexico City.

XEBT, the oldest existing station in the Republic, is well known to most of our readers. This station works on 6000 kcs. daily from about noontime until after midnight, and is one of the most easily recognized Mexicans as it has numerous interval signals, such as cuckoo, a rooster, a siren or a fire bell. The address is El Buen Tono, S. A., Apartado 79-44.

XECR is the government-owned station on 7380 kcs. Albert Steinmetz, 411 W. Girard Ave., Philadelphia, Pa., has a note from Mexico City concerning his reception of this

station which he is unable to decipher. Letters to XECR are first acknowledged by a receipt from the Mailing Department which handles all the mail addressed to government departments. The slip merely states that a letter has been received and referred to the proper department. The actual verification of reception follows within a week or so. QSL cards from XECR are attractive picture post cards showing views in and around Mexico City.

Sr. Fernando Pczos Soso, Director of station XEU at Veracruz, writes us that XEU programs are now relayed by a shortwave station XEUW on 6020 kcs. with 50 watts power. It has been our understanding that slogans were used to facilitate the identification of stations, but it is quite doubtful that the slogan of XEU-XEUW will be of much help. The Slogan: "El Eco de Sotavento desde Veracruz." (Perhaps that is better than no identifying symbol at all). The address is Indepencia 98, Veracruz.

Just a few steps down the same street from XEUW we find station XEFT, "La Voz de Veracruz," at Avenida Independencia 28. XEFT works with 20 watts output on Saturday from 1830 to 2400; on Sunday from 2100 to 2400, and on the other days of the week from 1930 to 2400, EST.

In Guadalajara, State of Jalisco, there is XEDQ on 9520 kcs., relaying the programs of XED daily from 0800 to 0900 and from 1200 to 2400, EST. Listeners fortunate enough to pick up these programs should address their reports to Cia. Radiofonografica, Apartado 197.

In Tiajuana, Lower California, there is a high frequency station retransmitting the programs of XEOK; tentatively this station bears the same call sign as its sister station, XEOK. Offices of this station seem to be on this side of the border as letters should be sent to Carlos de la Sierra, Box 1441, San Diego, Calif. XEOK has been heard on 6.130 kcs.

With the Canadians

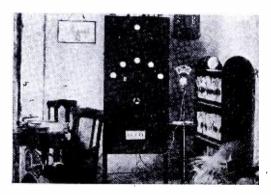
"The operators of station VDC at Calgary sent me a letter, the tenor of which seems to indicate my report to them was correct. This station works with VDV at Two Brothers Lake, B. C., and with a 5-watt code station VDW at Takla Landing, B. C. They all work on 4490 kcs. and are owned by the Two Brothers Valley Gold Mines Co." Ashley V. R. Walcott, 76 San Rafael Way, St. Francis Wood, San Francisco, Calif., is the writer, and continues, "The North-West Telephone Co., 768 Seymour St., Vancouver, B. C., sent me a blueprint map of British Columbia showing the location of their phone stations. Since this list does not check perfectly with RADEX, I submit the list, as follows: Vancouver, VDO, 4865 and 4436 kcs., 400 watts; Prince Rupert, CGP, 5400 kcs., 400 watts: Anyox. 5400 kcs.: Ocean Falls. CGO, 4505 kcs.: Prince George, OZO, 4505 kcs.; Bridge River Mines, CX2B, 4505 kcs.; and Columbia Oils, VXX, 5400 kcs. They all use 400 watts power except VXX, which is only 50 watts. The independent stations in the telephone network are Claydon Bay, CXP, 4505 kcs., 50 watts, the Yacht 'Tacomite' and Butedale, for which neither call nor frequency is given.

"Forestry service stations apparently will verify. KBCD, 3445 kcs., Northfork, Calif., does, and says that the station is located at CCC Co., 988, Northfork. The Los Angeles Flood Control District also confirms reception. A letter verifies

KIIY, 2726 kcs., and KINT. KIIY has 400 watts and KINT, 50 watts. Reports should be sent to 205 So. Broadway, Los Angeles.

"WXY, Nome, Alaska, says they regular schedules with have WVD at Seattle. The writer of the letter gives their frequency as 8180 kcs. but I heard them around 8800. This station is one of those owned by the Signal Corp, U. S. Army. WXA, Juneau, comes in here on 2604; WXE, Anchorage, on 2994 on Friday nights 2130. near talking to KIIO at McGrath, on the same frequency. KIIO is too weak to be identified positively."

"Today I received a verification from a new station," states A. W. Morley, 782 Dorchester Ave., Winnipeg, Man. "The station is VE9BK on 4795 kcs. and is owned by Radio Sales Service, Ltd., 780 Beatty St., Vancouver, B. C. I cannot give the schedule as it was not stated in their letter, but I generally hear them between 1:30 and 2:00 am, CST. I always read the other DXer's letters with interest and now I am going to let them in on my log which covers nearly every province in Canada and all the states except Nevada. I have at least two stations on every continent except Africa, where I just have a big goose egg; however, I still have hopes. I bought my new radio last February and I certainly am satisfied; it is a General Electric



The transmitter and collection of recordings used by CMJP in Moron, Cuba.

K-80. Since then I have logged 349 stations, not counting hams which are too numerous to mention. I heard all the 9 radio zones in the States but I have not been so lucky in Canada."

In the War Zone

"I have this information on the Ethiopians from their Chief Wireless Engineer," contributes Joel H. Armantrout, 602 E. Magnolia St., Fitzgerald, Ga. "The call letters of these stations are ETA and ETB. ETA on 16.42 meters works from 1200 to 1400 EST, and ETB on 25.09 meters works from 1400 to 1600, EST. These are not broadcast but telegraph transmitters; there are no broadcasting stations in Ethiopia, but occasionally broadcasts are given over these stations. Reports should be addressed to Frank A. Hammar. Chief Wireless Engineer, Dept. of Communications, at Addis Ababa."

In issuing an extension to an existing license to the RCA, the Federal Communications Commission authorized stations WEC, 8.930 megs. and WQF, 17.920 megs. both at Rocky Point, to work the Addis Ababa stations. The FCC stated that all the Ethiopian stations were known as ETA.

"In your magazine you state that the German stations close with two National Anthems, the Nazi Hymn and the Watch on the Rhine. This is incorrect, however, and I will give you the correct titles. The first anthem played is 'Deutschland. Deutschland, ueber alles.' The Watch or the Rhine was never considered as a national anthem but was a popular song played during the Franco-Prussian war, comparable to the American 'Over There.' The hymn is called correctly se cond 'Horst Wessellied.'" For this information RADEX is indebted to Dr. John A. Gammel, Lakeside Hospital, Cleveland, Ohio.

The Federal Communications Com-

mission this week granted a construction permit to the Radio Corp. of Porto Rico for a fixed public point-to-point radio telephone to work on 13,410 kcs. with 400 watts. On completion, this station will work with WNC at Hialeah. At the same time, WNC was granted permission to add three new points of communication, Tela, Puerto Castilla and La Lima, all in Honduras.

Two readers send us almost identical letters; Antony C. Tarr, c/o District Quartermaster, Ft. Lewis. Wash., and H. C. Green, 325 W. Main St., Madison, Wisc., write, "I have just been listening to a new station in Tegucigalpa, Honduras, on 5875 kcs. with the call letters HRN, 'N for Navy.' Announcements were in excellent English and apparently directed to listeners in this country. They signed off with Ted Lewis Good Night Song, and afterwards contacted some So. American stations. The announcer said they work also on 1350 kcs."

Mr. Green uses a Philco 116B on which he has heard 600 stations during the past 5 months.

Mr. Tarr's letter continues. "I have noted the following changes in s.w. stations: YV2RC moved to 5800; HJ2ABC from 5890 to 5975; and HCJB shifted from 8214 to 8470. I also understand that RV15 has commenced to verify reports."

Schedule of HIH

Sr. Domingo Dominguez, owner and operator of HIH at San Pegro Macoris. Dominican Republic. tells us his station works on the crystal controlled frequency 6796 kcs. with 150 watts in the antenna. "Our schedule," he writes, "is Sundays, 3 to 4 am, 12:30 to 3 pm, and 4 to 5 pm. Mondays, Wednesdays, Thursdays and Saturdays, from 12:10 to 2 pm. and 7:10 to 9 pm. Tuesdays and Fridays from 12:10 to 2 pm. and 7:10 to 8:10 pm. Sunday morning broadcast from 3 to 4 is in English and is dedicated to shortwave listeners and clubs of the United States and Canada."

Geo. W. Acker of Wadsworth, Chio, covers the shortwave situation very thoroughly in his letter. He has a new Philco 116X and is very enthusiastic about its operation. "The best Russian station at the present time is RIO," he writes. RIO has been coming on the air somewhere near 10 pm. but for the past few nights seems to be starting later. near midnight, and then they continue to work Moscow until the wee hours of the morning. This station is usually heard R7-9. However, getting RNE at Moscow at this time is another question, but RNE did happen to get in here one morning. Another steady newcomer the past week or so has been IRY, Rome, on 16,-It has been heard every morning lately all the way from 7 to noon, working Cairo and sometimes Eritrea. PMA is at present the best and most frequently heard of the Javanese. It phones between 7 am and noon, and sometimes they broadcast music after 10 am. JVN has been heard a few times between midnight and 1 am with its Overseas Hour but it usually is quite weak. Quite often these days, after 2:15 in the mornings, the German stations conduct experimental transmissions on new wavelengths. DJP is one of these, on 11,855 kcs., but it is very weak and unsteady. Another new frequency is DJR, 15,340 kcs. but of course this one cannot be heard here at that time. Despite the large number of German stations on the air, there is only one, now, that comes through at all well, and that one is DJB from 10:30 to 11:30 in the mornings. Night-time reception of London is no longer any good; GSA-B-C and -D are either too weak or covered ur in interference. GSI is good at noon-time."

Mme. Inna Marr advises us that, in response to thousands of requests, the midnight programs from

Moscow will be broadcast on 50 meters this winter instead of on 25 meters. Midnight in Moscow is 5 pm, EST. and her letter seems to indicate programs will commence at that time.

From Newfoundland

"Conditions have improved here and I have received about 56 new stations on the s.w.," relates Max-Scott, Corner Brook, Nfld. "The most reliable station we get here is W8XK, and it comes through refrectly on 19 and 25 meters; on 49 meters it suffers from interference and it is only once in a while it gets through well. In the 49 meter band I have also heard CRCX, W3XAL, W2XE, W9XF, GSL, and YDA5. As YDA5 works on the same wavelength as W2XE it only comes in irregularly. The following stations auite also consistent: CJRO, HJ2ABA and 3ABF, HJ1ABB and YN1GG. On 31 meters the best are COCH, VK3ME, 3LR, PRF5. DJN and CT1AA. Following is a list of stations which are not listed: VE9BK in Vancouver on CR7AA, Mozambique on 84 meters; YV10RSC at San Cristobal, Venezuela on 5720 megs. and YNGU at Managua, Nicaragua on 9000. I have picked up a new German, DIP, on 14.410 megs. with good volume."

"I am finding DXing much better this fall than ever. I have logged several countries in one evening, the best of which were HP5B, YV2RC, HJ4ABE, HC2RL, DJD, DJN, DIQ, IRO, HJ4ABA and LSX," summarizes Byron Bair, 33 Park Ave., New London, Ohio. "I have also heard two unlisted stations. First WWTA of the U.S. Customs Service testing on 1626 (where is it located, Mr. Blair?) Two new police stations are WQFY at Mansfield, Ohio, and WQFW at Columbia City, Ind., 2474 and 1626 kcs. respectively."

A number of readers have noticed, when listening to KDKA or W8KK, that the announcer mentions arother call sign, W8XKA. W8XKA

low-powered ultra-high-frea is near station working quency niegacycles. It is not believed this station will be heard beyond a radius of about 25 miles from Pittsburgh. but, maybe someone will be surprised! Amos 'n' Andy were surprised when their first broadcast, in New Orleans, was picked up several blocks away from the station. According to reports we have been reading lately, ultra-shortwaves are hopping across oceans and it was not very long ago everyone thought these frequencies could not be transmitted beyond the horizon.

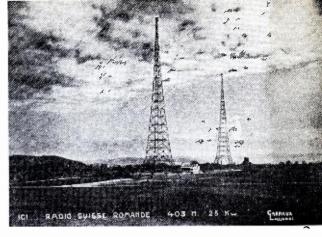
"On a QSL card from PRA8 they state that they transmit on 49.67 meters or 60.40 kcs, with a power of kw.." contributes Miguel Rivera, P. O. Box 480, Hong Kong. "Hong Kong is wrongly listed as transmitting on 6750; they actually work on 8750 kcs. The Hong Kong Committee Broadcasting has served the following frequencies: 5410, 6090, 9525, 11740 and 15190 kcs. for their projected transmissions."

Mr. H. J. McAllister, of Station KVI, W. R. Rust Bldg, Tacoma, Wash., sends RADEX a list of shortwave stations operated by the Puget Sound Broadcasting Co., as follows: WQFW, on the yacht "Gallant Lady," 40 watts, owned by Mr. M. C. Riggs. WLFQ on the yacht "Heljim," also 40 watts, owned by James V. Griffith.

The broadcast pickup station used by KVI is KNEC, 40 watts, and works on four frequencies: 1646, 2090, 2190 and 2830 kcs.

A Short Wave Race

"A race is now in progress that niomises to furnish shortwave listeners with greater thrills and finer entertainment than ever enjoyed before. I refer to the race beleading nations for tween the shortwave supremacy." Jack Laren. Radio Editor of the Elmwood



The towers and transmitting house of 25 kW "Radio Suisse-Romande," at Lausanne, Switzerland.

Herald, Winnipeg, Manitoba, is the writer of the letter. "Germany announces that by next year it will have the most powerful s.w. broadcasting plant in the world. England not long ago announced that two new super-powered transmitters are to be added to the already large number of stations at Daventry. France is planning to enlarge its s.w. facilities and I understand that initial tests have already been made on some of its equipment. Japan, I learn, expects to enlarge its shortwave facilities so that regular broadcasts to America and the rest of the world can be scheduled. Thus the shortwave listeners are promised continually increasing and improving sources of entertainment from world centers. I do not expect it will be long before nearly every important world metropolis will be heard here nightly in America. I have seen rumors that even Afghanistan, the Forbidden Kingdom, is soon to have five new s.w. stations. The biggest of these will be in the capital city, Kabul, and will have a power of about 3.5 kw."

X Times Y Equals XY

A curious reader wants to know why the frequencies as given in megacycles or kilocycles in RADEX do not agree with those given in other publications. "For instance," he says, "take LSM in Buenos Aires. This station is rated as operating

on 14.19 meters. You give the frequency as 21,128 kcs. while other magazines give it as 21,142. Why the difference?"

Radio waves travel with the speed of light, 299,820,000 meters per second. If a station operates on a wavelength of 14.19 meters and we want to find its frequency we must divide 299,820,000 by 14.19. The answer is 21,128 as given in RADEX. It cannot be anything else so long as 2 times 2 continues to make 4 and 4 divided by 2 gives 2.

Those publications which do not care for accuracy use the round figure of 300,000,000 merely to make calculation easier for themselves. They are not impressed by the fact that their inaccurate result throws their readers off their calibration . . . In this case, 14 kilocycles.

We admit it makes for easier calculation to use round figures but this magazine is more concerned with accuracy than with ease.

Verifications Again

"On the 'What is a verification?" question. I believe that some exceptions might be made to the rules you suggest, but only when it is definitely known that the station's policy is to issue a verification without stating that it is a positive verification." explains J. W. Brauner, 17 E. Spring St., Williamsville, N. Y. "There are a great many stations whose QSL's do not mention positive verification, although the sender of the cards means that they should be so construed; the value of such verifications should not be discounted. Because each station, so it seems, has its own distinctive way of verifying, it seems almost impossible to draw up a list of positive rules concerning this matter. I believe everyone will agree it would not be much fun collecting QSL's if they were standardized."

"Three or four times I have heard HRN at Tegucigalpa. The reception on my 11-tube Philco has been very clear and distinct. YV2RC was also

heard on its new frequency 5800 kcs.." says L. H. Pough, 4 Lenox Place, St. Louis, Mo. In his letter Mr. Pough brings up an old subject. He writes, "Let's persuade the So. Americans to slow down when announcing; instead of saying YV2RC they should Y-V-2-R-C." It is a very good idea but fully as applicable at home as abroad. Spanish people are naturally fast talkers. We will be satisfied as long as their stations continue to come in well and they verify our correct reports.

Some Pointers

"The other evening at 9:58 pm, EST, I tuned in a test broadcast from HI-1-A at Santiago de los Caballeros, D. R.," postcards J Herbert Hyde, Box 82, Elmwood, Conn. "In giving his identification I understood the announcer to give frequency as 6185 kcs. varies a little from the frequency given. The broadcast was very well received up here. The signal was loud and clear, slight fading, slight static and a little CW interference. The announcer asked for reports and stated he would verify by special cards prepared for the occasion." If Mr. Hyde gets a QSL from this station we would like to hear about it as this is one of those stations that request reports and promise verifications. seldom but keeps promise.

"I have the following information on some new stations," writes Thomas Black, 143 Carroll St., Pittston, Pa. "WWTA of the United States Customs Service was heard testing on 1626 kcs. This station is in St. Albans, Vt. VE9BM, Monreal. 1620 kcs. was heard a few times and a new police station, W4XAJ, in Nashville, Tennessee was testing on 1.666 megs."

"I wonder if HJ5ABE at Cali is still on 14 megs." queries Emile C. Page, 1717 North Highland Ave., Glendale, Calif. "I heard a So. American broadcasting among the 20-meter hams the other night and heard him mention Cali, Colombia. I didn't get his call letters. I have seen reports that HJ5ABE was to move into the broadcast band so perhaps I heard some other station taking its place."

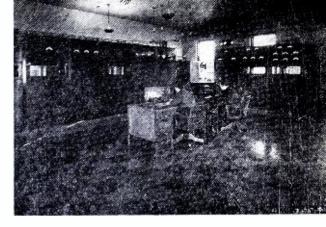
"Upon writing to the police department at Augusta, Ga., I obthe following information which is not in RADEX," reports Robert House, Jr., Chapel N. C. "The call sign of this station is WQFB and the power is 250 watts. I wish also to report reception of W10XF at Rapid City, S. Dak., on 6350 kcs. He came in with tremendous volume, but of course is now off the air because his work with the Stratosphere balloon is finished.'

"I would like some information from RADEX readers on these two new stations," requests Harry E. Robinson, 318 Broadway, Elmira, N. Y. "I heard WWHK calling WWHI, both stations being near 3.410 megs. They were heard near 9 pm. I would like to know their location."

Clayton Lamb, 241 Geil St., Salinas, Calif., reports two new stations. One of them is the new Mexican XEOK at Tiajuana on 6130 kcs. and the other a Javanese, call letters unknown, on 9600 kcs.

"During the past two weeks I have been trying to receive stations above 18 megs. but with no success, on the D Band of my RCA-Victor." complains Clarence J. Howard. 34 N. George St., York, Pa. "On the C Band, however, I enjoy good success; the lowest frequency I have heard is GSG, 17.7 megs. I have also received HAS-3 and PCJ and many other stations up to 6 megs."

A great many tuners trying shortwaves for the first time try to tune the shortwaves as they are used to tuning the broadcast band. After a while they learn that there is a great amount of difference between



The main equipment room of WABC, showing the 50,000 watt transmitter and the 17,000 volt power supply. This station is located at Wayne, N. J., about 20 miles from New York City.

600 kcs. and 6000 kcs. Then, after acquiring the knack of tuning 6 and 9 and 11 megs., they sometimes expect 15 or 17 or 19 megs. to tune as easily as 6 megs., but this is not true. When one gets above 15 megacycles, each additional kilocycle becomes more critical and requires additional care in tuning. Above 18 megacycles there are scattered phone stations, most of them using inverted modulation and reception of these stations is as much a matter of luck as it is of deftness in tuning.

A postal card just received from Byron Bair of New London, Ohio. gives the location of WWTA, mentioned earlier in this article. WWTA is located at St. Albans, Vermont. U. S. Customs Station.

The new XERA proves to be the old XER with the fourth letter now required by the Mexican Government. It is located at Villa Acuna, Coah.. and is on 840 kcs. with 250,000 watts. The mail address is Brinkley Hospital, Del Rio, Texas. The station is on from 5:00 p.m. to 10:00 a.m. CST and will not verify.

WHBL. Sheboygan, Wis., has been granted a CP to move from 1410 to 1300 kcs. When it does so it will reduce power from 500 to 250 watts.

Eighteen Tubes in a Midwest Set

• • • By B. FRANCIS DASHIELL

ACH time the writer examines a new Midwest offering he becomes reminiscent of the early days of radio. It was then that sound always was distorted. ing and straining through tubes that lacked capacity to carry full audio loads did not do tone reproduction any good. So, when experimenting with tube sets, following the downfall of the crystal, this writer began using two output tubes connected in parallel so as to double the carrying capacity. This cut down distortion, for the full range of audio frequencies flowed easily. As that was at a time when tubes sold at more than six dollars each, it proved to be a costly obsession. worked nicely. And. enough, even today with our modern power tubes, this scheme still works effectively.

Because Midwest's engineers have been using a second set of power tubes in parallel for many years, it is with pardonable interest, therefore, that the writer always looks for this arrangement whenever a new Midwest circuit appears. Two or three other manufacturers, seeking high fidelity of tone reproduction, also provide parallel power tubes. Certainly the perfection of sound that is obtained justifies some extravagance with radio tubes.

18 Metal Tubes

Such circuits, together with some manufacturers' ideas of apparent recklessness with tubes, may appear to casual purchasers to seem rather formidable as well as current-consuming. But there are radios using as many as 24 tubes to get unlimited full-fidelity of tone. However, if we strip such sets down to their basic essentials, we find them to be merely 12 or 15 tube receivers. But these

multi-tube sets remind one of modern eight-cylinder motor cars; for, while not absolutely necessary to performance, it is nice to have the "feel" of those extra cylinders.

The new 1936 Midwest offering utilizes 18 tubes in a superheterodyne chassis. The circuit is newly designed so as to accept either metal tubes or their glass-metal counterparts, without change. None of the older type tubes are incorporated. The type "G" glass-metal tubes are specifically recommended $\mathbf{b}\mathbf{v}$ maker of this set instead of the allmetal tube because of the experience gained with the "G" tube which now seems entirely dependable and efficient. Either type has "Octal" bases and fits into the new keyed sockets. Metal tubes are built within their own external shields, while glassmetal tubes, although having identical internal arrangements, require certain external metal shielding.

Many New Features

The 18-tube superheterodyne chassis is 20 inches long, 12 inches wide and 834 inches high. It tunes over a wide all-wave band ranging from 41/2 meters to 2400 meters, or megacycles to 125 kilocycles. Tuning is divided into six bands, any one of which may be quickly selected by turning one of the stream-lined control levers. The bands are calibrated in kilocycles or megacycles, and tuning is accomplished by a set of two-speed knobs; a 4 to 1 ratio for the broadcast waves, and 20 to 1 for the short waves. A push button on the panel silences the radio when shifting from one station to another. On the broadcast band important call letters are printed. There is an illuminated indicator (Line-O-Lite) used for tuning stations. Automatic visual band selection (Spot-O-Lite)

is provided by a point of light that moves up and down automatically to the proper scale on the dial as the wave-band changing switch is rotated.

Visual tuning is accomplished by dimming the otherwise brilliant pilot light to a soft, pleasing glow. The dimmest point is reached when the station is properly tuned in. A station-finder push-button, placed opposite the silencer button on the panel, provides a heterodyne whistle for locating weak stations or receiving c.w. signals. The program regulator (Fidel-A-Stat) provides control over the entire musical range to suit individual listeners or the type of program being received.

How The Set Works

This radio automatically adapts itself to the antenna because the six primary coils are designed to suit the different wave bands under any Incidentally, conditions of antenna. there is a new Midwest all-wave doublet antenna system especially designed for this set. Excellent tone reproduction is obtained means of a 12-inch cone speaker that handles 20 watts of power without Sound-dispersing distortion. vanes fitted into the cabinet spread high notes evenly throughout the The Acousti-Filter prevents booming and blasting effects.

The attractive dial is divided into six parts or bands, and there is no over-lapping of bands or stations when changing bands. This allwave radio tunes down to the 41/2 meter region that is now being exploited by tiny experimental ultra-An other short-wave transmitters. band goes up as high as 2400 meters, into the realm of weather, aviation and commercial services. The first, or "A" band, embraces all broadcasting stations between 520 and 1540 kilocycles; and "E" band takes in those long waves between 125 and 360 kilocycles; the "L" band covers police and amateur signals between 1.5 and 4.2 megacycles (1500

and 4200 kilocycles, respectively); the fourth, or "M" band, includes regular foreign short-wave reception between 4.3 and 12.0 megacycles; the "H" band takes in additional short waves between 11.0 and 30.0 megacycles; and the final, or "U" band, covers the ultra-short waves between 30 and 64 megacycles.

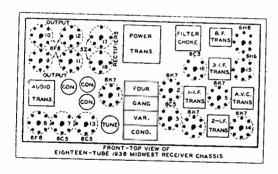
The New Circuit

Our sketch shows the 1936 Midwest 18-tube chassis. A four-gang condenser simultaneously tunes four circuits that are selected instantly from the 6 wave bands by the bandselector switch. The original signal. after being tuned by one of the six antenna r.f. coils placed beneath the chassis, passes along to the radio-frequency amplifier tube No. 1-a type 6K7. Then the amplified signal goes into the type 6K7 mixer or first detector, tube No. 2. This tube has connected to it, electronically, the oscillator-tube No. 3, a type 6C5. Only the fundamental frequency of this oscillator is used, and all harmonics are suppressed. This eliminates image frequency interferences and unnecessary repeat points for signals.

The output of the mixer is, of course, the intermediate frequency of the set. In this case it is 456 kilo-This signal now passes to cycles. tube No. 4, type 6K7, after being amplified by the heavily shielded full-gain i.f. transformer at very high the amplification. Then passes through a second i.f. amplifying transformer and into tube No. another 6K7. Then, passing through still another i.f. coil, the signal reaches a type 6H6 tube, which is the second detector, or, as it is called, the audio amplifier. Next in line is a type 6F6, or audio driver tube, No. 8. Its greatly amplified audio-frequency output passes through a large full-range a.f. transformer.

The output of the transformer is fed into a powerful bank of four 6F6 power tubes, Nos. 9, 10, 11 and

This is a simple push-pull circuit, but each essential triode tube and an additional tube connected in parallel to provide the easy flow of audio power mentioned at the beginning of this article. Two type 5Z4 rectifier tubes, Nos. 17 and 18, are used to furnish the B voltage and current necessary for a radio of so many tubes. In addition to the foregoing are the following tubes: A type 6K7 is used as the automaticvolume-control amplifier; its rectifier is a type 6H6, tube No. 15. Tube No. 16 is a type 6C5 used as a beatnote station finder; it is connected to a beat-frequency adjustable transformer. No. 13 is a type 6C5 tuning tube, and it operates through a tuning or tone-control choke. This tube controls the dimming of the pilot light when a signal is tuned in. A large power-transformer is used with a heavy-duty power pack, and a heavy choke helps filter out a.c. hum.



The Editor's Desk

F NOT a turkey, we hope there was at least "a chicken in every pot" of our readers for Christmas. We hope, further, that 1936 will be for every one not only a Very Happy but a Very Prosperous New Year. We extend to our readers all over this globe, our best wishes.

The new year promises to be a highly important one in Radio. A great shake-up of broadcasting is heralded by flashes of lightning from the Commission's offices. We feel sure that a great reallocation is pend-

ing which, with the experience of the months since November, 1928, will make for greater and more enjoyable radio. Of this, more in another column.

The Time on the Air

In the October issue, we gave the hours on the air for the stations on Sundays; in November, for Saturdays; and last month the hours for the week-days. This completes the schedules. In February we are planning, provided it can be worked out in the space we can allot to it, to give a complete resume for all the hours of the week for each station. Make a note now not to miss the February issue.

This month, in the Index by Frequencies, we are giving the owners names and, wherever possible, the addresses. In February or in March. the Index by Frequencies will be a combination of all the broadcast stations of the world, both North American and foreign. This consolidated index is of special value to those of our readers who are fortunate enough to be able to tune in the foreign stations and can thus locate them in a single index.

On Board Ship

Here is another question for our sea-faring readers. "What kind of an aerial will give me the best results on a steel ship where the technical ground is very high? Some say a split aerial of 20 and 40 feet with transposed down-leads with transformers at aerial and set; others that a single wire will give best results. Your suggestion will be appreciated before I spend any more money on aerials." This inquiry comes from a sailor aboard a steel tanker.

Readers often report to us that such-and-such a station verified their reception without return postage. They mention this with pride as though it were an achievement. This magazine considers it, on the other hand, a bit of sharp practice.

It is, of course, quite in order to send reports to stations without return postage but if a verification is expected, stamps or coins should always be enclosed. The DXers who report on post cards and ask for verification or by letter without return postage, are an unmitigated nuisance and a growing menace to the cooperation of the broadcasters. It costs money for stations to verify without being asked to prepay their replies.

With the Stations

If you happen to hear KSTP on 1310 it will be because the St. Paul station is now linked regularly with KROC, the new station at Rochester, Minn., the little town made famous by the world-known surgeons, the Mayo Brothers. Twenty-two nearby villages participated in its recent dedicatory program.

Wilton Harvey Polland, a broadcast engineer, has applied to the FCC for authority to erect a new 100-watt station on 1200 kcs. in Huntsville, Ala., taking over the facilities of WBHS. Station WBHS, licensed to Virgil V. Evans, who seeks its removal to Chattanooga, has been silent since September, 1934.

Last April, KFPM, Greenville, Texas, which with 15 watts was the lowest-powered station in the country, was delegated at the voluntary request of the operators. It is now seeking reinstatement on the 1310 channel with 100 watts. Its proposed purchasers are James R. Curtis, operator of KFRO, Longview, Tex., and others. Call letters of KVOG are requested.

The publishers of the Memphis Commercial-Appeal have applied for a construction permit for a new station in Mobile, Ala., on 950 kc. with 1000 watts night and 5,000 watts to local sunset.

The ownership of WLBF, Kansas City, Kansas, operating with 100 watts on 1420 kcs. has been transferred to the Kansas City Kansan which is owned by Senator Arthur

Capper. Senator Capper also owns WIBW, Topeka, to which WLBF is being linked by land line.

Although licensed sometime ago, the new call of KEHE will not be used by KTM, Los Angeles, Calif., until the consolidation of KTM and KELW which is expected soon.

WKJC, Lancaster, Pa., has changed its call to WEST and moved to Easton, Penna.

Construction permits have been granted for new stations at Lakeland and West Palm Beach, Fla. The former is assigned 1310 with 100 watts and the latter 1200 kcs.

Effective January 14th, WKAR, East Lansing, Mich., will move from 1040 to 850 kcs. and change from daytime to specified hours.

The construction permit for new station at San Diego, Calif., has been canceled and the application set for hearing.

(Continued on page 47)



Here is shown the speech input equipment used by the experimental shortwave station 3LR at Melbourne. Australia.

Leaves From A DXer's Scrapbook

• • • By COUNT DE VERIES

S THE winter season progresses, there seems to be no getting away from the fact that the increasing number of allnight stations is becoming a definite menace to DXing.

In the November issue, it was pointed out that the schedules of some eleven stations make it virtually impossible for listeners to hear late programs on as many channels. At the time, we could see nothing but an early death for DXing unless something could be done to curb the energies of the broadcasters with 24-hour tendencies.

Instead of improving, conditions now seem to be worse than ever and an analysis of the situation shows up some rather astounding figures. Station KTM blocks late broadcasts from seven other stations on 780 kcys; WJBW and KGFJ do the same for 35 stations on 1200 kcys; WEDC, 45 on 1210; WNEW, five on 1250; KFAC, nine on 1300; WEXL, 44 on 1310; KRE, 45 on 1370; WSMK, five on 1380; KGIW, 45 on 1420; and WJBK, 34 on 1500.

In other words, a total of eleven privileged stations make it impossible for no less than 274 stations to reach an appreciable audience when so desired. Of course, there are 28 daytime stations on the channels in question, but even they can and do transmit DX and test programs on occasions. Thus, a small 1.8% of the stations in the United States are blocking the channels of 42%.

A few of these stations have shown a willingness to co-operate with DXers. WEDC, for example, is silent on Tuesday mornings, while WEXL does not transmit on Sunday mornings. For these two broadcasters, we have nothing but thanks for giving us a few hours in which

to tune for distant stations. However, the rest of the stations make full use of their unlimited time licenses.

It is conceded that the number of DXers is small when compared with the total of listeners in this country. For this reason, DXers have always been willing to wait until the early hours of the morning to follow their hobby. The stations have been courteous in co-operating with us and we, in turn, have supplied station engineers with valuable information on their transmissions. Everything worked out fine until a few stations got the all-night habit.

Naturally, the first reaction of the DXer is to fight for what he considers his rights. He feels that his privileges as an American citizen are being denied by a selfish few and he will spare no effort in telling the world in general what he thinks of the situation.

A contributor to the bulletin of the Universal Radio DX Club gives a rather "mild" version of a DXer's complaint. "A big problem for the inter-club plan," he writes, "is how to get the 24-hour stations to stand by for DX programs on the crowded channels. As you may know, most of the DX programs are on such as the 1200, 1210, 1310, 1370, 1420 and 1500 channels, and that is also where the 24-hour hogs are. Why not have every member of every club in the inter-club plan write a letter of complaint to the FCC? A form letter should be made, printed in every club bulletin, and used by DXers in writing at the same time. Maybe such action on the part of several thousand DXers would stand the FCC on its head for once. would be the proper way to shake the hogs for all time. Why should a station have longer hours than from

7:00 AM to 1:00 AM every day? The longer hours should not be allowed more than once a week, and even then only when a program is being dedicated to a DX club and then for not more than an hour in length. Let the inter-club plan make history out of the 1935-36 DX season! Let's get rid of the hogs! Have a slogan: Through the united action of all DX clubs and DXers, there will be no more channel hogs after this season!"

It is to be trusted that no DXer will attempt to "stand the FCC on The governing its head for once." body in Washington is not to be bullied by anybody, and our only hope for consideration and possible action in our favor lies in a policy of tact and intelligence.

Despite what we feel to be a justified complaint against the all-night stations, it is necessary to consider their side of the case. Most of these stations have sponsors for their late programs and it would take a considerable degree of persuasion to have them give up this additional revenue. If we were running the stations and, like the broadcaster, were in business to make what money we could, it is likely that we would go after as much income as possible. After all, the station with a late audience in its territory is little concerned with a few thousand listeners scattered about the country.

With this in mind, we must handle the problem in a temperate manner. We cannot demand, but only request. It is a fundamental rule of the F.C.C. that the air is free between midnight and 6:00 AM, when stations may test or put on programs at pleasure. If we ever hope to have this rule modifled in our favor, we must carry on our campaign in a thoughtful fashion.

With the proper marshalling of our forces, we may be able to obtain a few silent hours every week from the all-night stations. several thousand DXers in this country, it is necessary to consider the



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stations whose late programs are being blocked by the 24-hour broad-casters. These stations frequently desire a clear channel for a test program and they certainly are in a position to request such an opportunity. If we can secure the support of these stations, we may have the solution to the entire problem.

However, for lone DXers to proceed on their own and attempt to bully station and F.C.C. alike would be foolish as well as fatal. United, we have a certain degree of strength; divided, we have none. Put the matter in the hands of wise leaders and let them carry on in a suitable and temperate manner. This is more than a warning to would-be letterwriters; it is a forecast of success or dismal failure, depending upon how it is handled!

The latter part of October and the first week or so in November provided a true Cuban invasion of the United States and Canada. With few exceptions, most of the Cuban stations pounded in and well nigh ruined reception in the early evenings.

Probably occasioned by some freak atmospheric condition, just about all that could be heard was the jabber of machine-gun announcers on all but local stations. Actual R9 signals were reported from CMCY on 1035, CMX on 920, CMQ on 840 and CMCF on 815, while R6-8 reception was heard on CMBX, 1380; CMCO, 1110; CMK, 1060; CMCD, 960; CMBZ, 1000; CMBC, 940, CMX, 920; CMCJ, 1200; CMCB, 1230; CMBS, 770; CMBG,1140; and many others.

One of the "freakiest" nights was that of November 5th. Here in Akron, Cubans were heard to the almost total exclusion of American stations. Old stand-bys such as WCCO, WABC, WEAF and WGN were barely audible, while CMCF, CMQ, CMCY and others were consistent R6-8 signals.

Newspapers of that date featured

stories of the tropical hurricane which was raging over Florida and nearby waters. Could this area of low barometric pressure, located in a line between the Cuban stations on the Central States, have anything to do with this freak reception?

*

Probably one of the most agonizing situations in all DXing is to find a needed catch blocked almost completely by a nearby broadcaster. The desired station is just loud enough to permit its call to drift through the interference, yet all program data is lost beyond identification.

You can just sit and listen, straining your ears for something tangible upon which to report. You may catch a few familiar bars of a popular tune, but not enough for positive identification. Occasionally there is a pause in the interfering program and you pray for an announcement from the wanted station, but no such luck.

DXers needing KPLC for their logs must have had such an experience during the November Frequency checks. Our old friend WJBK in Detroit was broadcasting another of its all-night nuisance programs. Without regard for the federal tests, they blared away into the night.

While monitors in the South would experience little interference from WJBK on KPLC, how could the northern engineers check on WKBZ and WKBV in the same section?

We were under the impression that all stations were required to keep silent when check programs were scheduled on their channel. If so, WJBK has trod on the toes of the F.C.C. and we're just wondering what will happen now.

Judging from current interest in the recording of radio programs, one would almost believe that this was an entirely new angle in broadcasting. However, such is not the case. Back in the summer of 1916, Charles E. Apgar, an amateur at Westfield,

(Continued on page 36)

Improving the All-Wave Crystal Set

• • • By B. FRANCIS DASHIELL

we discussed the use of a crystal detector and described the construction of a tuning coil. The simple circuit shown is but one of many arrangements that can be devised, but is universally standard. With this set we were able to tune in a number of radiophone and code signals. But it seemed difficult completely to tune out strong, nearby stations, for their signals appeared over a considerable range of the coil.

We, therefore, are anxious to provide this little all-wave crystal set with a tuning system that will keep interference down to a minimum. Selectivity now is the demand of all radio listeners, regardless of whether they use multi-tube sets or the smallest of crystal receivers. Let us, then, study the crystal set with a view toward improving its sensitivity and selectivity.

"Close" Coupling

Our first tuning coil was fitted with two sliders, both of which made contact with the individual turns of wire wound on a tube. One slider tuned the primary portion of the coil; the other tuned the remaining portion, or secondary. Because the primary and secondary sections of the coil were portions of the same winding, we thus created a "closely" coupled tuner. This is a simple arrangement, but it is not the most efficient type of tuner that can be constructed.

If we mechanically separate the primary and secondary sections so there is no electrical connection between them, we can better adjust and control the coupling. Let us remember that "coupling" means the placing of two independent electrical

circuits within one electro-magnetic field so that electrical energy may be transferred from one circuit to the other by induction. (See Chapter 3 of the Beginner's Story of Radio). The transformer is an example of a coupled circuit, and our tuner is a simple type of radio-frequency transformer.

"Loose" Coupling

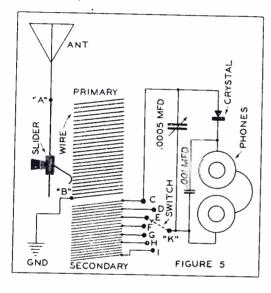
But how shall we separate the primary (indicated in Figure 4, page 6, of the October, 1935, issue of RADEX, between the point "A" and the slider "B") from the secondary (between the slider "C" and point "A")? One simple method is to use a single-slide tuner (shown in Figure 3) with the slider connected only to the ground and not to the telephone set. The detector connection to the antenna end ("A") of the coil should also be removed.

Wrap a few turns of heavy paper, about an inch wide, over the antenna end of the tuning coil. Then wind on about 70 turns of No. 28 or No. 30 wire. Connect the ends of this new coil (which is the secondary) to the crystal detector and phones, and tune with a .0005 mfd. variable condenser. This arrangement is somewhat similar to that shown in Fig. 4, except that we now have a separate secondary which is inductively or "loosely" coupled to the primary coil, without the use of slider "C".

Tuning the Secondary

The transfer of energy from the primary coil (that portion of the winding between the antenna end, "A" in Figure 3, and the contact point of the slider "B") to the separately wound secondary coil, is caused by the magnetic induction of the moving electro-magnetic fields

created in the air immediately surrounding the primary when the weak impulses of radio energy pass down from the antenna. A stronger radiofrequency current then is set up in the secondary. The degree of resonance (tuning) in these two coils may be varied by adding or cutting out turns of wire. This, as we know, has been done in the case of the primary, but so far no provision has been made for varying the number of turns of wire in the secondary coil.



We see, in Figure 5, a diagram of a single-circuit tuning coil. At one end, but directly over a small portion of the primary, is wound the secondary. Since the inductance of the primary is changed by means of the slider, we also desire to vary the secondary so that both coils may be given identical periods or values of resonance to any particular signal. Since the secondary is wound with fine wire it becomes impracticable to vary the number of turns also by means of a slider. So, then. we will find it more convenient to use a switch to break up the long, single winding of the secondary into a consecutive number of groups of smaller inductances.

The Tuning Switch

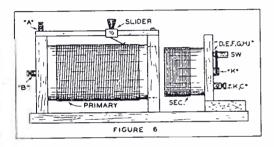
A secondary of 100 turns can be divided into ten sections, each containing ten loops of wire. In this case, wires lead from the points where adjacent sections connect to taps or switch points. Thus, in Fig. 5, we see a secondary coil that is divided into six sections, and having corresponding taps taken off at "D", "E", "F", "G", "H" and "I". Contact "C" is at one end of the secondary, and contact "K" is the other end. When the switch is thrown to "I" all of the secondary is in use and is tuned to the longest waves; and when thrown to "F", for instance, only one half of the coil is in the circuit, which is tuned to shorter waves. The use of a switch also provides a means for remembering and logging stations which is not the case with the slider unless the slider rod is notched and marked at regular intervals.

But this method of tuning primary and secondary circuits does not provide as much selectivity as we desire. Any change in adjustment of both primary and secondary affects coupling and resonance between the two circuits. Now, if we vary the coupling by changing at will the degree of electro-magnetic coupling between the coils, the tuning will become more selective. This is accomplished merely by varying the distance between the primary and 'secondary coils, or changing their angular relationship by rotating the secondary coil.

Loosely Coupled Tuner

If we change the distance between the coils, as illustrated in Fig. 6, we "loosen" the coupling. The coupling between primary and secondary may be continuously varied at will; also, the number of turns on either coil can be changed by means of the slider and switch. In this case the secondary is arranged so as to telescope within the primary. The coup-

ling is "close" when the secondary is completely within the primary; it is "loose" when withdrawn from the primary. Close coupling provides broader tuning with less selectivity, because maximum signal intensity induced in the secondary. The looser the coupling the greater the selectivity, but, of course, signal strength will be slightly reduced. The tuner shown in Fig. 6, is called a loose coupler and this form of tuning was popular in the earlier days of wireless. It is now too complicated to use in all the stages of a multi-tube receiver, but such tuners are interesting and quite efficient, particularly in a crystal set.



The primary of the coupler shown in Fig. 6, is wound with No. 24 wire on a cylindrical cardboard tube or oatmeal box. A slider is arranged along the top of the tuner. The tube is supported between two end blocks, one of which has a circular opening cut in it. One end of the primary tube fits snugly into this opening.

Movable Secondary Coil

Another tube, about 3 inches long and having a diameter that will permit it to pass within the primary tube, should be wound with 100 turns of No. 28 or No. 30 wire. Taps are taken off at every ten turns. Each tap then goes to a point of a 10-contact tuning switch that is mounted on the end block which supports the secondary coil. This end block should be fastened to a movable base so the secondary can slide in and out of the primary when ad-

justing the coupling while tuning a station.

The switch adjusts the inductance of the secondary; a single section of the coil responding to the shortest waves, and the entire series of ten groups responding to the longest Sharper tuning is accomwaves. plished by means of the .0005 mfd. variable condenser shunted across the two outside terminals ("C" and "K") of the secondary, as shown in Figs. 5 and 6. The coupling is loosened by pulling the secondary out of the primary, but the exact setting is determined by listening to the signal while tuning. The slider on the primary and the switch on the secondary should be adjusted until the tuning seems best, then the final tuning is accomplished by the condenser.

Amplyfying Crystal Signals

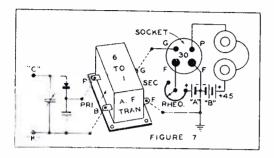
Signals heard on a crystal set, even when the tuning is the best, are never very strong. Only the power of the original antenna current is available; there is no amplification of the signal in any way. However, the tone is excellent and natural. So, if we can provide for the amplification of these clear tones, so as to give good response in a loud speaker, we will find that very weak signals, which hardly affect the telephone diaphragms, become readily audible.

In the early days of wireless nearly every experimenter brought on a nervous breakdown while trying to devise some way of increasing audibility. But there was no success until the electron tube was devised. It is now practicable and advisable to amplify crystal detected signals by means of radio tubes, and the operation is simple and inexpensive.

With a Transformer

In the circuit shown in Figure 5 it is necessary only to substitute the primary winding of an audio-frequency transformer for the telephone headset. The rectified current from the crystal detector is made to flow through the primary of the

transformer instead of the headset. The two terminals of the primary coil of any audio transformer usually have such standard designations as "P" (plate) and "B" (battery). Transformers have amplification proportions or ratios generally ranging from 2 to 1 on up to 8 to 1. Transformers of 3:1 and 6:1 ratios are found mostly in use.



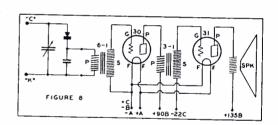
The secondary of such a transformer is connected to a 4-contact tube socket, as shown in Figure 7. The "G" terminal of the secondary is connected to "G" or the grid contact of the socket; the remaining terminal of the secondary ("F") is attached to the -A or the "F" (filament) contact of the socket. A head phone set or small magnetic loud speaker is placed in series between "P" (plate) of the socket and a 45 to 90-volt "B" battery. A type 2volt tube (-30) is placed in this socket, with two dry cells in series used to light the filament. A 30-ohm rheostat must be utilized to reduce the voltage to the proper potential as well as for volume control.

Still Greater Amplification

Should the volume obtained in the phones or speaker still be weak, it is practicable to add one more stage of audio amplification, as shown in Figure 8. In this circuit we see a 6:1 audio-frequency transformer added immediately after the crystal detector, with its secondary feeding the grid of a type —30 tube. The plate of this circuit passes through the primary winding of a second a.f.

transformer having a lower ratio—about 3:1. The secondary output of this second transformer feeds into a second tube, and as this tube must handle greater power we will find it best to use a type —31 power output tube.

The filaments of the two tubes are connected in parallel to the dry cells, using the rheostat to control voltage and volume. The plate of the first tube is connected to a 45 to 90-volt "B" battery through the primary of the first a.f. transformer. while the plate of the second tube connects to a 135-volt "B" battery through the loud speaker. The second tube, however, because of its considerable plate potential, requires a high negative bias on its grid, and this is provided by means of a --221/2-volt "C" battery. A wire to ground from the common "-A" and "-B" battery connection may be necessary.



(The next article, which will appear in an early issue, will show how to substitute a tube for the crystal detector. This will improve sensitivity and increase the range.)

The DXer's Scrapbook

(Continued from page 32)

N. J., recorded transmissions of the German station at Sayville. This gave the government evidence to take over what had supposedly been a neutrality-observing station during the War.

Often wonder how other DXers

manage to kill time between stations on an early-morning jaunt along the air lanes. Barring those fortunate few whose entire efforts are devoted to logging one needed station after another, most of us have great gobs of time on our hands and it is often quite a problem to keep our minds occupied.

Some DXers read a book while tuning and often become so absorbed that announcements, selections and even whole stations are missed. Solitaire is an excellent means of passing time, but unfortunately that requires two hands and is hardly conducive to extensive dial twisting.

At least one listener spends some of his time jotting down notes for a section like this, which probably accounts for its lack of interest.

However, a tabulation of timepassing devices used by DXers should produce innovations which could be rivalled only by the boondogglers.

Night Life

(Continued from page 15)

Another way of considerpresent. third clause is that the ing the longer deleted station is no available for reception and should A stamp collector not be erased. does not throw away a stamp which is out of use and no penalty should be imposed on a DXer just because he happened to be DXing years ago.

"I agree with Mr. Spies that combinations such as WFLA-WSUN should be counted as just one station. Only one transmitter is used and it is no more credit to log both calls than to hear a single-call broadcaster twice.

"I don't suppose that everybody will agree with these suggestions, so let's hear the differences of opinion supported by some reasoning. Perhaps these points can be modified to present a uniform system of logging stations for everyone."

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COLUMBIA(C)			
Call	Dial		

NATIONAL	, Red (R)
. Call	Dial

NATIONAL, Blue (B)				
Call	Dial			
	ļ			

TIME: E Eastern; C Central; M Mountain; P Pacific

RADEX is the only publication listing stations in alphabetical order for your convenience.

While these programs are correct at the time of going to press, changes are made from time to time.

MONDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00 C — Buck Rogers 25th Century WAAB WABC WCAU WFBL WHK WJAS WJR WJSV WKBW WOKO

E-6:15 p.m., C-5:15, M-4:15, P-3:15 C — Bobby Benson—Sunny Jim WAAB WABC WCAU WDRC WEAN WFBL WGR WHEC WOKO

E-6:45 p.m., C-5:45, M-4:45, P-3:45 B — Lowell Thomas

CRCT KDKA WBAL WBZ WBZA WFLA WIOD WJAX WJZ WLW WMAL WOOD WRVA WSYR WTAM WXYZ

E-7:00 p.m., C-6:00, M-5:00, P-4:00 C — Myrt and Marge

WABC WADC WBT WCAO WCAU WDAE WDBO WDRC WEAN WFBL WGR WHK WJAS WJR WJSVWKRC WNAC WOKO WQAM WSPD WTOC WWVA

R - Amos 'n' Andy

CRCT KSD KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WJAR WLW WRC WTAG WTAM WTIC WWJ

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

C — Vocals by Verrill
CFRB CKAC KFH KGKO KLRA KLZ KMBC KOMA KSCJ KTRH KTSA KVOR KWKH WAAB WABC WALA WBT WCAO WCCO WDAE WDBJ WDBO WDNC WDOD WEAN WFBM WFEA WGR WGST WHEC WIBW WICC WISN WJR WKBN WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSPD WTOC

- Uncle Ezra's Radio Station

KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM

– Ivory Stamp Club

KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WSYR WXYZ

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

WBBM WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WNAC WOKO WSPD

- Lum and Abner

WBZ WBZA WENR WGAR WJZ WLW WSYR

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

KMBC KMOX KOMA KRLD WABC WBBM WBT WCAO WCAU WCCO WHK WJAS WJR WJSV WNAC WDRC WEAN WFBL WGR WHAS WKRC

B — Dangerous Paradise

KDKA KOIL KSO KTBS WAVE WBAL WBZ WBZA WENR WJDX WJZ WLW WMAL WMC WREN WSB WSMB WSYR

E-8:00 p.m., C-7:00, M-6:00, P-5:00 - Guy Lombardo and Orchestra KLRA KWKH WABC WBIG WBT WCAO WCAU WCHS WCSC WDBJ WDNC WDOD WDRC WEAN WFBC WFBL WGR WHEC WHP WIBX WJAS WJSV WLAC WLBZ WICC WMAS WMBG WNAC WNBF WNOX WOKO WORC WPG WREC WSJS WWL WWVA

R — Hammerstein's Music Hall

KSD KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WDAF WHO WHIO WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC ww.i

B - Fibber McGee and Molly

KDKA KDYL KFI KFSD KFYR KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTBS KVOO WAVE WBAL WBZ WBZA WCKY WDAY WEBC WFAA WFIL WGAR WHAM WIBA WIRE WJDX WJZ WKY WLS WMAL WMC WOAI WREN WSB WSM WMT WSM WSMB WSYR WTMJ WXYZ

E-8:30 p.m., C-7:39, M-6:30, P-5:30 C - Pick and Pat

KFAB KMBC KMOX KRNT KSCJ WABC WADC WBBM WCAO WCAU WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WJAS WJR WJSV WKRC WMAS WNAC KFAB KMOX KRNT WABC, WADC WOKO WORC WSPD

R - Voice of Firestone

CFCF CRCT KFYR KPRC KSD KSTP KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

- Evening in Paris

KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WJZ WLS WMAL WMT WREN WSYR WXYZ

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

CFRB CKAC KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDRC WEAN WFBL WFBM WGST WHAS WHEC WHK WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WNAC WNAX WOKO WORC WQAM WREC WSPD WWL

R - A. & P. Gypsies KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC ww.i

- Sinclair Greater Minstrels

KDKA KDYL KFYR KOA KOIL KSO KSTP KTBS KTHS KWK WBAL WBZ WBZA KVOO WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WLS WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSUN WSYR WTAR WTMJ WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 R — Grace Moore

KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC

MONDAY (Continued)

WEEI WFBR WFLA WGY WHO
WHO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WLW
WMAQ WMC WOAI WOW WPTF
WRC WRVA WSB WSM WSMB
WSOC WTAG WTAM WTAR WTIC
WTMJ WWJ WWNC

B — Princess Pat Players

KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00 C— Wayne King and Orchestra 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 WEAN WFBL WFBM WHAS WHK WIBW WJAS WJR WJSV WKBW WKRC WOKO WSFD WWL

R — Contented Program

CFCF CRCT KDYL KFI KGW KHQ
KOA KOMO KPO KPRC KSD KYW
WBEN WCAE WCSH WDAF WEAF
WEEI WFBR WFLA WGY WHO
WIOD WIS WJAR WJAX WKY
WMAQ WMC WOAI WOW WPTF
WRC WRVA WSAI WSB WSM
WTAG WTAM WTAR WTIC WWJ

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C — March of Time

KDB KERN KFAB KFBK KFPY
KFRC KGB KHJ KLZ KMBC KMJ
KMOX KOIN KOL KRLD KRNT
KSL KVI KWG WABC WADC
WBBM WCAO WCAU WCCO WDRC
WEAN WFBL WFBM WGST WHAS
WHK WJAS WJR WJSV WKBW
WKRC WNAC WOKO WSPD WWL

B — Armco Iron Master Program KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

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

CFRB CKAC WAAB WABC WADC WCAO WCAU WDRC WFBL WFEA WHEC WHK WIBX WJAS WKBN WKBW WLBZ WMAS WOKO WORC WPG WSBT WSPD

C - Myrt and Marge

KDB KERN KFAB KFBK KFPY
KFRC KGB KHJ KLRA KLZ KMBC
KMJ KMOX KOIN KOL KOMA
KRLD KSL KTRH KVI KWG WALA
WBBM WBRC WCCO WFBM WGST
WHAS WLAC WREC WSFA WWL

R - Amos 'n' Andy

KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KTHS WBAP WDAF WHO WKY WMAQ WMC WOAI WOW WSB WSM WSMB

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

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

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

CFRB CKAC KLRA WAAB WABC WADC WALA WBNS, WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDNC WDNC WEAN WFBL

WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBGWMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

C — Pick and Pat KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

R - Voice of Firestone

KDYLKFI KFSD KGHLKGIR KGU KGW KHQ KOA KOMO KPO KTAR

E-12:00p.m., C-11:00, M-10:00, P-9:00 B— Helen Hayes; Drama KDYL KFI KGW KHQ KOA KOMO KPO

TUESDAY

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

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

KFH KGKO KLRA KLZ KMBC KOMA KRLD KSCJ KTRH KTSA KVOR KWKH WAAB WABC WACO WALA WBBM WBIG WBRC WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WESG WFBL WFBM WFEA WGR WGST WHEC WIBX WJR WKBN WLAC WLBZ WMAS WMBD WMBC WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC WWL

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

KIRA WABC WADC WALA WBIG WBRC WCAO WDAE WDBJ WDBO WDNC WDOD WFBL WGST WIBX WJSV WKBN WLAC WLBZ WMAS WNOX WORC WQAM WREC WSJS WSPD

E-6:45 p.m., C-5:45, M-4:45, P-3:45 B — Lowell Thomas, See Monday

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

R — Amos 'n' Andy, See Monday B — Easy Aces

KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WSYR WXYZ

E-7:15 p.m., C-6:15, M-5:15, P-4:15 R — Popeye, The Sailor

KFYR KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHIO WIBA WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WWJ

C — Schuite Smoker; Rube Goldberg WABC WBBM WCAO WCAU WDRC: WEAN WFBL WHEC WHK WICC WJAS WJSV WMAS WNAC WOKO WORC

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

KFAB KMBC KMOX KRLD KRNT
KTRH WABC WADC WBBM WBNS
WBRC WBT WCAO WCAU WCCO
WDAE WDRC WEAN WFBL WFBM
WGR WGST WHAS WHK WISN
WJAS WJR WJSV WKBN WKRC
WLBZ WMAS WMBG WMBR WNAC
WOKO WWL WWVA

B - Lum and Abner, See Monday

WFBM WFEA WGST WHAS WHEC E-7:45 p.m., C-6:45, M-5:45, P-4:45 WHK WIRY WICC WJAS WJR C — Boake Carter, See Monday

E-8:00 p.m., C-7:00, M-6:00, P-5:00 C — Frank Munn; Lucy Monroe KFAB KMBC KMOX KRNT WARC WADCWBBM WCAO WCAU WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WNAC WOKO WSPD

R—Leo Reisman and Orchestra
KFYR KPRC KSD KSTP KTBS
KVOO KYW WAVE WBAP WBEN
WCAE WCSH WDAF WDAY WEAF
WEBC WEEI WFBR WFLA WGY
WHO WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAQ
WMC WOAI WOW WPTF WRC
WRVA WSB WSM WSMB WSOC
WTAG WTAM WTAR WTIC WTMJ
WWJ WWNC

B — Eno Crime Clues KDKA KOIL KSO WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

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

C—Lawrence Tibbett
CFRB CRCM KDB KERN KFAB
KFBK KFH KFPY KFRC KGB
KGKO KIJ KLRA KLZ KMBC KMJ
KMOX KOH KOIN KOL KOMA
KRLD KRNT KSCJ KSL KTRH
KTSA KTUL KVI KVOR KWG
KWKH WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCCO WCOA WDAE WDBJ
WDBO WDNC WDOD WDRC WEAN
WFBL WFBM WGR WGST WHAS
WHEC WISN WJAS WJR WJSV
WKBN WKRC WLAC WMASWMBG
WMBR WNAC WNAX WNOX WOC
WOKO WORC WQAM WREC WSFA
WSJS WSPD WTOC WWL

R — Wayne King and Orchestra
KFYR KPRC KSD KSTP KTBS
KVOO KYW WAVE WBAP WBEN
WCAE WCSH WDAF WDAY WEAF
WEEI WGY WHO WIBA WIRE
WJAR WJDX WKY WMAQ WMC
WOAI WOW WRC WSAI WSB WSMB
WTAG WTAM WTAR WTIC WTMJ

B — Edgar Guest, Welcome Valley KDKA KOIL KSO KWK WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00 C — Walter O'Keefe; Glen Gray

KFAB KFH KGKO KLRA KMBC
KMOX KOMA KRLD KRNT KSCJ
KTRH KTSA KTUL KWKH WABC
WACO WADC WALA WBBM WBIG
WBNS WBRC WBT WCAO WCAU
WCCO WDAE WDBJ WDBO WDNC
WDOD WDRC WEAN WFBL WFBM
WFEA WGST WHAS WHEC WJAS
WJR WJSV WKBN WKBW WKRC
WLAC WLBZ WMAS WMBD WMBG
WMBRWNAC WNAX WNOX WOKO
WORC WOWO WPG WQAM WREC
WSBT WSFA WSJS WSPD WTOC

R — N. T. G. and His Girls
KDYL KFI KGW KHQ KOA KOMO
KPO KSD KYW WAVE WBEN
WCAE WCSH WEAF WEEI WFBR
WGY WHO WHIO WIRE WJAR

TUESDAY (Continued)

WJDX WMAQ WMC WOW WRC WSAI WSB WSM WSMB WTAG WTAM WTIC WWJ

8 - Ben Bernie and Orc 1estra

KDKA KOIL KPRC KSO KTBS KTBS KVOO KWK WBAL WBAP WBZ WBZA WFIL WFLA WGAR WHAM WIOD WIS WJAX WJZ WKY WIS WLW WMAL WMT WOAL WPTF WREN WRVA WSOC WSYR WTAR WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 C — Fred Waring's Pennsylvanians CFRB CKAC KFAB KFH KGKO KLRA KLZ KMBC KMOX KOH KOMA KRLD KSCJ KSL KTRH KTSA KTUL KVOR KWKH WABC WKBHWKBN WKBW WKRCWLAC WLBZ WMAS WMBD WMBR WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSBT WSFA WSJS WSPD WTOC WWI.

Jumbo-Fire Chief Show

KLYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP C — Myrt and Marge, See Monday WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

- Helen Hayes, Drama KDKA KOIL KSO KWK WBAL WBZ R - Uncle Ezra, See Monday WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN

E-10:30 p.m., C-9:00, M-8:00, P-7:00 R - Swire Studio Party

CRCT KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KYW WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEL WFBR WGY WHO WHIO WIBA WJAR WKY WLW WMAQ WOAI WOW WRC WTAG WTAM
WTIC WTMJ WWJ

B - Wendell Hall

CFCF KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WIRE WJZ WMAL WMT WOOD WREN WSYR WXYZ

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C - March of Time, See Monday

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

CKAC WAAB WABC WADC WCAO WCAU WDRC WFBL WFEA WHEC WHK WIBX WJAS WJSV WKBW WLBZ WMAS WOKO WORC WSBT WSPD

C - Myrt and Marge, See Monday

R — Amos 'n' Andy, See Monday

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C — Dance Orchestra

CFRB CKAC KLRA KSCJ WAAB WABC WADC WALA WBBM WBNS WBRC WBT WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAX WNOX WOC WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

- Walter O'Keefe; Glen Gray KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOH KOIN KOL KSL KVI KVOR KWG

- Leo Reisman and Orchestra KDYL KFI KFSD KGHL KGIR KGW KHQ KOA KOMO KPO KTAR

E-12:00 p.m., C-11:00, M-10:00, P-9:00 C — Fred Waring's Pennsylvanians KDB KERN KFBK KFPY KFRC KGB KHJ KMJ KOH KOIN KOL KVIKWO

WEDNESDAY

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

E-6:15 p.m., C-5:15, M-4:15, P-3:15 C — Bobby Benson, See Monday

E-6:45 p.m., C-5:45, M-4:45, P-3:45 B - Lowell Thomas, See Monday E-7:00 p.m., C-6:00, M-5:00, P-4:00

R — Amos 'n' Andy, See Monday

B — Easy Aces, See Tuesday

E-7:15 p.m., C-6:15, M-5:15, P-4:15 - Imperial Hawaiian Band KFAB KMOX KRNT WABC WADC WBBM WCAO WCAU WDRC WEAN WFBL WFBM WGR WHK WJAS WJSV WKRC WNAC WOKO WSPD

B - Ivory Stamp Club, See Monday

E-7:30 p.m., C-6:30, M-5:30, P-4:30 C — Kate Smith, See Tuesday B — Lum and Abner, See Monday

E-7:45 p.m., C-6:45, M-5:45, P-4:45 C — Boake Carter, See Monday

– Dangerous Paradise, See Monday

E-8:00 p.m., C-7:00, M-6:00, P-5:00 C — Cavalcade of America KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ K MOX KOIN KOL KRLD KRNT KSL KVI KWG WABC WACO WBBM WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WLAC WMBG WNAC WOKO WSPD WWL

- One Man's Family

KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX.
WJDX WKY WLW WMAQ WMC
WOAI WOW WPTF WRC WRVA WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

E-11:30 p.m., C-10:30, M-9:30, P-8:30 B — Rendezvous; Phil Duey CRCT KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WJZ WLS WMAL WMT WREN WSYR WXYZ

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

C — Burns and Allen CFRB CKAC KFAB KFH KLRA KMBC KMOX KOMA KRLD KRNT KSCJ KTRH KTSA KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL
WFBM WFEA WGR WGST WHAS
WHEC WHK WHP WIBW WIBX
WICC WJAS WJR WJSV WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOX WOKO WORC WPG WQAM WREC WSPD WWL.

R — Wayne King, See Tuesday

B -- House of Glass

KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WFLA WGAR WHAM WHIO WIOD WIS WJAX WJZ WLS WMAL WMT WPTF WREN WRVA WSOC WSYR WTAR WWNC WXYZ

E-9:00 p.m., C-8:00, M-7:00, P-6:00 C — Chesterfield Program KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KGMB KHJ KLRA KLZ KMBC KMJ KMOX KHI KURAKLE KAMDU KAMA KRID KOH KOIN KOL KOMA KRID KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKB V WKRCWLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNBF WNOX WOC WOKO WORC WOWO WPG WQAM

WREC WSFA WSJS WSPD WTOC WWL R — Town Hail; Fred Allen KFYR KPRC KSD KSTP KTBS KTHS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC B — John Charles Thomas

KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WIRE WJZ WLS WMAL WMT WREN WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 C — Ray Noble and Orchestra
CFRB KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KHJ KLRA KLZ K MBC KMJ KMOX KOH KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KWG KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR WJSV WKBH WKBW WKRC WLAC WLBZ **W**MBD WMBG WMBR WNAC

Wednesday (Continued)

WNOX WOC WOKO WORC WOWO WPG WQAM WREC WSFA WSPD WTOC WWI

B-Warden Lawes, Sing-Sing Drama KDKA KDYL KFI KGW KHO KOA KOIL KOMO KPO KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WIRE WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:09, M-8:00, P-7:00 C - On the Air with Lud Gluskin CFRB CKAC KFH KGKO KLRA

KLZ KMBC KMOX KOMA KRLD KSCJ KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WMBR WNAC WMAS WMBD WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

R - Log Cabin Revue

KDYL KFI KGW KHQ KOA KOMO KPO KPRC KSD KTBS KTBS KYW WBEN WCAE WCSH WDAF WEAF WEEL WFAA WFBR WGY WHIO WJAR WKY WMAQ WOAL WOW WRC WSAI WTAG WTAM WTIC ww.i

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C - March of Time, See Monday

B-Jimmy Fidler; Hollywood Gossip KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KPRC KSO KTBS KTHS KWK WBAL WBZ WBZA WCKY WENR WFAA WFIL WGAR WHAM WJZ WKY WMAL WMT WOAI WREN WSYR WXYZ

E-10:45 p.m., C-9:45, M-8:45, P-7:45 C — John Hale, Tenor

CFRB CKAC KFH KGKO KLRA KMBC KMOX KSCJ KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGR WHAS WHEC WHK WIBW WIBX WICC WJAS WJSV WKRC WLAC WLBZ WMAS WMBD WMBR WNOX WOC WOKO WORC WPG WQAM WREC WSJS WSMK WSPD

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

R - Amos 'n' Andy, See Monday

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

CKAC KLRA WAAB WABC WADC WALA WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WICC WJAS WJR WJSV WKBW WKŔC WLAC WLBZ WMBG WMBR WNOX WOKO WORC WQAM WREC WSPD WTOC

C — Burns and Allen KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KYI KVOR KWG

→ House of Glass

KPRC KTBS WAPI WAVE WBAP WDAY WIBA WIRE WJDX WKY WMC WOAI WSB WSM WSMB WTMJ

E-12:00 p.m., C-11:00, M-10:00, P-9:00 R - Town Hall: Fred Allen KDYL KFI KGW KHQ KOA KOMO KPO

THURSDAY

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

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

KLRA WAAB WABC WADC WALA WBIG WBRC WCAO WDAE WDBJ WDBO WDNC WODD WFBL WGST WHEC WIBX WJSV WLAC WBLZ WMAS WORC WQAM WREC WSJS WSPD

E-6:45 p.m., C-5:45, M-4:45, P-3:45 B — Lowell Thomas, See Monday

E-7:00 p.m., C-6:00, M-5:00, P-4:00 Myrt and Marge, See Manday

- Amos 'n' Andy, See Monday

B - Easy Aces, See Tuesday

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

- Schulte Smoker, See Tuesday

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

B - Lum and Abner, See Monday

E-7:45 p.m., C-6:45, M-5:45, P-4:45 C — Boake Carter, See Monday

E-8:00 p.m., C-7:00, M-6:00, P-5:00 C — Harv and Esther

KFAB KMBC KMOX KRNT WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHK WJAS WJR WJSV WKRC WMAS WNAC WOKO WSPD

 Rudy Vallee's Vaviety Hour CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KTAR KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WGY WHO WJAR WLW WMAQ WOW WRC WTAG WTAM WTIC WTMJ WWJ

E-9:00 p.m., C-8:00, M-7:00, P-6:00 - Walter O'Keefe, See Tuesday

R - Maxwell House Show Boat KDYL KFI KFSD KFYR KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC

WTMJ WWJ WWNC Death Valley Days

KDKA KOIL KSO KWK WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 C — To Arms for Peace KDB KERN KFAB KFBK KFH

KFPY KFRC KGB KHJ KLZ KMBC KDYLKFI KFYR KOA KOMO KPO KMJ KMOX KOIN KOL KOMA

KRLD KRNT KSL KTRH KTSA KVI KWG KWKH WABO WADO WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDOD WORC WEAN WFBL WFBM WGST WHAS WHEC WHY WHP WISN WJAS WJR WJSV WKB V WMBG WKRC WLAC WMBR WNAC WOKO WOWO WREC WSPD WTOC WWL

E-19:00 p. n., C-9:00, M 8:00, P-7:00

 Harace Heidt and Orchestra KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMRC KMJ KMON KOIN KOL KRLD KRNT KSL KTRH KTSA KTUL KVI KWG WABC WBBM WBNS WBRC WBT WCAO WCAU WCC) WDBO WDRC WFBL WFBM WGST WHAS WHK WISN WJAS WJR WJSV WKBW WKRC WLAC WMBG WNAC WNAX WOC WOKO WQAM WREC WWL

R — Paul Whiteman's Music Hall CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KTBS KTHS KVOO KYW WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WIBA WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C - March of Time, See Monday

E-10:45 p.m., C-9:45, M-8:45, P-7:45 - Harold Nicolson, Ne vs Exchange CFRB CKAC KFH FGKO KHJ KLRA KMOX KRLD KRNT KSCJ KTRH KTSA KVOR KWKH WABC WACO WADO WALA WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGR WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WKBN WKRC WLAC WLBZ WMAS WMBD WMBR WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

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

WAAB WABC WADC WCAO WCAU WFBL WHK WIBX WJ8V WKBN WKBW WLBZ WMAS WOKO WORC WPG WSBT WSPD

C — Myrt and Marge, See Monday R — Amos 'n' Andy, See Monday

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

CFRB CKAC KLRA WAAB WABC WADC WALA WBNS WBRC WBT WALC WALA WBNS WBRC WBI WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICC WJAS WJR WJSV WKBN WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WOAM WREC WSBT WSJS WSMK WSPD WTOC

C — Walter O'Keefe, See Tuesday

FRIDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00 - Kaltenborn Edits News KFH KGKO KLRA KLZ KMBC KMOX KOMA KRLD KSCJ KSL

FRIDAY (Continued)

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KTRH KTSA KVOR KWKH WAAB WABC WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WFBL WFBM WGST WHEC WHK WISN WJAS WJSV WKBW WLAC WLBZ WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOO

E-6:15 p.m., C-5:15, M-4:15, P-3:15 C — Bobby Benson, See Monday

E-6:45 p.m., C-5:45, M-4:45, P-3:45 B - Lowell Thomas, See Monday

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

R - Amos 'n' Andy, See Monday

E-7:15 p.m., C-6:15, M-5:15, P-4:15 - Lazy Dan, Minstrei Man CKAC KEAB KMOY KOMA KRNT WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WGST WHAS WHK WJAS WJR WJSV WJSV WKRC WMAS WMRG WNAC WOKO WSPD WWL

R - Uncle Ezra, See Monday

B - Ivory Stamp Club, See Monday

E-7:30 p.m., C-6:30, M-5:30, P-4:30 B — Lum and Abner, See Monday

E-7:45 p.m., C-6:45, M-5:45, P-4:45 - Boake Carter, See Monday

B — Dangerous Paradise, See Monday

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

C - Flying Red Horse Tavern KFAB KFH KMBC KMOX KRNT WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHEC WHK WIBW WICC WJAS WJR WJSV WKRC WLBZ WMAS WMBD WNAC WOC WOKO WORC WSPD

- Cities Service Concert

CRCT KOA KPRC KSD KSTP KTBS KTHS KYW WBEN WCAE WCSH WDAF WEAF WEBC WEEI WFAA WFBR WGY WHO WHIO WIOD WJAR WKY WMAQ WOAI WOW WRC WRVA WSAI WTAG WTAM WTIC WTMJ WWJ

- Irene Rich; Drama

KDKA KDYL KFI KGW KHQ KOIL KOMO KPO KSO KTAR KWK WAVE WBAL WBZ WBZA WCKY WFIL WGAR WHAM WIRE WJZ WLS WMAL WMC WMT WREN WSB. WSM WSYR WXYZ

E-8:15 p.m., C-7:15, M-6:15, P-5:15 **B** — Bob Crosby and Orchestra KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WFIL WGAR WHAM WJZ WLS WMAL WMT WREN WSYR WXYZ

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

KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KOMA KRNT KSL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL. WFBM WGR WGST WHAS WHK WJAS WJR WJSV WKRC WMAS WMBG WNAC WOKO WSPD WWL

B — Red Nichols and Orchestra

KDKA KDYL KFI KFSD KGW KHQ KOIL KOMO KPO KSO KTAR KWK WBAL WBZ WBZA WFIL WGAR WHAM WJZ WLS WLW WMAL WMT WREN WSYR WXYZ

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

CFRB CKAC KDB KERN KFAB KFBK KFH KFPY KFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WJAS WJR. WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNAX WNOXWOKO WORC WPG WQAM WREC WSPD WWL

- Frank Munn; Vivienne Segal KSD KYW WBEN WCAE WCSH WDAF WEAF WEEL WFBR WGY WJAR WLW WMAQ WOW WRC WTAG WTAM WWJ

B — Palmolive Beauty Box Theatre CFCF KDKA KFYR KOIL KPRC KSTP KTBS KWK WAPI KSO WAVE WBAL WBZ WBZA WCKY WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WIBA WIOD WIRE WIS WJAX WJDX WJZ WKY WLS WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSYR WTAR WTMJ WWNC WXYZ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 R — True Story Court

KDYL KFI KFSD KGW KOA KOMO KPO KSD KTAR KYW WREN WCAE WCSH WEAF WEEI WFBR WGY WHO WHIO WJAR WMAQ WOW WRC WTAG WTAM WTIC wwi

E-10:00 p.m., C-9:00, M-8:00, P-7:00 C — Richard Himber and Orchestra KFAB KFH KLZ KMBC KMOX KOMA KRLD KRNT KSL KTRH KTSA KTUL WAAB WABC WADC WBBM WBNS WCAO WCAU WCCO WDBJ WDRC WFBL WFBM WGST WHAS WHK WIBX WJAS WJR WJSV WKBW WKRC WOKO WORC WSBT WSPD

R - Compana's First Nighter

KDYL KFI KFSD KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTAR KVOO KYW WBEN WCAE WCSH WDAF WEAF WEBC WEEI WFAA WFBR WFLA WGY WHO WIOD WJAR WJAX WKY WLW WMAQ WMC WOAI WOW WRC WRVA WSB WSM WSMB WTAG WTAM WTIC WTMJ WWJ WWNC

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C — March of Time, See Monday

- Mills Brothers; Art Kassel KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KSD KSTP KTBS KTHS KVOO KYW WAVE WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFAA WFBR WFLA WHIO WIBA WIOD WIS WGY WJAR WJAX WJDX WKY WMAQ WPTF WRC WMC WOAI WOW WRV'A WSAI WSB WSMB WSOC WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

C — Mary Eastman, Soprano CFRB CKAC KFH KGKO KLRA KMBC KRNT KSCJ KTRH KTSA KVOR KWKH WAAB WABC WACO WADC WALA WRIG WRNS WRT WCAO WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFEA WGR WHEC WHK WIBW WIBX WICC WISN WJAS WJSV WKRC WLAC WLBZ WMAS WMBD WMBR WNOX WOC WOKO WPG WQAM WREC WSJS WSMK WSPD WTOC

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

R - Amos 'n' Andy, See Monday

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

CFRB CKAC KLRA KSCJ WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFEA WGST WHEC WHK WIBX WISN WJAS WJR WKBW WLAC WLBZ WMAS WMBD WMBG WMBG WMBR WNAX WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

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

CFRB CKAC KLRA WAAB WABC WADC WALA WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WIBX WICCWJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

- Paimolive Beauty Box Theatre KDYL KFI KFSD KGHL KGIR KGW KHQ KOA KOMO KPO KTAR

SATURDAY

E-6:00 p.m., C-5:00, M-4:00, P-3:00 C — Frederic William Wile

KFH KGKO KLRA KLZ KMBC KMOX KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WAAB WABC WACO WADC WALA WBBM WBIG WBRC WBT WCAO WCCO WDAE WDBJ WDBO WDNC WDOD WESG WFBL WFBM WGST WHEC WHK WIBW WIBX WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZWMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

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

CFRB KFH KGKO KLRA KLZ KMBC KMOX KOMA KRLD KSCJ KTRH KVOR KWKH WAAB WABC WACO WADC WALA WBBM WBIG WBRC WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WESG WFBL WFBM WFEA WGST WHEC WHK WIBW WIBX WICC WISN WJR WJSV WKBW WLAC WLBZ WMAS WMBD WMBG WMBR WNOX WOC WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC WWL

SATURDAY (Continued)

E-7:00 p.m., C-6:90, M-5:00, P-4:00
C — Atlantic Family; Frank Parker
WABC WADC WBIG WBNS WBRE
WBT WCAO WCAU WCBA WDAE
WDBJ WDBO WDRC WEAN WFBG
WFBL WGBI WGR WGST WHEC
WHK WHP WIBX WICC
WMAS WMBG WMBR WNAC
WNBF WOKO WORC WORK
WQAM
WRAK WSJS WTOC WWVA

R — Old Gold Sport Page

KDYL KFYR KOA KPRC KSD KSTP KTBS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WYW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WWJ WWNC

E-7:15 p.m., C-6:15, M-5:15, P-4:15 R — Popeye, See Tuesday

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

KFAB KMBC KMOX WABC WBBM WBT WCAO WCAU WCCO WEAN WFBL WGR WHAS WHK WJAS WJR WKRC WNAC

E-8:00 p.m., C-7:00, M-6:00, P-5:00 C — Harry Reser and Orchestra WABC WCAO WCAU WDRC WEAN

WABC WCAO WCAU WDRC WEAN WFBL WGR WHEC WHP WJAS WJSV WLBZ WMAS WNAC WOKO WORC WPG

R - The Hit Parade

KDYL KFI KFSD KFYR KGHL
KGIR KGU KGW KHQ KOA KOMO
KPO KPRC KSD KSTP KTAR KTBS
KYW WAPI WAVE WBAP WBEN
WCAE WCSH WDAF WDAY WEAF
WEBC WEEI WFBR WFLA WGY
WHO WHIO WIBA WIOD WIRE
WIS WJAR WJAX WJDX WKY
WLW WMAQ WMC WOAI WOW
WPTF WRC WRVA WSB WSM
WSMB WSOC WTAG WTAR
WTIC WTMJ WWJ WWNC

E-8:30 p.m., C-7:30, M-6:30, P-5:30 C — Krueger Musical Toast

WABC WBIG WBT WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFEA WGST WJSV WKBW WLBZ WMAS WMBG WMBR WNAC WNBF WNOX WOKO WORC WQAM WTOC

E-9:00 p.m., C-8:00, M-7:00, P-6:00 C — Chesterfield, See Wednesday R — Chevrolet Program

KDYL KFI KFSD KFYR KGHL
KGIR KGW KHQ KOA KOMO KPO
KPRC KSD KSTP KTAR KTBS
KTHS KYW WAPI WAVE WBAP
WBEN WCAE WCSH WDAF WDAY
WEAF WEBC WEEI WFBR WFLA
WGY WIBA WIOD WIRE WIS
WJAR WJAX WJDX WKY WLW
WMAQ WMC WOAI WOW WPTF
WRC WRVA WSB WSMB WSOC
WTAG WTAM WTAR WTIC WTMJ

E-9:30 p.m., C-8:30, M-7:30, P-6:30 C — Along Righto Row; Variety CFRB KFH KGKO KLRA KL

CFRB KFH KGKO KLRA KLZ
KMBC KMOX KOL KOMA KRLD
KRNT KSCJ KSL KTRH KTSA
KVOR KWKH WABC WACO WADC

WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WFBL WFBM WFEA WGST WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMAS WMBD WMBG WMBR WNAC WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSPD WTOC

R — Shell Chateau; Wallace Beery
KDYL KFI KFSD KFYR KGHL
KGIR KGW KHQ KOA KOMO KPO
KSD KSTP KTAR KYW WBEN
WCAE WCSH WDAF WDAY WEAF
WEBC WEEI WFBR WGY WIBA
WJAR WLW WMAQ WOW WRC
WTAG WTAM WTIC WTMJ WWJ

B — National Barn Dance

KDKA KOIL KPRC KSO KTBS
KTHS KVOO KWK WAPI WAVE
WBAL WBAP WBZ WBZA WFIL
WGAR WHAM WIRE WJDX WJZ
WKY WLS WMAL WMC WMT
WOAI WOOD WREN WSB WSMB
WSYR WXYZ

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

CFRB CKAC KFH KGKO KLRA KLZ KMBC KMOX KOMA KSCJ KTRH KTSA KVOR KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WHAS WHEC WHK WIBW WIBX WICC WISN WJAS WJR WJSV WKBW WKRC WLAC WLBZ WMBD WMBG WMBR WMAS WNAC WNOX WOC WOKO WORC WPG WQAM WREC WSBT WSJS WSMK WSPD WTOC

R - Corn Cob Pipe Club

KDYL KFI KGA KGW KJR KOA KPO KSD KYW WBEN WCAE WCKY WCSH WDAF WEAF WEEI WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WRVA WTAG WTAM WTIC WWJ

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

C — Dance Orchestra
CFRB CKAC KFH KGKO KLRA
KLZ KMBC KMOX KOMA KRLD
KSCJ KSL KTRH KTSA KVOR
KWKH WABC WACO WADC WALA
WBBM WBNS WBRC WBT WCAO
WCAU WCCO WDAE WDBJ WDBO
WDNC WDOD WDRC WFBL WFBM
WFEA WGST WHAS WHEC WHK
WIBW WIBX WICC WISN WJAS
WJR WJSV WKBW WKRC WLAC
WLBZ WMAS WMBD WMBG
WMBR WNAX WNOX WOC WOKO
WORC WQAM WREC WSBT WSJS
WSMK WSPD WTOC

B — National Barn Dance

KDYL KFI KFSD KFYR KGHL KGIR KGU KGW KHQ KOA KOMO KPO KSTP KTAR WDAY WEBC WIBA WLW WTMJ

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

C—Dance Orchestra
CFRB CKAC KFH KGKO KLRA
KLZ KMBC KMOX KOMA KSL
KTRH KTSA KVOR KWKH WABC
WACO WADC WALA WBNS WBRC
WBT WCAO WCAU WDAE WDBJ
WDBO WDNC WDOD WDRC WEAN
WFBL WFBM WFEA WGST WHAS
WHEC WHK WIBW WIBX WICC

WJAS WJR WKBW WKRC WLAC WLBZWMAS WMBG WMBR WNOX WOKO WORC WQAM WREC WSBT WSJS WSMK WSPD WTOC

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

CKAC KFH KLRA KMBC KMOX KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WBBM WBNS WBRC WCAU WCCO WDNC WDOD WEAN WFBL WFBM WGST WIBW WIBX WICC WISN WJR WKBW WKRC WLAC WMBD WMBR WNOX WOC WOKO WQAM WSBT WSMK WSPD

SUNDAY

E-11:30 a.m., C-10:30, M-9:30, P-8:30 C — Salt Lake Tabernacle Choir

KFH KGKO KLRA KLZ KMBC
KOMA KRLD KSCJ KSL KTRH
KTSA KWKH WACO WADC WALA
WBIG WBNS WBRC WBT WCCO
WDBO WDNC WDDD WDRC WFBL
WFBM WFEA WGST WHAS WIBW
WIBX WISN WJAS WJR WJSV
WKBN WKRC WLAC WLBZ WMAS
WMBD WMBR WNAC WNAX
WNOX WOKO WORC WQAM WREC
WSBT WSMK WSPD WTOC

R — Major Bowes' Capitol Family
KDYL KFYR KOA KPRC KSTP
KTBS KVOO WAPI WCAE WDAF
WDAY WEAF WEBC WFAA WFBR
WFLA WGY WHO WHIO WJAR
WJAX WKY WMAQ WMC WOAI
WRC WRVA WSAI WSBM WTAG
WTAM WWNC

E-12:30 p.m., C-11:30, M-10:30, P-9:30 B — Radio City Music Hall

CFCF CRCT KDKA KDYL KFI
KFYR KGO KGW KHQ KOIL KOMO
KPRC KSO KVOO WAPI WBAL
WBZ WBZA WCKY WDAY WEBC
WGAR WHAM WIS WJDX WJZ
WKY WMAL WOAI WREN WSMB
WSYR WWNC

E-12:45 p.m., C-11:45, M-10:45, P-9:45 C — Trans-Atlantic Broadcast

C — Irans-Atlantic Broadcast
CFRB CKAC KFH KGKO KLRA
KLZ KMBC KRLD KSCJ KTRH
KTSA KVOR WABC WACO WADC
WALA WBIG WBRC WCAO WCAU
WCCO WDAE WDBJ WDBO WDRC
WEAN WESG WFBL WFBM WFEA
WGR WHAS WIBX WJAS WJSV
WKBN WLAC WLBZ WMBD WMBR
WNAC WOC WOKO WORC WPG
WQAM WREC WSJS WSMK WSPD
WTOC WWL

E-1:00 p.m., C-12:00, M-11:00, P-10:00 C — Church of the Air

KFH KGKO KLRA KOMA KRLD KSCJ KSL KTRH KTSA KVOR KWKH WABC WACO WALA WBNS WBT WCAO WCCO WDAE WDBJ WDBO WDOD WESG WFBM WGR WHAS WHEC WIBW WIBX WJAS WJSV WKBN WKRC WLAC WLBZ WMBD WMBR WOC WOKO WORC WPG WQAM WREC WSBT WSJS

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

KMBC KMOX KRNT WABC WBBM WBNS WCAU WCCO WGR WHAS WJAS WJR WJSV WKRC WNAC WREC

SUNDAY (Continued)

E-2:00 p.m., C-1:00, M-12:00, P-11:00 C — Tales of Tibet

CFEB KFH KGKO KHJ KLRA
KLZ KMPC KMOX KRNT KSCJ
KSL KTRH KTSA KVOR KWKH
WAAB WARC WADC WALA WPHG
WBRC WRT WCAO WCAU WCCO
WDAE WDBJ WDBO WDNC WDOD
WEAN WES? WFBL WFBM WFEA
WGST WHAS WHK WHP WIBW
WHSX WICC WISN WJAS WJR
WKBN WKBW WKRC WLAC WLBZ
WMAS WMBD WMBG WMBR
WMMN WNAC WNOX WOC WOKO
WORC WCAM WREC WSBT WSJS
WSMK WSDJ WTC

B - Maric Key of RCA

E-2:30 p.m., C-1:30, M-12:30, P-11:30 C — Jose Manzanares and Orchestra KFAB KMBC KMC X K)MA KRLD KRNT KTRH WABC WADC WBBM WBT WCAO WCAU WCCO WDAE WDRC WEAN WFBL WFBM WHAS WIK WISN WJAS WJR WJSV WKBW WKEC WMBR WNAC WOKO WQAM WREC WSPD WWL

R — Vox Pop; Sidewalk Interviews KSD KYW WBEN WCAE WCSH WEAF WEEI WFBR WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

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

CFRB CKAC KFII KGKO KLRA
KLZ KOMA KRLD KSCJ KSL KTEH
KTSA KVOR KWKII WABC WACO
WADC WALA WBBM WBIG WBNS
WBRC WBT WCAO WCCO WDAE
WDBJ WDBO WDNC WDOD WDEC
WEAN WESG WFBL WFBM WFEA
WGST WIIAS WHEC WIIK WIBW
WIBX WICC WISN WJAS WJR
WKBN WKB WKRC WLAC WLBZ
WMAS WMBD WMBG WMBR
WNAC WNOX WOC WOKO WORC
WQAM WREC WSBT WSJS WSMK

B — Your English

KDKA KDYL KFI KGW KHQ KOA KOIL KOMO KPO KPRC KSO KSTP KTHS KVOO KWK WAPI WAVE WBAL WBAL WBZA WBZA WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WIOD WJAX WJZ WKY WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSYR WXYZ

E-3:15 p.m., C-2:15, M-1:15, P-12:15
B — Pise Mountain Merrymakers
KDKA KFYRKOIL KSO KSTP KWK
WBAL WBZ WBZA WDAY WEBC
WENR WFIL WGAR WHAM WIBA
WJZ WLW WMAL WMT WREN
WSYR WXYZ

E-3:30 p.m., C-2:30, M-1:30, P-12:30
R — Sherwin-Williams Prottan
KOYL KFI KGW KHQ KOA KOMO
KPO KPRC KSD KTBS KTHS
KVOO KYW WAPI WAVE WBEN
WCAE WCKY WCSH WDAF WEAF
WEEL WFAA WFBR WFLA WCY
WHO WHIO WIOD WIRE WIS
WJAR WJAX WJDX WKY WMAO
WYC WOAL WOW WYTF WTC
WFVA WSB WSM WSMB WSCC
WTAG WTAM WTAR WTIC WWJ

E-1:07 p.m., C-3:07, M-2:00, P-1:00 Rev. Charles E. Coughlin

KFEL KNY KSFO KSTP KVOD K VK WATR WCAO WCAU WDRC WEAN WFBL WFEA WGAR WGR WHB WHO WICC WISN WJAS WITO WJR WLBZ WLLII WLW WYTAS WNAC WNBH WOKO WOL WOR WORC WO'V WRDO

E-5:03 p.m., C-4:99, M-3:00, P-2:90 C — Abe Lyman and Orchestra

CFRB KFAB KMBC KMOV KRNT WAAB WABC WADC WBBM WCAO WCAO WCC) WDRC WEAN WFBL WFBM WHAS WHEC WHK WJAS WJR WJSV WKBW WKRC WOKO WSPD

R — Penthouse Serera le

CFCF KDYL KFI KFYR KGW KHQ K'A KOMO KPO KPRC KSTP KTBS KTIBS KVOO KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHIO WIBA WI')D WIS WJAR WJAX WJAX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI WSB WSM WSMB WSOC WTAG WTAM WTAR WTIC WWJ WWNC

B - Roses and Drums

KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

E-5:30 p.m., C-4:30, M-3:30, P-2:30
C — Frank Crumit; Julia Sanderson
KFH KMBC KMOX KOMA KTUL
WAAB WABC WADC WBNS WCAO
WCAUWDRC WEAN WFBL WFBM
WGR WHAS WHEC WHK WIBX
WICC WJR WJSV WMAS WOKO
WORC WSPD WWL WWVA

C — Jose Manzanares and Orchestra KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL KVI KWG

R — Dream Drama

KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WJAR WMAQ WRC WSAI WTAG WTAM WTIC WWJ

B — Bob Becker's Dog Chats

KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSYR WXYZ

E-5:45 p.m., C-4:45, M-3:45, P-2:45 R—Richard Himber and Orchestra KSD KYW WBEN WCAE WCSH WDAF WEAF WEEI WFBR WGY WHO WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Gabriel Heatter, News Review KDKA KOIL KSO KWK WAPI

WAVE WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJDX WJZ WMAL WMC WMT WREN WSB WSM WSMB WSYR WXYZ

E-6:00 p.m., C-5:3), M-1:33, s3:00 C — National Ama'eur Night

CFRB CKAC KDB KERN KFAB
KFBK KFPY KFRC KGB KHJ KLZ
KMBC KMJ KMOX KOIN KOL
KRLD KSL KVI KMG WAAB WABC
WBBM WBNS WBT WCAO WCAU
WCCO WDRC WFBL WFBM WGST
WHAS WHEC WHK WJAS WJR
WJSV WKBW WKRC WLAC WOKO
WREC WWI.

E-6:30 p.m., C-5:30, M-4:30, P-3:30 C — Smiling Ed McConnell

KDB KERN KFAB KFBK KFH
KFPY KFRC KGB KIJ KLZ KMJ
KMOX KOIN KOL KRI D KRNT
KSL KVI KWG WAAB WABC
WBBM WBNS WBFC WBT WCAO
WCAU WCCO WDBJ WDRC WEAN
WFBL WHAS WHEC WKH WJAS
WJR WJSV WKBW WKRC WLAC
WWL WWVA

B — Compana's Grand Hotel KDKA KDYL KFI KHQ KOA KOIL KOMO KPO KSO WBAL WBZ WBZA WCKY WENR WGAR WHAM WJZ WMAL WMT WREN WSYR

E-6:45 p.m., C-5:45, M-4:45, P-3:45 C — Voice of Experience

KMOX WAAB WABC WADC WBBM WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WHAS WHEC WHK WJAS WJR WKBW WKRC WSPD WWVA

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

KDB KERN KFAB KFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KRNT VSL KVI KWG WABC WBBM WCAO WCAU WCCO WDRC WFBL WGR WHAS WHK WJAS WJR WJSV WKRC WNAC WOKO

B — Jack Benny; Johnny Green CFCF CRCT KDKA KFYR KOIL KPRC KSO KSTP KTBS KVOO KWK WAVE WBAL WBZ WBZA WDAY WEBC WENR WFAA WFIL WFLA WGAR WHAM WIBA WIOD WIS WJAX WJDX WJZ WKY WLW WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSOC WSYR WTAR WTMJ WWNC

E-7:30 p.m., C-6:30, M-5:30, P-4:30 C — Phil Baker; Hal Kemp

KLRA KLZ KRLD KTRH KTSA
KWKH WABC WACO WADC WALA
WBIG WBNS WBRC WBT WCAO
WCAU WCOA WDAE WDBJ WDBO
WDNC WDOD WDRC WEAN WFBL
WFBM WFEA WGR WGST WHAS
WHEC WHK WHP WIBX WICC
WJAS WJR WJSV WKBN WKRC
WLAC WLBZ WMAS WMBR WNAC
WNBF WNOX WOKO WORC WQAM
WREC WSBT WSFA WSJS WSMK
WSPD WTOC WWL WWVA

R - Fireside Recitals

KSD KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHIO WIRE WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WWJ

B — Ozzie Nelson; Robt. L. Ripley KDKA KDYL KFI KFYR KGW SUNDAY (Continued)

KHQ KOA KOIL KOMO KPO PKRC KSO KSTP KTAR KVOO KWK WBAL WBZ WBZA WCKY WDAY WEBC WFAA WFLA WGAR WHAM WIBA WIOD WJAX WJDX WJZ WKY WLS WMAL WMC WMT WOAI WPTF WREN WRVA WSB WSM WSMB WSYR WTMJ WWNC WXYZ

E-7:45 p.m., C-6:45, M-5:45, P-4:45 R - Sunset Dreams; Morin Sisters CFCF CRCT KSD KYW WBEN WCAE WCSH WDAF WEAF WFBR WGY WHO WHIO WIRE WJAR
WLW WMAQ WOAI WOOD WOW
WRC WTAG WTAM WTIC WWJ

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

KFAB KFH KLRA KLZ KMBC KMOX KOMA KRLD KRNT KTRH KTSA KTUL KWKH WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDOD WDRC WEAN WFBL WFBM WGR WGST WHAS WHEC WHK WICC WJAS WJR WJSV WKRC WLAC WNAC WOKO WOWO WREC WSPD WWL

R - Major Bowes' Amateur Hour CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRO KSD KSTP KTAR KVOO KYW WAVE WBEN WBZ WBZA WCAE WCSH WDAF WDAY WEAF WEBC WFAA WFBR WFLA WGY WHO WIOD WIS WJAR WJAX WJDX WKY WLW WMAQ WMC WOAI WOW WPTF WRC WRVA WSB WSM WSMB WTAG WTAM WTAR WTIC WTMJ WWJ WWNC

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

KDB KERN KFAB KFBK KFPY WFRC KGB KHJ KLRA KLZ KMBC KMJ KMOX KOIN KOL KOMA KRLD KRNT KSL KTRH KTUL KVI KWG WABC WADC WBBM WBNS WBRC WBT WCAO WCAU WCCO WDRC WEAN WFBL WFBM WGR WHAS WHEC WHK WJAS WJR WJSV WKRC WLAC WNAC WOKO WOWO WREC WSPD WWL

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

C — Ford Concert

OFRB CKAC KDB KERN KFAB KFBK KFH KFPY KFRC KGB KGKO KHJ KLRA KLZ KMBC KMJ KMOX KOH KOIN KOL KOMA KRLD KRNT KSCJ KSL KTRH KTSA KTUL KVI KVOR KWG

KWKH WABC WACO WADC WALA WBBM WBIG WBNS WBRC WBT WCAO WCAU WCCO WCOA WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFBL WFBM WFEA WGST WHAS WHEC WHK WHP WIBW WIBX WICC WISN WJAS WJR WJSV WKBH WKBN WKBW WKRC WLAC WLBZ WMAS WMBD WMBR WNAC WNAX WNOX WOC WOKO WORC WOWO WQAM WREC WSBT WSFA WSJS WSMK WSPD WTOC

R - Manhattan Merry-Go-Round CFCF KDYL KFI KFYR KGW KHQ KOA KOMO KPO KSD KSTP KYW WBEN WCAE WCSH WDAF WDAY WEAF WEBC WFBR WGY WHO WHIO WIBA WJAR WMAQ WOW WRC WSAI WTAG WTAM WTIC WTMJ WWJ

B — Charles Previn; Olga Albani

KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM WJZ WLW WMAL WMT WREN WSYR WXYZ

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

R — Album of Familiar Music CFCF CRCT KDYL KFI KFYR KGW KHQ KOA KOMO KPO KPRC KTBS KYW KSD KSTP WAVE WBEN WCAE WCSH WDAF WAVE WBEN WCAE WCSH WDAY
WDAY WEAF WEBC WEEI WFAA
WFBR WFLA WGY WHO WHIO
WIBA WIOD WIS WJAR WJAX
WJDX WKY WMAQ WMC WOAI
WOW WPTF WRC WRVA WSAI
WSB WSM WSMB WSOC WTAG WTAM WTAR WTMJ WWJ WWNC

B - Walter Winchell KDKA KOIL KSO KWK WBAL WBZ WBZA WENR WFIL WGAR WHAM

WLW WMAL WMT WREN WSYR WXYZ

E-9:45 p.m., C-8:45, M-7:45, P-6:45 B — Niela Goodelle, Songs KDKA KOIL KSO KWK WBAL WBZ WBZA WCKY WENR WFIL WGAR WHAM WJZ WMAL WMT WREN WSYR WXYZ

E-10:00 p.m., C-9:00, M-8:00, P-7:00 C - Wayne King and Orchestra

KDB KERN WFAB WFBK KFPY KFRC KGB KHJ KLZ KMBC KMJ KMOX KOIN KOL KRLD KSL KVI KWG WAAB WABC WADC WBBM WBNS WCAO WCAU WCCO WDRC WFBL WFBM WHAS WHK WIBW WJAS WJR WJSV WKBW WKRC WOKO WSPD WWL

R - General Motors Concert CFCF CRCT KDYL KFI KFSD KFYR KGHL KGIR KGU KGW KESD KHQ KOA KOMO KPO KPRC KSTP KTAR KTBS KTHS KYW WAPI WAVE WBAP WBEN WCAE WCSH WDAF WDAY WEAF WEBC WEEI WFBR WFLA WGY WHO WHIO WIBA WIOD WIRE WIS WJAR WJAX WJDX WKY WMAQ WMC WOAI WOW WPTF WRC WRVA WSAI WSB WSM WSMB WSOC WSOC WTAG WTAM WTAR WTIC WTMJ wwj wwnc

E-10:30 p.m., C-9:30, M-8:30, P-7:30 C — Freddie Rich and Orchestra KLRA WABC WALA-WBIG WBRC WBT WCAO WCAU WDAE WDBJ WDBO WDNC WDOD WDRC WEAN WFEA WGST WICC WJSV WLAC WLBZ WMAS WMBG WMBR WNAC WORC WQAM WREC WSJS WTOC

— Jack Hylton and Orchestra KFAB KFH KLZ KMBC KMOX KRNT KCSJ KVOR WBBM WCCO WFBM WIBW WISN WJSV WKBH WMBD WOC WOWO WSBT

E-11:00 p.m., C-10:00, M-9:00, P-8:00 — Eddie Cantor KDB KERN KFBK KFPY KFRC KGB KHJ KMJ KOIN KOL KSL KVI KWG

R — The Malody Master KYW WBEN WCAE WEAF WEEI WFBR WGY WJAR WMAQ WRC WTAG WTAM WTIC WWJ

R - Sunset Dreams; Morin Sisters KDYL KFI KFSD KGW KHQ KOA KOMO KPO KPRC KTAR KTBS KTHS WBAP WDAF WKY

E-11:15 p.m., C-10:15, M-9:15, P-8:15 B — Walter Winchell KDYL KFI KFSD KGHL KGIR KGW KHQ KOA KOMO KPO KPRC KTAR KTBS KTHS WAPI WAVE WBAP WJDX WKY WMC WOAI WSB WSM WSMB

E-11:30 p.m., C-10:30, M-9:30, P-8:30 C — Voice of Experience KDB KERN KFBK KFPY KFRC KGB KHJ KLZ KMJ KOIN KOL KSL

KVI KWG B - Jack Benny; Johnny Green KDYL KFI KFSD KGHL KGIR KGU KGW KHQ KOA KOMO KPO KTAR

E-12:00 p.m., C-11:00, M-10:00, P-9:00 B — Charles Previn; Olga Albani KDYL KFI KGW KHQ KOA KOMO

CLASSIFIED INDEX TO CHAIN PROGRAMS

Time in Eastern Standard C-Columbia; R-National (Red); B-National (Blue) These features are correct at the time of going to press, but changes are being made daily.

CONCERTS

Armee Iron Master, 10:30 p.m. Monday, B Ford Concert, 9:00 p.m. Sunday, C General Motors Concert, 10:00 p.m. Sunday, R Philharmonic Symphony, 3:00 p.m. Sunday, C Radio Čity Music Hall, 12:30 p.m. Sunday, B

DANCE BANDS

Victor Arden, 8:00 p.m. Thursday; 8:30 p.m. Friday, B Ben Bernie, 9:00 p.m. Tuesday, B Ray Block, 8:30 p.m. Saturday, C Bob Crosby, 8:15 p.m. Friday, B.

Al Goodman, 9:00 and II:30 p.m. Friday, B; 8:00 p.m. Saturday, R Glen Gray, 9:00 and 11:30 p.m. Tuesday and Thursday, C Johnny Green, 7:00 and 11:30 p.m. Sunday, B Louis Gress, 8:00 p.m. Sunday, C Horace Heidt, 10:00 p.m. Thursday, C Richard Himber, 5:45 p.m. Sun., R; 10:00 p.m. Fri., C Jack Hylton, 10:30 p.m. Sunday, C Art Kassel, 10:30 p.m. Friday, R Hal Kemp. 7:30 p.m. Sunday, C Wayne King, 10:00 p.m. Sunday and Monday, C; 8:30 p.m. Tuesday and Wednesday, R
Guy Lombardo, 8:00 p.m. Monday, C
Abe Lyman, 5:00 p.m. Sunday, C: 9:00 p.in. Friday, R
Jose Manzanares, 2:30 and 5:30 p.m. Sunday, C
Waldo Mayo, 7:15 p.m. Tues. and Thurs., C
Ozzle Nelson, 7:30 p.m. Sunday, B
Red Nichols, 8:30 p.m. Friday, B
Ray Noble, 9:30 p.m. Friday, C
Raymond Palge, 9:00 p.m. Friday, C
Charles Previn, 9:00 and 12:00 p.m. Sunday, B
Leo Reisman, 8:00 and 11:30 p.m. Tuesday, R
Harry Reser, 8:00 p.m. Saturday, C
Freddle Rich, 10:30 p.m. Sunday; 8:00 p.m. Friday, C
Rudy Vallee, 8:00 p.m. Thursday, R
Fred Waring, 9:30 and 12:00 p.m. Tuesday, C
Paul Whiteman, 10:00 p.m. Thursday, R
Victor Young, 9:30 p.m. Saturday, R

DIALOG

Fred Allen, 9:00 and 12:00 p.m. Wednesday, R Amos 'n' Andy, 7:00 and 11:00 p.m. dally, except Sat. and Sun., R Phil Baker, 7:30 p.m. Sunday, C Jack Benny, 7:00 and 11:30 p.m. Sunday, B Burns and Allen, 8:30 and 11:30 p.m. Wednesday, C Eddle Cantor, 8:00 and 11:00 p.m. Sunday, C Edsy Aces, 7:00 p.m. Tues., Wed., and Thurs, B Fibber McGee and Molly, 8:00 p.m. Monday, B Rube Goldberg, 7:15 p.m. Tues, and Thurs., C Harv and Esther, 8:00 p.m. Thursday, C Lum and Abner, 7:30 p.m.dally, except Sat.and Sun., B Walter O'Keefe, 9:00 and 11:30 p.m. Tues, and Thurs., C Plek and Pat, 8:30 and 11:30 p.m. Monday, C Popeye, The Sallor, 7:15 p.m. Tues., Thurs, and Sat., R

DRAMA

Cavalcade of America, 8:00 p.m. Wednesday, C Dangerous Paradise, 7:45 p.m. Mon., Wed. and Fri., B Death Valley Days, 9:00 p.m. Thursday, B Dream Drama, 5:30 p.m. Sunday, R Eno Crime Clues, 8:00 p.m. Tuesday, B First Nighter, 10:00 p.m. Friday, R Grand Hotel, 6:30 p.m. Sunday, B Helen Hayes, 12:00 mid. Monday, 9:30 p.m. Tues., B House of Glass, 8:30 and 11:30 p.m. Wednesday, B Leslie Howard, 8:30 p.m. Sunday, C Warden Lawes, 9:30 pm. Wednesday, B Lux Radio Theatre, 9:00 p.m. Monday, C March of Time, 10:30 p.m. daily, except Sat. and Sun., C Myrt and Marge, 7:00 and 11:00 p.m. dally, except Sat. and Sun., C One Man's Family, 8:00 p.m. Wednesday, R Princess Pat Players, 9:30 p.m. Monday, B lrene Rich, 8:00 p.m. Friday, B Buck Rogers, 6:00 p.m. Mon., Tues., Wed., Thurs., C Roses and Drums, 5:00 p.m. Sunday, B True Story Court, 9:30 p.m. Friday, Welcome Valley, 8:30 p.m. Tuesday, B

POPULAR PROGRAMS

A. & P. Gypsles, 9:00 p m. Monday, R Album of Familiar Music, 9:30 p.m. Sunday, R Along Rialto Row, 9:30 p.m. Saturday, C Atlantic Family, 7:00 p.m. Saturday, C Major Bowes, 11:30 a.m. and 8:00 p.m. Sunday, R Broadway Varieties, 8:30 p.m. Friday, C Cainel Program, 9:00 and 11:30 p.m. Tues. and Thurs, C Carborundum Band, 7:30 p.m. Saturday, C Chesterfield Program, 9:00 p.m. Wed. and Sat., C Chevrolet Program, 9:00 p.m. Saturday, R Chies Service Concert, 8:00 p.m. Friday, R Contented Program, 10:00 p.m. Monday, R Corn Cob Pipe Club, 10:30 p.m. Saturday, R Evening in Paris, 8:30 p.m. Monday, B Fireside Recitals, 7:30 p.m. Sunday, R Fielschmann Variety Hour, 8:00 p.m. Thursday, R Flying Red Horse Tavern, 8:00 p.m. Friday, (Hammerstein's Music Hall, 8:00 p.m. Monday R Hit Parade, 8:00 p.m. Saturday, R Hollywood Hotel, 9:00 p.m. Friday, C Imperial Hawalian Band, 7:15 p.m. Wednesday, C Jumbo-Fire Chief Show, 9:30 p.m. Tuesday, R Log Cabin Revue, 10:00 p.m. Wednesday, R Magic Key of RCA, 2:00 p.m. Sunday, B Manhattan Merry-Go-Round, 9:00 p.m. Sunday, R

Maxwell House Show Boat, 9:00 p.m. Thursday, R Melody Master, 11:00 p.m. Sunday, R Musical Footnotes, 1:30 p.m. Sunday, C National Amateur Night, 6:00 p.m. Sunday, C National Barn Dance, 9:30 and 11:00 p.m. Saturday, B N.T.G. and His Girls, 9:00 p.m. Tuesday, R Palmolive Beauty Box, 9:00 and 11:30 p.m. Friday, B Penthouse Serenade, 5:00 p.m. Sunday, R Pine Mountain Merrymakers, 3:15 p.m. Sunday, B Shell Chateau, 9:30 p.m. Saturday, R Sherwin-Williams Program, 3:30 p.m. Sunday, R Sinclair Minstrels, 9:00 p.m. Monday, B Swift Studio Party, 10:00 p.m. Tuesday, R Town Hall Tonight, 9:00 and 12:00 p.m. Wednesday, R Uncle Ezra, 7:15 p.m Mon., Wed., and Fri., R Voice of Firestone, 8:30 and 11:30 p.m., Monday, R SINGERS

Countess Olga Albani, 9:00 and 12:00 p.m. Sunday. B Babs and Her Brothers, 9:30 p.m. Wednesday, C Vivian Della Chiesa, 1:30 p.m. Sunday, C Bernice Ciaire, 5:00 p.m. Sunday, C Crumit-Sanderson, 5:30 p.m. Sunday, C Jessica Dragonette, 8:00 p.m. Friday, R Phil Duey, 8:00 and 11:30 p.m. Tuesday, R; 8:00 p.m. Wednesday, B Mary Eastman, 10:45 p.m. Friday, C Jack Fulton, 5:00 p.m. Sunday, R Niela Goodelle, 9:45 p.m. Sunday, B Hohn Hale, 10:45 p.m. Wednesday, C Wendell Hall, 10:00 p.m. Tuesday, B Helen Jepson, 10:00 p.m. Thursday, R Frances Langford, 9:00 p.m. Friday, C Lazy Dan, 7:15 p.m. Friday, C Elizabeth Lennox, 8:30 p.m. Friday, C Nino Martini, 9:00 p.m. Saturday, C Mills Brothers, 10:30 p.m. Friday, R Lucy Monroe, 8:00 p.m. Tuesday, C Grace Moore, 9:30 p.m. Monday, R Morin Sisters, 7:45 and 11:00 p.m. Sunday, R Frank Munn, 8:00 p.m. Tuesday, C; 9:30 p.m. Sunday and 9:00 p.m. Friday, R Frank Parker, 7:00 p.m. Saturday, (Pickens Sisters, 8:30 p.m. Monday, B Llly Pons, 9:00 p.m. Wednesday, C Carmella Ponselle, 8:30 p.m. Friday, C Dick Powell, 9:00 p.m. Friday, C Eleanor Powell, 8:00 p.m. Friday, C Virginia Rea, 9:00 p.m. Saturday, R Lanny Ross, 9:00 p.m. Thursday, R Fritzi Scheff, 8:00 p.m. Tuesday, C Vivienne Segai, 9:30 p.m. Sunday; 9:00 p.m. Friday, R Oscar Shaw, 8:30 p.m. Friday, C Singin' Sam, 7:30 and 11:15 p.m. Monday, C Smiling Ed McConnell, 6:30 p.m. Sunday, C Kate Smith, 7:30 p.m. Tues., Wed., and Thurs., C Oliver Smith, 5 p.m. Sunday, C Conrad Thibault, 10:00 p.m. Wednesday, R John Charles Thomas, 9:00 p.m. Wednesday, B Three Little Words, 6:30 p.m. Saturday, C Lawrence Tibbett, 8:30 p.m. Tuesday, C Vera Van, 7:15 p.m. Tuesday and Thursday, C TALKS

Boake Carter, 7:45 p.m. dally except Sat. and Sun., C Rev. Charles E. Coughlin, 4:00 p.m. Sunday Jimmy Fidler, 10:30 p.m. Wednesday, B Thornton Fisher, 7:00 p.m. Saturday, R Gabriel Heatter, 5:45 p.m. Sunday, B Ivory Stamp Club, 7:15 p.m. Mon., Wed., and Fri., B H. V. Kaltenborn, 6:00 p.m. Friday, C Harold Nicolson, 10:45 p.m. Thursday, C Public Opinion, 10:30 p.m. Saturday, C Robert L. Ripley, 7:30 p.m. Sunday, B Sidewalk Interviews, 2:30 p.m. Sunday, R Tales of Tibet, 2 p.m. Sunday, C Lowell Thomas, 6:45 p.m. dally except Sat. and Sun., B To Arms for Peace, 9:30 p.m. Thursday, C Trans-Atlantic Broadcast, 12:45 p.m. Sunday, C

Bob Becker's Dog Chats, 5:30 p.m. Sunday, B

Voice of Experience, 6:45 and 11:30 p.m. Sunday, C Frederic William Wile, 6:00 p.m., Saturday, C Walter Winchell, 9:30 and 11:15 p.m. Sunday, B Alexander Woolleott, 7:00 p.m. Sunday, C Your English, 3:00 p.m. Sunday, B

Your New Set

(Continued from page 8) west coast 10 and 20 watters that would be good catches in any log. Or, what would be more interesting than trying to log 48 states in the 75-meter amateur band? It is a difficult feat and we do not know of anyone who has done it, but it is a mark worth shooting at.

If North American DX fails to stir one's imagination, he should try the second band below the broadcast band, the one that tunes from about 5000 kilocycles to about 10,000 kilocycles. Incidentally, this is probably as good a place as any to explain that a megacycle is 1000 kilocycles, so 5000 kcs. is the same as 5 megs., and 10,000 kcs, equals 10 megs.

The Best Time to Tune Signals between 5 and about 7 or 8 megs. like darkness. Satisfactory reception on these frequencies is possible only when darkness exists between the transmitter and the receiver, so this band is ideal for evening reception of European South American stations. Beginners are advised to confine their tuning for a few nights to the 6 megs. band. Their tuning will be rewarded, no of YV2RC. reception by

Radio stations between 8 and 10 megs. are at their best when the transmitter is in a night-time area and the receiver in daylight. Therefore HBL in Switezrland, DJN in Germany and EAQ in Spain come in well from 5 to 7 p.m., EST, while it is about midnight or later at the transmitters. Signals from the other side of the world, in Australia, Java, and Japan, visit us in the early morn-

ing while it is approaching evening in their own locations.

Below 10 megs. the difficulty in tuning increases and beginners should confine their activities to lower frequencies until the knack of tuning in foreign stations is acquired. Generally speaking, from 11 megs. up to 20 megs. are day-time frequencies so this part of the set should be ignored after darkness falls.

The Editor's Desk

(Continued from page 29)

Radio Station WEMP at Milwaukee, 1310 kcs. 100 watts, was opened with elaborate ceremonies on November 24th.

A 375-foot, self-supporting vertical radiator has been erected at Deepwater, Tex., 15 miles southeast of Houston, for the use of both KPRC, 920 kcs., and KTRH, 1290 This information comes from kcs. Stewart, 2020 Croker John "KPRC Houston, who adds: will start using the radiator about Janwith KTRH together uary first at the same hours." If this means that the antenna will be used simultaneously by two stations on two different frequencies, we believe it will be an unique occurrence.. Our readers are asked to report the reception of KTRH when using the new radiator. It would be helpful if they could note the signal strength before and after making the change.

James L. Steele, Morristown, N. J., reports hearing an "XERA" on 840 which advertises Doc. Brinkley exclusively. It practically destroys CRCT He believes it to be located in Michoacan.

Short Wave Stations By Frequencies

1.510 megs. 198.56 m.
CJD, Campbell River, B. C. 300 W. Minister of Lands for B. C.

CJK, Knight Inlet, B. C. 100 W. Anglo British Columbia Packing Co., Ltd. VAC, Cape Lazo, B. C. 50 W. Dominion Gov. Sun., 0610-0640; 1010-1040; 1710-1740. Other days

VAF, Alert Bay, B. C. 50 watts. Dominion Gov. YDA8, Tandjongpriok, N. E. I. 500 W. N. V. Nederlandsch Indische-Radio Omroep Moatschappij, Konigsplein W. 5, Batavia-Centrum,

Java, N. E. I. Daily, 0530-1100: 1745-1845: 2230-0130. 1.520 megs. 197.25 m VIA, Adelaide, Australia. 175 w. Police. VKO, Sydney, Australia. 1.4 kW. Police.

1.530 megs. 195.96 m. YDB7, Seerabaja, N. E. I. 75 watts. Address, see YDA8 above. Daily, 0530-1100; 1745-1845; 2238-0130.

1.540 megs. 194.69 m. CJD, Campbell River, B. C. 300 watts. Minister of Lands for B. C. VBY, Lunenburg, N. S. 100 watts. Lunenburg Sea

Products. Ltd. (Station operated by Canadian Marconi)

1.550 megs. 193.43 m. YDA4, Soekaboemi, N. E. I. 25 watts. For address and schedule see YDA8, 1.510 megs.

1.566 megs. 191.46 m. WIED Broadcast pickup. 50 watts. National Broadcasting Co., 30 Rockefeller Plaza, N. Y. City WIEX, Breadcast pickup. 50 watts. Address, see WIED above.

1.570 megs. 190.96 m. WPEQ, Baton Rouge, La. Police. YDB6 Malang, N. E. J. 100 watts. For address and schedule see YDA8, 1.510 megs.

1.574 megs. 190.48 m. KGPY, Shreveport, La. Police.

1.580 megs. 189.76 m. CJM, Borden, P. E. I. 100 watts. Works ships. Canadian National Railway.

1.585 megs. 189.16 m. YDD3, Batavia (C), Java, N. E. I. 50 watts. N. V. Nederlandsch Indische Radio Omroep Moatschappij, Koningspieln West 5, Batavia-Centrum, Java, N. E. J. 0530-1100: 1745-1845; 2230-0130.

> 1.595 megs. 187.98 m.

YDB5, Solo, N. E. I. 25 watts. For address and schedule see YDD3, 1.585 megs.

> 1.596 megs. 187.84 m.

CFC, Cub Lake, Sask. 100 watts. Dept. of Natural Resources, Govt. of the Province of Sask. CGQ, Lac la Ronge, Sask. 100 watts. Address, see CFC above.

CGV, Emma Lake, Sask. 100 watts. Address CFC

CZJ, Isle-a-la-Crosse, Sask. 100 watts. Address CFC VYP, Prince Albert, Sask. Address, CFC above. WPGG, Findlay, Ohio. 500 W. State of Ohio, High-

way police. WPGQ, Columbus, Ohio. 400 W.

WPHC, Massillen, Ohio. 400 W. State of Ohio, Dept. of Highways.

WPHK, Wilmington, Ohio. State of Ohio. WPHT, Cambridge, Ohio.

1.606 meas.

KGKN Port Alexander, Alaska. Karl H. sen. KIGA Broadcast pickup. 7.5 watts. KSTP, St. Paul Kakr Hotel, St. Paul, Minn. KNED, Broadcast pickup. 50 watts. WBAP, Carter

publications, Ft. Worth, Tex. WHER, Broadcast pickup. (KDKA) Grant Bldg.,

Pittsburgh. WIEO, Broadcast pickup. 50 watts. NBC, 30 Rockefeller Plaza, N. Y. City.

WIEW, Broadcast pickup. National Broadcasting Co.

WIEX, Broadcast pickup. National Broadcasting Co. WJER, Broadcast pickup. WTMJ, The Milwaukee Journal, 333 W. State St., Milwaukee, Wisc. WMEF, Broadcast pickup. 159 W. National Broadcasting Co.

..... , Funter Bay Camp, Alaska. 1.610 megs. ····. , Chicago, III. , DeQuoin, Iti. , Effingham, III. , Macomb, III. , Pontiac, III., Springfield. III. , Sterling, III.

1.615 megs. 185.65 m. YDB4. Tjepoe, N. E. J. 25 W. N. V. Nederlandsch Indische Radio Omroep Moatschappij, Koningspieln W. 5, Batavia-Centrum, Java, 0530-1100; 1745-1845; 2230-0130. N. E. I.

1.620 megs. 185.07 m. CFD, Kenora, Ont. 150 W. Ontario Dept. of Lands and Forests.

CFJ, Red Lake, Ont. Address CFD above.

CFL, Tabouret, P. Q. 100 W. Laurentian Forest Protective Association, Ltd., 126 St. Peter St., Quebec, P. Q.

CFM, Manicouagan River Estuary, P. Q. 100 W. Address CFL above.

CZB, Bellevue, P. Q. 100 W. Address CFL above. CZY, Riviere du Chef, P. Q. 100 W. Address CFL above.

CZZ, St. Felecien, P. Q. 100 W. Address CFL above.

1.622 megs. 184.85 m. KGXU, Port Armstrong, Alaska. Buchan & Heinen. KHP, Deep Cove, Alaska. (KIJV) Atlas Packing Co. KIED, Broadcast pickup. (KFWB, Warner Bros., Hollywood, Calif.)

KIFI, Broadcast pickup. (WDGY, Dr. Young, 909 W. Broadway, Minneapolis, Minn.)

KIIQ, Broadcast pickup. (KMTR Radio Corp., Hollywood).

KIJI, Port Conclusion, Alaska. Northwestern Herring Co.

KIJK, Washington Bay, Alaska. Storfold & Grondahi.

KIJO, Port Herbert, Alaska. P. H. Packing Co.

KIJS, Newport Waiter, Alaska. Chatham Strait Fish Co. KIJV, Deep Cove, Alaska. 50 watts. (KHP). Atlas

Packing Co. (KARK, N.S.L. Bldg.,

KILU, Broadcast pickup. Little Rock, Ark.) KIOG, Red Bluff, Alaska.

50 watts. Richmond Fisheries Co. WIEH, Broadcast pickup. (WMCA, 1697 Broadway,

N. Y. City) WKEM, Broadcast pickup. (WINS, Hearst Radio, 110 E. 58th St., N. Y. City)

1.630 megs. 183.94 m. WEY, Boston, Mass. Marine Fire Station. WKDT, Detroit, Mich. Marine Fire Station. YDD2, Bandoeng, Java, N. E. I. 25 watts. Nederlandsche Indische Radio (Nederlandsche Indische Radio Omroep Moatschappij, Tegallegah O. 23, Bandoeng. 0530-1100; 1745-1845; 2230-0130.

1.634 megs. 183.48 m. WPHE, Marion County, Ind. 1 kW. Indiana State Police. WPHS, Culver, Ind. 1 kW. Municipal police. WPHU, Jasper, Ind. 1 kW. State of Ind., Dept. of

Safety. WQFE, Seymour, Ind. 1 kW. State of Ind., Dept. of Pub. Safety.

WQFW, Columbia City, Ind. 1 kW. State of Ind. , Indianapolis, Ind. 100 watts. State police.

1.640 megs. 182.82 m. YDA3, Buitenszorg, N. E. I. 25 watts. N. V. Nederlandsche Indische Radio Omroep Moats-chappij, Koningsplein W. 5, Batavia-Centrum, Java, N. E. I. 0530-1100; 1745-1845; 2230-0130.

> 1.642 megs. 182.59 m.

WRDS, E. Lansing, Mich. 1 kW. night; 5 kW. day. State police.

> 182.15 m. 1.646 megs.

KNEC, Broadcast pickup. 40 w. KVI, Puget Sound Brdcsta, Co.

WIEK, Broadcast pickup. Columbia Broadcasting System, 485 Madison Ave. at 52nd St., N. Y. City.

WIEL, Broadcast pickup. Address WIEK above. WLEB, Broadcast pickup. WOKO Inc., Hotel Ten Eyck, Albany, N. Y. Address WIEK above.

1.650 meas.

181.71 m.

VBY, Lunenburg, N. S. Works ships. Lunenburg Sea Products Ltd. Operated by Canadian Marconi.

1.658 megs.

KNHD, Redwood Falls, Minn. 400 w. State of M. KSW, Berketey, Calif. Municipal police. WPGC, S. Schenectady, N. Y. 1 kW. night; 5 kW. day. State police.

..... , Redwood Falts, Minn. 500 watts.

1.660 megs.

180.62 m.

YDB3, Djokja, N. E. I. 100 watts. N. V. Nederlandsch Indische Radio Omroep Moatschappij, Koningsplein W. 5, Batavia-Centrum, Java, N. E. I. 0530-1100; 1745-1845; 2230-0130.

1.666 megs.

179.96 m.

WMP, Framingham, Mass. 1 kW. State police. WPEL, W. Bridgewater, Mass. 1 kW. State police. WPEV, Portable in Mass. 50 watts. State police. WPEW, Northampton, Mass. 1 kW. State police., Nashville, Tenn. Municipal police.

1.668 megs.

179.75 m.

CFC, Cub Lake, Sask. Dept. of Natural Resources Govt. of the Province of Saskatchewan. CGQ, Lac la Ronge, Sask. Address CFC above. CGV, Emma Lake, Sask. Address CFC above. CZJ, Isle-a-la-Crosse, Sask. Address CFC above. VYP, Prince Albert, Sask. Address CFC above.

1.674 megs.

179.10 m.

KGHK, Palo Alto, Calif. 20 watts. Municipal police. KGZT, Santa Cruz, Calif. 100 watts. KIUK, Jefferson City, Mo. State police.

WPSP, Harrisburg, Pa. 1kW. State police.

1.682 megs.

KACC, Fairfield, Iowa. 500 w. State of I. KACD, Atlantic, Iowa. 500 w. State of I. KGHO, Des Moines, Ia. State of Iowa, Bureau of

Investigation. KNFN, Waterloo, Iowa. 400 watts. KNFO, Storm Lake, Iowa. 400 watts.

W8XA, Portable in Ohio. 50 watts. Dept. of Highways, Div. of State Highway Patrol.

> 176.57 m. 1.698 megs.

KNGG, Phoenix, Ariz. 1 kW. Arizona State Highway Dent.

1.706 megs.

175.74 m.

KGPC, St. Louis, Mo. City of S. L. WKDU, Cincinnati, Ohio. City of C. WPET, Lexington, Ky. City of L.

1.712 megs. 175.13 m.

CMPN, Havana Cuba Police.

CZG, Prince Rupert, B. C., 150 watts. B. C. Provincial police.

KGHY, Whittier, Calif. 30 watts. City of W. KGJX, Pasadena, Calif. 400 watts. City of P.

KGPJ, Beaumont, Tex. City of B.

KGPL, Los Angeles, Calif. City of L. A.

KGPQ, Honolulu, T. H. 500 w. City and County of H.

KGPR, Fort Worth, Tex. City of F. W. KGZB, Houston, Tex. City of H.

KGZL, Shreveport, La. City of S. KGZQ, Waco, Texas. City of W.

KGZY, San Bernardino, Calif. 50 watts. City of S. B. KNFJ, Pomona, Calif. 50 watts, City of P. KNGE, Cleburne, Tex. 50 watts. City of C. KNGL, Galveston, Tex. 50 watts. City of G.

KNHF, Denton, Texas. 50 w. City of D. KVP, Dallas, Tex. 500 watts. City of D.

VYR, Montreal, P. Q. 400 watts. Police calls in French and English. City of M. Police Dept.

WPDB, Chicago, III. City of C. WPDC, Chicago, III. City of C. WPDD, Chicago, III. City of C.

WPDU, Pittsburgh, Pa. City of P.

WPED, Arlington, Mass. Town of A. WPEH, Somerville, Mass. City of S.

WPEI, E. Providence, R. I. E. Prov. Police Dept. WPEJ, Brookline, Mass. City of B.

WPFA, Newton, Mass. City of N.

WPFN, Fairhaven, Mass. Address: City of New

Bedford Police. WPGF, Providence, R. I.

WPGV, Boston, Mass. 500 watts. City of B.

WPHG, Medford, Mass. 50 watts. City of M.

WQFL, Oak Park, III. City of O. P.

..... , Waukegan, III.

1.715 megs to 2.000 megs. 174.82 m. to 149.91 meters Amateur Band. Phones in following countries work between 1.875 and 2.000 megs. (149.91 m. to 159.90 meters). Australia, Argentina, Canada, Ecuador, Estonia, Union of South Africa, United States of America.

1.840 megs. 162.95 m. YDJ4, Cheribon, N. E. I. Batavia Radio Vereeniging.

1.850 megs. 162.06 m. YDU5, Bandjermasin, Borneo, N. E. I. Owner:

"Eureka." 161.19 m. 1.860 megs.

YDK6, Semarang, N. E. I. Radio Vereeniging Midden Java.

159.47 m. 1.880 megs. YDO9, Soerabaia, N. E. I. Owner: Holvast.

1.900 megs. 157.80 m.

YDG6, Batavia, N. E. I. Batavia Radio Vereeniging.

156.16 m. 1.920 megs. YDH9, Buitenzorg, N.E.I. Batavia Radio Vereeniging.

1.940 megs. 154.55 m.

YDN2, Kediri, N.E.I. Owner: Goldberg.

1.960 megs. 152.97 m. YDH8, Bandoeng, N.E.I. Owner: v. d. Heyden.

151.42 m. 1.980 meas.

YDO8, Soerabaja, N.E.I. Owner: Gazaliehuis.

2.020 megs. 148.43 m. KNED, Broadcast pickup. 50 watts. (WBAP, Blackstone Hotel, Ft. Worth, Texas).

WIEO, Broadcast pickup. 50 watts. N. B. C., 30 Rockefeller Plaza, N. Y. City.

WMEF, Broadcast pickup. 159 watts. Address WIEO ahove.

2.050 megs. 146.25 m. W9XAK, Manhattan, Kans. Television. Mon., 1945-2030. Wed. 2100-2200.

2.060 megs. 145.54 m KIFO, Broadcast pickup. 200 watts KIIQ, Broadcast pickup. (KMTR Radió Corp., Hollywood).

WNER, Broadcast pickup. 100 watts. WAIU, Deshler-Wallick Hotel, Columbus, Ohio.

2.070 megs. 144.84 m. YDO7, Soerabaja, N.E.I. Owner: v. Wingen.

2.090 megs. 143.45 m. KNEC, Broadcast pickup. KVI, Puget Sound Brdcstg. Co., Tacoma.

YDG5, Batavia, Java, N.E.I. Batavia Radio Vereeniging.

> 2.102 megs. 142.64 m.

KIGA, Broadcast pickup. KSTP, St. Paul Hotel, S. P. Minn.

KIGW, Broadcast pickup.

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KNED, Broadcast pickup. 50 watts. (WBAP, Blackstone Hotel, Ft. Worth, Texas)

WHER, Broadcast pickup. (KDKA, Grant Bldg., Pittsburgh).

WIEO, Broadcast pickup. 50 watts. Address WIEO, 2.020 megs.

WIEW, Broadcast pickup. Address WIEO, 2.020 megs. WIEX, Broadcast pickup. Address WIEO, 2.020 megs. WJER, Breadcast pickup. WTMJ, The Journal Co., 333 W. State St., Milwaukee, Wisc.

WMEF, Broadcast pickup. 150 watts. Address WIEO. 2.020 megs.

> 2.110 megs. 142.09 m.

W1XH, Boston, Mass. YD12, Soekaboemi, N. E. I., Batavia Radio Vereeniging.

2.150 megs. 139.45 m. KIED, Broadcast pickup. KFWB, Warner Bros., Hollywood, Calif.

KIEO, Broadcast pickup. KFSD, U. S. Grant Hotel, San Diego, Calif.

KIFI, Broadcast pickup. WDGY, Dr. Young, 909 W. Broadway, Minneapolis, Minn.

KIFT, Broadcast pickup. KJBS, 1380 Bush St., San Francisco, Calif.

KIIQ, Broadcast pickup. KMTR Radio Corp., 915 N. Formosa Ave., Hollywood, Calif. KILU, Broadcast pickup. 5 watts. KARK, N.S.L.

Bidg., Little Rock, Ark. WIEG, Broadcast pickup. WMCA, 1697 Broadway,

N. Y. City.

WKEM, Broadcast pickup. Hearst Radio, 110 E. 58th St., N. Y.C.

WLEZ, Broadcast pickup. WJAG, Norfolk Dally News, Norfolk, Nebr.

> 2.190 meas. 136.90 m.

KIIH, Broadcast pickup. KFAB Cornhusker Hotel, Lincoln, Nebr. KNEC, Broadcast pickup. 40 w. KVI, Puget Sound

Brdcstg. Co., Tacoma. Broadcast pickup. Columbia Broadcasting System, 485 Madison Ave. at 52nd St. New

York City.

WIEL, Broadcast pickup. Address WIEK above.

2.212 megs. 135.54 m. VYZ, High Falls, P. Q. 50 watts. James McLaren Co., Ltd.

2.284 megs. 131.22 m. CFT, Learnington, Ont. 14 watts. Dept. of Public Works.

CFX, Pelee Island, Ont. 22 watts. Dept. of Public Works.

CKB, Pictou, N. S. 15 watts. Dept. of Public Works. CKO, Crane Island P. Q. 15 watts. Dept. of Public Works.

Montmagny, P. Q. 15 watts. Dept. of Public Works

CKU, Pictou Island N. S. 15 watts Dept. of Publ.c Works.

2.290 megs. 130.93 m. CFV, Namu, B. C. 100 watts. British Columbia Packers, Ltd.

CFW, Bones Bay, B. C. 100 watts. Canadian Fishing Co., Ltd.

CJE, Ceepeecee, B. C. 10 watts. Canadian Packing Corp.

CJX, Margaret Bay, B. C. Canadian Fishing Co., Ltd CZL, Humpback Bay, B. C. 189 watts. Chatham Sound Fishing & Packing Co., Ltd.

VFJ, Homalko, B. C. 100 watts. Homalko Logging Co., Ltd.

2.304 megs. 130.13 m. KBAI, Ketchikan, Alaska. Ferestry. KMYA Juneau, Alaska. Forestry.

2.342 megs. 128.02 m. CGZ Vancouver, B. C. 400 w. Corp. of the City of V.

2.350 megs. 127.58 m VBQ, Halifax, N. S. 25 watts. Works ships in harbor. YDE5, Djokjakarta. N. E. I. 25 watts. N. V. Neder-landsche Indische Radie Omroep Moatschappij, Koningspiein W. 5, Batavia-Centrum, Java. 0530-1100; 1745-1845; 2230-0130.

2.382 megs. 125.87 m KGHT Brownsville, Tex. 25 watts. City of B. KGHV, Corpus Christi Texas 50 watts. City of C. C. KNFE, Duluth, Minn. City of D. Police.

KNBH, Green Bay, Wisc. 50 w. City e G B. WPDN, Auburn N. Y. Police

WPEA Syracuse, N. Y. City e S. Police WPFM, Birmingham Ala. 400 watts. City of B. Police.

WPGW, Mobile, Ala. 490 watts. City of M. Police. , Hibbing, Minn.

2.385 megs. 125.71 m. YDA2, Batavia (C), Java, N. E. I. 150 watts. N. V. Nederlandsche Indische Radio Omroep Meatschappij, Koningspieln W. 5, Batavia-Centrum, Java, N.E.I. 0530-1100; 1745-1845; 2230-0130.

2.390 megs. 125,45 m. CJW, Saint John, N. B. 15 watts. Dept. of Public Safety.

CJZ, Verdun, P. Q. 20 watts. City of V. Police. WIED Broadcast pickup. 50 watts. N. B. C., 30 Rockefeller Plaza, N. Y. City.

WIEX, Broadcast pickup. 50 watts. Address WIED above.

> 2.396 megs. 125.14 m.

VYW, Winnipeg, Man. 600 watts. Board of Police Commissioners. Tests 15, 35 and 55 minutes past each hour.

> 2.406 megs. 124.61 m.

KGHZ, Little Rock, Ark. City of L. R. Police. KGPW, Salt Lake City, Utah. City of S. L. C. Police, , Fort Smith, Ark.

> 2.414 megs. 124,20 m.

KACE, Olympia, Wash. 50 w. City of O. KGHW, Centralia, Wash. 15 watts. City of C. Police. KGPA, Seattle, Wash. Seattle Police Dept. KGPF, Santa Fe, N. Mex. 25 watts. Police. KGPS, Bakersfield, Calif. City of B. Police.

KGZA, Fresno, Calif. 500 watts, City of F. Police,

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KGZM, El Paso, Texas. City of E. L. Police.
KGZN, Tacoma, Wash. City of T. Police.
KGZO, Santa Barbara, Calif. City of S. B. Police.
KGZV, Aberdeen, Wash. 150 watts. City of A. Police.
KGZX, Albuquerque, N. Mex. City of A. Police.
KNFA, Clovis, N. Mex. 50 watts. City of C. Police.
KNFI, Mt. Vernon, Wash. 50 watts. Skagit County
          Police.
KNFP, Everett, Wash. 50 watts. City of E. Police.
KNGU, Yakima, Wash. 100 watts. WCK, Detroit, Mich. D. City Police.
WMO, Highland Park, Mich. City of H. P. Police.
WPDA Tulare, Calif. 150 watts.
WPDJ, Passaic, N. J.
WPDX, Detroit, Mich. City of D. Police.
WPDY, Atlanta, Ga. City of A. Police.
WPFH, Baltimore, Md. City of B. Police.
WPFH, Columbus, Ga. City of C. Police.
WPGH, Albany, N. Y. 300 watts. City of A. Police.
WPGJ, Utica, N. Y. 100 watts. City of U. Police.
 WPGM, La Grange, Ga. 50 watts.
WQFB, Macon, Ga. 50 watts.
WQFJ, Oneonta, N. Y. 50 w. City of O.
WQFV, Augusta, Ga. 250 w. City Council of A.
WRDR, Grosse Pointe, Mich. Township of G. P.
 ..... Bakersfield, Calif.
 ..... , Lodi, Calif.
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124.15 m. 2.415 megs.

YDE4, Soerabaja, N. E. I. 75 watts. N. V. Neder-landsche Indische Radio Omroep Moats-chappij, Koningsplein West 5, Batavia-Centrum, Java, N.E.I. 0530-1100; 1745-1845; 2230-0130

124.09 m. 2.416 megs.

CZG, Prince Rupert, B. C. 150 watts. B. C. Provincial Police.

2 422 megs.

123.79 m.

KGPE, Kansas City, Mo. City of K. C. Police. KGPG, Vallejo, Calif. City of V. Police.
KGZC, Topeka, Kans. City of T. Police.
KNFF, Leavenworth, Kans. 100 watts. City of L.
KNGF, Sacramento, Calif. 590 watts.
WMJ, Buffalo, N. Y. City of B. Police, 757 E. Perry St. WNFP, Niagara Falls, N. Y. 135 watts. City of N. F. WPDR, Rochester, N. Y. City of R. Police.

WPDW, Washington, D. C. Municipal Police. WPFU, Portland, Me. City of P. Police. WPHB, Nashua, N. H. 50 watts. City of N. Police.

..... Atchisen, Kans. 50 w. , Salina, Kans. 50 watts.

123.38 m. 2.430 megs.

KGHX, Santa Ana, Calif. 400 watts. Orange county Police. KGPB, Minneapolis, Minn. 500 watts. City of M.

KGZJ, Phoenix, Ariz. Municipal Police.

KNGP, Shreveport, La. 100 watts.

WPDI, Columbus, Ohio. Franklin County Police. WPDM, Dayton, Ohio. City of D. Police. WPDS, St. Paul, Minn. City of S. P. Police.

WPEK, New Orleans, La. 250 watts. City of N. O.

Police. WPFD, Highland Park, III.

WPFK, Hackensack, N. J. Bergen County Police

WPGI, Portsmouth, Ohlo. 50 watts. City of P. Police. WPHO, Zanesville, Ohio. 50 watts. WQFO, Lancaster, Ohio. 50 watts. City of L. Police.

....., Prescott, Ariz.

2,442 megs. 122.77 m.

KGHU, Austin, Texas, 100 watts. City of A. Police. KGPP, Pertland, Ore. City of P. Police. KGPX, Denver, Colo. City and County of D. Police. KGZH, Klamath Falls, Ore. City of K. F. Police. KGZR, Salem, Ore., 50 watts. City of S. Police.

WMDZ, Indianapolis, Ind. Municipal Police. WPDE, Louisville, Ky. City of L. Police. WPDF, Flint, Mich. City of F. Police. WPDH, Richmond, Ind. City of R. Police. WPDL, Lansing, Mich. City of L. Police. WPED, Grand Rapids, Mich. 500 watts. City of G. R. WPES, Saglnaw, Mich. City of S. Police. WPFC, Muskegon, Mich. City of M. Police. WPFE, Reading, Pa. City of R. Police. WPFG, Jacksonville, Fla. City of J. Police. WPFT, Lakeland, Fla. 50 watts. City of L. Police. WPFX, Palm Beach, Fia. 50 watts. Town of P. B. WPFY, Yonkers, N. Y. 400 watts. City of Y. Police. WPFZ, Miami, Fia. 100 watts. City of M. Police. WPGL, Binghamton, N. Y. 400 watts. City of B. WPGP, Muncie, Ind. 100 watts. City of M. Police.

KNHM, Fargo, N. Dak. 50 w. City of F.

WPHM, Orlando, Fla. 50 watts. City of O. Police. WQFM, Wilkes-Barre, Pa. 50 w. City of W.-B. WQFQ, Lafayette, Ind., 50 w. City of L.

..... , Winter Haven, Pa.

2.450 meas.

122.38 m.

KACF, Chickasha, Okla. 50 w. City of C. KGHN, Hutchinson, Kas. 50 w. City of H. KGHP, Lawton, Okla. 50 w. City of L. KGPH, Oklahoma City, Okla.
KGPO, Tulsa, Okla. City of Tulsa Police.
KGPZ, Wichlta, Kans. 250 watts. City of W. Police.
KGZF, Chanute, Kans. 25 watts. City of C. Police.
KGZP, Coffeyville, Kans. City of C. Police.

KNGK, Duncan, Okla. 50 watts.

KNGM, Rapid City, S. Dak. 50 watts. City of R. C. KNGO, Mebile in Airplane, Oklahoma State Police. 50 watts.

KNGT, Muskogee, Okia. 50 watts. WPDK, Milwaukee, Wisc. City of M. Police. WPEE, Brooklyn, N. Y. City of New York Police.

WPEF, Bronx, N. Y. City of New York Police. WPEG. New York, N. Y. City of N. Y. Police.

WPEP, Kenosha, Wisc. 100 watts. City and County of K. Police.

WPHF, Richmond, Va. 150 watts. City of R. Police. WQFG, Roanoke, Va. 100 watts.

WQFH, Lynchburg, Va. 50 watts. City of L. WQFI, Petersburg, Va. 50 w. City of P.

YDB2, Semarang, N. E. I. 150 watts. N. V. Nederlandsche Indische Radio Omroep Moats-chappij, Koningsplein West 5, Batavia-Centrum, Java, N. E. I. 0530-2100; 1745-1845; 2230-0130.

.... , Ada, Oklahoma. , Milwaukee, Wis.

2.458 megs.

121.97 m.

KGHS, Spokane, Wash. 100 watts. City of S. Police KGZI, Wichita Falls, Tex. City of W. F. Police. KGZW, Lubbock, Texas. 150 watts. City of L. Police. KNFB, Idaho Falls, Idaho. 500 watts. KNGW, Brownwood, Tex. 50 watts. WPDG, Youngstown, Ohio. 250 watts. City of Y. WPDO, Akron, Ohio. 250 watts. City of A. Police. WPDV, Charlotte, N. C. City of C. Police. WPFS, Asheville, N. C. 200 watts. Buncombe County Police.

WPGD, Reckford, III. City of R. Police. WPHD, Steubenville, Ohio. 100 watts.
WQFZ, Ottawa, III. 250 w. La Salle County Police.
WRBH, Cleveland, Ohio. City of C.

2.466 megs.

121.58 m.

KGOZ, Cedar Rapids, Iowa. 50 watts. City of C. R. KGPD, San Francisco, Calif. City and County of S. F. Police.

KGPI, Omaha, Nebr. City of O. Police. KGPK, Sloux City, Iowa. City of S. C. Police.

KGPM, San Jose, Calif.

KGPN, Davenport, Iowa. City of D. Police. KGZG, Des Moines, Iowa. City of D. M. Police. WPEC, Memphis, Tenn. City of M. Police.

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WPEM, Woonsocket, R. I. City of W. Police.
  WPFV, Pawtucket, R. I. City of P. Police.
  WPFW, Bridgeport, Conn. 50 watts. City of B.
          Police.
  WPGA, Bay City, Mich. City of B. C. Police,
  WPGB, Port Huron, Mich. City of P. H. Police.
 WPGK, Cranston, R. I. 50 watts. City of C. Police.
 WPGX, Worcester, Mass. 100 watts. City of W. Police.
 WPHA, Fitchburg, Mass. 50 watts. City of F. Police
WPHN, Tampa, Fla. 100 watts. City of T. Police.
 WPHP, Jackson, Mich. 50 watts. City of J. Police.
 WQFA, New Haven, Conn. 100 watts.
WQFC, Gainesville, Fla. 50 w.
WQFK, Clearwater, Fla. 50 w. City of C.
             2.474 megs.
                                 121.19 m
 KGHG, Las Vegas, Nev. 50 watts.
 KGHM, Reno, Nev. 50 watts. City of R. Police.
 KNFH, Garden City, Kans. 50 watts. City of G. C.
 KNGH, Dodge City, Kans. 50 watts.
 WPDP, Philadelphia, Pa. City of P. Police.
 WPFO, Knoxville, Tenn. City of K. Police.
WPFQ, Swarthmore, Pa. Borough of S. Police.
 WPFS, Asheville, N. C. 200 watts. Buncombe County
         Police.
 WPGZ, Johnson City, Tenn. 50 watts. City of J. C.
 WPHY, Elizabethton, Tenn. 100 watts.
                                                Carter
         County, Police.
 WRDQ, Toledo, Ohio. 400 watts. City of T. Police.
 ....., Mansfield, Ohio. 50 w. City of M.
             2.482 megs.
                                 120 80 m.
 KGZE, San Antonio, Tex. City of S. A. and State of
         Texas Police.
 WPGT, New Castle, Pa. 50 watts. City of N. C. Police.
 WPHZ, Oil City, Pa. 50 watts. City of O. C. Police.
 ..... , Monessen, Pa. 50 watts.
 . .... , Sharon, Pa.
             2.490 megs.
                                120,41 m
KGHA, Snowplow No. A232, 10 watts. State of Wash.
KGHB, Snowplow No. A227. 10 watts. State of Wash.
KGHC, Portable in Washington. 10 watts. State of W.
KGHD, Seattle, Wash. 50 watts. State of Wash.
KGHE, Snoqualmie Pass, Wash. State of W., High-
         way & Police Dept.
KGHQ, Chinook Pass, Wash. 10 watts. State of W.,
        Highway & Police.
KGHR, Portable in Wash. 10 watts. State of Wash.
KGZD, San Diego, Calif. City of S. D. Police. Two
        transmitters, one 50 watts and another,
        100 watts.
KGZU, Lincoln, Neb. City of L. Police.
KNFC, Pt. Angeles, Wash. State Highway
KNFG, Olympia, Wash. 50 watts. State of W. Police
KNFK, Beilingham, Wash. 50 watts. State of Wash.
KNFL, Shuksan Camp, Wash. 10 watts. State of
        Wash. Highways.
KNFM, Compton, Calif. 25 watts.
KNFR, Rotary Snow Plow. 10 watts. State of Wash.,
        Highway and Police Dept.
KNFS, Rotary Snow Plow. 10 watts. State of Wash.,
        Highway and Police Dept.
KNFU, Skykomish, Wash. 10 watts. State of W.
KNFX, Ellenburg, Wash. 10 watts. Address KNFS
        above.
KNFY, Bear Camp, Wash.
KNFZ, Hells Crossing Camp, Wash. 10 watts.
KNGA, Satus Pass Camp, Wash. 10 watts.
KNGB, Yakima, Wash. 50 watts.
KNGC, Vancouver, Wash. 50 watts.
KNGD, Walla Walla, Wash. 10 watts.
KNGJ, El Centro, Calif. 50 watts.
KNGN, Norfolk, Nebr. 25 watts.
KNGQ, Wenatchee, Wash. 50 watts. Address KNFS.
KNGR, Spokane, Wash. 50 watts. Address KNFS.
KNGZ, Ephrata, Wash. 10 w. State of W.
WAKA, Huntington, Ind. 50 w. City of H.
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WPDT, Kokomo, Ind. City of K. Police.

WPDZ. Fort Wayne, Ind. City of F. W. Police.

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WPFP, Clarksburg, W. Va. City of C. Police. WPGN, South Bend, Ind. 100 watts. City of S. B. Police. WPGO, Huntington, N. Y. 25 watts. Town of H. Police. WPGS, Mineola, N. Y. County of Nassau Police. WPHI, Charleston, W.Va. 50 watts. City of C. Police. WPHJ, Fairmont, W. Va. 100 watts. WPHQ, Parkersburg, W. Va. 50 watts. City of P. 2.506 megs. 119.64 m. KLH, San Rafael, Calif. Pacific Telephone & Telegraph Co. WOU, Marshfleld, Mass. Phones fishing vessels. 2.512 meas. 119,36 m. KGM, Ketchikan, Alaska. Alaska Pacific Salmon Co. KLB, Port Althorp, Alaska. Address KGM above. KLC, Kake, Alaska. Address KGM above. KLE, Rose Inlet, Alaska. Address KGM. SHIPS owned by Alaska Pacific Salmon Co. as follows: KGJK, Jeannette E.; KGNM, Doris E.; KGNX, Yes Bay; WDEM, Wm. T. Mulr; WFFR, Frances E.; WIDL, Leonine; WIDM. Sally S.; WIDN, Virginia E.; WNFM, Alco. 2.522 megs. 118.88 m. KOW, Edmonds, Wash. Pacific Telephone & Telegraph Co. 2.538 megs. 118.13 m. KDH, Port Alexander, Alaska. Karl Hansen. KDK, Wrangell, Alaska. Works KIJB, KLA, KFF. KLD daily at 0130. Owner: A. R. Brueger. KDV, Cordova (Eyak River), Alaska. Ploneer Sea Foods Co. WNFG, M. S. Arb No. 3. Owner: A. R. Bureger. 2.550 meas. 117.58 m WMES, Lorain, Ohio. 500 watts. Public Coastal Station. Lorain County Radio Corp. 2.566 megs. 116.84 m. KFF, Union Bay, Alaska. Works KDK. Nakat Pack-Ing Corn. KHV, Nakeen, Alaska. Nakat Packing Corp. KLA, Waterfall, Alaska. Works KDK. Address above. KLD, Hidden Inlet, Alaska. Works KDK. Address above. KOU, Wilmington, Calif. Southern Calif. Telephone Co. WLFP, M. S. "Alaskan" Works KDK. A number of Motorships owned by the Nakat Packing Corp. work on this frequency. 2.590 meas. 115.76 m. WOX, St. George, Staten Island, N. Y. Harbor phone. New York Telephone Co. 2.604 megs. 115.14 m. KNIA, Glacier National Park, Montana. KNKS, Yosemite National Park, Calif. KNKU, Yosemite National Park, Calif. KNKX, Deer Camp, Yosemite, Calif. KNKY, Devil's Post Plie Nat'l Monument, Calif. WVD, Seattle, Wash, 500 watts. Alaskan Telephone Co., 517 Federal Office Bidg., Seattle. WXH, Ketchikan, Alaska. Works WVD. WYBF, Napoleon, Mo. 500 watts. United States Army. 2.616 megs. 114.61 m. KAEB, Hydaburg, Alaska. 40 w. Territory of A.

KAEB, Hydaburg, Alaska. 40 w. Territory of A. KAED, Angoon, Alaska. 40 w. Territory of A. KAEF, Jack Wade, Alaska. 40 w. Territory of A. KION, Tin City, Alaska. 200 w. American Tin Fields. Inc.

KIUQ, Igioo, Alaska. 50 w. H. H. Burkher., Deering, Alaska.

109.50 m. 2.738 megs., Kasilof, Alaska. KLGK, M. S. La Merced. Alaska Southern Packing, Kenai, Alaska., Wales, Alaska. Co VGBQ, Yacht Seyelyn II. Capt. Paul F. Johnson. WDDQ, "Zapora" Wills Navigation Co. WDFL, "El Ferrito". Ben S. McGlashan, KGFJ, 113.91 m. 2.632 meas. 1417 S. Figueroa, Los Angeles. (KIOD) Copper River KGI. Nellie Juan, Alaska. WIFI, S. S. Cadrew, in Seattle Harbor, Wash. Works wiff, 3. 3. Gaurew, in Seattle Harbor, Wash. Workships in harbor. Owner, A. E. Griswold. WLFJ, "Onawa". C. M. Poncin. WLFQ, Yacht "Heljim". 40 w. J. V. Griffith, Packing Co. KGX, Port Wakefield, Alaska. (KIOC) Apex Fish Co. KIJW, Shearwater Bay, Alaska. Kadiak Fisheries Co. KIJX, Kadiak Island, Alaska. Kadiak Fisheries. Tacoma, Wash. WLFS. "Uganik." San Juan Fishing & Packing Co. KIMA, Port Hobron, Alaska. American Pacific Whaling Co. WOFM, "Principla." L. A. Macomber. KIOC, Port Wakefield, Alaska. (KGX) Apex Fish Co. WOFW, Yacht "Gallant Lady," 40 w. M. C. Riggs, KIOD, Nellie Juan, Alaska. 50 watts. Phones Anchor-Tacoma, Wash. age and ships. Copper River Packing Co. KIOH, Iron Creek (Raspberry Straits), Alaska. 50 watts. Southwestern Herring Co. 109.03 m. 2.750 megs. YDL6, Djokjakarta, N. E. 1. Owner: v. Wingen. KIOI, Akutan, Alaska. 50 watts. American Pacific Whaling Co. , Funter Bay Camp, Alaska. 108.63 m. 2.760 megs. WIEO, Broadcast pickup. 50 watts. N. B. C., 30 Rockefeller Plaza, N. Y. City.
WMEF, Broadcast pickup. 150 watts. Address WIEO 112.29 m. 2.670 megs. NMC, Point Bonita, Calif. 200 watts. United States ahove. Coast Guard. NMD, Cleveland, Ohio. 200 watts. 108.24 m. NMF, Cleveland, Unio. 200 watts.
NMF, Winthrop, Mass. 200 watts. U. S. Coast Guard.
NMG, Mobile, Ala. U. S. Coast Guard.
NMN, Cape Henry, Va. 200 watts. U. S. Coast Guard.
NMP, Wilmette, Ill. 200 watts.
NMV, Fort Lauderdale, Fla. 200 watts. U. S. Coast 2.770 megs. YDO6, Soerabaja, N. E. I. Owner: Eureka. 107.46 m. 2.790 megs. YDN3, Madioen, N. E. t. Owner: v. Wingen. 106.70 m. Guard. 2.810 megs. NMW, Grays Harbor, Wash. 200 watts. NMY, Rockaway Point, N. Y. 200 watts. U. S. Coast YDQ6, Malang, N. E. I. Owner: v. Wingen. 105.94 m. Guard. 2.830 megs. NOB, Buffalo, N. Y. 200 watts. U. S. Coast Guard. NOF, St. Petersburg, Fla. 200 watts. U. S. Coast KNEC, Broadcast pickup. 40 w. Puget Sound Brdcstg. Co., Tacoma, Wash. KNEF, Broadcast pickup. 200 w. KSL, Salt Lake City. Guard. NOG, Gloucester, Mass. 50 watts. U. S. Coast Guard YDU4, Medan, Sumatra, N. E. I. Owner: Avrom. Base 7. NOJ, San Pedro, Calif. 200 watts. U.S. Coast Guard 105.20 m. 2.850 megs. YDG4, Batavia, Java, N. E. I. Owner: Lindeteves Base 17. NOM, Mlami, Fla. Stokvis. NOP, Woods Hole, Mass. 50 watts. U. S. Coast Guard, Section Base 18. 104.47 m. 2.870 megs. NOR, Sault Ste. Marie, Mich. 200 watts. YDA6, Cheribon, N. E. I. 15 watts. NOU, New London, Conn. 200 watts. U. S. Coast YDJ3, Tegal, N. E. I. Owner: v. Wingen. Guard. NOV, Cape May, N. J. 200 watts. U. S. Coast Guard. 2.910 megs. NOY, Galveston, Texas. 200 watts. NOZ, Port Townsend, Wash. 200 watts. YDE3, Semarang, N. E. I. 15 watts. YDK3, Semarang, N. E. I. Owner: v. Wingen., Yaquina Bay, Ore. U. S. C. G. 2.912 megs. 111.13 m. 2.698 megs. KHW, Akutan, Alaska. American Pacific Whaling Co. KHZ, Port Hobron, Alaska. Address KHW. NMD, Cleveland, Ohio. 200 watts. NMP, Wilmette, III. 200 watts.
NOB, Buffalo, N. Y. 200 watts. U. S. Coast Guard.
NOR, Sault Ste. Marie, Mich. 200 watts.
....., Arena Cove, Calif. Works NMC, U. S. C. G. 102.33 m. 2.930 megs. WMEP, Suffield, Ohio. 400 watts. WMEU, St. Petersburg, Fla. 400 watts. WMEV, Opa Locka, Fla. (Goodyear Zeppelin Base). 110.63 m. 2.710 megs. 400 watts. YDK5, Semarang, N. E. I. Radio Vereniging Midden-WDO5, Soerabaja, N. E. I. Owner: Goldberg. Java. 101.63 m. 2.950 megs. 109.98 m. YDQ5, Malang, N. E. I. Owner: Vis. 2.726 megs. KIIW, San Gabriel Dam No. 2, Calif. 200 watts. Los Angeles County Flood Control District. 100.61 m. 2,980 meas. KIIX, Tujunga Dam No. 1, Calif. Address KIIW CZA, Drummondville, P. Q. 4 kW. Phones ships. Canadian Marconi Co., Box 1690, Montreal, above. KIIY, Los Angeles, Calif. 400 watts. Address KIIW P. Q. KINT, Portable, Los Angeles County, Calif. 50 watts. 100.41 m. 2.986 megs. Address above. KDX, M. S. LeMerced (vessel moored in vicinity of False Pass, Alaska). 50 watts. Alaska South-109.90 m. 2.728 megs. ern Packing Co.

KGQ, Todd, Alaska. Peril Straits Packing Co. KIJP, Uganik, Alaska. Works KIJR, KIJU. San Juan Fishing & Packing Co.

KIJY, Hood River, Ore. 100 watts. Special emergency

taln-climbing organization. KIJZ, Portable in Oregon. See above.

station owned by Crag Rats, Inc., a moun-

KIJR, Port San Juan, Alaska. Works KIJP, KIJU. Address KIJP. KIJU, Todd, Alaska. Works KIJR, KIJP. Peril Straits Packing Co. WNFJ, M. S. Sunset. Alaska Southern Packing Co.

. Kenai, Alaska.

2.994 megs. 100.14 m. KAEF, Jack Wade, Alaska. 40 w. Territory of A. KDY, Pillar Bay, Alaska. Fidalgo Island Packing Co. KIEJ, Poorman, Alaska. 50 watts. Owner: W. N. Growden

KIIJ, Tanana, Alaska. Northern Commercial Co. KIIK, Circle, Alaska. 50 watts. Phones Fairbanks,

Anchorage, etc. Northern Commercial Co. KIIL, Fort Yukon, Alaska. 50 watts. Phones WXP Fairbanks, and WXE Anchorage. Northern Commercial Co.

KIIM, Hot Springs, Alaska. 50 watts. See KIIL above.

KIIN, Eagle, Alaska. 50 watts. See KIIL above. KIIO, McGrath, Alaska. 50 watts. See KIIL above.

KIJB, Cape Pole, Alaska. 50 watts. A. R. Brueger. KILY, Excursion Inlet, Alaska. 50 watts. Astoria & Puget Sound Canning Co.

KNBZ, Pillar Bay, Alaska. (KDY) Address KDY above.

3.048 megs. 98.62 m.

CFQ, Edmonton, Alta. Edmonton Journal, Ltd. CGE, Calgary, Alta. 100 watts. Calgary Herald Ltd., Southam Bldg.

CKS, Portable. 100 watts. Calgary Herald; see above. YDA, Tandjongpriok, N. E. I. 10 kW. N. V. Nederlandsche Indische Radio Omroep Moatschappij, Koningsplein West 5, Batavia-Centrum, Java, N. E. I. 0530-1100; 1745-1845; 2230-0130.

3.070 megs. 97.66 m. CJU, Winnipeg, Man. Canadian Airways, Ltd. (Western Lines), 60 Brock St., Winnipeg. WKDL, Miami, Fla. (airway). WMDU, San Juan, Puerto Rico. (airway).

3.093 megs. 96.94 m. KAED, Angoon, Alaska. 40 w. Territory of A. KIAP, Rose Iniet, Alaska. 100 watts. Alaska Pacific Salmon Co.

KIAW, Port Aithorp, Alaska. Address KIAP above. KIAY, Ketchikan, Alaska. Address KIAP above. KIBA, Kake, Alaska. Address KiAP above.

KICI, View Cove, Dall Island, Alaska. 50 watts. Superior Portland Cement Co.

KIIP, Willow Creek Mines, Luckyshot, Alaska. watts. Phones Anchorage. Owner: W. E. Dunkle.

KIKN, Eyak River, Alaska. 50 watts. Pioneer Sea Foods Co. KIUZ, Hoonah, Alaska. 40 w. Territory of A.

3.125 megs. 95.94 m. SHIPS work between 3.125 and 3.147 megs. (95.27 to 95.94 meters). A number of SHIPS are listed on 4.413 megs.

and 4.430 megs. We do not know definitely which of these ships work also on 3.125-3.147 megs. Reports of actual reception from listeners are invited.

3.130 megs.

95.79 m.

YDH6, Bandoeng, N. E. I. Owner: Prot. Kerk.

3.150 megs. 95.18 m.

YDG3, Batavia, Java, N. E. I. Owner: Luyks.

3.152 megs. 95.12 m.

CGM, Montreal, P. Q. Canadian Marconi Co., Box 1690, M. Phones CGY.

CGY, Yamachiche, P. Q. Phones CGM. Address CGM above.

3.155 megs. 95.03 m. KBCJ, San Francisco, Calif. Weather Bureau.

3.170 megs. 94.58 m YD04, Soerabaja, N. E. I. Owner: Jarico.

3.190 megs. 93.99 m. KIIJ, Tanana, Alaska. Northern Commercial Co. KIIK, Circle, Alaska. 50 watts. Phones Fairbanks and Anchorage. Northern Commercial Co. KIIL, Fort Yukon, Alaska. 58 watts. See KIIK above. KIIM, Hot Springs, Alaska. 50 watts. See KIIK. KIIN, Eagle, Alaska. 50 watts. See KIIK above. KIIO, McGrath, Alaska. 50 watts. See KIIK above. YDK2, Semarang, N. E. I. Owner: Wels.

3.200 megs. 93.69 m. KBAL, North Bend, Wash. Forestry. KBAP, Seattle, Wash. Forestry. KBCC, Mt. Shasta, Calif. Forestry.

3.210 megs. 93.40 m. YDL5, Djokjakarta, N. E. I. Owner: Helant Muller.

3.230 megs. 92.82 m. YDQ4, Malang, N. E. I. Owner: Radinova.

3.250 megs. 92.25 m YDH5, Garoet, Java, N. E. I. Bandoeng Radio Vereeniging.

3.265 megs. 91.83 m. KAEB, Hydaburg, Alaska. 40 w. Territory of A. KIBZ, Waterfall, Alaska. Nakat Packing Corp. KICE, Nakeen, Alaska. Nakat Packing Corp. KICG, Union Bay, Alaska. Nakat Packing Corp. KIDE, Hidden Inlet, Alaska. Nakat Packing Corp. KIKY, Saldovia, Alaska. 40 watts. Adam W. Lipke.

3.268 megs. 91.74 m. CGP, Prince Rupert, B. C. North-West Telephone Co., Cor. 2nd Ave. and Wylle St., Vancouver, B. C.

3.270 megs.

YDA7, Pekalongan, N. E. I. 15 watts. YDJ2, Pekalongan, N. E. I. Owner: v. Wingen. YDK4, Magelang, N. E. 1. Owner: v. Wingen.

3.290 megs. 91.13 m. YDO3, Soerabaja, N. E. I. Owner: Radio Electric.

3.300 megs. 90.85 m. CZV, Waterloo Mine, B. C. Waterloo Gold Mines, Ltd. KBAT, Olympia, Wash. Forestry.

KBAU, Quilcene, Wash. Forestry.

KBCQ, Boise, Idaho. Forestry. YDG7, Batavia, Java, N. E. I. Owner: Planchandel Kok.

3.310 megs. 90.58 m.

YDH4, Bandoeng, Java, N. E. I. Owner: Luyks.

3.320 megs. YDM2, Tjopoe, N. E. I. Radio Vereeniging.

3.330 megs. 90.04 m.

YDV2, Bandjermasin, Borneo, N. E. I. Owner: Eureka.

> 3.340 megs. 89.77 m.

CGD, Drummondville, P. Q. Private station of Canadian Marconi Co., P. O. Box 1690, Montreal, P. Q.

CGM, Montreal, P. Q. Private CMC station. Address CGD above.

3.345 megs. 89.63 m. SP33, Weaverville, Calif. Forestry.

87.59 m. 3.423 meas. 89.50 m. 3,350 megs. YDQ3, Malang, N. E. I., operated by Malangsche Radio Vereeniging. Owner: W. Lammerce, WOZ, New York, N. Y. American Telephone & Telegraph Co., 32 Sixth Ave., N. Y. C. c/0 Radio-Technisch Bureau Lammerce, 3.430 megs. 87.41 m. Bromostraat 21a, Malang. YDO2, Soerabaja, N. E. I. Owner: Soekaradio. 88.57 m. 3.385 megs. 87.03 m. 3.445 megs. KBAA, Portland, Ore. Forestry. KBAM, Grants Pass, Ore. Forestry. KBCA, Santa Barbara, Calif. KBCB, Santa Barbara, Calif. KBCG, Yreka, Calif. KBCD, North Fork, Calif. KBCE, North Fork, Calif. KBCF, North Fork, Calif. KBCH, Oakland, Calif. 86.90 m. 3.450 megs. 3.387 megs. 88.50 m. YDL3, Solo, N. E. I. KGYA, Longmire, Wash. Forestry station. Address Mr. R. D. Waterhouse, Mount Ranier National Park, Longmire. 3.452 megs. 86.85 m. Winnipeg, Man. Canadian Airways Ltd. (Western Lines), 60 Brock St., Winnipeg. CJU. KGYB, Longmire, Wash. Address KGYA above. KGYC, Paradise Inn, Mt. Ranier National Park. Longmire, Wash. 86.40 m. 3.470 megs. KGYD, Sunrise Lodge, Mt. Ranier Park, Longmire, YDG2, Batavia, Java, N. E. I. Owner: Batavia Radio Wash. Vereeniging. KGYE, White River, Wash. Address KGYA above. KGYF, Carbon River, Wash. Address KGYA above. 85.91 m. 3.490 megs. KGYG, Portable station of the Forestry Dept. of the YDH3, Bandoeng, Java, N. E. I. Owner: de Kort. State of Washington. KGYH, same as KGYG above. 85.83 m. KGYI, Seattle, Wash. Forestry. W7XK, Seattle, Wash. 80 watts. Northern Radio KNDK, Mt. Olympus Natl. Mon., Wash. Forestry. KNDL, Mt. Olympus Natl. Mon., Wash. Forestry. Co., Kulien Bldg. KNDM. Mt. Olympus Natl. Mon., Wash. AMATEURS WORK BETWEEN 3.500 and 4.000 megs. KNDP, Anderson Park, Mt. Olympus Mon., Wash. (74.96 to 85.56 meters). Phones between KNDI, Pt. Angeles, Wash. 3.900 and 4.000 megs. KNDS, Low Divide, Mt. Olympus Mon., Wash. KNDT, Mt. Olympus Natl. Mon., Wash. 79.95 m. 3.750 megs. KNLS, Gobblers Knob, Mt. Ranier Park, Wash. CT1CT, Lisbon, Portugal. 500 watts. "Radio Eddy-stone." Sr. Oscar G. Lomelino, Rua Gomez KNLT, Cataract Creek, Wash. Forestry. KNLU, Tolmie Peak, Mt. Ranier Park, Wash. KNLV, Fremont, Wash. Forestry. Friere 79, 2-D, Lisbon. Daily, 0900-1100. KNLX, Shriners Peak, Mt. Ranier Natl. Park, Wash 78.90 m. 3.800 meas. ZP11, Asuncion, Paraguay. 88.44 m. 3.390 megs. YDQ2. Djember, N. E. I. Owner: v. Wingen. 74.96 m. 4.000 meas. CT2AJ, Ponta Delgada, Azores. 50 watts. Mr. H. E. J. Smith, St. Michael, Ponta Delgrada. Wed.. 87.92 m. 3.410 megs. Sat., 1700-1900. KBAD, Spokane, Wash. KNKG, Ash Mt., Sequoia Natl. Park, Calif. KNLO, Death Valley National Monument, Calif. 4.098 megs. 73.16 m. WND, Hialeah, Fla. 400 watts. Phones ZFS Nassau. KNLP, Wild Rose Canyon, Death Valley, Calif. KNLQ, Trona, Death Valley, Calif. 72.74 m. 4.122 megs. KNLR, Lone Pine, Death Valley, Calif. AIRWAY GROUND STATIONS, as follows: WEEA, WRJ, Poe Reef Lighthouse, Mich. Dept. of Com-Atlanta; WEEB, Baltimore; WEEC, Charlesmerce, Bureau of Lighthouses. ton; WEEF, Spartanburg, S. C. WST, Dry Tortugas Lighthouse, Fla. Address WRJ McRae, Ga.; WEEJ, Jacksonville; WEEM, Miami; WEEN, Linden, N. J.; WEEO. Orlando; WEER, Richmond; WNEZ, Camabove. WWAJ . Manitou Island Lighthouse, Mich. Address WRJ above. den; WOER, Raleigh; WOES, Savannah; WWAL, Passage Island Lighthouse, Mich. Address WOET, Charlotte; WOEV, Louisville. WRI above. WWAM, Rock of Ages Lighthouse, Mich. Address 72.70 m. 4.124 megs. WRJ above. WWAO, Huron Island Lighthouse, Mich. Address WRJ above. KIFM, Fairbanks, Alaska. Airway. WWE, Fourteen Foot Shoals Lighthouse, Mich. 4.178 megs. 71.76 m. WOO, Ocean Gate, N. J. 20 kW. Phones ships. Address WRJ. WWG, Cheboygan Range Lighthouse, Mich. Address American Telephone & Telegraph Co., Long Lines Dept., 32 Sixth Ave., N. Y. C. WOY, Lawrenceville, N. J. 20 kW. Address WOO WRJ above. WWH, Stannard Rock Lighthouse, Mich. Address , Tavernier, Fla. WRJ above. WWHJ, Delaware Breakwater Station, Philadelphia, 71.39 m. 4.200 megs. Pa. Address WRJ. WWM, Marquette Lighthouse, Mich. Address same YT2, Fort Lewis, Wash. Army Airway. as WRJ above. 70.66 m. WWN. Detroit River Lighthouse, Mich. 4.243 megs. Address , Tavernier, Fla. WRJ above. Lighthouse station. WWR, Detroit, Michigan. Address WRJ. 70.50 m. 4.253 megs.

above.

WOG, Ocean Gate, N. J.

WWZ, Key West, Fla. Lighthouse. Address WRJ

above. YDL4, Djokjakarta, N. E. I. Owner: Vadera.

above.

WKF, Lawrenceville, N. J. A. T. & T. Address WOO

WEEH.

WEEO.

4.273 megs. RV15, Khabarovsk, USSR (Siberia). 28 kW. "Far East Radio Station." Announcements In Russian, Chinese, English. Never verifies; mailing address unknown. Daily, 0300-0900.

4.276 megs. 70.11 m. WIR, Recky Point, N. Y. 30 kW. Works Port-au-Prince, Santo Domingo. Address R. C. A., Central Frequency Bureau, 66 Broad St., N. Y. C.

4.280 meas. 70.05 m. IBEJ, S. S. Conte Rosso. Works IAC, WOO. IBGI, S. S. Conte Verde. Works IAC, WOO. IBLI, S. S. Conte di Savoia. Works IAC, WOO. ICEJ, S. S. Rex. Works IAC, WOO.

4.295 megs. 69.81 m. WTDV, St. Thomas, Virgin Islands. 250 watts. Mr. H. M. McKenzie.

WTDW, St. Croix, Virgin Islands. 250 watts. WTDX, St. John, Virgin Islands. 250 watts.

4.320 megs. 69.40 m. DAF, Norden, Germany. Phones ships. Hauptfunk-stelle Norddelch, Norden-Land, Germany.

GDB (G6RX), Rugby, England. 15 KW. Engineer-in-Chief. GPO (Radio Section), Armour House, St. Martins Le Grand, London EC1, England.

4.348 megs. 68.92 m. CGA9, Drummondville, P. Q. Canadian Marconi Co., Box 1690, Montreal, P. Q.

4.355 megs. IAC, Coltano, Italy. 56 kW. Phones ships. Radiomarittimo Coltano Radio IAC, Piza, Italy.

4.390 megs. 68.30 m. FNSK, S. S. Normandie. Works Parls. French Lines, Pler 88, North River, Foot of W. 48th St., N. Y. C.

4.400 megs. 68.14 m. RRZ, Moscow, U. S. S. R. 1kW.

4.410 megs. 67.99 m. FNSK, S. S. Normandie. Works WOO. Address 4390 megs.

4.413 megs. 67.94 m. All these ships work with WOO. The German ships also work DAF; British ships with GBC: DDBR, S. S. Berlin. North German Lloyd, Pier 42,

North River. Foot of Morton St., N. Y. City. DDCP, S. S. Cap Polonio.

DDFF, S. S. Reliance. DDFT, S. S. Oceana.

DHAO, S. S. Albert Ballin. Hamburg American Lines, Pier 86, North River, W. 46th St., N. Y. C.

DHDL, S. S. Cap Arcona. DHEY, S. S. Deutschland.

DHJZ, S. S. Hamburg. Address DHAO above. DHRL, S. S. New York. Address DHAO above.

DOAH, S. S. Bremen. North German Lloyd, Pier 4, Foot of 58th St., Brooklyn, N. Y. DOAI, S. S. Europa. Address DOAH, above.

FNSM, S. S. Paris. French Lines, Pier 57, Hudson River, New York City. FTNQ, S. S. lie de France. Address FNSM above.

GFWV, S. S. Majestic. Address GBZW above.

GMBJ, S. S. Empress of Britain.

GMJQ, S. S. Beigenland. Address GBZW above.

4.415 megs. 67.91 m. GBZW, S. S. Berengaria. International Marine Radio Co., Ltd., Connaught House, 63 Aldwych, London WC2, England.

GLRZ, S. S. Aquitania. Address GBZW.

4.430 megs. 67.68 m. GBC, Rugby, England. Works ships. Address GDB, 4.320 mags.

GDLJ, S. S. Homeric. VQJM, S. S. Monarch of Bermuda. VQJP, S. S. Queen of Bermuda.

4.465 megs. 67.14 m. CFA2, Drummondville, P. Q. Canadian Marconi Co., Box 1690, Montreal, P. Q.

4.470 megs. 67.07 m. YDB, Soerabaja, N. E. I. 1 kW.

4.490 megs. 66.78 m. VDC, Calgary, Alta. Two Bros. Valley Gold Mines, Ltd.

VDV, Two Brothers Lake, B. C. Address VDC, Calgary.

4.505 megs. 66.55 m. CGO, Ocean Falls, B. C. North-West Telephone Co., Corner 2nd Ave. and Wylle St., Vancouver, B. C.

CZO, Prince George, B. C. Address CGO above. CZP, Claydon Bay, B. C. Address CGO above.

4.512 megs. ZFS, Nassau, Bahamas. Works WNC Hialeah. Office of Supt. of Telegraphs, Central Bay St., Nassau N. P., Bahamas.

4.535 megs. WDG, Rocky Point, N. Y. 40 kW. R. C. A., Central 66.11 m. Frequency Bureau, 66 Broad St., N. Y. C.

4.550 megs. 65.89 m. WDN (W2XBJ), Rocky Point, N. Y. Address WDG, 4.535 megs.

4.580 megs. 65.46 m. DJG, Zeesen, Germany. Reichs-Rundfunk-Geseilschaft, Haus des Rundfunks, Masurenallee, Berlin-Charlottenburg 9, Germany.

4.600 megs. HC2ET, Guayaquii, Ecuador. Interval sig.: 12 chimes. P. O. Box 249. Fri., Sat., 2130-2300.

4.610 megs. 65.05 m. KMYA, Juneau, Alaska. Forestry.

4.718 megs.

YDU2, Medan, Sumatra, N. E. I. Owner: Avrom.

4.753 megs. 63.08 m. WOO Ocean Gate, N. J. Phones ships. A. T. & T., Long Lines Dept., 32 Sixth Ave., N. Y. C.

WOY, Lawrenceville, N. J. 20 kW. Address WOO above.

> 4.755 megs. 63.05 m.

CFU, Rossland, B. C. Consolidated Mining & Smelting Co.

> 4.785 megs. 62.66 m.

CZA, Drummondville, P. Q. Phones ships. Canadian Marconi, Box 1690, Montreal.

> 4.810 megs. 62.33 m.

YDE2, Solo, N. E. I. 100 watts. YDL2, Solo, N. E. I. Owner: Solosche Radio Vereenig-

4.820 megs. 62.20 m. GDW, Rugby, England. Phones N. Y. Engineer-in-Chief, GPO, (Radio Section), Armour House St. Martins Le Grand, London EC1.

5.435 megs. 55.16 m. 61.95 m 4.840 meas. LSH, Buenos Aires, Argentina. Compania Radiotele-CZV, Waterloo Mines, B. C. Waterloo Gold Mines, grafica Arg., San Martin 301-329. 55.11 m. 5.440 megs. 4.865 megs. 61.63 m. RSN, Sverdlovsk, USSR. 10 kW. CGT, Campbell River, B. C. North-West Telephone Co., Corner 2nd and Wylie St., Vancouver, 5.490 megs. 54.61 m. R.C ROI. Sverdlovsk, USSR, 15 kW. 4.875 megs. 61.50 m. 5.505 meas. 54.46 m. RKF. Moscow, USSR, 20 kW. WQN, Rocky Point, N. Y. Address WDG, 4.535 megs. 4.975 megs. 60.27 m. GBC, Rugby, England. 5kW. Phones ships Address 54.32 m. 5.520 megs. T15HH, San Ramon, Costa Rica. 200 w. "La Voz de San Ramon." Address Sres. Herrera. Daily GDW, 4.820 megs. 1530-1700; 2000-2130. 4.988 megs. 60.11 m. WWAD, S. S. Violet. Works Lighthouses on Great 5.540 megs. 54.11 m. Lakes. VXU, Regina, Sask. Dept. of Natural Resources. Govt. of the Province of Sask. 5.000 megs. 59.96 m. VXV, Hudson Bay Junction, Sask. Address VXU VXW, Portable. Address VXU above. WWV, Beltsville, Md. 1 kW. Standard frequency service, Wed., 1430-1530. Nat'l Bureau of Standards, Washington, D. C. 5.550 megs. 54.02 m. 12RO, Rome, Italy. Ente Italiano per le Audizioni 5.015 megs. 59.78 m. Radiofoniche, Via Montello 5, Rome. IS3, Bolling Field, Va. United States Army airport. 52.97 m. 5.660 megs. 5.025 megs. 59.67 m. CFD, Kenora, Ont. 150 watts. Ont. Dept. of Lands ZFA, St. George (Hamilton) Bermuda.
Phones WOB nights. 1.5 kW. and Forests. CFJ, Red Lake, Ont. Address CFD above. CFN, Slate Creek, B. C. Conselidated Mining & 5.040 megs. 59.59 m. Smelting Co. of Canada, Ltd. CFU, Rossland, B. C. Address CFN above. RIR, Tiflis, USSR. 4 kW. 5.078 megs. 59.06 m. WCN, Lawrenceville, N. J. Works GDW nites. AT&T. 5.710 megs. 52.51 m. JDZ, Darien. Works JVU nazaki. 32 Sixth Ave., N. Y. C. Big Pine Key, Fla. 5.720 meas. 52.42 m. YV10RSC, San Cristobal, Venezuela. "L. Tachira." Jesus M. Diaz Gonzalez. "La Voz de 5.138 megs. 58.35 m. KIIO, McGrath, Alaska. Northern Commercial Co. ' 58.33 m. 52.37 m. 5.725 megs. 5.140 megs. 12RO, Rome, Italy. Address EIAR, 5.550 megs. PMY, Bandoeng, N. E. I. 600 watts. Bandoeng Radio Vereeniging, Nillmy Bldg., Bandoeng. 0040-5.730 megs. 52.32 m. 0240: 0640-0940. JVV, Nazaki, Japan. Works JIA, JIB, JIC at Talwan. Address: Kokusai-Denwa Kaisha, Ltd., Osaka 57.68 m. 5.198 megs. Bldg., Kojimachiku, Tokyo. Big Pine Key, Fla. 5.765 megs. ' 62.00 m. 5.260 megs. 57.00 m. YDU3, Medan, Sumatra, N. E. I. Owner: Meyer. KZGF, Manila, P. I. Inter-Island phone. Philippine Long Distance Telephone Co. 5.265 megs. 56.96 m. WQN, Rocky Point, N. Y. Address WDG, 4.535 megs. 5.780 megs. 51.87 m. CMB, Havana, Cuba. Cuba Transatlantic Radio Corp. 5.300 megs. 57.57 m. OAX4D, Lima, Peru. "Radio DUSA." Interval sig.: 2 cuckoos. "The Voice of Peru." Sign off: "A Perfect Day." All America Cables, Box ZFO, Cat Cay, Bahamas. 50 watts. Address ZFS, 4.512 megs. 858. Wed., Sat., 2100-2330. 55.78 m. 5.375 megs. RSB, Stalinsk, USSR. 2 kW. 5.790 megs. 51.78 m. JVU, Nazaki, Japan. 10 kW. Works JZA-B-C. Ad-5.400 megs. 55.52 m. HAT, Szekesfehervar, Hungary. 6 kW. "Justice for dress JVV, 5730 megs. Hungary!" Announcements French, English, Hungarlan by lady. Address: Magyar Kiralyi 5.795 megs. 51.74 ma Postakiserleti Allomas, IX Kerulet Gyall Ut KZGH, Iioilo, P. I. (Iloilo Island). Inter-Island Postakiserieti Guzza. 22, Budapest, Hungary. Colombia. Colombian Petroleum phone. Philippine Long Distance Tele. Co. HJA7, Cucuta, Colombia. Corporation. 5.800 megs. 51.69 m. YV2RC, Caracas, Venezuela. 1kW. "Broadcasting Caracas." "La Habla a la Nacion." Int sig: 4 chimes. sign off: "March 1BC" address: 5.405 megs. CGP, Prince Rupert, B. C. Address CGT, 4.865 megs. CZQ, Anyox, B. C. Address CGT, 4.865 megs. Apartado 2009. VXX, Sage Creek, B. C. Address CGT, 4.865 megs. WKDL, Miami, Fla. Airways. 51.60 m. 5.810 megs. WMDU, San Juan, Puerto Rico. Airways.

calbo."

5.415 megs.

IAF, Flumicino, Italy. 5 kW

55.37 pm.

YV7RMO, Maracaibo, Venez. "Radiodifusora Mara-

5.815 megs. HCK, Quito, Ecuador.

51.56 m

5.820 megs.

51.52 m. CEC, La Granja (Santiago) Chile. Compania Inter-

nacional de Radio, Casilla 16-D, Santiago de Chile.

TIGPH, San Jose, Costa Rica. "Alma Tica." 1900-2200.

5.825 megs. HJA2, Bogota, Colombia.

51.47 m.

KZGG, Cebu, Isl. of Cebu, P. I. Inter-Island phone. Philippine Long Distance Telephone Co. WQN, Rocky Point, N. Y. R. C. A., Central Frequency

Bureau, 66 Broad St., New York City.

5.830 megs. 51.43 m. CWD. Montevideo, (Cerrito), Uruguay. 1.5 kW. JZC. Shinkio (Kanjoshi) Manchukuo. 20 kW. Works JVI, JVO, JVU. Address: Manchukuo Telephone & Telegraph Co., Ltd.

5.845 megs. 51.30 m. KRO, Kahuku, Oahu, T. H. (Off the air?) ..., Kahuku, T. H. To work GMBJ.

> 5.850 megs. 51,25 m.

WOB, Lawrenceville, N. J. A. T. & T., Long Lines Dept., 32 Sixth Ave., N. Y. C.

YV5RMO, Maracalbo, Venezuela. "Ecos del Caribe." (member Gadena Indo-Americana.) One gong precedes station announcement. Programs close with Blue Danube March. Address: Sr. Santiago M. Vegas, Apartado 214. Daily exc. Sun., 1130-1300; 1730-2130.

5.865 megs. 51.12 m. HIIJ, San Pedro de Macoris, D. R. Daily 1700-2030.

5.875 megs. 51.03 m. HRN, Tegucigalpa, Honduras. 400 w. "La Voz de Honduras." Daily 2000-2200. YV8RB, Barquisimeto, Venezuela. "La Voz de Lara."

5.890 megs. 50.90 m. JIC, Taihoku (Chureki) Taiwan. Works JVG, JVL, JVV.

5.900 megs. 50.82 m. HJ4ABE, Medellin, Colombia. 1 kW. (relays HJ4ABK) "La Voz de Antioquia." Daily, 1900-2300. Owner: Jose M. Acevedo F.

5.940 megs. 50.47 m. TG2X, Guatemala City, Guat. 200 w. "Policia Nacional.'

5.970 megs.

50.22 m.

HVJ. Vatican City. 10 kW. Interval sig: clock tick-ing for 10 minutes preceding xmission; bells of St. Peters at 3 o'clock. Announce-ment "Laudatur Jesus Christus". Talks as follows: Mon., Italian; Tues., English; Wed., Spanish; Thurs., French; Fri., German; Sat., Dutch; Sun., Latin. Address: Stazione Radie-Vatican, Pontificia Accademia Della Scienze, Roma-Castina Pio IV, Citta del Vaticano. Schedule: Sundays and holidays, 0500-0530. Daily, 1400-1415.

> 5.975 megs. 50.18 m.

HJ2ABC, Cucuta, Colombia. 250 watts. "La Voz de Cucuta." Interval sig: chimes C-D-E-F-C. Address, J. Alejandro Sanchez. Week days, 1100-1200; 1830-2100.

> 5.980 megs. 50.14 m.

HIX, Santo Domingo, D. R. Mr. J. R. Saladin, Director HIX. Tues., Fri., 2000-2200.

HJ2ABD, Bucaramanga, Colombia. 100 watts. Sr Hector McCormick. XEBI, Mexico City, D. F. Apartado 2874.

5.995 megs. 50.01 m. RPT, Tashkent, USSR. 1 kW.

WVD, Seattle, Wash. 500 watts. Phones Alaska. Alaskan Telephone Co., 517 Federal Office Bldg., Seattle.

5.996 megs. 50.00 m., "Radio-Tananarive," Tananarive, Madagascar. Theme song: Ramona. 500 watts. Administration des Postes des Telegraphes et des Telephones. Sun., 0230-0400; daily exc. Sun. and Mon., 0300-0345.

RV59. Moscow, USSR. 20 kW. Kremlin chimes at 4 p.m. EST. sign off: l'Internationale. Add: Inna Marr, Central Radio Committee, Petrovka 12, Moscow. (temporarily dis-(temporarily discontinued).

6.000 megs. 49.97 m. TGWA, Guatemala City, Guat. 300 w. "Radio Naccional" Relays TGW. address: Ministerio de Fomento.

XEBT, Mexico City, D. F. 1kW. Interval sig.: cuckoo, rooster, bugle, auto horn, fire bell. Relays XEB. Add: El Buen Tono S. A., Apartado 79-44. Dally 1000 to 0115.

XGOX, Nanking, China (proposed). Administration of Central Breadcasting Stations, Central Executive Committee of Kuomintang, Nanking.

6.005 megs. 49.93 m. VE9DN, Drummondville, P. Q. Canadian Marconi Co., P. O. Box 1690, Montreal. VE9DR, Montreal, P. Q. Address VE9DN above.

6.006 megs. 49.92 m. HJ1ABJ, Santa Marta, Colombia. 50 watts. 441.2 Voz de Santa Marta." Member Cadena Indo-Americana. Sr. Julio A. Sanchez T.

6.010 megs. 49.89 m. COCO, Havana, Cuba. Add: P. O. Box 98. Daily 0930-1300; 1600-1900. Saturday, 2330-0030. special program for all s. w. clubs (programa

dedicado a los clubs de ondas cortas). HJ1ABC, Quibdo, Colombia.

> 6.012 megs. 49.87 m.

HJ3ABH, Bogota, Colombia. 1.2 kW. "La Voz de la Victor." Member, Cadena Indo-Americana. Add: Manuel J. Gaitan, Almacenes Victor, Apartado 565. Sun., 1200-1400; 1600-2100. Other days, 1130-1408; 1800-2300.

> 6.020 megs. 49.80 m.

DJC, Zeesen, Germany. 8 kW. Programs close with "Deutschiand Ueber alles" and "Horst Wessellied." Programs preceded by a music box tune, "Ever be True and Honest." Add: Reichs-Rundfunk-Geseilschaft, Haus des Rundfunks, Masurenallee, Berlin-Charlottenbura 9.

XEUW, Veracruz, Mexico. 50 w. "El eco de Sotavento desde Veracruz." Radiodifusora Comercial XEU, Independencia 98.

> 6.030 meas. 49.72 m.

HP5B, Panama City, Panama. 100 watts. "Estacion Miramar". Address: Estacion Radiodifusora Miramar de la Radio Panama S. A., Apartado 910. Daily, 1900-2200.

VE9CA, Calgary, Alta. 100 watts (input). "The Voice of the Prairie." Add: Voice of P., Ltd., Calgary. Thurs., 0900-0200; Sun., 1200-2400; other days, 0900-2408.

6.049 megs. 49.64 m PRAS, Pernambuco, Brazil. 3 kW. "A Vox do Norte." Radio Club Pernambuco, Ave. Cruz Cabaga

W1XAL, Boston, Mass. Address: Educational Director, University Club, Boston, Tues., Thurs., 1930-2130; Sun., 1700-1900.

W4XB, Mlamil, Fla. (transmitter on Collins Island). 2500 watts. Relays WIOD. Isle of Dreams Broadcasting Co. Sun., 1130-1500; 1700-2400. Weekdays, 1200-1400; 1730-2400.

YDA, Tandjongpriok, N. E. I. 10 kW. Key Station, NIROM Network. N. V. Nederlandsche Indische Radio Omroep Moatschappij, Koningsplein West 5, Batavia-Centrum, Java, N. E. I. 0539-1100; 1745-1845; 2230-0130.

6.042 megs.

HJ1ABG, Barranquilla, Colombia. 150 watts. "Emisora Atlantico." Member, Cadena Indo-Americana. Interval sig: 4-note chime. Address: Sr. Andres Jimeno, Apartado 445.

> 6.050 megs. 49.56 m.

GSA, Daventry, England. 20 kW. "A for Aerial." Interval sigs: Bow Bells and Big Ben. Sign off: God Save the King. British Broadcasting Corp., Broadcasting House, London W. 1,

> 6.060 megs. 49.48 m.

HJ4ABD, Medeklin, Colombia. "La Voz de Catia." OXY, Skamleback, Denmark (Copenhagen). 500 watts. Chimes at 6 p.m. EST. Add: Harold J. Rud, Press Secretary, Statsradiofonien, Heibergsgade 7, Copenhagen. Dally 1300-1830.

VQ7LO, Nairobi, Kenya Colony. Cable & Wireless Ltd. Box 777. Tues., 0300-0400; Mon., Wed., 0545-0615; Thurs., 0800-0900; Sat., 1100-1530; daily exc. Sat., 1100-1400.

W3XAU, Philadelphia (Newton Square), Pa. Relays WCAU, CBS, WCAU Building, 1622 Chestnut

St. 2100-2300.

W8XAL, Cincinnati (Mason), Ohio. 10 kW. Relays NBC-WLW. Crosley Radio Corp., 1329 Arlington St. Daily exc. Sun., 0630-2000; Sun., 0800-2000; daily exc. Sat., 2300-0200; Sat., 2300-0300.

ZHI, Singapore, Straits Settlements. 180 watts. Technical Director, Radio Service Co. of Malaya, Broadcast House 2 and 4, Orchard Road. Sat., 2300-0130; Mon., Wed., Thurs., 0600-0830.

6.065 megs.

49.43 m.

HH2F, Port au Prince, Haiti.

6.070 megs.

49.39 m.

HH2S, Port au Prince, Haitl. HP5H, Colob, Panama.

IRA, Rome, Italy. Address EIAR, 5.550 megs.

VE9CS, Vancouver, B. C. 2-10 watts. Radio Service Engineers Ltd., 734 Davie St. Daily 2000-2200.

6.072 megs.

49.37 m.

CQN, Macau. 500 watts. Ann: Por English. Mon., Fri., 0300-0500. Ann: Portuguese and

OER2, Vienna, Austria. 1.5 kW. Oesterr. Radioverkehrs A. G., Wien I, Johannesgasse 4b. Sat., 0900-1800; Sun., silent; other days, 0900-1700.

6.080 megs.

49.31 m.

CP5, La Paz, Bolivia. "Radio Illimani." Compania Radio Boliviana, Casilla 637. Daily, 2000-2100.

DJM, Zeesen, Germany. Address, DJC, 6.020 megs. HJN, Bogota, Colombia. Sr. Luis Ramirez Arana, Jefe del Servicio de Inalambricos, Ministerio de Correes y Telegrafos.

VÈ9EH, Charlottetown, P. E. I. 250 watts. Relays CFCY. Island Radio Broadcasting Co., Ltd.. 143 Great George St.

W9XAA, Chicago, III. 500 watts. Relays NBC-WCFL. Daily exc. Sun., 0930-1800; Sun., 1130-2100. Mr. Maynard Marquardt, Chicago Federation of Labor, 666 Lake Shore Drive.

ZHJ, Penang, Straits Settlements. 49 watts. Hon. Secy., Penang Wireless Society, 40 Perak Road. Daily exc. Sun., 0640-0840.

6.085 megs.

49.27 m. 12RO, Rome, Italy. Address EIAR, 5.550 megs.

6.090 meas.

49.23 m.

CRCX, Bowmanville, Ont. 200 watts. Relays Canadian Radio Commission-CRCT. Address: R. R. No. 4. Daily 1830-2330.

VE9BJ, St. John, N. B. 50 watts. C. A. Munro, Ltd., Canterbury Street.

6.100 megs. 49.16 m. HJ4ABL, Manizales, Colombia. 150 watts. "L for Lady." "Ecos del Occidente." Chimes at midnight. Apartado 50. Sat., 2300-\$100.

W3XAL, Bound Brook, N. J. 20 kW. National Broadcasting Co., 30 Rockefeller Plaza, N. Y. C. Relays NBC-WJZ. Mon., Wed., Sat., 1700-1800; Sun., 0000-0100.

W9XF, Chicago (Downers Grove), III. 5 kW. Relays NBC-WENR, N. B. C., Merchandise Mart. Chicago.

ZTJ, Johannesburg, U. of So. Africa. 5 kW. African Brdcstg. Co., Box 4559, Johannesburg.

> 6.110 megs. 49.07 m.

CHNX, Halifax, N. S. Maritime Broadcasting Co., Ltd., Box 998.

GSL, Daventry, England, "L for Liberty." Int. sigs: Bow Bells and Big Ben. Sign off: God Save the King. Address GSA, 6.050 megs. Daily. 2200-2300.

HJ4ABB, Manizales, Colombia. 300 watts. "Radio Manizales." Sr. Ernesto Villegas.

VE9CG, Calgary, Alta. Calgary Herald, Ltd.

6.112 megs. 49.05 m.

VUC, Calcutta, India. Indian State Broadcasting Service, 1 Garstin Place.

6.115 megs.

49.03 m.

HJ1ABE, Cartagena, Colombia. 180 watts. "La Voz de los Laboratorios Fuentes." Ad Laboratories Fuentes L., Apartade 31. Address:

6.120 megs.

48.99 m.

W2XE, New York, N. Y. (Wayne, N. J.) 10 kW-Relays CBS-WABC Columbia Broadcasting System, 485 Madison Ave. at 52nd St., N. Y. C. Daily, 1800-2300.

XEFT Veracruz, Ver. 20 w. "La Voz de Veracruz." Jose Rodriguez Lopez, Manager, Av. independencia 28.

YDA5, Bandeeng, Java, N. E. I. 1.5 kW. N. V. Nederlandsch Indische Radio Omroep Moat-shappij, Tegallegah 0.23, Bandeeng. 0530-1100: 1745-1845: 2230-0130.

6.125 megs.

48.95 m.

ZGE, Kuala Lampur, Federated Malay States. 180 watts. Hon. Secy., the Malayan Amateur Radio Society, Mercantile Bank Bldg., K. L. Sun., Tues., Fri., 0640-0840.

6.130 megs.

48.91 m.

COCD, Vedado, Havana, Cuba. 350 watts. Voz del Aire." Int. sig.: 4 chimes. Relays CMCD. Address: Hotel Palace, Calle 25 y G. Vedado, Havana. Sun., 1700-2300. Weekdays, 1100-2400.

www.americanradiobie

LCL, Jeloy, Norway. Director General, Administration des Telegraphes du Royaume de Norvege, Oslo, Norway. TGXA, Guatemala City, Guat. 20 w. Liberal Proaresista. XEOK, Tiajuana, B. C., Mex. Relays XEOK. Carlos de la Sierra, Box 1441, San Diego, Calif. 6.132 megs. 48.89 m. CT1GO, Parede, Portugal. Sun., 1130-1300; Sun., Tues., Wed., Thurs., Fri., 1920-2030. 6.135 meas. 48.87 m RKK, Moscow, USSR. 20 kW. 6.140 megs. 48.83 m. W8XK, Pittsburgh (Saxonburg), Pa. 40 kW. Relays NBC-KDKA. Westinghouse Electric Manufacturing Co., Grant Bidg., Pittsburgh. Dally, 2100-0100. 6.145 megs. 48.79 m., Villejust, France. 120 kW. (Under constr.) 6.150 megs. 48.75 m CJRO, Winnipeg, Man. (Middlechurch). Relavs CRC programs. James Richardson & Sons, Ltd., Royal Alexandria Hotel, Winnipeg. Daily, 2000-2400. CO9GC, Santiago de Cuba. Relays CMKB. "Ask for Bacardi." Laboratorio Radio-electrico, Sres. Grau y Caminero, Apartado 137. Daily, 0930-1000; 1245-1330; 1530-1615. CSL, Lisbon, Portugal. HJ5ABC, Cali, Colombia. YV3RC, Caracas, Venezuela. "Radiodifusora Vene-zuela YV3RC en Caracas." Bajos Pasaje Ramella. 1700-2200. 6.170 megs. 48.60 m. HJ2ABA, Tunja, Colombia. 50 watts. "Ecos de Boyaca." Member: Cadena Indo-Americana. Sr. Pompelio Sanchez. 6.185 megs. 48.48 m. HI1A, Santiago de los Caballeros, D. R. "La Voz del Yaque." 6.200 megs. HJ3ABF, Bogota, Colembia. 50 watts. "La Voz de Bogota." Interval sig.: 6 chimes. Daily 1900-2300. 6.230 megs. 48.13 m. OAX4G, Lima, Peru. Relays OAX4B. R. Grellaud y Cia.

6.447 megs. Daily, 1700-2200. 6.450 megs. 6.490 megs. ado 270. Thurs., Sat., Sun., 1900-2100. 6.500 megs. 6.520 megs. 6.285 megs. 47.70 m. CZA Drummondville, P. Q. Works ships. Degwitz. 6.300 megs. 47.59 m. HJ1ABH, Cienaga, Colombia. 48 watts. Sergio 6.550 megs. Martinez Aparicio, Jr. Tues., Fri., 1945-2200. 6.315 megs. 47.48 m.

HIZ, Sante Domingo, D. R. 100 watts. Operator, Frank Hatton, Calle Duarte No. 68. Sat., 2300-0100; daily exc. Sun., 1700-1800. 6.330 megs. 47.36 m.

JZG, Nazaki, Japan. 10 kW. Works ships. Kokusai-Denwa Kaisha, Ltd., Osaka Bidg., Kojimachiku, Tokyo.

6.375 megs. 47.03 m. YV4RC, Caracas, Venezuela. "La Florida." "Estacion S. A. R." Member: Cadena Indo-Americana. Address: Estacion SAR, Este 10, Bis No. 71, Caracas. Daily 1630-2230

6.385 megs. 46.94 m. WO9, Mitchell Field, Mineola, Long Island. Army airport. WTR, Albrook Field, Canal Zone. Army airport.

6.400 megs. 46.85 m. YV9RC, Caracas, Venez. "Ondas Populares."

6.410 megs. 46.77 m. TIPG (TI2PG), San Jose, Costa Rica. 1 kW. "La Voz de la Victor." Perry Girton, Apartado 224. Sun., 0600-0700; 1100-2230. Weekdays, 1100-1300; 1730-2230.

6.425 megs. 46.66 m. CZG, Prince Rupert, B. C. B. C. Provincial Police. VE9AS, Fredericton, N. B. Address, C/o Electrical Engineering Dept., University of New Brunswick. VK1, Selfridge Fleid, Mt. Clemens, Mich.

airport. W3XL, Bound Brook, N. J. 18 kW. NBC Control station and cue station for nearly all special "stunt" broadcasts. Address NBC, 30 Rockefeller Plaza, N. Y. City.

W9XF, Chicago (Downers Grove), III. Address W9XF 6.100 megs.

W9XQ, same as W9XF above. W9XBS, same as W9XF above.

6.440 megs.

RTA, Novosibirsk, USSR. 15 kW. 6.445 megs. 46.52 m. PD1, Maxwell Field, Montgomery, Ala. Army airport.

46.56 m.

PE2, Wright Field, Dayton, Ohlo. Army airport. 46.50 m. HJ1ABB, Barranquilla, Colombia. 300 watts. "La Voz de Barranquilla." Relays HJ1ABA. Address: Elias J. Pellet B., Apartado 715.

46.48 m. HJ4ABC, Ibague, Colombia. "Ecos de Combeima." Mario M. Barrios, Aptdo. 39.

46.20 m. HJ5ABD, Cali, Colombia. "La Voz del Valle." Apart-

HIL, Santo Domingo, D. R. Mr. J. C. Pellicer, Box 62 3

HI4D, Santo Domingo, D. R. "La Voz de Quisqueya." 1300-1340; 1640-1940; dally exc. Sun.

45.98 m. YV6RV. Valencia, Carabobo, Venezuela. "La Voz de Carabobo." Sres. Hermann y Williams

45.76 m. TIRCC, San Jose, Costa Rica. 500 watts. "Radioemisora Catolica Costaricense." Box 1064.

6.590 megs. 45.50 m. ZEA, Salisbury, Southern Rhodesia. 500 watts. Works ZEB.

ZEB, Bulawayo, Southern Rhodesia. 500 watts. Works ZEA.

6.610 megs. 45.36 m. CWE, Cerrito (Montevideo) Uruguay. 1.5 kW.

6.615 megs. 45.32 m. KIKL, Los Angeles, Calif.

WMEP, Suffield, Ohio. 400 watts. Airways. WMEQ, Wheeling, III. Airways. WMEU, St. Petersburg, Fla. 400 watts. Airways.

WMEV, Opa Locka, Fla. (Goodyear Zeppelin Base). 400 watts

WNEK, Jackson Heights, L. I.

45.31 m. 6.618 meas.

WVD, Seattle, Wash. Phones Alaska. Alaskan Tele-phone Co., 517 Federal Office Bldg.

6.620 megs. 45.29 m. PRADO, Riobamba, Ecuador. "Estacion El Prado." Member: Cadena Indo-Americana. Apartado Thurs., 2100-2330 and other nights irregularly.

45.12 m. 6.645 megs. FG7. Langley Field, Va. Army airport.

> 45.09 m. 6.650 megs.

HC2RL, Guayaquit, Ecuador. "Quinta Piedad." Address: Dr. Roberto Levi, Apartado 759. Tues., 2114-2314; Sun. 1745-1945.

IAC, Coltano, Italy. 14 kW. Works ships. Address

IAC, 4.355 megs. This frequency has been assigned to certain SHIPS but it is not known whether or not voice is used. Reports from readers of actual VOICE reception are requested.

6.662 megs. 45.00 m. WXH, Ketchikan, Alaska. Phones Seattle.

6.666 megs.

44.98 m.

ZP10, Asuncion, Paraguay.

44.94 m. 6.672 megs. YVQ, Maracay (Santa Rita), Venezuela. Address: Estados Unidos de Venez., Servicio Radiotelegrafico.

> 44.91 m. 6.675 megs.

Address: Reichspostzen-DGK, Nauen, Germany. tralamt, Telegraphentechnisches Reichsamt, Schoneberger Strasse 11-15, Berlin-Tempel-

> 44.82 m. 6.690 megs.

CGA6, Drummondville, P. Q. Address VE9DN. 6.005 megs.

> 44.68 m. 6.710 megs.

TIEP, San Jose, Costa Rica. "La Voz del Tropico." Sr. Eduardo Pinto Hernandez, Apartado 257. Member: Cadena Indo-Americana. Daily. 1900-2200.

> 44,62 m. 6.718 megs.

KBK, Manila, P. I. 50 kW. Radio Corp. of the Philip-

wdb, Manila, P. I. 30 kW. Manila ...

pines, Plaza Moraga, Manila.

Wdb, Rocky Point, N. Y. Works Havana. Radio
Corp. of A., Central Frequency Bureau. 66
Broad St., N. Y. City.

44.62 m. 6.720 megs. CFU, Rossland, B. C. Consolidated Mining & Smelting Co.

44.57 m. 6.725 megs. 44.57 m. WQO, Rocky Point, N. Y. Address WDB, 6.718 megs.

> 44.53 m. 6.735 megs.

KEQ, Kahuku, Oahu, Hawaii. Works California.

6.750 megs.

JVT, Nazaki, Japan. 20 kW. Works Dixon and broadcasts. Address JZG, 6.330 megs.

6.755 megs.

WOA, Lawrenceville, N. J. A. T. & T., Long Lines Dept., 32 Sixth Ave., N. Y. City.

44.35 m. 6.760 megs. CJA6, Drummondville, P. Q. Address VE9DN, 6.005 meas.

44.16 m. 6.790 megs. GDB, Rugby, England. Address GDW, 4.820 megs.

6.796 megs. 44.12 m. HIH, San Pedro de Macoris, D. R. 150 w. "La Voz del Higuamo." Sr. Domingo Dominguez.

6.860 megs. 43.71 m.
KEL, Bolinas, Calif. RCA Communications, Inc. Pacific Division, 28 Geary St., San Francisco,

43.64 m. 6.870 megs.

RKF, Moscow, USSR. 20 kW.

43.58 m. 6.880 megs. CGA7, Drummondville, P. Q. Address VE9DN, 6.005 meas.

RKF, Moscow, USSR. 20 kW.

43.45 m. 6.900 megs.

RKF. Moscow, USSR. 20 kW.

6.905 megs. 43.42 m. GDS, Rugby, England. 15 kW. Phones N. Y. nights Address GDW, 4.820 megs.

43.27 m. 6.928 megs. WEZ, Rocky Point, N. Y. Address WDB, 6.718 megs.

43.23 m. 6.935 megs. WEB, Rocky Point, N. Y. Works Paris. Address WDB, 6.718 megs.

6.950 megs. 43.13 m. WKP, Rocky Point, N. Y. Address WDB, 6.718 megs.

42.98 m. 6.976 megs. HCETC, Quito, Ecuador. "del Teatro Bolivar."

42.89 m. 6.990 megs. JVS, Nazaki, Japan. Works Shanghai. JZG, 6.330 megs. Address

> 7,300 m. 7,000 megs.

41.07 meters to 42.83 meters. Amateur Band. Foreign amateurs use phone in this band. USA, code only.

> 42.80 m. 7.005 megs.

HB9H, Berne, Switzerland. Swiss Shortwave Association, 30 Neuengasse, Berne. First Monday each month, 1500-1615.

> 42.35 m. 7.080 megs.

VP3MR, Georgetown, Br. Guiana. "The Voice of Guiana." Sun., 0745-1015; Mon., 1545-1645; Thurs., 1700-1845; Mon., Wed., Sat., 1845-1945.

> 42.29 m. 7.090 megs.

HKE, Bogota, Colombia. 138 watts. Observatorio Nacional de San Bartolome.

7.175 megs.

CR6AA, Lobito, Portuguese West Africa. Eddystone." The Manica Trading Co., Ltd.. Caixa Postal 118, Lobito.

> 41.53 m. 7.220 megs.

HAT2, Szekesferhervar, Hungary. 6 kW. "Justice for Hungary!" Announcements Hungarian. French, English by lady. Address: Magyar Kiralyi Postakiserleti Allomas, IX Kerulet Gyali Ut 22, Budapest.

7.225 megs. RPK, Moscow, USSR. 20 kW. 41 50 m 7.680 megs. YBZ, Menado, Celebes, N. E. I. Works PNI, Macassar. 39.04 m Address: Mr. H. Van der Veen, Engineer-In-7.260 megs. 41.30 m. charge, Post-Telegraafen Telefoondienst, RFF, Kharkov, USSR. 1kW. Bedrijf der Radiostations op Java, Bandoeng. 7.275 megs. 41.23 m. RTZ, Irkutsk, USSR. 15 kW. 7.685 megs. 39.01 m. HJA3, Barranquilla, Colombia. TIR, Cartago, Costa Rica. Address: Compania Radio-7.280 megs. 41.18 m. HJ1ABD, Cartagena, Colombia. 50 watts. "Ondas de la Heroica." Jzd. Villarreal, Director, grafica Internacional de C. R., San Jose. Apartado 252. Dally, 1945-2115. 7.715 megs. 38.86 m. KEE, Bolinas, Calif. Address KEL, 6.860 megs. 7.370 megs. 40.68 m. WJN, Rocky Point, N. Y. Address WDB, 6.718 megs. 7.740 megs. 38.74 m. CEC, La Granja (Santiago) Chile. Address CEC, 5.820 megs. 7.380 megs. 40.63 m. XECR, Mexico City, D. F. Announcements: Spanish, 7.797 megs. English. Address: Departamento de Pub-38.47 m. HBP, Prangins (Geneva) Switzerland. 20 kW. "Radio licidad de la Secretario de Relaciones Ex-Nations." Works USA and broadcasts. teriores. Sunday, 1800-1900. Programs consist of talks in English, French, 7.390 megs. 40.57 m. HJ3ABD, Bogota, Colombia. 50 watts. "Colombia Spanish. Address: M. G. Gallarati, Information Section, League of Nations, Geneva. Sat., 1730-1815. Broadcasting." Apartado 509. Dally, 1930-2300. 7.820 megs. JVR, Nazaki, Japan. Works Hongkong. Address 38.34 m OCO, Lima (Valverde), Peru. JZG, 6.330 megs. ZLT2, Wellington, N. Z. 1 kW. Works VLJ. Address: 7.830 megs. Supt. of Post and Telegraphs, G. P. O. 38.29 m. HC2JSB, Guayaquil, Ecuador. Interval sig.: one gong. 7.400 megs. 40.51 m. LQP, Buenos Aires, Arg. WEM, Rocky Point, N. Y. Works London, Honolulu. Address WDB, 6.718 megs. 7.880 megs. 38.05 m. JYR, Kemikawa-Cho, Chiba-Ken, Japan. 5 kW. 7.465 megs. 40.16 m. HJP, Bogota, Colombia. Works Hialeah nights. Experimental. 7.470 megs. 40.14 m. JVQ, Nazaki, Japan. 10 kW. Works PLE, PLV. 7.920 megs. 37.86 m. GCP, Rugby, England. Address GDW, 4.820 megs. Address JZG, 6.330 megs. 7.960 megs. 37.67 m. VLZ (VK2ME), Pennant Hills (Sydney), N. S. W., 7.510 megs. 39.92 m. Australia. 3.5 kW. Address: Amalgamated JVP. Nazaki, Japan. 20 kW. Works Europe. Address Wireless (A/sia) Ltd., 47 York St., Sydney. JZG, 6.330 megs. XGL, Shanghai, China. Address: XGO, 7.575 megs. 7.520 megs. 39.87 mg KKH, Kahuku, Oahu, Hawaii. Works Dixon. 7.968 megs. HSP, Bangkok, Siam. 20 kW. Address Post and RKI, Moscow, USSR. 20 kW. Telegraph Dept. ..., Kahuku, Oahu, Hawaii. Works GMBJ. 7.980 megs. 7.550 megs. VLZ (VK2ME), Pennant Hills (Sydney), Australia. 37.57 m. 39.71 m CFQ, Edmonton, Alta. The E. Journal, Ltd. Address VLZ, 7.960 megs. CGE, Calgary, Alta. The Calgary Herald, Southam Bldg. 8.020 megs. CKS, Portable. Address CGE above. 37.38 m. HSJ, Bangkok, Siam. 20 kW. Address HSP, 7.968 TI8WS, Puntarenas, Costa Rica. "Ecos del Pacifico." megs. Aptdo. 75. 8.035 megs. 7.565 megs. 37.31 m. CNR, Rabat, Morocco. 12 kW. Phones Paris. Di-rection de l'Office des Postes, des Tele-KWY (W6XN), Dixon, Calif. Address: Transpacific Communication Co., Ltd., 140 New Montgraphes et des Telephones du Maroc, Rabat. gomery St., San Francisco. 8.050 megs. 7.575 megs. 37.24 m. 39.58 m. XGO, Shanghai, China. Chinese Govt. Radio Ad-WXA, Juneau, Alaska. Works WVD at 2400. ministration, Sassoon House, Jinkee Road. 8.070 megs. 37.15 m. IRF, Rome, Italy. Works N. Y. Societe Italo Radio. 7.610 megs. 39.40 m. Servizi Radioelectrici, Via Calabria No. 46-48, KWX (W6XN), Dixon, Calif. Address KWY, 7.565 Roma 125, Italy. 8.095 megs. 37.04 m. 7.620 megs. VLK, Pennant Hills (Sydney) Australia. 39.35 m. ETA, Addis Ababa, Ethlopia. 2 kW. Frank A. Ham-VLZ, 7.960 megs. mar, Chief Wireless Engineer, Dept. of Com-8.120 megs. 36.92 m. munications. KTP, Manila, P. I. Phones Dixon near 1000. Address KBK, 6.718 megs, 7.626 megs. 39.32 m. 8.180 megs, RIM, Tashkent, USSR. Works RKI. 20 kW. 36.65 m PSK, Rio de Janeiro (Marapicu) Brazil.

www.americanradiohistory.com

Address

Phones

N. Y. and Buenos Aires. Companhia Radio Internacional do Brasil, Caixa Postal 709, Rio de Janeiro.

36.50 m. 8.214 megs. HCJB, Quito, Ecuador. 150 watts. "La Voz de los Andes." Interval sig.: 4 strokes on gong.

Address Clarence W. Jones, Casilla 691, Quito. Sun., 1615-2245; Mon., silent; other days, 1915-2315.

36.47 m. 8.220 megs. WNED, Tampa, Fla. Pan American Airways, Inc. ZSV, Walvis Bay, Union of South Africa. 1 kW.

36.45 m.

8.225 megs. RRD, Moscow, USSR. 20 kW.

35.71 m. 8.396 meas. HSP, Bangkok, Siam. 20 kW. Address HSP, 7.968 meas.

35.46 m. 8.455 meas. CWF, Montevideo (Cerrito) Uruguay. 1.5 kW.

8.464 megs. 35.42 m. DAF, Norden, Germany. Works ships. Address Hauptfunkstelle Norddeich, Norden-Land.

35.47 m. 8.500 megs. JZF, Nazaki, Japan. 10 kW. Works ships. Address JZG, 6.330 megs.

> 35.03 m. 8.560 megs.

WOO, Ocean Gate, N. J. 20 kW. Works ships. American Telephone & Telegraph Co., Long Lines

Dept., 32 Sixth Ave., N. Y. C. WOY, Lawrenceville, N. J. 20 kW. Address WOO above.

35.00 m. 8.565 megs. HAT3, Szekesfehervar, Hungary. 20 kW. "Justice for Hungary!" Announce in Hungarian, French, English by lady. Address HAT2, 7.220 megs.

34.96 m. 8.575 megs. TYD2, Pontoise, France. Phones Rabat. YCP, Balikpapan, N. E. I. 3 kW. Address YBZ,

7.680 megs. 8.620 megs. 34.78 m. WVD. Seattle, Wash. Works Alaska at 2400. Alaskan

Telephone Co., 517 Federal Office Bldg.,

34.76 m. 8.625 megs. HC2CW, Guyaquil, Ecuador. "Ondas del Pacifico."

34.60 m. 8.665 megs. CO9JQ, Camaguey, Cuba. 150 watts. Rafael Grimany, Calle General Gomez No. 4.

8.680 megs. 34.54 m. GBC, Rugby, England. Works ships. Address GDW, 4.820 megs.

34.50 m. 8.690 megs.

VWZ, Kirkee, Poona, India. 10 kW. Works also on freqs. 8.691, 8.693, 8.700 megs. Phones London.

34.43 m. 8.708 meas. VWZ, Kirkee, Poona, India. 10 kW. Phones London.

34.42 m. 8.710 megs. CEC, La Granja, (Santiago) Chile. 800 watts. Address CEC, 5.820 megs.

34,26 m. 8.750 megs. ZBW, Hong Kong, 500 w. The Secy., Hong Kong Brdcstg. Committee, P. O. Box 200.

8.770 megs. 34.19 m. RSZ, Irkutsk, USSR. 15 kW. Tests with RNE.

8.775 meas.

34.16 m

PNI, Macassar, Celebes, N. E. I. 3 kW. Phones Bandoeng. Address YBZ, 7.680 megs.

2 790 megs. 34.11 m. HJA3, Barranquilla, Colombia.

8.810 megs.

34.03 m.

FNSK, S. S. Normandie. Works Paris nights. French Lines, Pier 88, North River, Foot of W. 48th St., N. Y. C.

8.830 megs.

33 95 m

SHIPS. For address of these ships refer to 4.413 megs., 4.415 megs and 4.430 megs. All these ships work with WOO. The German ships work also DAF; British ships with GBC and CZA; Furness-Bermuda ships with ZFA-B.

DDBR. S. S. Berlin.

DDCP, S. S. Cap Polonio. DDFF, S. S. Reliance.

DDFT, S. S. Oceana. DHAO, S. S. Albert Ballin.

DHDL, S. S. Cap Arcona.

DHEY, S. S. Deutschland.

DHJZ, S. S. Hamburg.

DHRL, S. S. New York. DOAH, S. S. Bremen.

DOAL, S. S. Europa.

FNSK, S. S. Normandie. Works WOO nights. Ad-

dress 8,810 megs. FNSM, S. S. Paris.

FTNQ, S. S. IIe de France.

GBZW, S. S. Berengaria. GDLJ, S. S. Homeric.

GFWV, S. S. Majestic.

GLRZ, S. S. Aquitania. GMBJ, S. S. Empress of Britain.

GMJQ, S. S. Belgenland.

VQJM, S. S. Monarch of Bermuda.

VOJP, S. S. Queen of Bermuda.

33.69 m. 8,900 megs.

ZLS, Wellington, N. Z. Address Supt. of Post and Telegraphs, GPO.

8,930 megs.

33.57 m.

WAD, Rocky Point, N. Y. R. C. A., Central Frequency Bureau, 66 Broad St., N. Y. City. WEC, Rocky Point, N. Y. Address WAD above.

8.940 megs.

KZGG, Cebu, Island of Cebu, P. I. Inter-Island phone. Philippine Long Distance Telephone Co.

WKL, Rocky Point, N. Y. Address WAD, 8.930 megs.

8.950 megs.

33.50 m.

WEL, Rocky Point, N. Y. Address WAD, 8.930 megs.

33.41 m.

VWY, Kirkee, Poona, India. Phones London.

9.010 megs.

33.28 m.

KEJ, Bolinas, Calif. 20-40 kW. Address KEL, 6.860 megs.

33.24 m. 9.020 megs. GCS, Rugby, England. 15 kW. Phones N. Y. night.

33.17 m. 9.040 megs.

TYA2, Pontoise, France. Phones Algeria.

9.050 megs. 33.13 m. TFK, Reykjavik, Iceland. 8.5 kW.

9.120 megs. 32.88 m.
CP6, La Paz, Bolivia. "Illimani Radio." Compania
Radio Boliviana, Casilla 637.

9.125 megs. 32.86 m.

HAT4, Szekesfehervar, Hungary. 20 kW. "Justice for Hungary!" Announce in Hungarian, French, English by lady. Address HAT2, 7.220 megs.

9.168 megs. 32.70 m. YVR, Santa Rita, Maracay, Venezuela. Address YVQ, 6.672 megs.

9.170 megs. 32.70 m. KZGF, Manila, P. I. Inter-Island phone. WNA, Lawrenceville, N. J. Works London. A. T. & T., Long Lines Dept., 32 Sixth Ave., N. Y. City

9.280 megs. 32.31 m.
GCB, Rugby, England. 15 kW. Phones Canada.
Address Englineer-in-Chief, G.P.O. (Radio Section), Armour House, St. Martins le Grand, London EC1.

9.332 megs. 32.13 m. CGA4, Drummondville, P. Q. Phones London. Address VE9DN, 6.005 megs.

9.415 meas.

31.84 m

PLV, Bandoeng, Java, N. E. I. 80 kW. Works Dixon and JVB, JVE, JVQ. Address Mr. H. Van der Veen, Post-Telegraafen Telefoondienst, Bedrijf der Radiostations op Java, Bandoeng.

9.428 megs. 31.80 m.

COCH, Vedado, Havana, Cuba. Slogan: "Cuba, the Evergreen Land." Address: No. 2, B. Street. Daily 1000-1200; 1600-1800; 2100-2200; Relays CMCY Sunday, 1000-1100.

9.448 megs. 31.74 m. WES, Rocky Peint, N. Y. Address WAD, 8.930 megs.

9.450 megs. 31.73 m. TG1X, Guatemala City, Guat. 200 watts. Ministerio de Fomento.

9.460 megs. 31.69 m. WKJ, New Brunswick, N. J. Address WNA, 9.170 megs.

9.470 megs. 31.66 m. WET, Rocky Point, N. Y. Works Buenos Aires, Caracas. Address WAD, 8.930 megs.

9.480 megs. 31.63 m. KES, Bolinas, Calif. RCA Communications, Inc.

9.490 megs. 31.59 m.

9.490 megs. 31.59 m.

KZGH, Iloilo, P. I. Inter-Island phone. Philippine
Long Distance Telephone Co.

OXY, Copenhagen, Denmark. Not used at present.

SR1, Poznan, Poland. 1 kW. Tues., 1300-1500; Wed.,
0800-0900. Radio Pozanski, Plac Wolnosce
11, Rozglosnia, Poznan. (This station is
probably off the air).

9.500 megs. 31.56 m. XGOX, Nanking, China. See 6.000 megs.

9.503 megs. 31.55 m.
VK3ME, Melbourne, Victoria, Australia (Braybank).
5 kW. Amaigamated Wireless (A/sia) Ltd.,
Box No. 1272L, Elizabeth St. P. O., Melbourne. Wed., Thurs., Fri., Sat., 0500-0700.

9.505 megs. 31.54 m.
PRF5. Rio de Janeiro, Brazil. "Radio Journal."
Program consists of talks in Portuguese,
Spanish, English and sometimes French,

German. Address: Director of the Imprensa Nacional. Dally, 1730-1815.

9.510 megs. 31.53 m.
GSB, Daventry, England. 20 kW. "B for Broadcasting." Interval sig.: Bow Bells and Big
Ben. Sign off: God Save the King. Address
GSA, 6.050 megs. Dally, 0115-0315; 12151500; 1515-1645.

9.520 megs. 31.49 m. XEDQ, Guadalajara, Jal. Relays XED. Address Cla. Radiofonografica, Apartado 197. Daily, 0800-0900; 1200-2408.

9.530 megs. 31.46 m.

W2XAF, Schenectady, N. Y. 40 kW. Relays NBC-WGY. T ie General Electric Co., Schenectady. "The Voice of Electricity." Programs commence with electrical discharge of 10,000,000 Voits (man-made lightning). Sun., 1615-2400; Thurs., 1700-2300; other days, 1730-2300.

9.540 megs. 31.43 m.

DJN, Zeesen, Germany, 8 kW. Programs close with
"Deutschland ueber alles" and "Horst
Wessellied." Programs preceded by a music
box tune, "Ever be True and Honest." Address DJC, 6.020 megs.

LKJ1, Jeloy, Norway. 500 watts. Address LCL, 6.130 megs. Dally, 0500-0800.

9.550 megs. 31.39 m. HH2R, Port au Prince, Haiti.

9.555 megs. 31.38 m. VE9DN, Drummondville, P. Q. Canadian Marconi Co.. Box 1690, Montreal, P. Q.

9.560 megs. 31.36 m.
DJA, Zeesen, Germany. For details see DJN, 9.540 megs.

9.565 megs. 31.35 m.
VUB, Bombay, India. Indian State Broadcasting
Service, Irwin House, Sprotts Road, Ballard
Estate, Bombay. Sun., 0780-0900 approximately.

9.570 megs. 31.33 m.
W1XK, Millis (Boston), Mass. 10 kW. Relays WBZ-WBZA, NBC programs. "These are the New England Westinghouse stations WBZ, WBZA, W1XK." Address: Westinghouse Radio Stations of New England, Hotel Bradferd, Boston. Sunday, 0800-0100; other days, 0700-0100.

W8XK, Pittsburgh (Saxonburg), Pa. This frequency loaned to W1XK.

9.575 megs. 31.31 m. VUC, Calcutta, India. Refer to VUC, 6.112 megs.

9.580 megs. 31.30 m.
GSC, Daventry, England. 20 kW. "C for Corporation." For other details see GSB, 9.510 megs. Daily, 1800-2000; 2200-2300.

VE9DR, Montreal, P. Q. Address VE9DN, 9.555 megs. VK3LR, Melbourne, Australia. Research Section, P. M. G. Dept., 61 Little Collins St., C1. Melbourne. Daily. 0400-0800

Melbourne. Daily, 0400-0800. XGBD, Shanghai, China. 18.5 kW. (Existence doubtful.)

9.585 megs. 31.28 m.

VK2ME, Sydney (Pennant Hillis), Australia. 12 kW.

"The Voice of Australia." Laughing notes
of the kookaburra, the Laughing Jackass,
various times during program. Sign off:
God Save the King. Address: Amalgamated
Wireless (A/sia) Ltd., 47 York St., Sydney.
Sundays, 0100-0300; 0500-1100.

, Villejust, France. 120 kW. (Under construction.) 31.26 m. 9.590 megs. HP5J. Panama City, Panama. 1 kW. "La Voz de Panama." Manuel Diaz Doce, Apartado 867. Daily, 1145-1300; 1930-2200. W3XAU, Philadelphia (Newton Square), Pa. Relays CBS-WCAU. 750 watts. Address W3XAU, 6.060 megs. Daily, 1200-2000. 9,595 megs. 31.25 m. 18 kW. HBL. Prangins (Geneva), Switzerland. 18 kW. "Radio Nations." Works USA and broadcasts. Programs consist of talks in English, French, Spanish. Address HBP, 7.797 megs. Sat., 1730-1815. 9,600 megs. 31.23 m. CT1AA, Lisbon. Portugal. 2kW. "Radio Colonial." Interval sig.: 3 cuckoos. Address: Senhor Abilio Nunes dos Santos, Jr., Av. Antonio d'Aguiar 144. Tues., Thurs., Sat., 1630-1900. nacional de Radio, Defensa 143, B. A. 9.609 meas. DGU, Nauen, Germany. Phones Egypt irreg. Address DGK, 6.675 megs. 31 13 m. 12RO, Rome, Italy. Address Ente Italiano Audizioni Radiofoniche, Via Montello 5, Rome. American Hour broadcast Mon., Wed., Fri., 1800-1930. 9.710 megs. 30.88 m. GC虎, Rugby. England. 15 kW. Phones N. Y. and Buenos Aires. Address GCB, 9.280 megs. 30.75 m. 9.750 megs. RKF, Moscow, USSR. 20 kW. VLJ, Sydney (Pennant Hills), Australia. 3.5 kW. Phones Bandoeng. Address VK2ME, 9.585 meas. WOF, Lawrenceville, N. J. Address WNA, 9.170 megs. 9.790 megs. 30.63 m. GCW, Rugby, England. 15 kW. Phones N. Y. evenings. Address GCB, 9.280 megs. 30.50 m. 9.830 megs. IRM, Rome, Italy. "Italo Radio" 9.840 megs. 30.47 m. JYS. Kemikawa-Cho, Chiba-Ken, Japan. Experimental. 10 kW. 30.40 m. 9.862 megs. EAQ. Madrid (Aranjuez), Spain. 20 kW. "La Voz de Espana." Transradio Espanola, S. A., Departamento de Radiodifusion Ibero-Americana, Apartado 951. Programs close with National Hymn, "Himno de Riego." Daily, 1730-1900; Sat., 1200-1400. 30.38 m. 9,870 megs. WON, Lawrenceville, N. J. 20 kW. Works London. Add.: WNA, 9.170.

9.890 megs.

9,895 megs.

9,920 megs.

JDY, Darien. Works JVU, Nazaki.

dress LQA, 9.600 megs.

LSN2, Buenos Aires (Hurlingham), Argentina. Ad-

LSN, Buenos Aires (Hurlingham), Argentina. Works

N. Y. Address LQA, 9.600 megs.

30.32 m.

30.30 m.

30.22 ma.

39.19 m. 9.930 meas. HJY, Bogota, Columbia. Phones CEC, OCI evenings. 9.950 megs. 30.13 m. GCU, Rugby, England. 15 kW. Works N. Y. nights. Address GCB, 9.280 megs. 30.61 m. 9.990 megs. KAZ. Manila, P. I. 40 kW. Works Dixon. Radio Corp. of the Philippines, Plaza Moraga. LSL, Buenos Aires, Argentina. Address LQA, 9.600 meas. 29.98 m. 10.000 meas. WWV, Beltsville, Md. 20 kW. Standard Frequency Station. Dept. of Commerce, National Bureau of Standards, Washington, D. C. Tues., Fri., 1315-1415. 29.86 m. 10.040 megs. HII, Santo Domingo, D. R. 10.055 megs. 29.82 m. SUV, Cairo (Abu Zabal), Egypt, 10 kW. Marconi Radio Telegraph Co., of Egypt, S. A., Box 795. Cairo. ZFB. Hamilton (St. George) Bermuda. 1.5 kW. Phones N. Y. days. 10.070 megs. 29.77 m. EHY, Madrid (Pozuelo del Rey), Spain. Phones YVR afternoons. Compania Telefonica Nacional de Espana, S. A., Margall 2, Madrid. 29.74 m. RIR. Tiflis, USSR. Works RIO, RNE mornings. 29.58 m. 10.135 megs. OPM, Leopoldville, Belgian Congo. 12 kW. Works ORK. Address Leopoldville Radio Station. 29.51 m. 10.160 megs. RIO. Baku. USSR. Works RIR, RNE mornings. 29.34 m. 10.200 megs. PSH, Rio de Janeiro (Marapicu), Brazil. 12 kw. Works Buenos Aires. Cia. Radiotelegraphica Brasileira, Caixa Postal 500. 29.25 m. 10 250 megs. LSL, Buenos Aires (Hurlingham), Argentina. 5 kW. 29.22 m. 10.260 megs. PMN, Bandoeng, N. E. I. 3 kW. Works Sydney. Address PLV, 9.415. 10.285 megs. 29.15 m. DIQ, Koenigswusterhausen, Germany. Address DGK, 6.675 megs. 10.290 megs. 29.14 m. HPC. Panama City, Panama. 29.11 m. 10.300 megs. LSL2, Buenos Aires, Arg. 5 kW. Phones Europe. 10.310 megs. 29.08 m. PPM, Rio de Janeiro, Brazil. Works LSX, WCG. WET irreg. 29.02 m. 10.330 megs. ORK, Brussels (Ruysselede), Belgium. 11 kW. Works OPM irregularly; broadcasts daily. Ann.: Radio I.N.R. Sign off: La Brabaconne. Address: Regie des Telegraphes et des Telephones, Direction des Radiocommunications. Bruxelles.

on special transmissions to Town Clerk, St. George.

10.358 megs.

28.97 m.

LSX, Buenos Aires (Monte Grande), Argentina. 20 kW. Transradio Internacional, Compania Radiotelegrafica Argentina S. A. San Martin

10.370 megs. 28.91 m. EHZ, El Tablero, Canaries. Works EHX. WCG (W2XBJ), Tuckerton, N. J.

10.375 megs. 28.89 m JVO, Nazaki, Japan. 10 kW. Works JZA, JZB, JZC, Harbin. Address JZG, 6.330 megs.

10.400 megs. KEZ, Bolinas, Calif. 40 kW. RCA Communications, Inc., Pacific Division, 28 Geary St., San Francisco. Calif.

10.410 megs. 28.80 m., Bolinas, Calif. 40 kW. Address KEZ, 10.400 megs.

PDK, Kootwijk, Netherlands. 60 kW. Address Radiolaboratory, Neth. State Telegraphs, Parkstraat 29, S'Gravenhage.

10.420 megs. 28.77 m. XGW, Shanghai, China. 20 kW. Address XGO, 7.575 megs.

> 10.430 megs. 28.75 m.

YBG, Medan, Sumatra, N. E. I. 3 kW. Works Bandoeng. Director of Govt. Radio Service, Telegraaf en Telefoondlenst, Serdangweg 2, Medan. Daily, 0430-0530; 2030-2300.

10.465 megs. 28.64 m. WKC, Rocky Point, N. Y. 100 kW. Address WAD, 8.930 megs.

10.520 megs. 28.50 m. VLK, Pennant Hills (Sydney), Australia. 16 kW. Address VK2ME, 9.585 megs.

10.530 megs. 28.47 m. GBX, Rugby, England. 8 kW. Address GCB, 9.280

megs. JIB, Taihoku (Chureki) Taiwan. Works JVG, JVL,

10.550 megs. 28.42 m. WOK, Lawrenceville, N. J. 20 kW. Address WNA, 9.170 megs.

10.610 megs. 28.25 m. WEA, Rocky Point, N. Y. 40 kW. Address WAD, 8.930 megs.

10.620 meas. 28.23 m, EHX, Madrid (Pozuelo dei Rey), Spain.

10.660 mags. 28.13 m. JVN, Nazaki, Ibaraki-Ken, Japan. 20 kW. Works Europe and broadcasts to America. Sign off: Japanese National Anthem. Address, see JZG, 6.330 megs. Mon., Thurs., 1600-1700; daily, 0000-0100.

10.670 megs. 28.10 m. CEC, La Granja, (Santiago) Chile. 4 kW. Compania Internacional de Radio S. A. (Chile), Casilla 16-D, Santiago. Broadcasting Irregularly. PLQ, Bandoeng, N. E. I. 60 kW.

10.675 megs. 28.09 m. WNB, Lawrenceville, N. J. 500 watts. Phones Bermuda. Address, WNA, 9.170 megs.

10.740 megs. 27.92 m. JVM, Nazaki, Ibaraki-Ken, Japan. 20 kW. Other details identical JVN, 10.660.

10.770 megs. 27.84 m. GBP, Rugby, England. 15 kW. Address GCB, 9.280 megs.

10.840 megs. 27.66 m. KWV (W6XN), Dixon, Calif. 20 kW. Address: Transpacific Communication Co., Ltd., 140 New Montgomery St., San Francisco, Calif.

10.850 megs. 27.63 m. DFL, Nauen, Germany.

10.960 megs. 27.36 m. JZB, Shinkio (Kanjoshi) Manchukuo. 20 kW. Works JVI, JVO, JVU. Add: Manchukuo Telephone & Telegraph Co., Ltd., Shinkio.

11.000 megs. 27.26 m. PLP, Bandoeng, Java, N. E. I. 3 kW. XBJQ, Mexico City, Mexico. Relays XEW irreg Int. sig.: 4 chimes. National Bank of Mexico. Box 2825.

11.140 megs. 26.91 m. XGB, Shanghai, China. 15 kW. (Existence doubtful).

11.370 megs. 26.38 m. CWG, Cerrito (Montevideo), Uruguay. 1.5 kW.

11.495 megs. 26.08 m. VIZ3, Rockbank (Melbourne), Australia. Tests with Canada. Address VK3ME, 9.503 megs.

11.660 megs. JVL, Nazaki, Japan. 10 kW. Works JIA, JIB, JIC 25.71 m. Taiwan. Address JZG, 6.339 megs.

11.670 megs. 25.69 m. PPQ, Rio de Janeiro (Sepetiba), Brazil. 5 kW. Address, see PSH, 10.220 megs.

11.680 megs. 25.67 m. KIO, Kahuku, Oahu, Hawaii. Werks Bolina, Kahuku, Oahu, T. H. Works GMBJ. Werks Bolinas.

11.720 megs. 25.58 m. CJRX, Winnipeg, Man. (Middlechurch). James Richardson & Sons, Royal Alexandra Hotel. Daily, 2000-2400.

HJ4ABA, Medellin, Colombia. "Ecos de la Montana." , "Radio Coloniale," Pontoise, France. 15 kW. Address: Ministere des Pestes, Telegraphes et Telephones, Direction de la Radiodiffusion, 98 bls, Blvd. Haussmann, Paris. Daily, 1900-2200; 2300-0100.

11.725 megs. 25.57 m.
PHI, Hilversum, Netherlands. 23.6 kW. (Winter frequency). Philips' Omroep Holland-Indle, Emmasingel 29, Eindhoven. Announces in Dutch, Malay, German, French English, Spanish, Portuguese. Close: Dutch National Anthem.

11.750 megs. 25.52 m. GSD, Daventry, England. 20 kW. "D for Daventry." Interval sig.: Bow Bells and Big Ben. Sign off: God Save the King. Address, see GSA. 6.050 megs. Daily, 0115-0315; · 1215-1600: 1800-2000; 2200-2300.

11.770 megs. 25.47 m. DJD, Zeesen, Germany. 8 kW. Programs close with Nazi Hymn and Watch on the Rhine. Programs preceded by a music box tune, "Ever be True and Honest." Address DJC, 6.020 megs.

11.790 megs. 25.43 m.
DJO, Zeesen, Germany. Address DJC, 6.020 megs.
HH2T, Port-au-Prince, Haiti.
WIXAL. Boston, Mass. 5 kW.

11.800 megs. 25.37 m. CO9WR, Sancti-Spiritus, Cuba. 150 watts. V. E. Weiss y O. Ramirez, Apartado 85.

11.810 megs. 25.39 m. VE9GW, Toronto (Bowmanville), Ont.

11.811 megs. 25.38 m.
IRE, Rome, Italy. Address I2RO, 9.630 megs. Daily, 0815-0900; 0915-1015; 1200-1300; 1345-1430.

11.830 megs. 25.34 m.
W2XE, New York, N. Y. (Wayne, N. J.) Relays CBS,
WABC. 10 kW. Address W2XE, 6.120 megs.
Daily, 1500-1700.
W9XAA, Chicago, III.

11.845 megs. 25.31 m.
, Villejust, France. 120 kW. Under construction.

11.860 megs. 25.28 m.
GSE, Daventry, England. 20 kW. "E for Empire."
Interval signal: Westminster Chimes and Big
Ben. Sign off: God Save the King. Address:
see GSA, 6.050 megs. Daily, 1100-1200.

11.870 megs. 25.25 m.
W8XK, Pittsburgh (Saxonburg), Pa. 40 kW. Relays
NBC-KDKA, Westinghouse Electric & Manufacturing Co., Grant Bldg., Pittsburgh, Pa.
Daily, 1700-2100.

11.880 megs. 25.24 m. "Radio Coloniale," Pontoise, France. 15 kW. Address, see 11.720 megs. Daily, 1115-1415; 1500-1800.

11.940 megs. 25.11 m.
FTA, Ste. Assise, France. Works Saigon. Societe
Francaise Radio-Electrique, 79 Blvd. Haussmann, Paris VIII.

(ETA-ETB?), Addis Ababa, Ethiopa. 2 kW. Frank A. Hammar, Chief Wireless Engineer, Dept. of Communications.

11.950 megs. 25.08 m. KKQ, Bolinas, Calif. Address KEZ, 10.400 megs.

11.990 megs. 25.00 m.
FZS2, Saigon, French Indo-China. 15 kW. Phones
Paris. Cie Generale de Telegraphie Sans
Fil, Boite Postale 238.

12.000 megs. 24.99 m.
RNE, Moscow, U.S.S.R. 20 kW. Kremlin Chimes at 1600 EST. Programs in English, Russian, German, French, Czech, Hungarian, Dutch, Spanish, Swedish. Address: Mme. Inna Marr, Central Radio Committee, Petrovka 12, Moscow.

12.020 megs. 24.94 m.

JVK, Nazaki, Japan. Works Shanghai. Address
JZG, 6.330 megs. 24.92 m.

12.030 megs. 24.92 m.

HBO, Prangins, (Geneva), Switzerland. 20 kW. "Radio
Nations." Address: see HBP, 7.797 megs.

12.035 megs. 24.91 m.
DJK, Nauen, Germany. 7.2 kW. Address DGK, 6.675 megs.

12.050 megs. 24.88 m.
PDV, Kootwijk, Netherlands. 60 kW. Address:
PDK, 10.410 megs.

12.150 megs. 24.68 m. GBS, Rugby, England. 15 kW. Phones N. Y. afternoons. Address: GCB, 9.280 megs.

12.215 megs. 24.55 m.
TYA. Paris, France. Phones Algeria. Address: FTA,
11.940 megs.

12.225 megs. 24.53 m. TFK, Reykjavík, Iceland. 8.5 kW.

12.240 megs. 24.49 m.
GBU, Rugby, England. Phones N. Y. Address:
GCB, 9.280 megs.

12.250 megs. 24.48 m.
TYB, Pontoise, France. Works JVH and Ships.

12.260 megs. 24.46 m. FTN, Ste. Assise, France. Address: FTA, 11.940 megs.

12.270 megs. 24.52 m.

JVJ, Nazaki, Japan. Works Hongkong. Address JZG, 6.330 megs. RKK, Moscow, USSR. 20 kW.

12.325 megs. 24.33 m.
DAF, Norden, Germany. 5 kW, Phones ships, mornings. For address see DAF, 8.464 megs.

12.500 megs. 23.99 m. RKF, Moscow, USSR. 20 kW. ZSV, Walvis Bay, Union of South Africa. 1 kW.

12.745 megs. 23.60 m.

DAF, Norden, Germany. 5 kW. Works ships. Address DAF, 8.464 megs.

12.780 megs. 23.46 m.
GBC, Rugby, England. 5 kW. Works ships. Address
GCB, 9.280 megs.

12.795 megs. 23.45 m. IAC, Caltano, Italy. 14 kW. Works ships. Address IAC. 4.355 megs.

12.830 megs. 23.36 m.

CNR, Rabat, Morocco. Works Paris. Address, CNR. 8.035 megs.

HJA3, Barranquilla, Colombia.

12.840 megs. 23.35 m.

WOO, Ocean Gate, N. J. 20 kW. Works ships. Address WNA, 9.170 megs.

WOY, Lawrenceville, N. J. 20 kW. Address WNA, 9.170 megs.

12.862 megs. 23.31 m. WOEH, Broadcast pickup. NBC, 30 Rockefeller Plaza, NYC.

12.930 megs. 23.18 m. WAW, Hialeah, Fla.

12.955 megs. 23.14 m.
GMBJ, S. S. Empress of Britain. Works WOO, IAC,
DAF, GBC, CZA, etc.

13.020 megs. 23.03 m.
JZE Nazaki Japan. 10 kW. Works ships. Address.

JZE, Nazaki, Japan. 10 kW. Works ships. Address, JZG, 6.330 megs.

13.040 megs. 22.99 m.

SHIPS. For address of these ships refer to 4413, 4415 and 4430 megs. All these ships work with WOO, and DAF.

DDBR, S. S. Berlin. DDCP, S. S. Cap Polonio. DDFF, S. S. Relianca. DDFT. S. S. Oceana.

13.630 megs.

SPW, Warsaw, Poland. 10 kW. Minister of Posts

Information Section, League of Nations,

and Telegraphs, Mazawiecka 5, Warsaw.

22.00 m.

DHAO, Albert Bailin. DHDL, S. S. Cap Arcona. DHEY, S. S. Deutschland. DHJZ, S. S. Hamburg. DHRL, S..S. New York. DOAH, S. S. Bremen. DOAL, S. S. Europa. 13.050 megs. 22.97 m. These ships work with IAC and WOO. All owned by the Italian Line, 1 State St., N. Y. C. IBEJ, S. S. Conte Rosso. IBGI, S. S. Conte Verde. IBLI, S. S. Conte di Savoia. ICEJ, S. S. Rex. 13.075 megs. 22.93 m. VPD, Suva, Fiji. "Radio Suva." Amalgamated Wireless, (A/sia) Ltd., Suva. Daily exc. Sunday. 0030-0130. 13.105 megs. 22.88 m. IRJ, Rome, Italy. 13.140 megs. 22.82 m. CWH, Montevideo (Cerrito), Uruguay. 1.5 kW. 13.190 megs. 22.73 m. FNSK, S. S. Normandie. Works Paris afternoons. Address FNSK, 8.810 megs. 13.200 megs. 22.71 m. CFU, Rossland, B. C. Consolidated Mining & Smelt-Ing Co. 13.210 megs. 22.70 m. FNSK, S. S. Normandie. Works WOO, afternoons Address FNSK, 8.810 megs. 13.320 meas. 22.51 mg, GBZW, S. S. Berengaria. GDLJ, S. S. Homeric. GFWV, S. S. Majestic. GLRZ, S. S. Aquitania. GMJQ, S. S. Belgenland. 13.337 megs. 22.48 m. YVQ, Maracay (Santa Rita), Venezuela. Phones Hialeah days. 13.390 megs. 22.39 m. WMA, Lawrenceville, N. J. Works London. Address WNA, 9.170 megs. 13.395 megs. 22.39 m. FNSM, S. S. Paris. FTNQ, S. S. Ile de France. 13.415 megs. 22.35 m. GCJ, Rugby, England. Works JVH, Nazaki. Address GCB 9.280 megs., 0300-0800. TIEP, San Jose, Costa Rica. "La Voz del Tropico". Sr. Eduardo Pinto Hernandez, Apartado 257. Sunday at 1300. 13.435 megs. 22.31 m. WEL, Rocky Point, N.Y.

JYK, Kemikawa-Cho, Chiba-Ken, Japan. Experi-

mental.

13.690 megs. 21.90 m. KKZ, Bolinas, Calif. Works Honolulu, Hsinking, New York. Address: KEZ, 10.400 megs. 13.745 megs. 21.81 m. CGA2, Drummondville, P. Q. Canadian Marconi Co., Box 1690, Montreal, P. Q. 13.780 megs. KKW, Bolinas, Calif. Address: KEZ, 10.400 megs. 13.810 megs. 21.71 m. HRM, Tela, Honduras. Tela Railroad Co. SUZ, Carlo (Abu Zabal), Egypt. 10 kW. Uses any freq. between 13.810 and /3.830 megs. Address SUV, 10.055 megs. 13.870 megs. 21.61 m. WIY, Rocky Point, N. Y. Address: WPE, 13.840 megs. 13.900 megs. 21.57 m. WQP (W2XBJ). Rocky Point, N. Y. Address: WPE, 13.840 megs. 13.980 megs. 21.45 m. LCO, Jeloy, Norway. 1kW. Address LCL, 6.130 megs. 13.984 megs. 21.44 m. GBA, Rugby, England. Address GCB, 9.280 megs. 14.000 to 14.400 megs. 20.82 to 21.42 meters. AMATEURS. Phones work between 14.150 and 14.250 megs. 14.000 megs. HJ5ABE, Cali, Colombia. Apartado 50. Daily 1900-2200. 14.236 megs. 21.06 m. HB9B, Berne, Switzerland. Swiss Shortwave Association, 30 Neuengasse, Berne. First Monday every month 1510-1615; 1800-1900. 14.290 megs. 20.99 m. HB9AT, Berne, Switzerland. Address HB9B above. First Monday each month, 1800-1900. 14.400 megs. 20.82 m. HB9J, Berne, Switzerland. Address HB9B above. First Monday each month, 1510-1615. 14.430 megs. 20.81 m. DIP, Zeesen, Germany. 14.440 megs. 20.76 m. GBW, Rugby, England. 15 kW. Address GCB, 9.280 megs. 14.478 megs. 20.72 m. Phones London. Address WMF, Lawrenceville, N. J. A. T. & T., Long Lines WAD, 8.930 megs. Dept., 32 Sixth Ave., N. Y. City. 13.500 megs. 22.21 m. GBB, Rugby, England. Phones Canada and Egypt 14.480 megs. 20.70 m. days. Address: GCB, 9.280 megs. LSN, Buenes Aires (Hurlingham), Argentina, Phones N. Y. Address: Compania Internacional de 13.560 megs. 22.11 m. Radio, Defensa 143. JVI, Nazaki, Japan. 10 kW. Works JZA, JZB, JZC YNA, Managua, Nicaragua. Phones Hialeah days. Harbin. Address: Kokusal-Denwa Kaisha, Ltd., Osaka Bidg., Kojimachiku, Tokyo. 14.535 megs. 20.63 mg. HBJ, Prangins (Geneva), Switzerland. 20 kW. "Radio Nations." Address: M. Gallarati, 13.600 megs. 22.05 m.

Geneva.

14.545 meas. 20 69 m.

HPF, Panama City, Panama. Phones Hialeah days. TGF, Gua'em ala City, Guat. Phones Hialeah days. Compania Radiografica Internacional de C. R., San Jose.

TIU, Cartago, Costa Rica, See TIN above.

20.55 m. 14.590 mens.

WMN, Lawrenceville, N. J. 20 kW. Address WMF, 14 470 mers.

14.540 megs. 20.42 m.
JVH, Nazaki, Japan. 20 kW. Address JVI, 13.560
megs. Works GCJ. 0200-0600.

14.690 megs.

20.41 m.

PSF, Rio de Janeiro, Brazil. Phones Madrid and Buenos Aires. Companhia Radio Internacional do Brasil, Caixa Postal 709.

14.740 meas. IRG, Massawa, Eritrea.

20.27 m.

14.790 megs. ROU, Omsk, USSR.

20.26 m.

14.800 megs. 20.26 m. WQV, Rocky Point, N. Y. 40 kW. Address WPE, 13.840 megs.

> 14.830 megs. 20.21 m.

WKU, Rocky Point, N. Y. 40 kW. Address WPE, 13.840 meas.

14.845 meas.

20.20 m.

OCJ2. Lima (Valverde) Peru.

29.11 m.

14,910 meas. JVG, Nazaki, Japan. 10 kW. Works JIA, JIB, JIC Taiwan. Address: JVI, 13.560 megs.

13.930 megs. 20.08 m. HJB, Bogota, Colombia. Phones Hialeah, days.

20.07 m. 14.935 meas.

PSA, Rio de Jane'ro, Brazil. Phones Buenos Aires and Madrid. Address: PSF, 14.690 megs.

14.980 megs. 20.01 m.

KAY, Manila, P. I. 40 kW. Radio Corp. of the Philippines, Plaza Moraga, Manila.

19.99 m.

15.000 megs. 19.99 m. WWV, Beltsville, Md. 1kW. National Bureau of Standards, Washington, D. C. Wed, 1200-

19.93 m. 15.040 megs.

RKI, Moscow, USSR. 20 kW. Works RIM Tashkent.

19.91 m. 15.055 megs.

WNC, Hialean, Fla. 400 watts. Works HJB, HJP, HPF, HRM, TGF, TIN, TIU, YNA, YVQ and ZFS daily; other S. Americans irregular-Iv.

15.070 megs.

19.89 m.

PSD, Rio de Janeiro (Marapicu), Brazil. 12 kW. Works Madrid and Buenos Aires mornings. Address: PSF, 14.690 megs.

19.87 m.

15.090 megs. 19.87 m. RKI, Moscow, USSR. 20 kW. Works Rocky Point.

19.85 m. 15.104 megs.

RAU, Tashkent, USSR. Phones Moscow mornings.

19.83 m. 15.120 megs. HVJ, Vatican City. 10 kW. Interval sig.: clock ticking for 10 minutes preceding transmission; bells of St. Peter's at 3 o'clock. Announcement: Laufatur Jesus Christus. Talks as follows: Mon., Italian; Tues., English; Wel., Spanish: Thurs., French; Fri., German; Sat., Dutch; Sun., Latin. Address: Stazione

Radio-Valican, Pontificia Accadem'a Della Scienze, Ro na-Castina Pio IV, Citta del Vaticano. Schedule: 1900-1915.

15.149 mers.

19.80 m.

GSF, Daventry, England. 15 kW. "F for Fortune." Interval sig.: Westminster chimes and Big Ben. Sign off: God Save the King. Address. British Broadcasting Corp., Broadcasting House, London W.1. Daily, 0900-1230; daily exc. Sun., 0500-0845; Sun., 0630-0345.

15,200 meas.

19.73 m.

DJB. Zeesen, Garmany. 8 kW. Programs close with Nazi Hymn and Watch on the Rhine. Pro-grams preceded by a music box tune, "Ever be True and Honest." Address DJC 6.020 meas.

15.210 megs.

19.71 m.

W8XK, Pittsburgh (Saxonburg), Pa. 49 kW. Relays NBC-KDK 1. Westinghouse Electric & Manufacturing Co., Grant Bldg. Daily 0900-1900.

15.220 megs.

19.70 m.

PCJ, Hilversum, Netherlands. Philips' Omroep Holland-Indie, Emmasingel 29, Eindhoven. Announcements in Dutch, English, French, German, Malay, Portuguese, Spanish. Sign off: Dutch National Anthem. Irrejular in operation.

15.250 megs.

19.66 m.

...... "Radio Coloniale," Pontoise, France. 12 kW. Address, see 11.720 megs. Daily, 0703-1100. W1XAL, Boston, Mass. 5 kW.

15.260 megs.

19.65 m.

GSI, Daventry, England. "I for Island." For other details see GSF, 15.140 mejs.

15.270 megs.

W2XE, New York, N. Y. (Wayne, N. J.). 10 kW. Relays WABC-CBS. For address see 6.120 me is. Daily 1100-1300.

15.280 megs.

19.62 m.

DJQ, Zeesen, Germany.

15.295 megs. 19.60 m. Villejust, France. 120 kW. Under construction.

15.300 megs.

19.60 m.

CP7, La Paz, Bolivia. Compania Radio Boliviana, Casilla 637.

OXY, Copenna jen, Denmark.

15.330 megs.

19.56 m.

W2XAD, Schenectady, N. Y. 20 kW. The General Electric Co. Relays NBC-WGY. "Tne Voice of Electricity." Program commences with electrical discharge of 10,000,000 volts of man-made lightning. Sunday, 1030-1600; other days, 1400-1500.

15.340 megs.

19.55 m.

DJR, Zeesen, Germany.

19.53 m.

15.350 megs. CT1AA, Lisbon, Portugal. 2kW. Int. Sig.: 3 cuckoos. Address CT1AA, 9.600 megs.

15.355 megs. 19.52 m. KWU (W6XN), Dixon, Calif. 20 kW. Address KWV, 16.200 megs. 18.51 m. FZR, Saigon, French Indo-china. Phones Paris. 10.840 megs. Address FZS2, 11.990 megs. 15.370 megs. 19.51 mg 16.240 megs. HAS3, Szekesferhervar, Hungary. 20 kW. "Justice for Hungary!" Announce in Hungarian, 18.49 m. KTO, Manila, P. I. Phones Dixon. Radio Corp. of the Philippines, Plaza Moraga, Manila. French, English by lady. Address, see HAT2, 7.220 megs. 16.270 megs. 18.48 m. WLK, Lawrenceville, N. J. Works London. Address 15.415 megs. 19.45 m. KWO (W6XN), Dixon, Calif. 20 kW. Address KWV WMF, 14.470 megs. 10.840 mags. 16.380 megs. 18.30 m. XGN, Shanghal, China. Address XGO, 7.575 megs. 15.440 megs. 19.42 m. PRADO, Riobamba, Ecuador. "Estacion El Prado." Apartado 98. This freq. used in summer 16.460 megs. 18.22 m DHEY, S. S. Deutschland. Works WOO, DAF. Adonly, Sundays, 1700-1800. dress, North German Lloyd, Pier 4, Foot of 15.445 megs. 58th St., Brooklyn, N. Y. 19.41 m WKW, Rocky Point, N. Y. Address WPE, 13.840. 16.600 megs. 18.06 m. DOAI, S. S. Europa. Phones WOO, DAF. Address 15.454 megs. 19.40 m. , Pontoise, France. (Proposed). DHEY above. 16.910 megs. 15.475 megs. 19.37 m. 17.73 m. KKL, Bolinas, Calif. Address KEZ, 10.400 megs. JZD, Nazaki, Japan. 20 kW. Works ships. Address JVI. 13.560 megs. 15.510 megs. 19.33 m. JDX, Darien. Works JVU Nazaki. 17.080 megs. GBC, Rugby, England. 5 kW. 17.55 m. Works ships. Address GBX, 16.150 megs. 15.820 megs. 19.19 m. JVF, Nazaki, Japan. 20 kW. Works Dixon, nights. 17.120 megs. Address JVI, 13.560 megs. 17.51 m. WOO, Ocean Gate, N. J. 20 kW. Works ships. Address 15.660 megs. WMF, 14.470 megs. 19.15 m. JVE, Nazaki, Japan. 10 kW. Works Bandoeng nights. WOY, Lawrenceville, N. J. 20 kW. Address WMF, Address JVI, 13.560 megs. 14.470 megs. 15.680 megs. 17.260 megs. 19.12 m. 17.37 m. JZA, Shinkio (Kanjoshi) Manchukuo. 20 kW. Works DAF, Norden, Germany, 5 kW. Works ships. Ad-JVI, JVO, JVU. Add.: Manchukuo Teledress DAF, 8.464 megs. phone & Telegraph Co., Shinkio. 17.310 megs. 17.32 m. 15.750 megs. 19.04 m. CZA, Drummondville, P. Q. Works ships. Address JIA, Taihoku (Chureki) Taiwan. Works JVG, JVL, CGA2, 13.745 megs. JVV. W3XL, Bound Brook, N. J. 20 kW. National Broadcasting Co., 30 Rockefeller Plaza, N. Y. C. 15.760 megs. 19.02 m. JYT, Kemikawa-Cho, Chiba-Ken, Japan. 5 kW. 17.480 megs. 17.15 m. VWY, Kirkee, Poona, India. Phones London. 15.860 megs. 18.90 m CEC, La Granja (Santiago), Chile. 800 watts. Phones 17.520 megs. 17.11 m. DFB, Nauen, Germany. Works S. America mornings. Peru, afternoons. Address CEC, 10.670 megs. JVD, Nazaki, Japan. Works Shanghai. Address Address DGK, 6.675 megs. JVI, 13.560 megs. 17.710 megs. 16.93 m. CJA3, Drummondville, P. Q. Works London. Ad-15.863 megs. 18.90 m. FTK, Ste. Assise, France. Phones Saigon. Address dress CGA2, 13.745 megs. FTA, 11.940 megs. 17.740 megs. 16.90 m. 15.950 megs. HSP, Bangkok, Siam. 20 kW. Post & Telegraph Dept. 13.80 m. PLG, Bandoeng, Java, N. E. I. 17.760 megs. 16.88 m. 15.970 megs. DJE, Zeesen, Germany. 5 kW. 18.77 m. WKO, Rocky Point, N. Y. Address WPE, 13.840 megs. 17.765 megs. 16.88 m. 16.030 megs. , Villejust, France. 120 kW. Under con-18.71 m KKP, Kahuku, Oahu, Hawaii. S.ruction., Kahuku, Oahu, T. H. Phones GMBJ. 17.775 megs. 16.87 m. 16.050 megs. PHI, Hilversum, Netherlands. 23.6 kW. For details see PCJ, 15.220 megs. Mon., Thurs., Fri., 0730-0930; Sat., Sun., 0730-1030. 18.68 m. JVC, Nazaki, Japan. Works Hongkong. Address JVI, 13.560 megs. 16.150 megs. 18.56 m. 17.780 megs. GBX, Rugby, England. Phones Sydney. Address 16.86 m. W3XAL, Bound Brook, N. J. 14 kW. Relays WJZ-Engineer-In-chief, G.P.O. (Radio Section), NBC programs. Address W3XL, 17.310 megs. Armour House, St. Martins le Grand, London

Daily exc. Sun., 0900-1000; Tues., Thurs.,

Fri., 1500-1600.

W8XK, Pittsburgh (Saxonburg), Pa. 40 kW. Not used at present. W9XAA, Chicago, III. Not used at present. 17,790 megs. GSG, Daventry, England. 15 kW. "G for Greeting." For other details see GSF, 15.140. Daily, 0900-1045; daily exc. Sun., 0600-0845; Sun., 0630-0845. 16.82 m. 17,830 megs. PCV. Kootwijk, Netherlands. Works Java, mornings. Radiolaboratory Neth. State Telegraphs, Parkstraat 29, S'Gravenhage. 16.80 m. 17.850 megs. PLF, Bandoeng, Java, N. E. I. 16.75 m. 17.900 megs. WLL, Rocky Point, N. Y. 20 kW. Address WPE. 13.840 megs. 16.73 m. 17.920 megs. WQF, Rocky Point, N. Y. 40 kW. Address WPE, 13.840 megs. 16.71 m. 17.940 megs. 16.71 m. WQB (W2XBJ), Rocky Point, N. Y. 40 kW. Address WPE, 13.840 megs. 16.64 m. 18.020 megs. KQJ, Bolinas, Calif. 40 kW. Address KEZ, 10.400 megs. 16.55 m. 18.115 megs. LSY3, Buenos Aires (Monte Grande), Argentina. Transradio Internacional, San Martin 329, B. A. 16.53 m. 18.135 megs. PMC, Bandoeng, Java, N. E. I. 40 kW. Works Neth., 0330-0900. Address: Mr. H. Van der Veen, Engineer in Charge, Post-Telegraaf-en Tele-foondienst, Bedrijf der Radiostations op Java, Bandoeng. 16.49 m. 18.180 megs. CGA, Drummondville, P. Q. Canadian Marconi Co., Box 1690, Montreal, P. Q. 16.48 m. JVB, Nazaki, Japan. 10 kW. Works PLE, PLV. Address: Kokusai-Denwa Kaisha, Ltd., 18.190 megs. Osaka Bidg., Kojimachiku, Tokyo. 16.47 m. GAW, Rugby, England. 15 kW. Works N. Y. Address: GBX, 16.150 megs. 18.200 megs. 16.41 m. 18,270 megs. ETA, Addis Ababa, Ethiopia. 2 kW. 16.39 m. 18.296 megs. YVR, Maracay (Santa Rita), Venezuela. Works Berlin. Estados Unidos de Venezuela, Servicio Radiotelegrafico. 16.38 m. GAS, Rugby, England. Works N. Y. mornings. 18.304 megs. Address: GBX, 16.150 megs. 16.36 m. 18.330 megs. FTE, Ste. Assise, France. Societe Francaise Radio-Electrique, 79 Blvd. Haussmann, Paris VIII.

16.29 m. 18 400 meas. PCK, Kootwijk, Netherlands. Works Java. Address: PCV. 17,830 megs. 16.25 m. 18.444 megs. HJY, Bogota, Colombia. Works CEC, LSR, OCI days. 16.25 m. 18,450 megs. HBH, Prangins, Switzerland. 20 kW. Address: HBJ. 14.535 megs. 16.12 m. 18,600 megs. PCM, Kootwijk, Netherlands. Address: PCV, 17.830 16.10 m. 18.620 megs. GAU, Rugby, England. 15 kW. Address: GBX, 16.150 megs. 16.06 m. 18.670 megs. OCI, Lima (Valverde), Peru. Works HJY, CEC, LSR, WNC days. Compania Peruana de Telefonos, Apartado 986, Lima. 15.92 m. 18.830 megs. PLE, Bandoeng, Java, N. E. I. 40 kW. Works Dixon nights, Tokyo mornings. Address: PMC. 18.135 megs. 15.89 m. 18.860 megs. WKM, Rocky Point, N. Y. 40 kW. Address: R. C. A., 66 Broad St., N. Y. City. 15.87 m. 18,890 megs. ZSS, Capetown (Klipheuvel), Union of South Africa. 5kW. Works London. Overseas Communication Co., Kodak House, Shortmarket St., Capetown. 15.86 m. 18,900 megs. WDS, Rocky Point, N. Y. Address WKM, 18.860 megs. 15.86 m. 18,910 meas. JVA, Nazaki, Japan. 20 kW. Works Europe. Address JVB, 18.190. 18.920 megs. 15.84 m. WQE, Rocky Point, N. Y. Address WKM, 18.860 megs. 18,950 megs. HBF, Prangins (Geneva), Switzerland. 20 kW. Address HBJ, 14.535 megs. 15.80 m. 18.970 megs. GAQ, Rugby, England. Works Capetown 0800. Address GBX, 16.150 megs. 15.68 m. 19.120 megs. LSM, Buenos Aires, Argentina. Works Europe. 19.200 megs. 15.62 m. ORG, Brussels (Ruysselede), Beigium. 8 kW. Works Leopoldville. Address ORK, 10.330 megs. 15.60 m. 19,220 megs. WKF, Lawrenceville, N. J. 20 kW. Address WLA, 18.350 megs. 15.57 m. 19,270 megs. PPU, Rio de Janeiro, Brazil. Works Paris. 13.5 kW. Address: Cia Radiotelegraphica Brasileira, Caixa Postal 500, Rio de Janeiro. 15.50 m. 19,345 megs. PMA, Bandoeng, Java, N. E. I. 40 kW. Address: PMC, 18.135 megs.

15.46 m.

19.355 megs.

FTM, Ste. Assise, France. Address: FTE, 18.330 megs.

16.35 m.

18.342 megs.

FZS, Saigon, French Indo-China. Works Parls. Address: FZS2, 11.990 megs. 18.350 megs. 16.34 m. WLA, Lawrenceville, N.-J. A. T. & T. Long Lines

Dept., 32 Sixth Ave., N. Y. City.

19.520 megs. 15.36 m. IRW, Rome, Italy. Works Argentina. 20 kW. Address: Socie'e Italo Radio, Servizi Radioelectrici, Via Calabria No. 46-48, Roma 125.	WKA, La vrenceville, N. J. 20 kW. Aldress: WLA
19.500 megs. 15.30 m. LSF, Buenos Aires (Monte Grande), Argentina. 7 kW. Ad Jress: LSY3, 18.115 megs.	21.070 megs. 14.23 m. PSA, Rio de Janeiro (Marapicu), Bratil. 10 kW Works N. Y. Address: PSF, 14.5 0 megs.
19.880 megs. 15.24 m. CEC, La Granja (Santiago), Chile, 4 kW. Compania Internacional de Radio 6.	21.128 megs. 14.19 m. LSM, Buenos Aires (Monte Grande), Argentina Address: LSY3, 18.115 megs.
13-D, Sanhajo. 19.820 megs. WKN, Lawrenceville, N. J. Address: WLA, 18.350.	21.410 megs. 14.90 m. WKK, Lawrenceville, N. J. Address: WLA, 18.250 megs.
19.903 megs. 15.06 m. LSG, Buenos Aires (Monte Grande), Argentina. 7 kW. Address: LSY3, 18.115 megs.	21.460 meys. 13.97 m. W1XAL, Boston, Mass. 5 kW.
13.980 megs. 15.01 m. KAX, Manila, P. I. Radio Corp of the Philippines, Placa Moraya, Manila.	21.470 megs. 13.96 m. GSH, Daventry, England. "H for Home." Interval sig: Westminster Chimes and Big Ben. Sign off: God Save the King. Address: British Broadcastine
29.020 megs. 14.98 m. DHO, Nauen, Germany. 7.2 kW. Works S. America. Reicaspost-zentralamt, Telegraphentech- niscas: Reichsamt, Schoneberger Strasse 11-15, Berlin-Tempelhof.	British Broadcasting Corp., Brdcsting. House, London W.1. 21.490 mags. 13.95 m. , Villejust, France. 120 kW. Under construction.
20.040 megs. 14.97 m. OPL, Leopoldville, Belgian Congo. 9 kW. Works ORG.	21.530 megs. 13.93 m. GSJ, Daventry, England. "J for Justice." See GSH,
20.100 megs. 14.91 m. WQY, Rocky Point, N. Y. 40 kW. Address: WKM, 18.860 megs.	21.540 megs. 13.92 m. W8XK, Pittsburgh (Savonburg)
20.368 megs. 14.72 m. GAA, Rugby, England. 15 kW. Address: GBX 16.150 megs.	22,290 mans 42.45
20.503 megs. 14.55 m. MB, Bandoeng, Java, N. E. I. Works PCK. Address: PMC, 18.135 megs.	GBU, Rugby, England, Works N. Y. Address: GBX, 16.159 megs.
21.020 megs. 14.27 m. SN, Buenos Aires (Hurlingham), Argentina. Works N. Y. Address: LSN, 14.480 megs.	GSK, Daventry, England. "K for King." See GSH, 21.470 megs.
WN, (W6XN), Dixon, Calif. 20 kW. Address: KWV, 10.840 megs.	IAF, Fiumicino, Italy, 5 kW. 30.604 megs. 9.80 m. IAG, Golfo Aranci, Sardinia. 5 kW.

SHORT WAVE STATIONS BY LOCATIONS

					=======================================						
ALAS	KA (K)	Excursion	n Inlet	Igi	00	Luck	vshot	Post 4	IAIn a		
A L.	ALASKA (K) Akutan KHW 2.912 KikN 3.993		KIUQ 2.616 Iron Creek		KIID		FUILA	Port Althorp		Saldovia	
AKL	Akutan		River	Iron	Proof		3.093	2 2 2 W AA	3.093	IKIKY	3 265
KHW	2.912		2 002	1/10/11	Creek	McG	rath	KLB	2 512	Shormer	3.203
KIOI	2.912 KIKN 3.0 2.632 Fairbanks		3.033	KIOH	2.632	KIIO	2.994	Dort A.		Shearwat	ter Bay
2.032									KIJW	2.632	
	_		4.124	KAFE	2.616		3.130	KGXU	1.622	Tans	ana
Ang	Angoon Faise Pass		Pace	1/4 ===		Nak	Nakeen		1Clusion	KILL	0.004
KAED	2.616	KDX	0.000	NAEL	2.994				1 622	26.00	
KAED	2.020	NDX.	2.986	Jun KMYA	eau	14105	2,300	Don't 11	1.022	Tin C	3.190
KAED 3.093			ukon	KMYA	2 304	KILE	3.265	Fort H	erbert	Tim C	****
		KIIL	2.994	KMYA	4.004	Mallia	l	KIJO	1.622	141001	-ity
Cape Pole		KIIL	3.190	MINI	4.610	K CI	Juan	KIJO Port H KHZ	ohron	KION	2.616
KIJB			3.130	WXA	8.050	NGI	2.632	KHZ	201011	Tod	
011.		niagen	Inlet	Kadiak Island KIJX 2.632		KIOD 2.632					
Circle		KIDE	3.265	Mauran	isiano	Marine .		KIMA	2.632	KGQ	2.986
KIIK		KLD	2 566				Walter	Port Sai	1 Juan	KIJU	2,986
KIKK	3.190		2.300	l Kal	4.0	KIJS	1.622	KLIR	2 000		
Cordova		Hoon	ah .	Kake		Pillar Bay			2.300	Uganik	
1/5/	IUVA	KIUZ	3 093	MIDM	3.093	Pillar	Bay	P. Wak	efield	KIJP	2.986
KDV	2.538		3.003				2.994	KCY	2 622		_
Deep Cove		Hot Sp	rinos	Ketchikan KBAI 2,304		KNBZ 2.994	KIOC 2.632	2.032	Union Bay		
KHP `	1 622	KIIM	2 994	Netch	ikan				2.632	KFF /	2.566
Ma IV	1.022	MILEN	2.334	KBAI	2,304	Poorn	nan	Red B	14486	KICG	3 365
KıJV	1.622	KIIM	3.193	KGM	2.512	KIEJ	2 994	KIOO			3.203
Eagle Hydaburg		10Pm	MIAW					1.622	View C	ove	
KIIN	2 994	MAED	ury	KIAY	3.093	Port Ale:	Kander	Rose I	mint /	KICI	2 002
K+IN	2.004	MAED	2.616	WXH	2.604	KDH	2 528	KIAP			3.033
KeIN 3.190		KAEB	3.265	WXH	6 662	KGXW	2.330	RIAP	5.093	Washingto	on Bav
					0.002 /	MOAN	T-000	KLE	2.512	KIJK	1 622

=											
Water	rfall	BERM	UDA	Humpback		Red l		Lac la R		Cuci	
KIBZ	3.265	(ZF	-)	CZL	2.290	CFJ	1.820	ced	1.598	HJ 17	5.400
KLA	2.566			Knight I	niet	CFJ	5.660	CGQ	1.658	HJ2ABC	5.975
Wran	I II AN	Hamil		CJK	1.510	Tora		Prince A		l ba :	jue
KDK	2,538	ZFA	5.025	Margaret		CRCX	6.090	VYP	1.595	HJ44BC	6.450
NDN	2.770	ZFB	10.055	ClX	2.290			VYP	1.668	Mania	rains
40051		St. Ge		Nam		PRI		Regir		HJ4 ABB	7.200
ARGEN		ZFD	10.335	CFV	2 290	EDW		VXU	5.540	HJ4ABL	6.100
(LOA-	LVZ)			Ocean I		ISL	IND .	Porta	ble	Mate	IIIm
D	Aires	BOLI		CGO	4.505	-		VXW	5.540	HJ43B3	
Buenos LQA	9.500	(CPA~	CPZ) (Prince (Bore				HJ448D	6.060
LSF	19.600			CZO	4.505	CJM Charloti	1.580	CANAL Z		HJ4ABE	5.900
LSG	19.900	CP5	6.080	Prince Ro	3.268	VE9EH	6.080	(W)			
LSL	9.990	CP6	9.120	CGP	5.405	AESEU	0.000			Quit	6.010
LSL	10.250	CP7	15.300	CZG	1.712	QUE	RFC	Aibrook		HJ14BC	
LSM	19,120	CF7	13.300	CZG	2.416	402		WTR	6.385	Santal	
LSM	21.128	BRA	71L	CZG	6.425	Belle	evue	CANAR	NEC	HJ14BJ	6.006
LSN	9.395	(PPA-		Rossla		CZB	1.620	El Tab		Tur	
LSN	14.480			CFU	4.755	Crane		EHZ	10.370	HJ2ABA	6.170
LSN	21.020	Rio de .	Janeiro	CFU	5.660	СКО	2.284	Enz	10.310		
LSN2	9.890	PPQ	11.670	CFU	6.720	Drumm	ondville	СНІІ	F	COSTA	RICA
LSR	18.958	PPÜ	19.270	CFU	13.200	CFA2	4.465	(CAA-C		(TIA-	
LSX	10.350	PRF5	9.505	Sage C		CFA4	10.520	(077-0		(11	
LSY3	18.115	PSA	14.935	VXX	5.405	CGA	18.180	Santia	970	Cart	016
		PSA	21.070	Slate C	reek	CGA2	13.745	CEC	5.820	TIN	14.545
AUSTE	RALIA	PSD	15.070	CFN	5.705	CGA4	9.332	CEC	7.740	TIU	14.545
(VHA-		PSF	14.690	Two Bro		CGA6	6.690	CEC	8.710	TIR	7.685
		PSH	17.220	VDV	4.490	CGA7	6.880	CEC	10.670	Punta	renas
Adel		PSK	8.180	Vancou	ичег	CGA9	4.348	CEC	15.860	TISWS	7.550
VIA	1.520			CGZ	2.452	CGD	3.340	CEC	19.680	San	
Fisk	ville	BRIT		VE9CS	6.070	CJA3	17.710			TIEP	6.710
VIZ3	11.495	GUI		Waterioo	Mine	CJA6 CZA	6.760 2.980	CHIN		TIEP	13.415
Melbo	rne	(VF	-3)	CZV	3.300	CZA	4.785	(XGA-)	(UZ)	TIGPH	5.820
VK3LR	9.580	George	at awn	CZV	4.840	CZA	6.285			TIPS	6.410
VK3ME	9.503	VP3MR	7.080			CZA	8.515	Nank	6.000	TIRCC	6.550
	dnev			MANIT	OBA	CZA	12.563	XGUX	9.500		
VKO	1.520	CAN	ADA			VE9DN	6.005	XGOX	11.900	San R	amon
VK2ME	9.535	(CFA-		Winni		VE9DN	9.555	XGOX	17.800	TISHH	5.52 0
VLJ	9.750	CYA-	CZZ;	CJRO	6.150	VE9DN	11.780			100110000000000000000000000000000000000	
VLK	8.095	VAA-	VGZ;	CJRX	11.720	High	Falls	Shang		CU	
VLK	10.520	VXA-	VYZ)	ดาก	3.070	VYZ	2.212	XGB XGBD	11.140 9.580	(CLA-	
VLZ	7.960			CJU	3.452 2 396		ouagan	XGK	18.690	CO4-	COZ)
VLZ	7.980	ALBE	RTA	VYW	2 396	CFM	1.620	XGL	7.960		
22		i		NEV	A		magny	XGN	16.380	Ca na	8.665
AUST	RIA	Calg		BRUNS		CKP	2.284	XGO	7.575		
(OAE	-OEZ)	CGE	3.040 7.550	2110110			treal	XGW	10.420	Hav	
		CGE	3.040	Frederi	icton	CGM	3.152			CMB	5.780
Vie	nna	CKS	7.550	VE9AS	6.425	VE9DR	6.005	COLON	1BIA	CMPN	1.712 6.130
OER2	6 072	VDC	4.490	St. Jo	hn	VE9DR	9.580	(HJA-H	IKZ)	0000	9.428
		VE9CA	6.030	CJW. J	2.416	VYR	1.712			COCH	6.010
AZO	RES	VE9CA	11.860	VE9BJ	6.090		du Chef	Barrand		1	
(C1	T2-)		onton			CZY	1.620	HJ 43	7.685	Sancti	
		CFQ	3.040	NOVA S	COTIA	St. Fe	iecien	HJA3	8.790	CO9WR	11.800
	Deigada	CFQ	7.550			CZZ	1.620	HJ43	12.830	Sant	
CT2AJ	4.000			Halif	fax	Tabe	ouret	HJ1ABB	6.447 6.042	CO9GC	6.15 0
			TISH	CHNX	6.110	CFL	1.620	HJ1ABG		5.00	/ I
	AMAS	COLU	MBIA	VBQ	2.350	Ver	dun	Bogo		DARI	EN (J)
(Z	(F-)		_	Lunen	burg	CJZ	2.452	HJA2	5.825	0	100
0-4	C		Bay	VBY	1.540	1	chiche	HJB	14.930	JDX Dar	15.510
ZFO	Cay 5.300	VAF	1.510	VBY	1.650	CGY	3.152	HJN	6.090 7.465	JDY	9.920
		1	1yox 5.405	Pict	ou	CGT	3.132	ATH ATH	9.930	JDZ	5.710
	ssau	czq		СКВ	2.284	CACKA	TCHE-	YLH	18.444		
ZFS	4.512	50.110	s Bay	Pictou	leland		VAN	HJ3ABD	7.390	DENN	/ARK
D.C.L.	CLAN	CFW	2.290	CKU	2.284		.,	HJ3ABF	6.200		-OZZ)
	GIAN NGO	Campbe	II River				Lake	HJ3ABH	6.012		
	P-)	CGT	4.865		RIO	CFC	1.596	HKE	7.090	Сореп	hagen
(0	,	CID	1.510			CFC	1.668	Bucara		OXY	6.060
		CID	1.540	Bowma	nville	Emm	a Lake	HJ2ABD		OXY	9.490
Leono	oldville	1 -	Lazo	VE9GW	11.810	CGV	1.596	Ca		OXY	15.30 0
	oldville 20.040) Cape		1	ora	CGV	1.668	HJ5ABD			
Leopo OPL OPM	oldville 20.040 10.135		1.510	Ken							NICAN
OPL "	20.040	VAC		CFD Ken	1.620	1 11	on Ray	HJ5ABE	14.000		
OPL OPM	20.040	VAC	1.510 eecee 2.290	CFD			on Bay nct.	1		REPL	JBLIC
OPL OPM BEL	20.040 10.135	VAC Ceep CJE	eecee 2.290	CFD CFD	1.620 5.66 0		on Bay nct. 5.540	HJ5ABE Carta HJ1ABD		REPL	
OPL OPM BEL	20.040 10.135 GIUM (-OTZ)	VAC Ceep CJE Clayd	eecee 2,290 on Bay	CFD CFD Leamin	1.620 5.66 0	VXV	nct. 5.540	Carta	gena	REPU (HIA	JBLIC -HIZ)
OPL OPM BEL (ONA	20.040 10.135 GIUM A-OTZ)	VAC Ceep CJE Clayd CZP	2.290 2.290 on Bay 4.505	CFD CFD Leamin	1.620 5.66 0 ngton 2.284	VXV Isle-a-	nct. 5.540 la-Crosse	Carta HJ1ABD HJ1ABE	gena 7.280 6.115	REPU (HIA	JBLIC
OPL OPM BEL	20.040 10.135 GIUM A-OTZ) ISSEIS 19.200	VAC Ceep CJE Clayd CZP	2,290 2,290 on Bay 4,505	CFD CFD Leamin	1.620 5.660 ngton 2.284 Island	VXV	nct. 5.540	Carta HJ1ABD HJ1ABE Clen	gena 7.280 6.115 aga	REPU (HIA	JBLIC -HIZ) edro de

Santiago de los					
		Tela	JVF 15.620	PCV 17.830	Pekalongan
Caballeros	INDO-CHINA	HRM 13.810	JVG 14.910	PDK 10.410	YDA7 3.270
HI-1-A 6.240	(F)		JVH 14.640	PDV 12.050	YDJ2 3.270
Santo Domingo		HONKONG	JVI 13.560		Semarang
HII 10 049	Saigon	(Z)	JVJ 12.270	NETHERLAND	YDB2 2.450
HIL 6.518	FZR 16.200		JVK 12.020	EAST INDIES	YDE3 2.910
HIX 5.980	FZS 18.342		JVL 11.660	(PKA-POZ;	YDK2 3.190
H1Z 6.340	FZS2 11.990	ZBW 8.750	JVM 10.740	YBA-YHZ)	YDK3 2.910
H14D 6.500		·	JVN 10.660		YDK5 2,710
	GERMANY (D)	HUNGARY	JVO 10.375	Borneo	YDKS 1.860
ECUADOR		(HAA-HAZ)	JVP 7.510	BandJermasin	Soekaboemi
(HCA-HCZ)	Nauen		JVQ 7,470	YDUS 1.850	YDA4 1.550
_	DFA 19.240		JVR 7.390	YDV2 3.330	YDI2 2.110
Guayaquil	DFB 17.520		JVS 6.990	Celebes	Solo
HC2CW 8.625	DFC 12.980		JVT 6.750	Macassar	YDB5 1.595
HC2ET 4.600	DFD 14.665		JVU 5.790	PNI 8.775	YDE2 4.810
HC2JSB 4.283	DFE 9.810		JVV 5.730	Menado	YDL2 4.810
HC2RL 6.659	DFL 10.850		JZD 16.910	YBZ 7.680	YDL3 3.450
Quito	DGK 6.675		JZE 13.020	Java	Sourabaya
HCJB 8.214	DGU 9.609		JZF 8,500	Balikpapan	YDB 4.480
HCJB 8.214	20.020	(TFA-TFZ)	JZG 6.330	YCP 8.575	1 2.2 2
Riobamba	DJK 12.035	Reykjavik		Bandoeng	
PRADO 6.620	Norden	TFJ 12.225	KENYA (VQ7-)	PLE 18.830	
PRADO 15.440	DAF 4.320	TFK 9.050		PLF 17.850	
	DAF 8.464	1	Nairobi	PLG 15.950	0.00
EGYPT	DAF 12.325		VQ7LO 6.050	PLK 14.480	
(STA-SUZ)	DAF 17.260			PLM 12.290	
			MACAU	PLP 11.000	
Cairo	Zeesen DIQ 10.285	Bombay		PLQ 10.670	
SUV 10.055	DIA 0.500	VIIR OFCE	Macau	PLV 9.415	
SUZ 13.810 to	DJA 9.560		CQN 6.073	PMA 19.345	
13.830	DJB 15.200	I are a		PMB 20.606	TandJongpriok
	DJC 6.020		MADAGASCAR	PMC 18.135	YDA `3.040
ERITREA		1	(F)	PMN 10.260	YDA 6.040
	DJE 17.760	I MILLON		PMY 5.140	YDA8 1.510
Massawa	DJG 4.580	0.313	Tananarive	YDAS 6.120	Tegal
IRG 14.740	DJL 15.110	17.400	5.996	YDD2 1.630	YDJ3 2.870
	DJM 6.080	0.000		YDH3 3.490	
ETHIOPIA	DJN 9.540		MANCHUKUO	YDH4 3.310	Tjepoe
	DJO 11.790		(J)	YDH6 3.130	YDB4 1.615 YDM2 3.320
Addis Ababa	DJP 11.850			YDH8 1.960	YDM2 3.320
ETA 7.620	DJQ 15.280		Shinkio	Batavia	Sumatra
ETA 18.270	DJR 15.340	ITALY (I)	JZA 15.680	YDA2 2.385	Medan
ETB 11.945		1			YBG 10.430
LID 11.343					
	GUATEMALA	Coltano	JZB 10.960 JZC 5.830	YDD3 1.585 YDG2 3.470	YDU2 4.710
	GUATEMALA (TGA-TGZ)	Coltano	JZC 5.830	YDG2 3.470	YDU2 4.710 YDU3 5.260
FEDERATED	(TGA-TGZ)	IAC 4.355	JZC 5.830	YDG2 3.470 YDG3 3.150	
FEDERATED MALAY	(TGA-TGZ) Guatemala City	IAC 4.355 IAC 6.650	JZC 5.830 MEXICO	YDG2 3.470 YDG3 3.150 YDG4 2.850	YDU3 5.260
FEDERATED MALAY STATES	(TGA-TGZ) Guatemala City TGF 14.545	IAC 4.355 IAC 6.650 IAC 12.795	JZC 5.830	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090	YDU3 5.260
FEDERATED MALAY	Guatemala City TGF 14.545 TGWA 6.000	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino	MEXICO (XAA-XFZ)	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDGS 1.900	YDU3 5.260 YDU4 2.830
FEDERATED MALAY STATES (ZG-)	Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415	MEXICO (XAA-XFZ) Guadalajara	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDGS 1.900 YDG7 3.300	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino	MEXICO (XAA-XFZ)	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg	YDU3 5.260 YDU4 2.830 NEW ZEALAND
FEDERATED MALAY STATES (ZG-)	Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050
FEDERATED MALAY STATES (ZG-) Kuala Lampur	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ)	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ)	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2F 9.550 HH2S 6.070	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065 HH2F 9.550 HH2S 6.070 HH2T 11.790	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRF 8.070 IRM 9.823 IRO 9.780	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 Djocjacarta	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE	Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.050 HH2S 6.070 HH2T 11.790 HAWAII (K)	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRF 9.823 IRO 9.780 IRW 19.520 IZRO 5.550	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2T 11.790 HAWAII (K)	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRF 9.823 IRO 9.780 IRW 19.520 IZRO 5.550	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ)	(TGA-TGZ) Guatemala City TGF 14,545 TGWA 6,000 TGXA 6,130 TG1X 9,450 TG2X 5,940 HAITI Port au Prince HH2F 6,065 HH2R 9,550 HH2S 6,070 HH2T 11,790 HAWAII (K)	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 IRW 19.520 IZRO 5.725	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.975 FRANCE (F; TYA-TZZ) Pontoise	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.725 I2RO 6.085	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.975 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065 HH2F 9.550 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.725 I2RO 6.085 I2RO 9.630	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.550 I2RO 5.725 I2RO 6.985 I2RO 6.980 I2RO 9.630	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250;	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 5.725 I2RO 6.085 I2RO 9.630	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.723; 11.880; 15.250; 15.454	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.050 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 6.980 I2RO 9.630 JAPAN (J)	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ)	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.729; 11.880; 15.250; 15.454 Ste. Assise	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2F 9.550 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030	IAC 4.355 IAC 6.650 IAC 12.795 Fuimicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 9.630 JAPAN (J)	JZC 5.830 MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ)	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.975 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.033 KRO 5.845	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 5.725 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030 KRO 5.845	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.550 I2RO 5.725 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDGS 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.522 KKP 16.030 KRO 5.845 5.845	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRW 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.830	JZC 5.830 MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 YDG7 3.300 YDG9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocJacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.033 KRO 5.845524 11.630	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.880 JYS 9.840	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82 NETHERLANDS	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDG6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ)
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840 FTK 15.863	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.522 KKP 16.030 KRO 5.845 5.845	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.725 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYT 15.760	JZC 5.830 MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82 NETHERLANDS (PAA-PIZ) Hilversum	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 YDG7 3.300 YDG9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocJacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840 FTK 15.863 FTM 19.355	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030 KRO 5.845 7.520 11.630 16.030	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYT 15.760 Nazaki	JZC 5.830	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDG6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon HP5H 6.070
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTK 18.330 FTI 9.840 FTK 15.863 FTM 19.355 FTN 19.355 FTN 12.260	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030 KRO 5.845 7.522 11.630 16.030	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.550 I2RO 5.725 I2RO 6.980 I2RO 9.630 JAPAN (J) Kemika wa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYT 15.760 Naraki JVA 18.910	JZC 5.830 MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82 NETHERLANDS (PAA-PIZ) Hilversum PCJ 15.220 PHI 11.725	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDG6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocJacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL5 3.210 YDL5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland YDK4 3.270 Malang YDB6 1.570	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.723; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840 FTK 15.863 FTM 19.355 FTN 12.260 VilleJust	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAIT! Port au Prince HH2F 6.065 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030 KRO 5.845 7.520 11.630 16.030	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYS 9.840 JYI 15.760 Nazaki JVA 18.910 JVB 18.190	JZC 5.830 MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82 NETHERLANDS (PAA-PIZ) Hilversum PCJ 15.220 PHI 11.725 PHI 17.775	YDG2 3.470 YDG3 3.450 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDG6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 2.350 YDL4 3.410 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland YDK4 3.270 Malang YDB6 1.570 YDQ3 3.350	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon HP5H 6.070 Panama City HPC 10.290
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.720; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840 FTE 18.330 FTI 9.840 FTK 15.863 FTM 19.355 FTN 12.260 VilleJust 6.145; 9.585;	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.055 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.033 KRO 5.845 7.520 11.630 11.630 11.630 11.630	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 5.725 I2RO 6.085 I2RO 6.980 I2RO 9.630 JAPAN (J) Kemika wa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYT 15.760 Naraki JVA 18.910 JVB 18.190 JVC 16.050	MEXICO (XAA-XFZ) Guadalajara XEDQ 9.520 MEXICO CITY Mexico City XBJQ 11.000 XEBI 5.980 XEBT 6.000 XECR 7.380 Tiaguana XEOK 6.130 Veracruz XEFT 6.120 XEUW 6.020 MOROCCO (CNA-CNZ) Rabat CNR 8.035 CNR 12.82 NETHERLANDS (PAA-PIZ) Hilversum PCJ 15.220 PHI 11.725 PHI 11.775 Kootwijk	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 Djember YDQ2 3.390 Djocjacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL6 2.750 YDL4 3.410 YDL5 3.210 YDL6 2.750 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland YDK4 3.270 Malang YDB6 1.570 YDQ3 3.350 YDQ4 3.230	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon HP5H 6.070 Panama City HPC 10.290 HPF 14.545
FEDERATED MALAY STATES (ZG-) Kuala Lampur ZGE 6.125 FIJI (VPA-VSZ) Suva VPD 13.075 FRANCE (F; TYA-TZZ) Pontoise TYA 12.215 TYB 12.250 9.585; 11.723; 11.880; 15.250; 15.454 Ste. Assise FQO 12.160 FTA 11.940 FTE 18.330 FTI 9.840 FTK 15.863 FTM 19.355 FTN 12.260 VilleJust	(TGA-TGZ) Guatemala City TGF 14.545 TGWA 6.000 TGXA 6.130 TG1X 9.450 TG2X 5.940 HAITI Port au Prince HH2F 6.065 HH2R 9.550 HH2S 6.070 HH2T 11.790 HAWAII (K) Honolulu KGPQ 1.712 Kahuku KEQ 6.733 KIO 11.680 KKH 7.520 KKP 16.030 KRO 5.845 . 5.845 . 7.520 11.630 15.030 HONDURAS (HRA-HRZ)	IAC 4.355 IAC 6.650 IAC 12.795 Fulmicino IAF 5.415 IAF 29.820 Golfo Aranci IAG 30.604 Rome IRA 6.070 IRE 11.810 IRF 8.070 IRM 9.823 IRO 9.780 IRW 19.520 I2RO 5.755 I2RO 6.085 I2RO 6.085 I2RO 9.630 JAPAN (J) Kemikawa-Cho JYK 13.600 JYR 7.880 JYS 9.840 JYS 9.840 JYI 15.760 Nazaki JVA 18.910 JVB 18.190	JZC 5.830	YDG2 3.470 YDG3 3.150 YDG4 2.850 YDG5 2.090 YDG5 1.900 YDG7 3.300 Buitenz.rg YDA3 1.640 YDH9 1.920 Cheribon YDA6 2.870 YDJ4 1.840 DJember YDQ2 3.390 DJocJacarta YDB3 1.660 YDE5 2.350 YDL4 3.410 YDL5 3.210 YDL5 3.220 YDL6 2.750 Garoet YDH5 3.250 Kediri YDN2 1.940 Madioen YDN3 2.790 Mageland YDK4 1.570 YDG3 3.350 YDM4 3.270 Malang YDB6 1.570 YDQ3 3.350 YDQ4 3.230 YDQ4 3.230 YDQ5 2.950	YDU3 5.260 YDU4 2.830 NEW ZEALAND (ZKA-ZMZ) Wellington ZLS 8.900 ZLT 11.050 ZLT2 7.390 ZLU 12.300 NICARAGUA (YNA-YNZ) Managua YNA 14.480 NORWAY (LAA-LNZ) Jeloy LCL 6.130 LCO 13.980 LKJ1 9.540 PANAMA (HPA-HPZ) Colon HPSH 6.070 Panama City HPC 10.290

PARAG	UAY	Salisb	ury	Tachk	cent	Mol		San Fra	ancisco	Mia	
(ZPA-	ZPZ)	ZEA		RAU	15.104	NMG	2.670	KBCJ	3.155	NOM	2.670
-	-			RIM	7.626	WPGW	2.382	KGPD	2.466	WPFZ	2.442
Asunc		SPAI		RPT	5.995				abriel	W4XB	6.040
	6.666	(EAA-E	HZ)	Tift	is	ARIZ	UNA		2.726	Opa L WMEV	2.930
ZP11	3.800			RIR	5.040	Pho	nelv.	KIIW	Jose	WMEV	6.615
DED		Madı		RIR	10.080	KNGG	1.698	KGPM	2.466	Orlai	
PER		EAQ	9.862		-	KNZJ	2.430	San F		WPHM	2.442
(OAA-O	JCZ)	STRA	ITC	IOINU	N OF	KINZ	2.430	NOJ.	2.670	Palm E	Beach
1.5	_	SETTLEN		SOUTH A	FRICA	ARKA	NSAS		Rafael	WPFX	2.442
Lim DAX4B	6.230			(ZSA-Z	ZUZ)	AIIIA	14373	KLH	2.506	St. Pete	
DAX4B	5.780	(ZH				Little	Rock		Ana	NOF	2.670
	10.962			Capet	own	KGHZ	2.406	KGHX	2.430	WMEU	2.930
DCI DCI	18.670	Pena ZHJ		ZSS	18.890	KOIIL	2.400		Barbara	WMEU	6.615
	15.625			Johann	eshura	CALIE	ORNIA	KBCA	3,385	Tam	
000 100	7.820	Singa _l ZHI	6.060	ZTJ	6.100	OALII.	OILIII.	КВСВ	3.385	WPHN	2.466
000	1.020	2111	0.000		I	Baker	sfield	KGZO	2.414		
PHILIP		SWITZER	DIAND	Walvis		KGPS	2.414		Cruz	GEOR	≀GIA
ISLAN		(HBA-I		ZSV	8.220		celey	KGZT	1.683		
(K)		(1107-	102,	ZSV	12.500	KSW	1.658		ia Park	Atla	nta
(**)		Ber	ne	118117	FED	Boli	inas	KNKG	3.410	WPDY	2.414
Ceb	u	HB9AT	14.290	UNIT KING		KEE	7.715	Tujung	ga Dam	Augu	ısta
KZGĞ	5.825	нв9в	14.236			KEJ	9.010	KIIX	2.726	WQFV	2.414
KZGG	8,940	нв9н	7.005	(G ;	1761/	KEL	6.860		lare	Colum	
		НВ9Ј	14.400	Dave	ntry	KET	10.410	WPDA	2.414	WPFI	2.414
llei Kacu	1e 5.795	Gen		GSA	6.050	KEZ	10.400		lejo	La Gr	
KZGH	9.490	HBF	18.950	GSB	9.510	KKL	15.575	KGPG	2.422	WPGM	2.414
KZGH		нвн	18.450	GSC	9.580	KKQ	11.950		ttier	Mad	
Man		HBJ	14.535	GSD	11.750	KKW	13.780	KGHY	1.712	WQFB	2.414
KAX	19.980	HBL	9.595	GSE	11.860	KKZ	13.690		ington	l ———	
KAY	14.980	НВО	12.030	GSF	15.140	KG1	18.028	KOU	2.566	IDA	но
KAZ	9.990	HBP	7.797	GSG	17.790		pton		emite		
KBK	6.718			GSH	21.470	KNFM	2.490	KNKS	2.604	Boi	
кто	16.240	TAIW	AN (J)	GSI	15.260		Valley	KNKU	2.604	KBCQ	3.300
KTP	8.120			GSJ	21.530	KNLO	3.410	KNKX	2.604	Idaho	
KZGF	5.765 9. 170	Taih		GSK	26.10	KNLP	3.410	Yr		KNFB	2.458
KZGF	3.170	JIA	15.750	GSL	6.110	KNLQ	3.410	KBCG	2.385		LOIC
POL	AND	JIB	10.530	P	gby	KNLR	3.410	201.0		ILLIN	1013
(SOA-		JIC	5.890	GAA	20.368		Post Pile	COLO	RADO	Chic	
(SUA-	-SRZ)			GAQ	18.970	KINKI	2.604			WPDB	1.712
Pozi	n 2 M	UNIO		GAS	18.304	KWN	21.060	KGPX	2.442	WPDC	1.712
SR1	9.490	SOCIA		GAU	18.620	KWO	15.415	NGFA	2.442	WPDD	1.71
		SOV		GAW	18.200	KWU	15.355	CONNE	CTICUT	W9XAA	6.080
WAR	SAW	REPUI		GBA	13.984	KWV	10.840	CONTRACT		W9XAA	11.83
SPW	13.630	(14)	Ο,	GBB	13.500	KWX	7.610	Bride	geport	W9XAA	17.78
		Ва	k.	GBC	4.430	KWY	7.565	WPFW	2.466	Highlar	ıd Park
PORT	UGAL	RIO	10.160	GBC	4.975	EL Ce		New	Haven	WPFD	2.43
(CSA-	CUZ)	Irku		GBC	8.680		2.490	WQFA	2.4€6	Oak	Park
-	-	RSZ	8.770	GBC	12.780		esno	New L	London	WQFL	1.71
List		RTZ	7.275	GBC	17.080		2.414	NOU	2.6 70		awa
CSL	6.150	Khah	arovsk	GBP	10.770	'i L	odi	l ——		WQFZ	2.45
CT1AA	9.600	D1/4 E	4.273	GBS	12.150		2.414		RICT OF	Rock	cford
CT1AA	15.350			GBU	12.240	-U3 ~	Ingeles		UMBIA	WPGD	2.45
CT1CT	3.750		rkov	GBU	22.290 14.440	Kare	1.712			1	eling
CT1CT	12.223	RFF	7.260	GBW	10.530	KILL	2.726		ington		6.61
Par	ede		cow	CRV	16.150	I KIKL	6.615	WPDW	2.422		
CT1G0	6.132		4.875	1	9.710	1465.	Shasta		D1D.		nette
_		RKF	6.870	COD	9.280	NBCC	3.200		RIDA	NMP	2.67 2.69
PUERTO	RICO	RKF	6.880	1001	13.415	14015	h Fork	1		NMP	2.69
	-	RKF	6.900	Loon	7.920	KDOD	3.445		rwater	IND	IANA
	Juan	RKF ·	9.750	loce	9.020	MEGE			2.466 ortugas	IND	MINA
WMDU	3.070		12.500	CCII	9.950	KBCF	3.445 kland	WST	ortugas 3.410	Columb	ia Cit
WMDU	5.405		7.520	CCW	9.790		kiana 3.385	1		WQFW	1.63
	4.00	RKI	15.040	CDR	6.790	I KBOII	o Alto	F t. La	uderdale	1 -	
	AM	RKI	15.090	CDC	6.905			NMV	2.670		lver
(HSA	-HSZ)	RKK	6.135	CDW	4.820		adena	Gair	1esville	WPHS	1.63
n.	-1:-1:	RKK	12.270 12.000	CCDV	4.320			WQFC	2.466		Wayne
	gkok	1	7.225			I COSA	Bonita		aleah	WPDZ	2.49
HSJ	8.020		8.225		ITED	NMC	2.670		4.098	Hunt	ington
HSP	7.968		5.996	ST	ATES		mona	WAW	12.930		2.49
HSP	8.396	. !			N; W)	KNFJ	1.712		15.055	.	napolis
HSP	17.730	1	sibirsk			-		1	sonville	WMDZ	
COUT	HEDN	RTA	6.440	ALA	BAMA		amento			. 1	1.6
	THERN DESIA	Sta	linsk			_ KNGF					
		RSB	5.375		ingham		ernardino		y West	1	sper
	. E. T /	1		WPFM	2.382	2 KGZY	1.712	WWZ	3.410	WPHU	1.63
RHU (Z		Sver	dlovsk					1		1	
(Z	awayo	- Sverd	dlovsk 5.490	1	ell Field		Diego		keland	Kol WPDT	komo 2.49

Lafayette WQFQ 2.44	Beltsville	Manitou Island		Rochester	ОНЮ
WQFQ 2.44 Marion Count		31410		WPDR 2,422	
WPHE 1.63		ai quette	Lawrenceville	Rockaway Point	Akron
	4 WWV 15.000	3.410	WKA 21.060	NMY 2.670	WPDO 2,458
Muncie WPGP 2.44:	3	Muskegon	WKF 4.253	Rocky Point	Cambridge
WPGP 2.44:		WPFC 2.442		WAD 8.930	WPHT 1.596
WPDH 2.44;	CHUSETTS	Passage Island	WKK 21.410	WAJ 13.480	Cincinnati
Seymour		WWAL 3.410		WBU 21,260	WKDU 1.706
WQFE 1.634	Arlington	Poe Reef	WLA 18.350	WDB 6,718	W8XAL 6.060
South Bend				WDG 4.535	Cleveland
WPGN 2.490	Boston WEY 1 630	Port Huron	WMA 13.390	WDN 4.550	NMD 2.670
2.430	WEY 1.630 WPGV 1.712	WPGB 2.466	WMF 14.470	WDS 18.900	NMD 2.698
IOWA	W1XAL 6.040	Rock of Ages	WMN 14.590	WEA 10.610	WRBH 2.458
	W1XAL 11.790	WWAM 3.410	WNA 9.170	WEB 6.935	Columbus
Atlantic	W1XAL 15.250	Saginaw WPES 2442	WNB 10.675	WEC 8.930	WPDI 2.430
KACD 1.682		21772	WOA 6.755 WOB 5.850	WEL 8.950	WPGQ 1.596
Cedar Rapids	W1XH 2.110	Sault Ste. Marie	1	WEL 13.435	Dayton
KGOZ 2.466			1	WEM 7.400	WPDM 2.430
Davenport	WPEJ 1.712	NOR 2.698 Selfridge Field		WES 9.448	Findlay
KGPN 2,466		VK1 6.425	1	WET 9.470	WPGG 1.596
Des Moines	WPFN 1.712	Stannard Rock	****	WEZ 6.928	Lancaster
KGHO 1.682		WWH 3.410	WOY 4.753 WOY 8.560	WIR 4.276	WQFO 2.430
KGZG 2.466		3.410	WOY 12.840	WIY 13.870 WJN 7.370	Lorain
Fairfield	Framingham	MINNESOTA	WOY 17.120		WMES 2.550
KACC 1.682			New Brunswick	20,400	Massillon WPHC 1.596
Sioux City	Gloucester	Duluth	WKJ 9.460		
KGPK 2.466		KNFE 2.382	Ocean Gate	WKM 18.860 WKO 15.970	Portsmouth WPGI 2.430
Storm Lake	Marshfield	Minneapolis	WOG 4.253	WKP 6.950	WPGI 2.430 Steubenville
KNFO 1.682		KGPB 2.430	WOO 4.178	WKU 14.830	WPHD 2.458
Waterloo	Medford	Redwood Falls	WOO 4.753	WKW 15.445	Suffield
KNFN 1.682		KNHD 1.658	WOO 8.560	WLL 17.900	WMEP 2.930
1/ 4 1/0 1 0	Millis	St. Paul	WOO 12.840	WPE 13.840	WMEP 6.615
KANSAS	W1XK 9.570	WPDS 2.430	WOO 17.120	WQB 17.940	Toledo
Chanute	Newton	****	Passaic	WQC 17.860	WRDQ 2.474
KGZF 2.450	WPFA 1.712	MISSOURI	WPDJ 2.414	WQE 18.920	Wilmington
Coffeyville			Tuckerton	WQF 17.920	WPHK 1.596
KGZP 2,450		Jefferson City	WCG 10.370	WQG 15.040	Wright Field
Dodge City	WPEH 1.712	KIUK 1.674	Wayne	WQH 18.880	PE2 6.445
KNGH 2.474		Kansas City	W2XE 6.120	WQI 17.880	Youngstown
Garden City	WPEL 1.666	KGPE 2.422	W2XE 11.830	WQL 14.815	WPDG 2.458
KNFH 2.474	Winthrop	Napoleon WYBF 2.604	W2XE 15.270	WQN 5.263	Zanesville
Hutchinson	NMF 2,670	WYBF 2.604 St. Louis	NEW MEXICO	WQN 5.505	WPHO 2.430
KGHN 2.450	Woods Hole	KGPC 1.706	Albuquerque	WQN 5.825	01/1 0110000
Leavenworth	NOP 2.670	1.700	KGZX 2.414	WQO 6.725 WQP 13.900	OKLAHOMA
KNFF 2.422	Worcester	MONTANA	Clovis		Oblahanta
Manhattan	WPGX 2.466		KNFA 2.414		Chickasha KACF 2.450
W9XAK 2.050		Glacier Nat'l	Santa Fe	WQS 13.915 WQU 13.855	KACF 2.450 Duncan
Topeka	MICHIGAN	Park	KGPF 2.414	WQV 14.800	KNGK 2.450
KGZC 2.422		KNIA 2.604		WQW 10.600	Lawton
Wichita	Bay City		NEW YORK	WQY 20.100	KGHP 2.466
KGPZ 2.450	WPGA 2.466	NEBRASKA		WTT 18.940	Muskogee
***********	Cheboygan		Albany	Schenectady	KNGT 2.450
KENTUCKY	Range	Lincoln	WPGH 2.414	W2XAD 15.330	Oklahoma City
Lautmatau	WWG 3.410	KGZU 2.490	Auburn	W2XAF 9.530	KGPH 2.450
Lexington WPET 1.706	Detroit	Norfolk	WPDN 2.382	S. Schenectady	Tulsa
WPET 1.706 Louisville	WCK 2.414	KNGN 2.490	Binghamton	WPGC 1.658	KGPO 2.450
WPDE 2.442	WKDT 1.630 WPDX 2.414	Omaha	WPGL 2.442	St. George	
WFDE 2.442		KGPI 2.466	Bronx	WOX 2.590	OREGON
LOUISIANA		ALEMAN	WPEF 2.450	Syracuse	
LOUISIANA	WWR 3.410 E. Lansing	NEVADA	Brooklyn	WPEA 2.382	Hood River
Baton Rouge	WRDS 1.642	Reno	WPEE 2.450	Utica	KIJY 2.728
WPEQ 1,570			Buffalo NOB 2 670	WPGJ 2.414	Klamath Falls
New Orleans	WPDF 2.442	KGHM 2.474	2.0.0	Yonkers WPFY 2.442	KGZH 2.442
WPEK 2.430		NEW	NOB 2.698 WMJ 2.422		Portland
Shreveport	Shoals	HAMPSHIRE	Huntington	NODTH	KGPP 2.442
KGPY 1.574	WWE 3.410	T	WPGO 2.490	NORTH Carolina	Salem
KGZL 1.712	Grand Rapids	Nashua	Mineola	CAROLINA	KGZR 2.442
KNGP 2.430	WPEB 2.442	WPHB 2.422	WPGS 2.490	Asheville	PENN-
	Grosse Pointe		Mitchell Field	WPFS 2.458	SYLVANIA
MAINE	WRDR 2.414	NEW JERSEY	WO9 6.385	WPFS 2.474	SILTAINA
	Highland Park		New York	Charlotte	Harrisburg
Portland	WMO 2.414	Bound Brook	WOZ 3.423	WPDV 2.458	WPSP 1.674
WPFU 2.422	Huron Island	W3XAL 6.100	WPEG 2.450		New Castle
MADVIANO		W3XAL 17.780		NORTH	WPGT 2.482
MARYLAND	Jackson	W3XL 6.425	Niagara Falls WNFP 2.422	DAKOTA	Oll City
Baltimore	WPHP 2.466 Lansing				WPHZ 2.482
	WPDL 2.442	Cape May	Oneonta	Fargo	Philadelphia
2.414	**FUL 2.442 I	NOV 2.670	WQFJ 2.414 1	KNHM 2.442	WPDP 2.474

SHORT WAVE STATIONS BY LOCATIONS

TEXAS	Langley Field	Mt. Olympus	Snoqualmie	CWE 6.610
	FG7 6.645			CWF 8.455
Austin	Lynchburg	KNDK 3.387	KGHE 2.490	CWG 11.370
KGHU 2.442	WOFH 2.450	KNDL 3.387	Spokane	CWH 13.140
		KNDM 3.387	KGHS 2.414	
		KNDP 3.387	KGHS 2.458	VATICAN
		KNDS 3,387	Tacoma	STATE
			KGZN 2.414	(HVA-HVZ)
			Vancouver	
				Vatican City
	WQFG 2.450			HVJ 5.97
	MACHINICTON			HVJ 15.12
	WASHINGTON			1103
				VENEZUELA
				(YVA-YWZ)
				(TVA-TWZ)
KVP 1.712				
Denton				Barquisimeto
KNHF 1.712	KNFY 2.490			YV8RB 5.87
El Paso	Bellingham		KNGU 2.414	Caracas
KGZM 2.414	KNFK 2.490	Olympia		YV2RC 6.11
Fort Worth	Cataract Creek	KACE 2.414		YV3RC 6.15
KGPR 1.712	KNLT 3.387	KABT 3.300	VIRGINIA	YV4RC 6.37
Galveston	Centralia	KNFG 2.490		YV9RC 6.40
KNGL 1.712	KGHW 2.414	Port Townsend	Charleston	Maracaibo
		NOZ 2.670	WPHI 2.490	YV5RMO 5.85
		Pt. Angeles	Clarksburg	1
			WPFP 2.490	Maracay
			Fairmont	YVQ 6.67
		KBAU 3.300	WPHJ 2.490	YVQ 13.33
			Dt	YVR 9.16
				YVR 18.29
			WPHQ 2.490	San Cristobal
				YV10RSC 5.72
			WISCONSIN	
				Valencia
•				YV6RV 6.52
		KGPA 2.414	KNHB 2.382	
UTAH		KGYI 3.387	Kenosha	VIRGIN
	KNLV 3.387	WVD 2.604		ISLANDS
Salt Lake City	Grave Harbor	WVD 5.995		(W)
KGPW 2.406		WVD 6.618		
		WVD 8.620	WPDK 2.450	St. Thomas
VIRGINIA				WTDV 4.29
				CA C
Bolling Field	KNFZ 2.490		(CVA-CXA)	St. Croix WTDW 4.29
1S3 5.015	Longmire	KNFL 2.490		
Cape Henry	KGYA 3.387	Skykomish	Montevideo	St. John
				WTDX 4.29
	Austin KGHU 2.442 Beaumont KGPJ 1.712 Brownsville KGHT 2.382 Brownwood KNGW 2.458 Cleburne KNGE 1.712 Corpus Christi KGHV 2.382 Dallas KVP 1.712 Denton KNHF 1.712 EI Paso KGZM 2.414 Fort Worth KGPR 1.712 Galveston KNGL 1.712 Galveston KNGL 1.712 Lubbock KGZW 2.458 San Antonio KGZZ 1.712 Lubbock KGZW 2.458 San Antonio KGZZ 2.482 Waco KGZQ 1.712 Wichita Falls KGZI 2.458 UTAH Salt Lake City KGPW 2.406 VIRGINIA Bolling Field IS3 5.015	Austin KGHU 2.442 Beaumont KGPJ 1.712 Brownsville KGHT 2.382 Brownwood KNGW 2.458 Cleburne KNGE 1.712 Corpus Christi KGHV 2.382 Dallas KVP 1.712 Denton KNHF 1.712 EI Paso KGZM 2.414 Fort Worth KGPR 1.712 Galveston KNGL 1.712 Galveston KNGL 1.712 Corpus Christi KGPR 2.414 Fort Worth KGPR 1.712 Galveston KNGL 1.712 Curbbock KGZM 2.458 San Antonio KGBZ 1.712 Lubbock KGZW 2.458 San Antonio KGZZ 2.482 Waco KGZQ 1.712 Wichita Falls KGZI 2.458 UTAH Salt Lake City KGPW 2.406 VIRGINIA Bolling Field IS3 5.015	Austin KGHU 2.442 Beaumont KGPJ 1.712 Brownsville KGPJ 1.712 Brownsville KGPJ 1.712 Brownsville KGHT 2.382 Brownwood KNGW 2.458 Cleburne KNGE 1.712 Corpus Christi KGHV 2.382 Dailas KVP 1.712 Denton KNFT 2.490 Bellingham KNFY 2.490 Bellingham KNFY 2.490 Bellingham KNFK 2.490 Cataract Creek KGZM 2.414 KNGL 3.387 KNLX 3.	FG7 6.645 Lynchburg WOFH 2.450 Robuston KGPJ 1.712 Beaumont KGPJ 1.712 Brownsville KGHT 2.382 Brownwood KNGW 2.458 Cleburne KNGE 1.712 Corpus Christi KGHV 2.382 Dallas KVP 1.712 Denton KNF 2.450 Elingham KNFK 2.490 Elingham KNGE 1.712 Galveston KNGE 1.712 Galveston KNGE 1.712 Galveston KNGE 1.712 Lubbock KGZW 2.457 KNGL 1.712 Lubbock KGZW 2.458 KNGL 2.450 KNG

SHORT WAVE STATIONS BY CALLS

9.540
11.790
15.280
15.340
4.413
8.830
13.040
4.413
8.830
13.040
16.600
9.862
6.645
4.390
4.410
8.810
8.830
13.190
13.210
4.413
8.830
13.395
11.840
18.330
15.863
19.355
12.260

FTNO	4.413	HIZ	6.340	JVK	12.020	KGHU	2.442	KIDE	2 265	KNDS	2 207	LETOR	
FTNQ	8.830	HI1A	6.185		11.660	KGHV	2.382		1.622			KZGF	9.170
FTNQ			6.500		10.740	KGHW	2.414				3.387		5.825
FZR	16.200		5.825		10.660				2.150		1.606		8.940
FZS	18.342		7.685	JVO		KGHX	2.430		2.994		2.020		5.795
FZS2	11.990				10.375	KGHY	1.712		2.150		2.102		9.490
GAA			8.790	JVP	7.510	KGHZ	2.406		1.622	KNEF	2.830	LCL	6.130
	20.368	HJA3	12.830	JVQ	7.470	KGI	2.632	KIFI	2.150	KNFA	2.414	LCO	13.980
GAQ	18.970	HJA7	5.400	JVR	7.390	KGJX	1.712	KIFT	2.150	KNFB	2.458		9.540
GAS	18.304	HJB	14.930	JVS	6.990	KGM	2.512		1.606		2.382		9.600
GAU	18.620	NTH	6.080	JVT	6.750	KGOZ	2.466		2.102		2.422		
GAW	18.200	НЈР	7.465	JVU	5.790	KGPA	2.414		2.102				19.600
GBA	13.984	HJY	9.930	JVV	5.730	KGPB	2.430				2.490		19.900
GBB	13.500	HJY	18.444	JYK	13.600	KGPC			2.190	KNFH	2.474		9.990
GBC	4.430		B 6.447	ſ			1.706		2.994	KNFI	2.414		19.120
GBC	4.975		D 7.280	JYR	7.880	KGPD	2.466		3.190	KNFJ	1.712	LSM	21.128
GBC				JYS	9.840	KGPE	2.422		2.994	KNFK	2.490	LSN	9.895
	8.680		E 6.115	JYT	15.760	KGPF	2.414		3.190	KNFL	2.490	LSN	14.480
GBC	12.780		G 6.042	JZA	15.680	KGPG	2.422	KIIL	2.994	KNFM	2.490	LSN	21.020
GBC	17.080		6.300	JZB	10.960	KGPH	2.450	KIIL	3.190	KNFN	1.682		9.890
GBP	10.770	HJ1AB	6.006	JZC	5.830	KGPI	2.466	KIIM	2.994	KNFO	1.682		18.958
GBS	12.150	HJ2AB	A 6.170	JZD	16.910	KGPJ	1.712		3.190	KNFP	2.414	1	10.350
GBU	12.240	HJ2AB	C 5.975	JZE	13.020	KGPK	2.466		2.994	KNFR	2.490	LSY3	
GBU	22.290		D 5.980	JZF	8.500	KGPL	1.712	KIIN					18.115
GBW	14.440		D 7.390	JZG	6.330	KGPM			3.190	KNFS	2.490	NMC	2.670
GBX	10.530		F 6.200				2.466	KIIO	2.994	KNFU	2.490	NMD	2.670
GBX				KACC	1.682	KGPN	2.466	KIIO	3.190	KNFX	2.490	NMD	2.698
	16.150		H 6.012	KACD	1.682	KGPO	2.450	KIIP	3.093	KNFY	2.490	NMF	2.670
GBZW			A11.720	KACE	2.414	KGPP	2.442	KIIQ	2.150	KNFZ	2.490	NMG	2.670
GBZW			C 6.230	KACF	2.450	KGPQ	1.712	KIIW	2.726	KNGA	2.490	NMN	2.670
GBZW	V 13.320	HJ4AB	E 5.900	KAEB	2.616	KGPR	1.712		2.726	KNGB	2.490	NMP	2.670
GCA	9.710	HJ4AB	L 6.100	KAEB	3.265	KGPS	2.414	KIIY	2.726	KNGC	2.490	NMP	
GCB	9.280		D 6.490	KAED	2.616	KGPW	2.406	KIJB	2.994				2.698
GCJ	13.415		E 14.000	KAED	3.093	KGPX				KNGD	2.490	NMV	2.670
GCS	9.020	HKE					2.442	KIJI	1.622	KNGE	1.712	NMW	2.670
GCU		HPC	7.090	KAEF	2.616	KGPY	1.574	KIJĶ	1.622	KNGF	2.422	NMY	2.670
	9.950		10.290	KAEF	2.994	KGPZ	2.450	KIJO	1.622	KNGG	1.698	NOB	2.670
GCW	9.790	HPF	14.545	KAX	19.980	KGQ	2.986	KIJP	2.986	KNGH	2.474	NOB	2.698
GDB	4.320	HP5B	6.030	KAY	14.980	KGX	2.632	KIJR	2.986	KNGJ	2.490	NOF	2.670
GDB	6.790	HP5J	9.590	KAZ	9.990	KGXU	1.622	KIJS	1.622	KNGK	2.450	NOG	2.670
GDLJ	4.430	HRM	13.810	KBAA	3.385	KGXW	1.606	KIJU	2.986	KNGL	1.712	NOJ	2.670
GDLJ	13.320	HSJ	8.020	KBAD	3.410	KGYA	3.387	KIJV	1.622	KNGM	2.450	NOM	
GDS	6.095	HSP	7.968	KBAI	2.304	KGYB	3.387	KIJW					2.670
GDW	4.820	HSP	8.396	KBAL					2.632	KNGN	2.490	NOP	2.670
GLRZ	4.415	HSP	17.740		3.200	KGYC	3.387	KIJX	2.632	KNGO	2.450	NOR	2.670
				KBAM	3.445	KGYD	3.387	KIJY	2.728	KNGP	2.430	NOR	2.698
GMBJ		HVJ	5.970	KBAP	3.200	KGYE	3.387	KIJZ	2.728	KNGT	2.450	NOU	2.670
GMBJ		HA1	15.120	KBAT	3.300	KGYF	3.387	KIKL	6.615	KNGU	2.414	NOV	2.670
GSA	6.050	IAC	4.355	KBAU	3.300	KGYG	3.387	KIKN	3.093	KNGQ	2.490	NOY	2.670
GSB	9.510	IAC	6.650	KBCA	3.385	KGYH	3.387	KIKY	3.265		2.490	NOZ	2.670
GSC	9.580	IAC	12.795	KBCB	3.385	KGYI	3.387	KILU	1.622	KNGZ	2.490	OAX4D	5.780
GSD	11.750	IAC	17.770	KBCD	3.445	KGZA	2.414	KILU	2.150	KNHB	2.382	OAX4G	
GSE	11.860	IAF	5.415	KBCE	3.445	KGZB	1.712	KILY	2.994	KNHD			6.230
GSF	15.140	IAF	29.820	KBCF	3.445	KGZC					1.658	OCI	18.670
GSG	17.790	IAG	30.604				2.422	KIMA	2.632	KNHF	1.712	OER2	6.072
				KBCG	3.385	KGZD	2.490	KINT	2.726	KNHM	2.442	OPL	20.040
GSH	21.470	ICEJ	13.050	KBCH	3.385	KGZE	2.482	KIO	11.680	KNIA	2.604	OPM	10.135
GSI	15.260	IRA	6.070	KBCJ	3.155	KGZF	2.450	KIOC	2.632	KNKG	3.410	ORG	19.200
GSJ	21.530	IRE	11.810	KBCQ	3.300	KGZG	2.466	KIOD	2.632	KNKS	2.604	ORK	10.330
GSK	26.100	IRF	8.070	KBK	6.718	KGZH	2.442	KIOG	1.622	KNKU	2.604	OXY	6.060
GSL	6.110	IRG	14.740	KDH	2.538	KGZI	2.458	кіон	2.632	KNKX	2.604	OXY	9.490
G6RX	4.320	IRJ	13.105	KDK	2.538	KGZJ	2.430	KIOI	2.632	KNKY	2.604	OXY	15.300
HAS3	15.370	IRM	9.823	KDV	2.538	KGZL	1.712	KION	2.616	KNLO	3.410	PCJ	15.220
HAT	5.400	IRO	9.780	KDX	2.986	KGZM		KIUK					
HAT2	7.220	IRW	19.520	KDY	2.994	KGZN	2.414		1.674	KNLP	3.410		18.400
							2.414	KIUQ	2.616	KNLQ	3.410		18.600
HAT3 HAT4	8.565	153	5.015	KEE	7.715	KGZO	2.414	KIUZ	3.093	KNLR	3.410	PCV	17.830
	9.125	12RO	5.550	KEJ	9.010	KGZP	2.450	KKH	7.520	KNLS	3.387	PDK	10.410
HBF	18.950	12R0	5.725	KEL		KGZQ	1.712	KKL	15.475	KNLT	3,387	PDK	12.050
нвн	18.450	12R0	6.085	KEQ	6.733	KGZR	2.442	KKP	16.030	KNLU	3.387	PD1	6.445
HBJ	14.535	12RO	6.980	KES	9.480	KGZT	1.674		11.950		3.387		6.445
HBL	9.595	12R0	9.630	KEZ	10.400			KKW	13.780		3.387		11.725
HBP	7.797	JDX	15.510	KFF		KGZV	2.414		13.690				
нво	12.030	JDY									2.566		17.775
	Г 14.290		9.920	KGHA		KGZW	2.458		2.566		2.522		18.830
		JDZ	5.710	KGHB		KGZX	2.414		2.512		18.020		17.850
HB9B	14.236	JIA	15.750	KGHC		KGZY	1.712		2.512		5.845		15.950
нвэн	7.005	JIB	10.530	KGHD	2.490	KHP	1.622	KLD	2.566	KSW	1.658		11.000
HB9J	14.400	JIC	5.890	KGHE	2.490		2.566		2.512		2.422		9.415
HCJB	8.214	JVA	18.910	KGHG		KHW		KLGK	2.738		16.240		19.345
HCK	5.815	JVB	18.190	KGHK	1.674		2.912		2.506		8.120		20.606
	V 8.625		16.050	KGHM		KIAP		KMYA	2.304				18.135
HC2ET		JVD		KGHN							1.712		
			15.860			KIAW		KMYA	4.610		21.060		10.260
	B 7.770	JVE	15.660	KGHO		KIAY		KNBZ	2.994	KWO	15.415		5.140
HC2RL		JVF	15.620	KGHP		KIBA		KNDI	3.387		15.355	PNI	8.775
HIH	6.800	JVG	14.910	KGHQ	2.490	KIBZ	3.265	KNDK	3.387		10.840		11.670
HII	10.040	JVH	14.640	KGHR		KICE		KNDL	3.387		7.610		19.270
HIL	6.518	JVI	13.560	KGHS		KICG		KNDM	3.387			PRADO	
HIX	5.980			KGHT	2.382			KNDP		KZGF		PRF5	9.505
					2.502		3,333		3.301		3.103	. 11.3	J.JUJ

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3 470
                                                                             W1XAL 21.460 YDG2
                                               WPDP
                                                              WPHJ
PSA
                                        19 220
                                                        2.474
        21.069
                VPD
                        13.075
                               WKF
                                                                              W1XH
                                                                                       2.110
                                                                                             YDG3
                                                                                                      3,150
                                               WPDR
                                                               WPHK
                                                                       1.596
                                                        2.422
PSA
        14.935
                VP3MR
                         7,080
                                WKJ
                                        9.460
                                                              WPHM
                                                                              W1XK
                                                                                       9.570
                                                                                             YDG4
                                                                                                      2.850
                                               WPDS
                                                                        2.442
PSD
        15.070
                VOJM
                         4.430
                                WKK
                                                        2,430
                                        21,410
                                                                        2,466
                                                                              W2XAD 15.330
                                                                                             YDG5
                                                                                                      2.090
                                               WPDT
                                                         2.490
                                                              WPHN
PSF
        14,690
                MLDA
                         8.830
                                WKL
                                         8.940
                                                                                             YDG6
                                                                                                      1.900
                                               WPDU
                                                              WPHO
                                                                        2.430
                                                                              W2XAF
                                                                                       9,530
PSH
                                                        1.712
        10.220
                VOJP
                         4.430
                                WKM
                                        18.860
                                                                                             YDG7
                                                                                                      3.300
                                                WPDV
                                                        2.458
                                                              WPHP
                                                                        2.466
                                                                              W2XRI
                                                                                       4.550
                VOJP
PSK
         8.180
                         8.830
                                WKN
                                        19.820
                                                               WPHQ
                                                                              W2XBJ 10.370
                                                                                             YDH3
                                                                                                      3,490
                                               WPDW
                                                        2,422
                                                                        2.490
RALI
        15.104
                VOTLO
                         6.060
                                WKO
                                        15.970
                                                                              W2XBJ 13.900
                                                                                             YDH4
                                                                                                      3.310
                                                              WPHS
                                                                       1.634
RFF
         7.260
                VUB
                         9.565
                                WKP
                                         6.950
                                               WPDX
                                                        2.414
                                                                                             YDH5
                                                                                                      3.250
                                                                       1.634
                                                                              W2XBJ 17.940
                                                              WPHU
RIM
         7.626
                VUC
                         6.112
                                WKU
                                        14.830
                                               WPDY
                                                        2.414
                                                                                             YDH6
                                                                                                      3.130
                                                                        2.474
                                                                              W2XE
                                                                                       6.120
                                                WPDZ
                                                         2.490
                                                               WPHY
RIO
        10.160
                VUC
                         9.575
                                WKW
                                        15,445
                                                                                             YDH7
                                                                                                      1.960
                                                WPEA
                                                               WPHZ
                                                                        2.482
                                                                              WOXE
                                                                                      11.830
                         8.975
                                        18,350
                                                         2.382
RIR
         5.040
                VWY
                                WLA
                                                                                                      1.920
                                                               WPSP
                                                                        1.674
                                                                              W2XE
                                                                                      15.270
                                                                                             YDH9
                                                WPER
                                                         2.442
        10.080
RIR
                VWY
                        17,480
                                WLFR
                                         1.646
                                                                       17.940
                                                                              W3XAL
                                                                                       6.100
                                                                                             VD12
                                                                                                      2.110
                                                               WOB
                                                WPEC
RKE
         4.875
                VWZ
                         8.690
                                WLEZ
                                         2.150
                                                         2.466
                                                               woc
                                                                       17.860
                                                                              W3XAL 17.780
                                                                                             YDJ2
                                                                                                      3.270
RKF
         6.870
                                                WPFD
                                                         1.712
                VWZ
                         8.693
                                WLK
                                        16.270
                                                                       18-920
                                                                              W3XAU
                                                                                       6.060
                                                                                             YDJ3
                                                                                                      2.870
                                                WPEE
                                                         2.450
                                                               WOE
RKF
         6.880
                VWZ
                         8.700
                                WLL
                                        17.900
                                                                                             YDJ4
                                                                                                      1.840
                                                WPEF
                                                         2.450
                                                               WOF
                                                                       17.920
                                                                              W3XAU
                                                                                       9.590
RKF
         6.900
                VWZ
                         8.708
                                        13.390
                                WMA
                                                                                                      3.190
                                                                                             YDK2
                                                WPFG
                                                         2.450
                                                               WQFA
                                                                        2.466
                                                                              W3XL
                                                                                       6.425
RKF
         9.750
                VXU
                         5.540
                                         3.070
                                WMDU
                                                                                                      2.910
                                                WPFH
                                                         1.712
                                                               WQFB
                                                                        2.414
                                                                              W3XL
                                                                                      17.310
                                                                                             YDK3
        12,500
                VXV
RKE
                         5.540
                                WMDU
                                         5.405
                                                               WQFC
                                                                        2.466
                                                                              W4XB
                                                                                       6.040
                                                                                             YDK4
                                                                                                      3.270
                                                WPE
RKI
         7.520
                VXW
                         5.540
                                WMDZ
                                         2.442
                                                         1.712
                                                                        1.634
                                                                              W7XK
                                                                                       3.493
                                                                                             YDK5
                                                                                                      2.710
                                                               WOFE
RKI
        15.040
                VXX
                         5.405
                                WMEF
                                         1.606
                                                WPEJ
                                                         1.712
                                                                        2.450
                                                                              W8XA
                                                                                       1.682
                                                                                             YDK6
                                                                                                       1.860
                                                               WOFG
RKI
        15,090
                VYP
                         1.596
                                WMEF
                                         2.020
                                                WPEK
                                                         2.430
                                                                                             YDL2
                                                                                                       4.810
                                                                                       6.060
                                                                              W8XAL
RKK
         6.135
                VYP
                                                WPEL
                                                         1.666
                                                               WOFH
                                                                        2.450
                         1.668
                                WMEF
                                         2.102
                                                                                             YDL3
                                                                                                       3.450
                                                WPFM
                                                         2.466
                                                               WQFI
                                                                        2.450
                                                                              W8XK
                                                                                       6.140
RKK
        12,270
                VYR
                         1.712
                                WMFF
                                         2.768
                                                               WQFJ
                                                WPEP
                                                         2.450
                                                                        2.414
                                                                              W8XK
                                                                                       9.570
                                                                                             YDL4
                                                                                                      3.410
RNF
        12.000
                VYW
                         2.416
                                WMEP
                                         2.930
                                                               WQFK
                                                                        2.466
                                                                              W8XK
                                                                                      11.870
                                                                                             YDL5
                                                                                                       3.210
                                                WPEO
ROL
         5.490
                VYZ
                         2.212
                                WMEP
                                         6.615
                                                         1.570
                                                               WOFL
                                                                        2.442
                                                                              W8XK
                                                                                      15.210
                                                                                              YDL6
                                                                                                       2.750
 RPK
         7.225
                WAD
                         8.930
                                WMEO
                                         6.615
                                                WPES
                                                         2.442
                                                                                      17.780
                                                                                              YDM2
                                                                                                       3.320
                                                               WOFM
                                                                              WXXK
 RPT
          5.995
                WAKA
                         2.490
                                WMES
                                         2.550
                                                WPET
                                                         1.706
                                                                        2.442
                                                                                              YDN2
                                                                                                       1.940
 RRD
         8.225
                        12.930
                                                WPEV
                                                         1.666
                                                               WQFO
                                                                        2,430
                                                                              WXXK
                                                                                      21.540
                WAW
                                WMFU
                                         2.930
                                                                                                       2.790
                                                                                             YDN3
          5.375
                                                WPEW
                                                         1.666
                                                               WQFQ
                                                                        2.442
                                                                              W9XAA
                                                                                       6.080
                WCG
                                         6.615
 RSB
                        10,370
                                WMFII
                                                               WQFV
                                                                        2,414
                                                                              W9XAA 11.830
                                                                                             YDO2
                                                                                                       3,430
                                                WPFA
                                                         1.712
 RSN
          5.440
                WCK
                         2.414
                                WMEV
                                         2.930
                                                                                             YDO3
                                                                                                       3.290
                                                               WQFW
                                                                        1.634
                                                                              W9XAA 17,780
          8.770
                 WDB
                         6.718
                                WMEV
                                         6.615
                                                WPFC
                                                         2,442
 RSZ
                                                                                             YDO4
                                                               WOFZ
                                                                        2.458
                                                                              W9XAK
                                                                                       2.050
                                                                                                       3.180
 RIA
          6.440
                 WDDO
                         2.738
                                WMF
                                        14.470
                                                WPFD
                                                         2.430
                                                                       15.040
                                                                              W9 X B S
                                                                                       6.425
                                                                                              YDO5
                                                                                                       2.930
                                                               WOG
                                                WPFE
                                                         2.442
 RTZ
          7.275
                 WDFL
                          2,738
                                WMI
                                         2.422
                                                                              W9XBU
                                                                                              YDO6
                                                                                                       2.770
                                                WPFG
                                                         2.442
                                                               WQH
                                                                       18.880
                                                                                       1.634
 RV15
          4.273
                          4.535
                                        14 590
                 WDG
                                WMN
                                                                                                       2.070
                                                               WQI
                                                                       17.880
                                                                              W9XF
                                                                                        6.100
                                                                                              YD07
          5.996
                                                WPFH
                                                         2.414
 RV59
                          4.550
                 WDN
                                WMO
                                         2.414
                                                                              W9XF
                                                                                        6.425
                                                                                              YDO8
                                                                                                       1.980
                                                WPFI
                                                         2.414
                                                               WQL
                                                                       14.815
 SPW
         13.630
                 WDS
                         18,900
                                WMP
                                         1.666
                                                WPFK
                                                               WQN
                                                                        5.263
                                                                               W9X0
                                                                                        6-425
                                                                                              YDO9
                                                                                                       1.880
 SR1
          9.490
                 WEA
                         10.610
                                WNA
                                         9.170
                                                         2.430
                                                                                              YDQ2
                                                               WON
                                                                        5.505
                                                                               YRIO
                                                                                       11.000
                                                                                                       3.390
 SUV
         10.055
                          6.935
                                                WPFM
                                                         2.382
                 WFR
                                WNR
                                         10.675
                                                                              XFBI
                                                                                        5.980
                                                                                              VD03
                                                                                                       3.350
                                                WPFN
                                                         1.712
                                                               WON
                                                                        5.825
 SUZ
         13.810
                 WEC
                          8.930
                                WNC
                                         15.055
                                                                                        6.000
                                                                                              YDO4
                                                                                                       3.230
 TFK
          9.050
                 WEL
                          8.950
                                WND
                                          4.098
                                                WPF0
                                                         2,474
                                                               WOO
                                                                        6.725
                                                                               YFRT
                                                                                                       2.950
                                                               WQP
                                                                       13.900
                                                                               XECR
                                                                                        7,380
                                                                                              VD05
 TGE
         14.545
                         13.435
                                         1.622
                                                WPFP
                                                         2.490
                 WEL
                                WNFI
                                                                               XEDQ
 TGWA
                                                                                        9.52
                                                                                              YD06
                                                                                                       2.810
                                                               WQR
                                                                       16.015
          6.000
                 WEM
                          7.400
                                WNE
                                          2.150
                                                WPFO
                                                         2.474
                                                                                              YDU2
                                                                                                       4.710
                                                         2.458
                                                               WQS
                                                                       13.915
                                                                               XEFT
                                                                                        6.120
                                                WPFS
 TGXA
          6.130
                 WES
                          9.448
                                WNER
                                          2.060
                                                                                                       5.260
                                                                              XEOK
                                                                                        6.130
                                                                                              YDU3
                                                WPES
                                                               WOU
                                                                       13.855
                                          2,538
                                                         2,474
 TG1X
          9,450
                 WET
                          9.470
                                 WNFG
                                                                                              YDU4
                                                                                                       2.830
                                                               wqv
                                                                               XFUW
                                                                                        6-020
                                                WPFT
                                                          2.442
                                                                       14.800
 TG2X
          5.940
                          1.630
                                 WNFJ
                                          2.986
                 WEY
                                                                WQW
                                                                               YGR
                                                                                              YDU5
                                                                                                       1.850
                                                 WPFU
                                                                       10.600
                                                                                       11 140
                          6.928
                                          2,422
                                                          2.422
 TIEP
          6.719
                 WE7
                                 WNFP
                                                 WPFV
                                                                WQY
                                                                        20.100
                                                                              XGBD
                                                                                        9.580
                                                                                              YDV2
                                                                                                       3.330
                                          6.755
                                                          2.466
         13.415
                          2.102
 TIFP
                 WHER
                                 WOA
                                                WPFW
                                                          2.466
                                                                WRBH
                                                                        2.458
                                                                               XGK
                                                                                       18.690
                                                                                              YNA
                                                                                                      14 480
 TIGPH
          5.820
                 WHER
                          1.606
                                WOR
                                          5.850
                                                                                              YNLF
                                                                                                       6.714
                                                WPFX
                                                          2.442
                                                                WRDO
                                                                         2.474
                                                                               XGL
                                                                                        7.960
 TIN
         14.545
                 WIED
                          1.566
                                 WOF
                                          9.750
                                                                                                       6.450
                                                          2.442
                                                                WRDR
                                                                               XGN
                                                                                       16.380
                                                                                              YN1GG
 TIU
         14.545
                 WIED
                                          4.253
                                                WPEY
                                                                         2.414
                          2.390
                                 WOG
                                                                                                       6.672
                                                                WRDS
                                                                         1 642
                                                                               XGO
                                                                                        7.575
 TIPG
          6.550
                 WIEG
                          2.150
                                 WOK
                                         10.550
                                                WPFZ
                                                          2.442
                                                                                              YVQ
                                                                                                      13.337
                                                                               XGOX
                                                                                        6,000
                                                WPGA
                                                          2.466
                                                                WIDI
                                                                        3.410
 TIR
          7.685
                 WIEH
                          1.622
                                 WON
                                          9.870
                                                                                              YVR
                                                                WST
                                                                         3.410
                                                                               XGOX
                                                                                        9.500
                                                                                                       9.168
 TIRCC
                                                 WPGB
                                                          2.466
          6.550
                 WIEK
                          1.646
                                 WOO
                                          4.178
                                                                WTDV
                                                                               XGOX
                                                                                       11.900
                                                                                              YVR
                                                                                                      18,296
                                                 WPGC
                                                          1.658
                                                                         4.295
 TYA
         12,215
                 WIFK
                          2.190
                                 woo
                                          4.753
                                                                WTDW
                                                                                              VV2RC
                                                                                                       6.112
                                                                         4.295
                                                                               XGOX
                                                                                       17,800
                                                          2.458
 VAC
          1.510
                 WIEL
                          1.646
                                 WOO
                                          8.560
                                                 WPGD
                                                                WTDX
                                                                         4.295
                                                                               XGW
                                                                                       10,420
                                                                                              YV3RC
                                                                                                       6.150
                 WIEL
                                 woo
                                         12.840
                                                 WPGF
                                                          1.712
 VAF
          1.510
                          2.190
                                                                               YBG
                                                                WTR
                                                                                       10.430
                                                                                              YV3RC
                                                                                                       9.510
                                                 WPGG
                                                          1.596
                                                                         6.385
 VBQ
          2.350
                 WIEG
                          1.606
                                 woo
                                         17.120
                                                                                              YV4RC
                                                 WPGH
                                                          2.414
                                                                WIT
                                                                        18.940
                                                                               YBZ
                                                                                        7.680
                                                                                                       6.375
          1.540
                 WIEO
                          2.020
                                 wou
                                          2.506
 VBY
                                                                                              YV5RM05.850
                                          2.590
                                                 WPGI
                                                          2.430
                                                                WVD
                                                                         2.604
                                                                               YCP
                                                                                        8.575
                 WIEG
                                 wox
 VRV
          1.650
                          2.102
                                                                WVD
                                                                         5.995
                                                                               YDA
                                                                                        3.040
                                                                                              YV6RV
                                                                                                       6.520
                                                 WPGJ
                                                          2.414
 VF9AS
          6.425
                 WIFO
                          2.760
                                 WOY
                                          4.178
                                                                WVD
                                                                                        6.040
                                                                                              YV10RSC5.720
                                                          2.466
                                                                         6.618
                                                                               YDA
 VE9BJ
          6.090
                 WIEW
                          1.606
                                 WOY
                                          4.753
                                                 WPGK
                                                                                              ZBW
                                                                WWAD
                                                                         4,988
                                                                               YDA2
                                                                                        2.385
                                                                                                       8.750
                                                          2,442
  VE9CA
          6.030
                 WIEW
                          2,102
                                 WOY
                                          8.560
                                                 WPGL
                                                                                        1.640
                                                                                              ZEA
                                                                                                       6.590
                                                                WWAJ
                                                                               YDA3
                                 WOY
                                         12.840
                                                 WPGM
                                                          2.414
                                                                         3.410
  VE9CS
          6.070
                 WIEX
                          1.566
                                                                                              ZEB
                                                                                                       6.590
                                                                WWAL
                                                 WPGN
                                                          2.490
                                                                         3,410
                                                                               YDA4
                                                                                        1.550
 VE9DN
          6.005
                 WIEX
                          1.606
                                 WOY
                                         17.120
                                                                                                       5.025
                                                                                              ZFA
                                 woz
                                                 WPGO
                                                          2.490
                                                                WWAM
                                                                         3.410
                                                                               YDA5
                                                                                        6.120
  VE9DN
          9.555
                 WIEX
                          2.102
                                          3.423
                                                                                                      10.055
                                                 WPGP
                                                          2.442
                                                                WWAO
                                                                         3.410
                                                                               YDA6
                                                                                        2.870
                                                                                              ZFR
                                 WO9
                                          6.385
  VE9DR
          6.005
                 WIFX
                          2.390
                                                 WPGQ
                                                          1.596
                                                                WWE
                                                                         3.410
                                                                               YDA7
                                                                                        3.270
                                                                                              ZFD
                                                                                                      10.335
  VE9DR
          9.580
                 WIFI
                          2.738
                                 WPDA
                                          2.414
                                                          2.490
                                                                WWG
                                                                         3.410
                                                                               YDA8
                                                                                        1.510
                                                                                              ZFO
                                                                                                       5.300
                                                 WPGS
  VE9EH
          6.080
                 WIR
                          4.276
                                 WPDB
                                          1.712
                                                                wwn
                                                                               YDB
                                                                                        4.470
                                                                                              ZFS
                                                                                                       4.512
                                                 WPGT
                                                                         3.410
  VE9GW 11.810
                 WIY
                         13.870
                                 WPDC
                                          1.712
                                                          2.482
                                                                               YDR2
                                                                                              ZGE
                                                                                                       6.125
                                                                WWHJ
                                                                                        2,450
                 WJER
                          1.606
                                 WPDD
                                          1.712
                                                 WPGV
                                                          1.712
                                                                         3.410
  VFJ
          2.290
                                                                                        1.660
                                                                                              ZHI
                                                                                                       6.060
                                                                WWM
                                                                               YDB3
  VIZ3
         11.495
                 WJER
                          2.102
                                 WPDE
                                          2.442
                                                 WPGW
                                                          2.382
                                                                         3.410
                                                                                                       6.080
                                                 WPGX
                                                          2.466
                                                                WWN
                                                                         3.410
                                                                               VDR4
                                                                                        1.615
                                                                                              ZHJ
                                 WPDF
                                          2.442
  VKI
          6.425
                 WIN
                          7.370
                                                 WPGZ
                                                          2.474
                                                                WWR
                                                                         3.410
                                                                               YDB5
                                                                                        1.595
                                                                                              ZLR
                                                                                                       7.390
  VK2ME
          9.585
                 WKA
                         21.060
                                 WPDG
                                          2.458
                                                                wwz
                                                                         3.410
                                                                               YDB6
                                                                                        1.570
                                                                                              ZLS
                                                                                                       8.900
                                                          2.466
                                                 WPHA
  VK3LR
          5.678
                 WKC
                         10.465
                                 WPDH
                                          2.442
                                                                WXA
                                                                         8.050
                                                                               YDR7
                                                                                        1.530
                                                                                              ZLT
                                                                                                      10.990
                                                 WPHR
                                                          2.422
  VK3LR
           9.580
                 WKDL
                          3.070
                                 WPDI
                                          2.430
                                                                WXH
                                                                         2.604
                                                                               YDD2
                                                                                        1.630
                                                                                              ZSS
                                                                                                      19.890
                                                          1.596
  VK3ME
          9.503
                 WKDL
                          5.405
                                 WPDJ
                                          2.414
                                                 WPHC
                                                                WXH
                                                                               YDD3
                                                                                        1.585
                                                                                              ZSV
                                                                                                       8.220
                                          2.450
                                                 WPHD
                                                          2.458
                                                                         6.662
  VLJ
          9.750
                 WKDT
                          1.630
                                 WPDK
                                                 WPHE
                                                                WYBF
                                                                         2.604
                                                                               YDE2
                                                                                        4.810
                                                                                              75V
                                                                                                       12,500
                 WKDU
                          1.706
                                 WPDL
                                          2.442
                                                          1.634
  VLK
          8.095
                                                                                                       6.123
                          1,622
                                 WPDM
                                                 WPHF
                                                          2,450
                                                                W1XAL
                                                                         6.040
                                                                               YDE3
                                                                                        2.910
                                                                                              7T1
                                          2.430
  VLK
         10.520
                 WKEM
                                                                W1XAL 11.790
                                                                               YDE4
                                                                                        2.415
                                                                                              ZP10
                                                                                                       6.666
                                          2.382
                                                 WPHG
                                                          1.712
  VLZ
          7.960
                 WKEM
                          2.150
                                 WPDN
                                                                                        2.350 | ZP11
                                                                                                       3.800
                                                 WPHI
                                                          2.490 WIXAL 15.250
                                                                               YDE5
  VLZ
                 WKF
                           4.253
                                 WPDO
                                          2,458
           7.980
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530	kil	ocvel	es (56	55.7)
CJKL	ak			Kirkland Lake, Ont., Northern Brdcstg. Co., Ltd. (11/35)
540 1	kilo	ocycl	es (55	
CJRM	ak		F	Moose Jaw, Sask., J. Richardsons & Sons, 311 Main St.
5501	kilo	ocvel	es (54	
CFNB	ak			
KFUO	ae	500 500	F (1) 2 (1)	Fredericton, N. B., J. S. Neill & Sons, York St. St. Louis, Mo., Evangelical Lutheran Synod, 101 DeMun St.
KFYR KOAC	ae ak	1000 1000	N(5)	District, N. D., Meyer Bracsto, Co. 320 Recadway
KSO	ak		2R	Corvallis, Ore., State Agricultural College St. Louis, Mo., St. Louis Post-Dispatch — (10/35)
K ISA WDEV	ak ae	1090 500	C (5) D	5 in Antonio, Texas, Southwest Reducte Co. Diago Hatel
WGR	CK	1000	\mathbf{C}	Buffalo, N. Y., Buffalo Brdesto Corp. Rand Blde
WKRC WS/A	ak ak	1000 500	C D	Cincinnati, Ohio, WKRC Inc., Hotel Alms Harrisonburg, Va., Marion Gilliam, Main & Market Sts.
	₹1lC	ocycl	es (5 3	
KFDM KLZ	ak ae	500 1000	(1) C	Beaumont, Texas, Sabine Brdcstg. Co., Box 2950
KS¿O	ak	1000		San Francisco, Calif., Russ Rido:
KW ro Wril	ak	5000	D	Springfield, Mo., KGBX Inc., St. Louis at Kimbrough
WIND	ak ak	1000 1000	B (5)	
WNOX	ak	1000	$\mathbf{C}_{-}(2)$	Gary, Ind., Johnson-Kennedy-Corp., 504 Broadway K joxyille, Tenn., Continental Radio Corp., Hotel A. Johnso
WQAM XEAO	ae	1000 250	(.15)	Walter, Fla., Mianii Diucste, Co., 32/ N. E. 18f Ave
XEFC	ak	100		Mexicali, L. C., Luis Castro, Altamirano 156 Merida, Yuc., J. Molina Font., Calle 59, 517
5 7 0 l	cilc	ocycle	es (52	6.0)
KGKO	ak	250	C (1)	Wichita Falls, Tex., Wichita Falls Brdcstg., 9th & Indiana
KM ľR KVI	ak ak	1000	\mathbf{c}	Hollywood, Calif., KM R Radio Corp., 915 N. Formosa Ava
WKBN	ae	1000 500	ic	Youngstown, Ohio WKRN Redeste, Corp. 17 N. Champion St.
WMCA WNAX		500	(; (£)	New York, N. Y., Knickerbocker brdcstg. Co., 1697 Broadway Yankton, S. D., WNAX Brdcstg Co., 2nd and Capitol—(1/36)
WOSU	ak ak	1000 750	G (5) 1 (1)	Columbus, Ohio, Ohio State University
WS / R WWNC	ak	250 1000	BX N	Syracuse, N. Y., 315 Starret-Syracuse Bldg. Central W. I. Ordesto.
				Asheville, N. C., Citizen Brdcstg. Co., Inc., Flatiron Bldg.
			es (51	
CFPR CHRC	z ak	50 100	$\dot{\mathbf{F}}$	Prince Rupert, B. C., Felix E. Batt, Box 79
CikC	ак	100	F	Quebec, Que., CHRC, Ltd., Victoria Hotel Winnipeg, Man., J. Richardsons & Sons, Royal Alexandra
CKCL CKUA	ae	100	F	Toronto, Ont., Dominion Battery Co., 444 University
KMI	ak ak	500 1000	\mathbf{C}	Elmonton, Alta., University of Alberta Fresno, Calif., J. McClatchy Co., Van Ness & Calaveras
KSAC	ak	500	2(1)	Manhattan, Kans State College of Agriculture
WCHS WDBO	ak ae	500 1000	(1) C	Charleston, W. Va., WOBU, Inc., Ruffner Hotel Orlando, Fla., Orlando Brdcstg. Co., Box 1097
WIBW	ak	1000 500	$\tilde{C}^{2}(5)$	Topeka, Kans., 11th and Topeka Blvd.
	ae		, (TO	Worcester, Mass., Worcester Telegram, 18 Franklin St.
		•	es (50	
KHQ Waei	ak ak	1000 1000	N (2.5) R	Spokane, Wash., Louis Wasmer, Inc., Sprague & Post
WKZO	ae	1000	D	Boston, Mass., Edison Electric Co., 182 Tremont Kalamazoo, Mich., John Fetzer, Burdick Hotel
WOW XEPN	ae ak	1000 50000	R (5)	Omaha, Neb., Woodmen of the World, 4th & Farnam Piedras Negras, Coah., Piedras Negras Brdcstg. Co., Box 360
600 k	ilo	cycle	s (49	_ _
CFCF	ae	400	FN	Montreal, Que., Canadian Marconi, Mt. Royal Hotel
CJOR	ak	500		Vancouver, B. C., G. C. Chandler, Hotel Grosvenor
CMW CRCW	ak ak	1000 500	$\dot{\mathbf{F}}$ (1)	Havana, Cuba, Troncoso y Gil, Prado 105 (altos) Windsor, Ont., C. R. B. C., Guaranty Trust Bldg.
FON	z	250	609	St. Pierre. Miquelon

NORTH AND MICAN B. C. STATTONS BY THE QUELVELES
KFSD ae 1000 N San Diego, Calif., Airfan Radio Corp., U. S. Grant Hotel WCAC ak 500 2 Storrs, Conn., Connecticut State College WCAO ae 500 C (1) Baltimore, Md., Monumental Radio Co., 811 W. Lanvale WICC ae 500 2 C (1) Bridgeport, Conn., So. Conn., Brdcstg. Corp., Stratfield Hotel WMT ak 1000 B (2.5) Cedar Rapids, lowa, Waterloo'-Brdcstg. Co., Hotel Montrose (3 (2.5)) WREC ak 1000 C (2.5) Memphis, Tenn., WREC Inc., Hotel Peabody
610 kilocycles (491.5)
KFRC ck 1000 C (5) San Francisco. Calif Don Lee Brdcstg. Sys., 1000 Van Ness Ave WDAF ak 1000 R (5) Kansas City. Mo Kansas City Star, 1729 Grand Ave. WIP ae 1000 Philadelphia, Pa Penn. Brdcstg. Co., Gimbel Bldg. WJAY ae 500 D Cleveland, Ohio, Cleve. Brdcstg. Corp., 1224 Huron Road XFX ak 1000 Mexico City. D. F., Secretaria de Educacion Publica
620 kilocycles (483.6)
KGW ak 1000 N (5) Portland, Ore., Oregonian Pub. Co., 325 Adler St. KTAR ae 1000 N (5) Phoenix, Ariz., KTAR Brdcstg. Co., Heard Bldg. WFLA ae 1000 Na (5) Clearwater, Fla., Chamber of Commerce, Box 119—(9/3 4) WHJB ak 250 D Greensburg, Pa., Pittsburgh Radio Supply, 128 Pa. Ave. WSUN ae 1000 Na (5) St. Petersburg, Fla., Chamber of Commerce, Recreation Pier WTMJ ae 1000 N (5) Milwaukee, Wis., The Journal Co., 333 W. State St.
630 kilocycles (475.9)
CFCO ak 100 F Chatham, Ont John Beardall, Wm. Pitt Hotel CFCY ae 1000 F Charlottetown, P. E. I., Island Radio Co., 143 Great George St. CJGX ae 500 F Yorkton, Sask., 188 Grain Exchange Bldg., Winnipeg, Mani Tichard of CKOV ak 100 F Kelowna, B. C., Okanagan Broadcasters, Box 243 5005 — (KGFX ak 200 D Pierre, S. D., Dana McNeil, Box 573 WGBF ak 500 I Evansville, Ind., Evansville on the Air, Inc., 519 Vine St. WMAL ak 250 B (.5) Washington, D. C., NBC., 712 11th St., N. W. WOS ak 500 ID Jefferson City, Mo., State Highway Control, Capitol Bldg. WPRO ak 250 Providence, R. I., Cherry & Webb Brdcstg, Co., 15 Chestnut XEZ z 500 Merida, Yuc., Jorge L. Falomeque, Estamores Ctd. 214
640 kilocycles (468.5)
CMBY z 150 Havana, Cuba, Callejas y Estefany, Calle Infanta 132 KFI ah 50000 N Los Angeles, Calif., Earle C. Anthony, Inc., 1000 S. Hope St. WAIU ae 500 Columbus, Ohio, Associated Radiocasting, Deshler-Wallick WOI ae 5000 D Ames, Iowa, Iowa State College XEOX ak 500 Saltillo, Coah., Antonio Garza C Victoria 4 (altos)
650 kilocycles (461.3)
RDN z 5000 San Salvador, E. S., Republic of El Salvador WSM ac 50000 N Nashville, Tenn., Nat'l. Life & Accident, 301 7th St Ave. No. 7h
660 kilocycles (454.3)
CMCX z 150 Havana, Cuba, Calle Maceo 7, Guanabacoa, Havana WAAW ak 500 D Omaha, Neb., Omaha Grain Exchange WEAF ak 50000 R New York, N. Y., NBC., 30 Rockefeller Plaza
670 kilocycles (447.5)
WMAQ ak 50000 N Chicago, III., NBC., Inc., Merchandise Mart.
680 kilocycles (440.9)
CMCO z 250 Havana, Cuba, Calle Vista Alegre 80, Vibora, Havana KFEO ak 2500 D St. Joseph, Mo., KFEO Inc., Schneider Bldg. (9, 3, 9) KPO ak 50000 N San Francisco, Calif., NBC, Inc., 111, Sutter St. VAS akn 2000 685 Clace Bay, N. S., Canadian Marconi Co., Ltd. St. John's Nfld., Wesley United Church, Box 157 Raleigh, N. C., WPTF Radio Co., 324 Fayetteville St. (?)
690 kilocycles (434.5)
CFRB ak 10000 C Toronto, Ont., Rogers-Majestic Corp., 37 Bloor St. Calgary, Alta., Albertan Pub. Co., New Albertan Bldg.

NAA akn 1000 Arlington, Va., United States Navy XET ak 500 Monterrey, N. L., P. O. Box 203, Hidalgo 700 kilocycles (428.3) WI.W ak 50000 N Cincinnati, Ohio, Crosley Radio Corp., 1329 Arlington St. 710 kilocycles (422.3) KIRO ae 500 Seattle, Wash Tower Bidg. Corp., 1329 Arlington St. 8 Seattle, Wash Tower Bidg. Corp., 9631 Wiltshire Work ak 5000 Seattle, Wash Tower Bidg. Corp., 9631 Wiltshire New Rate St. 8 Seattle, Wash Tower Bidg. Corp., 9631 Wiltshire New Rate No. 1, 15 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp., 9631 Wiltshire New Rate No. 1, 15 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp., 9631 Wiltshire New Rate No. 1, 15 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp., 963 Wiltshire New Rate No. 1, 15 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp., 963 Wiltshire New Rate No. 1, 16 Seattle, Serv., 147 Market St. 7 So kilocycles (416.4) 8 Seattle, Wash Tower Bidg. Corp. Ro. 1, 16 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp. 10 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp. 10 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp. 10 Seattle, Serv., 147 Market St. 8 Seattle, Wash Tower Bidg. Corp. 10 Seattle, Serv., New Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seattle, Wash American Radio Tel. Co., 312 Bigelow Bidg. 9 Seat				2. 3. 3.111131.3.21112.32
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WBBM ae 50000 CSy Chicago, III., WBBM Brdcstg. Co., Cornhusker Hotel Chicago, III., WBBM Brdcstg. Co., Box 452 CHWK dk 100 F Chilliwack, B. C., Chilliwack Brdcstg. Co., Box 452 Sudbury, Ont., W. E. Mason, Grand Theatre Bldg. Camaguey, Cuba, Cia. Nacional de Radio, Finlay No. 3 Burbank, Calif., Magnolia Park Ltd., 3702 Mag. Park Blvd. (1/36) Brookings, S. D., S. Dak. State College, Box L Anchorage, Alaska, Anchorage Radio Club, 411 Fourth Ave. Anchorage, Alaska, Anchorage Radio Club, 411 Fourth Ave. Sillings, Mont., Northwestern Auto Supply, 5th & Broadway KTM ak 500 2 (1) Los Angeles, Calif., 214 So. Vermont St. Frening Herall Pro., Co., Providence, R. I., Shepard Brdcstg. Serv., New Crown Hotel WMC ak 1000 N (5.) Memphis, Tenn., WMC Inc., Hotel Gayoso WTAR ae 500 N (1) Norfolk, Va., WTAR Radio Corp., Bank of Com. Bldg.	770 kilo	ocycle	es (38°	9.4)
CHWK dk 100 F Chilliwack, B. C., Chilliwack Brdcstg. Co., Box 452 CKSO ak 1000 F Sudbury, Ont., W. E. Mason, Grand Theatre Bidg. CMJK ak 250 Camaguey, Cuba, Cia. Nacional de Radio, Finlay No. 3 KELW ak 500 2 Burbank, Calif., Magnolia Park Ltd., 3702 Mag. Park Blvd. (//36) KFDY ae 1000 D Brookings, S. D., S. Dak. State College, Box L KFQD ck 250 Anchorage, Alaska, Anchorage Radio Club, 411 Fourth Ave. KGHL ak 1000 N (2.5) Billings, Mont., Northwestern Auto Supply, 5th & Broadway KTM ak 500 2 (1) Los Angeles, Calif., 214 So. Vermont St. Freeing Hereld Pro. Co. Providence, R. I., Shepard Brdcstg. Serv., New Crown Hotel WMC ak 1000 N (5.) Memphis, Tenn., WMC Inc., Hotel Gayoso WTAR ae 500 N (1) Norfolk, Va., WTAR Radio Corp., Bank of Com. Bldg.	KFAB ae	10000		Lincoln, Neb., KFAB Brdcstg. Co., Cornhusker Hotel
CKSO ak 1000 F Sudbury, Ont., W. E. Mason, Grand Theatre Bldg. CMJK ak 250 Camaguey, Cuba, Cia. Nacional de Radio, Finlay No. 3 KELW ak 500 2 Burbank, Calif., Magnolia Park Ltd., 3702 Mag. Park Blvd. (//36, KFQD ck 250 KGHL ak 1000 N (2.5) KGHL ak 1000 N (2.5) KTM ak 500 2 (1) WEAN ae 500 C Providence, R. I., Shepard Brdcstg. Serv., New Crown Hotel WMC ak 1000 N (5.) WTAR ae 500 N (1) Norfolk, Va., WTAR Radio Corp., Bank of Com. Bldg.	780 kilo	ocycle	es (38	4.4)
	CHWK dk CKSO ak CMJK ak KELW ak KFDY ac KFOD ck KGHL ak KTM ak WÉAN ac WMC ac WMC ac WMC ac	100 1000 250 500 1000 250 1000 500 1000 500	F F D 2 D 2(1) 2(1) C N (5.) N (1)	Chilliwack, B. C., Chilliwack Brdcstg. Co., Box 452 Sudbury, Ont., W. E. Mason, Grand Theatre Bidg. Camaguey, Cuba, Cia. Nacional de Radio, Finlay No. 3 Burbank, Calif., Magnolia Park Ltd., 3702 Mag. Park Blvd.—(//36) Brookings, S. D., S. Dak. State College, Box L Anchorage, Alaska, Anchorage Radio Club, 411 Fourth Ave. Billings, Mont., Northwestern Auto Supply, 5th & Broadway Los Angeles, Calif., 214 So. Vermont St. Frening Hereld Pro., Co., Providence, R. I., Shepard Brdcstg. Serv., New Crown Hotel Memphis, Tenn., WMC Inc., Hotel Gayoso Norfolk, Va., WTAR Radio Corp., Bank of Com. Bldg.
790 kilocycles (379.5)	7 90 kilo	ocycle	es (379	9.5)
CMOA z 150 Havana, Cuba, Juan Fernandez, Aguilar 126 altes. KGO ak 7500 N San Francisco, Calif., NBC., 111 Sutter St. WGY ak 50000 R Schenectady, N. Y., General Electric Co., 1 River Road	KGO ak	7500		San Francisco, Calif., NBC., 111 Sutter St.

NORTH AMERICAN B. C. STATIONS 2 2 2 2
800 kilocycles (374.8)
WBAP ak 50000 Na WFAA ak 50000 Na WTBO ak 250 D Santo Domingo, D. R., J. R. Saladin, Director General Fort Worth, Tex., Ft. Worth Star-Telegram (10/35) Dallas, Tex., A. H. Belo Corp., Baker Hotel (1/36) Cumberland, Md., Associated Brdcstg. Corp., Box 794
810 kilocycles (370.2)
CMCF ak 250 815 Havana, Cuba, Cuban Brdcstg. Co., Paseo de Marti No. 9 CMHW ak 100 Cienfuegos, Cuba, Ramon Gonzales, Box 226 Cienfuegos, Cuba, Ramon Gonzales, Box 226 Minneapolis, Minn., Northwestern Brdcstg. Co., Nicollet Hotel New York, N. Y., City of N. Y., Centre & Duane Sts. Aguascalientes, Ags., Gobierno del Estado de Aguascalientes
820 kilocycles (365.6)
WHAS aj 50000 C Louisville, Ky., Courier-Journal, 300 W. Liberty St. XETW dk 500 Mexico City, D. F., Rafael M. Pena, Avenida 16 de Sept., 83
830 kilocycles (361.2)
KOA ak 50000 N WEEU ak 1000 D WHDH ae 1000 Dn WRUF ae 5000 Dn Denver, Colo., General Electric Co., 1370 Krameria St. Reading, Pa., Berks Brdcstg, Co., 533 Pennsylvania Boston, Mass., Matheson Radio Co., 62 Boylston Gainesville, Fla., University of Florida
840 kilocycles (356.9)
CFOC ak 1000 F CMO ak 500 CRCT ak 5000 FN VOGY ak 400 XEP z 5000 XERA ck 250000 SI
850 kilocycles (352.7)
KIEV ak 100 D TIEP z 500 WESG ak 1000 C WKAR ae 1000 D WWL ae 10000 C XEFE z 250 Glendale, Calif., Cannon System, Ltd., Glendale Hotel San Jose, C. R., Eduardo Pinto H., Apartado 257 Elmira, N. Y., Cornell University, Mark Twain Hotel Last Lansing, Mich., Michigan State College New Orleans, La., Loyola Univ., Roosevelt Hotel Nuevo Laredo, T., R. T. Carranza, Km. 4 Carretera Laredo Mt.
860 kilocycles (348.6)
WABC ak 50000 C New York, N. Y., Atlantic Brdcstg. Corp., 485 Madison Ave. WHB ak 1000 D Kansas City, Mo., WHB Brdcstg. Co., Scarritt Bldg. XEMO ak 5000 Tijuana, L. C., P. O. Box 202, San Diego, Calif.
870 kilocycles (344.6)
WENR ak 50000 Na Chicago, Ill., NBC., Inc., Merchandise Mart. — (10/35) WLS ae 50000 Na Chicago, Ill., Agricultural Brdcstg., 1230 Washington Bl.
880 kilocycles (340.7)
CRO ak 1000 F CRO ak 1000 F CRO ak 1000 F KFKA ak 500 2 (1) KLX ae 1000 C WOOC ae 500 (1) WGBI ae 500 1 WPHR ak 500 D WOAM ae 250 1 WSUI ae 500 (1) WSUI ae 500 (1) Kamloops, B. C., Review Pub. Co., Wilcox-Hall Bldg. Havana, Cuba, Calle Pozos Dulces 3, Rpt. Ensanche Ottawa, Ont., C. R. B. C., Chateau Laurier Hotel Ottawa, Ont., C
890 kilocycles (336.9)
KARK ak 250 (.5) Little Rock, Ark., Ark. Radio & Equip. Co., N.S.L. Bldg. KFNF ak 500 2 (1) Shenandoah, Iowa, Henry Field Co., 407 Sycamore St.

				ERICIAY B. C. STATIONS BY FREQUENCIES
KFPY	ak	1000	C	Spokane, Wash., Symons Brdcstg. Co., Symons Bldg.
KUSD WBAA	ae	500	2	verminon, S. D., University of South Dakota
WGST	ak ak	1000 500	D C (1)	w. Lalayette, Ind., Purdue University
WILL	ak	250	2(1)	Atlanta, Ga., Ga. School of Technology, Ansley Hotel Urbana, Ill., University of Illinois
WJAR	ae	500	R	Providence, R. I., Outlet Co., Weybossett St
WMM) XEW	N ak ak	500 50000	(1)	Providence, R. I., Outlet Co., Weybossett St. Fairmount, W. Va., W. Va. Brdcstg. Corp., 208 Main St.— (5/35) México City, D. F., Cadena Radiodifusora Mexicana, Box 2516
	kilo	ocycl	es (33	33.1)
KGBU KHJ	ak	500	2002	Ketchikan, Alaska, Alaska Radio & Serv. Co., Mile 5, Wards Cove
KSEI	ae ck	1000 250	(.5)	
WBEN	ak	1000	Ŕ	Pocatello, Idaho, Radio Service Corp., 141 So. 6th St. Buffalo, N. Y., WBEN Inc., Hotel Statler
WELI	z	500	D	New Haven, Conn., Patrick J. Goode
WFMD WJAX	ah aeh	500	DP N/s	Frederick, Md., Francis Scott Kov Untol' Ban A.d. to I d
WKY	ae	1000	N (5) N	Jacksonville, Fla., City of Jacksonville Oklahoma City, Okla., WKY Radiophone Co., Plaza Court Bldg.— Stevens Point Wis State of Wise Formula Court Bldg.—
WLBL	ak	2500	Ö	
WTAD	ak	500	D	vames, im, in. bidestg. Corp., state & 6th.
			es (32	
CJAT CRCM	ak ak	250 5000	F F	Montreal Over C. P. B. C. 1931 (1959 (1959)
XENT	ak	65000		Montreal, Que., C. R. B. C., 1231 St. Catherines St. W. Nuevo Laredo, Tams., P. O. Box 410, Laredo, Texas
	cilo	cycl	es (32	25.9)
CMX	ae	650		Havana, Cuba, Fransisco Lavin, Calle Obrapia y Oficios
HHK KFEL	ae ak	10 0 0 500		I ULUMU-FILINCE, FIMILL HAITIAN LIOVARNMANT
Комо		1000	a N (5)	Denver, Colo., Eugene P. O'Fallon, Inc., Albany Hotel Seattle, Wash., Fishers Blend Station, Inc., Skinner Bldg.
KPRC	ak	1000	N (5)	HOUSION, LEXAN, HOUSION Prio. Co. Lamar Hatal
WAAF	ak ak	500	a	Denver, Colo., Colo. Kadio Corp., Continental Oil Rido
WBSO	ae	1000 500	D D	Chicago, III., Drovers Johnson Physics Palmar Hansa
WPEN	ak	250	(.5) 1	Babson Park, Mass., Brdcstg. Serv. Org., Inc., Drawer B Philadelphia, Pa., Wm. Penn Brdcstg. Co., 22nd & Walnut Sts.
WRAX	ak	250	1 (.5)	Filliagelphia, Fa., WKAX Briceto, Co. 317 So. Recod Se
WSPA WWJ	ae ak	1000 1000	D (5)	Spartanburg, S. C., virgh v. Evans, Ravenel & Avant Ste
XEAA	ak	200	R (5)	Detroit, Mich., Evening News Assn., 616 Lafayette Blvd. Mexicali, L. C., P. O. Box 714, Calexico, Calif.
930 l	cilo	cycl	es (32	
CFAC	ak	100	F	Calgary, Alta., T. P. & C. Brdestg. Co., Southam Bldg.—(6/34) North Bay, Ont., Roy H. Thomson, Capitol Theatre Bldg.—(1//35) Prescott, Ont., Radio Assn. of Prescott, 307 George See
CFCH	ak	100	F	North Bay, Ont., Roy H. Thomson, Capitol Theatre Bldg (///)
CFLC CHNS	ae ae	100 1000	F	
CKPC	ae	100	F	Halifax, N. S., Maritime Brdcstg. Co., Lord Nelson Hotel Brantford, Ont., Telephone City Brdcstg. Ltd., Arcade Bldg.— (9/3
CKPR	aķ	100	F	FOR William, Unt., Dougall Motor Co., Royal Edward Hotel
KGBZ KMA	ak ak	1000 1000	2 (2.5) 2 (2.5)	IUIK, Neb., KGBZ Brdcsig, Co., 719 Grant Ave
KROW	ak	500	$(1)^{2.3}$	Shenandoah, Iowa, Earl E. May Seed and Nursery Co. Oakland, Calif., Educational Brdcstg. Corp., 1803 Franklin
TIRH	z.	50		San Jose, C. R.
WBRC WDBJ	ak ae	1000 1000	C	San Jose, C. R. Birmingham, Ala., Birmingham Brdcstg. Co., Bankhead Hotel Roanoke, Va., Times World Corp., P. O. Box 150
940 k	ilo	cycle	es (31	9.0)
CMBC	dj	500		Havana, Cuba, Domingo Fernandez, Monte No. 139
KOIN	ak	1000	C(5)	Portland, Ore., KOIN Inc., New Heathman Hotel
VOAS WAAT	ak ae	100 500	D	St. John's Nfld., Ayre & Sons, Ltd., Water St
WAVE	bk	1000	N	Jersey City, N. J., Bremer Brdcstg. Corp., 50 Journal Sq. Louisville, Ky., WAVE, Inc., 1525 Brown Hotel
WCSH	ae	1000	R (2.5)	Portland, Maine, Congress Square Hotel Co.
WDAY	ae	1000	N (5)	Fargo, N. D., WDAY, Inc., Black Bldg., 118 Broadway
WHA XEFO	ak ak	1000 5 0 00	D (5) (XFO)	Madison, Wis., University of Wisc., Radio Hall
950 k	ilo	cycle	es (31	5.6)
CRES	ak	100	F	Chicoutimi, Que., C. R. B. C., 4 Rue Larouche (?)
KFWB	ak	1000	(5)	Hollywood, Calif., Warner Bros., Motion Pictures, Inc.
KHSL KMBC	ak ae	250 1000	D C (5)	Chico, Calif., Golden Empire Brdcstg. Co.
	ac	1000	C (3)	Kansas City. Mo., Midland Brdcstg. Co Pickwick Hotel

NORTH	AMERICAN B. C. STATIONS BY FREQUENCIES
UNITED A 20	Washington, D. C., NBC, Inc., National Press Bldg Managua, Nic.
960 kilocycles	(312.3)
CKY ak 15000 I CMCD ak 250 XEAW ck 50000	Winnipeg, Man., Manitoba Telephone System, Sherbrooke St. Havana, Cuba., Calle "G" y 25, Vedado, Havana Reynosa, Tams., Cia. Int. Difusora Reynosa, Aptdo. 6
970 kilocycles	s (309.1)
WCFL ae 5000	Seattle, Wash., Fishers Blent Station, Skinner Bldg. Chicago, Ill., Chi. Fed. of Labor, 666 Lake Shore Drive Glenside, Pa., Seaboard Radio Brdcstg, Corp. (2/35)
980 kilocycles	s (303.9)
KDKA ae 50000	Pittsburgh, Pa., Westinghouse Elec. Co., Grant Bldg.
990 kilocycles	s (302.8)
	BSy Boston, Mass., Westinghouse Elec. Co., Hotel Bradford Springfield, Mass., Westinghouse Elec. Co., Hotel Kimbali Nogales, Sonora, Fransisco G. Elias, Hotel Central Mexico City, D. F., Arturo Martinez, Jalapa No. 51 Tampico, Tams., Fernando Sada, Box 309
1000 kilocycl	es (299.8)
CMBZ ak 250 KFVD ak 250 TIGH z 500 WHO ak 50000	Havana, Cuba, Manuel y G. Salas, San Rafael No. 14 Los Angeles, Calif., E. L., Cord, 645 S. Mariposa San Jose, C. R. Des Moines, Iowa, Central Brdestg. Co., 914 Walnut St.
XEY z 16 1010 kilocycl	
CHML ak 100 CHWC ak 500 CKCD ak 100 CKCK ak 500 CKIC ak 500 CKIC ak 50 GKWX ak 100 CMJA ak 300 KGGF ak 1000 KGGF ak 1000 KGW ak 1000 TIGA z 30 WHN ac 1000 WHN ac 500 WNAD ac 1000 XEU ak 250	Hamilton, Ont., Maple Leaf Radio Co., Pigott Bidg. Regina, Sask., R. H. Williams & Sons, Kitchener Hotel Vancouver, B. C., Van. Daily Province, 142 Hastings St. W. Regina, Sask., Leader-Post Ltd., 1853 Hamilton St. Ottawa, Ont., Dr. Geldert, 272 Somerset St., W. Wolfville, N. S., Acadia University Vancouver, B. C., Western Brdcstg. Co., Hotel Georgia Camaguey, Cuba, Rafael Valdes, P. O. Box 64 Coffeyville, Kans., Powell & Platz, Coffeyville Journal Bidg. San Jose, Calif., 87 E. San Antonio St., Parite Agricultual Foundation Ocartago, C. R. New York, N. Y., Marcus Loew Agency, 1540 Broadway N(1) Columbia, S. C., Station WIS, Inc., Box 635 Norman, Okla., University of Oklahoma Veracruz, Ver., Fernando Pazos S., Independencia 98
1020 kilocycl	es (293.9)
KYW ak 10000 XEJ ak 1000	R Philadelphia, Pa., Westinghouse Elec. Co., 1622 Chestnut St. Juarez, Chih., Juan G. Buttner, P. O. Box 111
1030 kilocycl	es (291.1)
CFCN ak 10000 CKLW ag 5000 CMCY ak 1000 XEB ak 10000	Calgary, Alta., Grant & Love, Toronto Gen. Trust Bidg. (? Windsor, Ont., West. Ont. Brdcstg. Co., Guaranty Trust Bidg. Havana, Cuba, Manuel D. Outran, Calle "G" 215, Vedado Mexico City, D. F., El Buen Tono, S. A., Aptdo. 79-44
1040 kilocycl	es (288.3)
KRLD ae 10000 KWJJ ak 500 WTIC ah 50000	C Dallas. Texas, KRLD Radio Corp., Adolphus Hotel Portland, Ore., KWJJ Brdcstg. Co., 622 Salmon St,, Hartford, Conn., Travelers Brdcstg. Co., 26 Grove St.
1050 kilocycl	es (285.5)
CMED ak 250	Santiago, Cuba, Radioemisora Oriental, Box 23
	o.e

NORT	H AME	RICAN B. C. STATIONS BY FREQUENCIES
CRCK ak 1000 KFBI ak 5000 KNX ak 50000 TIFA z 75	F Dn 	Quebec, Que., C. R. B. C., Chateau Frontenac Hotel Abilene, Kans., Farmers and Bankers Life, Box 345 Hollywood, Calif., West. Brdcstg. Co., 1558 N. Vine St. San Jose, C. R.
1060 kilocyc	les (28	82.8)
CMK ae 250 KTHS ae 10000 VOAC z 40 WBAL ak 10000 WJAG ak 1000 XEA ak 500	N 1065 B D	Havana, Cuba, Cia. Nacional de Radio, Hotel Plaza Hot Springs, Ark., Chamber of Commerce, Box 86 St. Joh's, Nfld., Amer. Radio News Corp., Lexington Bidg. — (4/34/3) Baltimore, Md., Norfolk Daily News Norfolk, Neb., Edificio Assad., Pedro Loza 28 Guadalajara, Jal., Alberto Palos Sauza, Juan Manuel 383
1070 kilocyc	les (28	80.2)
CMHA z 50 KJBS ak 500 WCAZ ak 100 WDZ ak 100 WTAM ak 50000	Dn D D R	Sagua la Grande, C., Abelardo Menocal, Carrillo No. 31 San Francisco, Calif., Julius Brunton & Sons, 1380 Bush St. Carthage, Ill., Superior Brdcstg. Serv., 97½ Adams Tuscola, Ill., James L. Bush, Star Store Bldg. Cleveland, Ohio, NBC, Inc., 1367 E. 6th St.
1080 kilocyc	les (27	77.6)
WBT ak 50000 WCBD ak 5000 WMBI ak 5000 XEMA z 50	C 1Dn 1Dn	Charlotte, N. C., Station WBT, Inc., Wilder Bldg. Waukegan, Ill., WCBD, Inc., Karcher Hotel————————————————————————————————————
1090 kilocyc	les (27	75.1)
KMOX ak 50000	C	St. Louis, Mo., Voice of St. Louis, 401 S. 12th St.
1100 kilocycl	les (27	72.6)
CRCV ak 500 KGDM ak 10000 KWKH ae 10000 WLWL ae 5000 WPG ak 5000 XEL z 250	F D C 1 1C	Vancouver, B. C., C. R. B. C., 1150 Main St. Stockton, Calif., E. F. Peffer, 42 S. California St. Shreveport, La., Times Pub. Co., Spring & Fannin Sts.—(9/35) New York, N. Y., 415 W. 59th St.) Universal Diodecarting Corp. Atlantic City, N. J., City of Atlantic City, Convention Hall—(9/33) Mexico City, D. F., Calzada del Rosel, No. 1
1110 kilocycl	les (27	(0.1)
CMCO ak 250 KSOO ak 2500 WRVA ae 5000 XELO z 10000	Dn N	Havana, Cuba, Enrique Lasanta, Calle Oficios 116 Sioux Falls, S. D., Sioux Falls Brdcstg. Apr. Carpenter Hotel Richmond, Va., Larus & Bros. Co., 22nd & Gary Sts. Piedras Negras, Co., Piedras Negras Brdcstg. Co., Madero 53
1120 kilocycl	les (26	57.7)
CHLP ak 100 CHSJ ae 500 CKOC ae 500 CKX ak 100 CMGF dk 100 CMKM ak 200 KFIO ae 100 KFSG ag 500 KRKD aj 500 KRKD aj 500 KRSC ak 100 WCOP ak 500 WIDEL ak 250 WISN ak 250 WTAW ae 500	F (1) F (1) F	Montreal, Que., La Patrie Pub. Co., Sun Life Bldg. St. John, N. B., N. B. Brdcstg. Co., Admiral Beatty Hotel—(\$\frac{9}{3}\frac{9}{3}\frac{9}{3}\) Hamilton, Ont., Wentworth Brdcstg. Co., Wentworth Bldg Brandon, Man., Man. Tele. System, City Hall Square Matanzas, Cuba, Calle Gnrl. Betancourt No. 5i Manzanillo, Cuba, Merchan P. Figeredo, P. O. Box 4 Spokane, Wash., Spokane Brdcstg, Corp., Zieglar Bldg. Los Angeles, Calif., Echo Park Assn., 1100 Glendale Blvd. Los Angeles, Calif., Radio Brdcsters. Inc., 815 Spring Arcade—(10)33 Seattle, Wash., Radio Sales Corp., Washington Athletic Club Boston, Mass., Joseph M. Kirby, Hotel Copley-Plaza Wilmington, Del., WDEL, Inc., 10th & King Sts. Milwaukee, Wis., Hearst Radio, Inc., 123 W. Michigan St.—(3)35) College Station, Tex., Agricultural & Mechanical College
1130 kilocycl	les (26	5.3)
CMJI ak 50 KSL ac 50000 WJJD ak 20000 WOV ag 1000	C Dn D	Ciego de Avila, Cuba, Gilberto Gesse Lopez, Independencia 95 Salt Lake City, Utah, Radio Serv. Corp., Vermont Bldg. Chicago, Ill., WJJD, Inc., 201 N. Wells St. New York, N. Y., Internat'l. Brdcstg. Co., 132 W. 43rd St.
1140 kilocycl	les (26	3.0)
CMBG z 200	•	Havana, Cuba, John L. Stowers, Hospital No. 100

VE9EK ak 10 1185 WDGY ak 1000 Dn (5) WINS ak 1000 WMAZ ak 1000 WMAZ ak 1000 WMAZ ak 1000 WMAZ ak 1000 Macon, Ga., Southeastern Brdcstg., 211 Cotton Ave. Mexico City, D. F., Eduardo Limon S., Meditarraneo 236 1190 kilocycles (252.0) CMKV z 50 Santiago, Cuba, Oscar Vidal, Palma Soriano HIJ z 15 1195 Santo Domingo, D. R., Tuto Baez, Hostos 34 VONF ak 500 1195 St. John's, Nfid., Dominion Brdcstg. Co., Ltd., Box 135 WATR ak 100 D Waterbury, Conn., WATR Co., Inc., 47 Grand St WOA1 ak 50000 N San Antonio, Tex., Southland Industries Inc., 1038 Navarro WSAZ ak 1000 WSAZ ak 1000 F Moose Jaw, Sask., CHAB, Ltd., P. O. Box 729 1200 kilocycles (249.9) CHAB ak 100 F Moose Jaw, Sask., CHAB, Ltd., P. O. Box 65 — (9/35) CKTB ae 100 F St. Catherines, Ont., E. T. Sandell, Welland House CMCJ ak 350		NORT	II MIVIL	WOINT D. C.
CMJF 2 200				Tulsa, Okla., Southwestern Sales Corp., Wright Bldg. Birmingham, Ala., WAPI Brdcstg. Corp., Protective Life Bldg.
WHAM as 500000 B XEPL z 500 Standalajara, Jal., Cia. Radiofonografica Aptdo. 197 XEPH ak 250 Monterrey, N. L. Tarnava y Cia. P. O. Box 147 XEWZ ak 100 Monterrey, N. L. Tarnava y Cia. P. O. Box 147 Mexico City, D. F., Jesus Valezzi E., P. O. Box 291 1160 kilocycles (258.5) CMHJ z 100	1150 l	kilocyc	les (26	50.7)
CMHJ z 100 Cienfuegos, Cuba. Romualdo Ugalde, Sta. Elena 184 WOWO al 5000 1C WEAS z 100 Saltillo, Coah., 'La Voz del Comercio en Saltillo' XEAS z 100 Saltillo, Coah., 'La Voz del Comercio en Saltillo' XEC z 30 Tijuana, L. C., Luis F. Encisco. Teatro Zaragoza 1170 kilocycles (256.3) CMBD z 150 Havana. Cuba. Luis Perez Garcia, Calle 17, 3. Vedado WCAU ae 50000 C Havana. Cuba. Luis Perez Garcia, Calle 17, 3. Vedado Philadelphia, Pa., WCAU Brdcstg. Corp., 1622 Chestnut St. 1180 kilocycles (254.1) CMJO ak 500 2N Grotal Albayere, N. M., Albuquerque Journal, Box 1319 WDGY ak 1000 2 Ye9EK ak 10 1185 Montmagny, Que. J. A. Marquis, Box 52 WDGY ak 1000 Montmagny, Que. J. A. Marquis, Box 52 WMMAZ ak 1000 Macon, Ga., Southeastern Brdcstg., 211 Cotton Ave. MEXERA z 500 Mexico City, D. F., Eduardo Limon S., Meditarraneo 236 1190 kilocycles (252.0) CMKV z 50 Macon, Ga., Southeastern Brdcstg., 211 Cotton Ave. Mexico City, D. F., Eduardo Limon S., Meditarraneo 236 1190 kilocycles (252.0) CMKV z 50 Santiago, Cuba, Oscar Vidal, Palma Soriano WATR ak 100 D Santo Domingo, D. R., Tuto Baez, Hostos 34 VONF ak 500 I195 St. John's, Nid., Dominion Brdcstg. Co., Ltd., Box 135 WATR ak 100 D Santo Domingo, D. R., Tuto Baez, Hostos 34 Waterbury, Conn., WATR Co., Inc., 47 Grand St.— WOAT ak 50000 N San Antonio, Tex., Southland Industries Inc., 1038 Navarro WSAZ ak 1000 C St. Santiago, Cuba, Oscar Vidal, Palma Soriano WSAZ ak 1000 N San Antonio, Tex., Southland Industries Inc., 1038 Navarro Huntington, W. Va., WSAZ, Inc., P. O. Box 26 — (4/3.5) St. Catherines, Ont., E. T. Sandell, Welland House CKTB ak 100 (25) Marshall town, Iowa, Marshall Elec, Co., Inc., 1603 W. Main St. KEXU ak 100 (25) Grand Junction, Colo, Western Slope Brdcstg. Co., Hillcrest Mnr. KGPL ak 100 (25) Grand Junction, Colo, Western Slope Brdcstg. Co., Hillcrest Mnr. KGPL ak 100 (25) Grand Junction, Colo, Elmer G. Beehler, 109 W. 2nd St. Little Rock, Arti, Arkansas Brdcstg. Co., Marion Hotel Los Angles, Artines Brdcstg. Co., Mar	CMJF WHAM XED XEFL XEH	z 200 ae 50000 ak 2500 z 500 ak 250	B 1155	Camaguey, Cuba, John L. Stowers, Republica No. 88 Rochester, N. Y., Stromberg-Carlson, 100 Carlson Road Guadalajara, Jal., Cia. Radiofonografica, Aptdo. 197 Tijuana, L. C., P. O. Box 6, San Diego, Calif. Monterray, N. L. Tarnaya, V. Cia., P. O. Box 147
WOWO ak 10000 1C WEXAS z 100 Saltillo, Coah., "La Voz del Comercio en Saltillo" XEC z 30 Tijuana, L. C., Luis F. Encisco. Teatro Zaragoza 1170 kilocycles (256.3) CMBD z 150 Havana, Cuba, Luis Perez Garcia, Calle 17, 3. Vedado Philadelphia, Pa., WCAU Brdcstg, Corp., 1622 Chestnut St. 1180 kilocycles (254.1) CMJO ak 50 Ciego de Avila, Cuba, B. Ildefonso, Calle Maceo y C. Central Verence of Philadelphia, Pa., WCAU Brdcstg, Corp., 1622 Chestnut St. CMJO ak 50 Ciego de Avila, Cuba, B. Ildefonso, Calle Maceo y C. Central Portland, Ore., Oregonian Pub. Co., Oregonian Bldg, Montmagny, Que., J. A. Marquis, Box 53 Montmagny, Que., J. A. Marquis, Box 54 Montmagny, Que., J. A. Marquis, Box 55 Montmagny, Que., J. A. Marquis, Box 55 Montmagny, Que., J. A. Marquis, Box 55 Montmagny, Que., J. A. Marquis, Box 52 Montmagny, Que., J. A. Marquis, Box 55 Montmagny, Que., J. A. Marquis, Box 52 Mon	11601	kilocyc	les (25	58.5)
CMBD z 150	WOWO WWVA XEAS	ae 10000 ak 5000 z 100	1 C	Fort Wayne, Ind., Main Auto Supply Co., 213 W. Main St. Wheeling, W. Va., W. Va. Brdcstg. Corp Hawley Bldg.
CMBD z 150	11701	kilocyc	eles (2	56.3)
CMJO ak 500 Ciego de Avila, Cuba, B. Ildefonso, Calle Maceo y C. Central KEX ak 5000 2N Action of the Common o	CMBD	z 150		Harring Cuba Luis Parez Garcia, Calle 17, 3, Vedado
CMJO ak 500 Ciego de Avila, Cuba, B. Ildefonso, Calle Maceo y C. Central KEX ak 5000 2N Action of the Common o	1180	kilocyc	eles (2	54.1)
CMKV z 50 Santiago, Cuba, Oscar Vidal, Palma Soriano HIJ z 15 1195 Santo Domingo, D. R., Tuto Baez, Hostos 34 VONF ak 500 1195 St. John's, Nfid., Dominion Bridestg. Co., Ltd., Box 135 WATR ak 100 D Waterbury, Conn., WATR Co., Inc., 47 Grand St. — (1), 4) WOAI ak 50000 N San Antonio, Tex., Southland Industries Inc., 1038 Navarro WSAZ ak 1000 Huntington, W. Va., WSAZ, Inc., P. O. Box 729 1200 kilocycles (249.9) CHAB ak 100 F Moose Jaw, Sask., CHAB, Ltd., P. O. Box 26 — (2/3.5) CKTB ae 100 F St. Catherines, Ont., E. T. Sandell, Welland House CMCJ ak 350 Havana, Cuba, Rafael Rodriquez, Estevez No. 4 KADA ak 100 D Havana, Cuba, Rafael Rodriquez, Estevez No. 4 KADA ak 100 D Marshalltown, Iowa, Marshall Elec. Co., Inc., 1603 W. Main St. KFXD ae 100 (.25) Mampa, Idaho, Frank E. Hurt, 1024 Twelfth Ave., S. KFXJ ak 100 (.25) Grand Junction, Colo., Western Slope Brdcstg. Co., Hillcrest Mnr. KGDE ak 100 (.25) Grand Junction, Colo., Western Slope Brdcstg. Co., Hillcrest Mnr. KGFJ ae 100 Sterling, Colo., Elmer G. Beehler, 109 W. 2nd St. Los Angeles, Calif., Ben S. McGlashan, 1417 S. Figueroa KGHI ak 100 (.25) Little Rock, Ark., Arkansas Brdcstg. Co., Marion Hotel— KGHI ak 100 (.25) Hotel	CMJO KEX KOB VE9EK WDGY WINS WMAZ	ak 50 ak 5000 ak 10000 ak 10 ak 1000 ak 1000 ak 1000	2N 2 1185 Dn (5)	Ciego de Avila, Cuba, B. Ildefonso, Calle Maceo y C. Central Portland, Ore., Oregonian Pub. Co., Oregonian Bldg. (%) 44) Albuquerque, N. M., Albuquerque Journal, Box 1319 Montmagny, Que., J. A. Marquis, Box 52 Minneapolis, Minn., Dr. Geo. W. Young, 909 W. Broadway, New York, N. Y., Hearst Radio Inc., 114 E. 58th St. (3) 55)
VONF ak 500 1195 WATR ak 100 D WATR ak 50000 N WSAZ ak 1000 N WSAZ ak 1000 N WSAZ ak 1000 San Antonio, Tex., Southland Industries Inc., 1038 Navarro Huntington, W. Va., WSAZ, Inc., P. O. Box 729 1200 kilocycles (249.9) CHAB ak 100 F CKNX ak 50 CKTB ae 100 F CMCJ ak 350 CMCJ ak 350 KADA ak 100 D KBTM ak 100 D KBTM ak 100 D KBTM ak 100 C.25) KFXD ae 100 (.25) KFXD ae 100 (.25) KFXD ae 100 (.25) KFXD ae 100 C.25 KFXJ ak 100 (.25) KFXD ae 100 (.25) KFXD ae 100 C.25 KFXJ ak 100 (.25) KGEK ak 100 (.25) KGEK ak 100 (.25) KGEK ak 100 (.25) KGEK ak 100 (.25) KGFJ ae 100 (.25) KGGFJ ae 100 (.25) Little Rock, Ark, Arkansas Brdcstg. Co., Marion Hotel— KGGHJ Arkansa Brdcstg. Station, Francis Hotel Monroe La Linere Brdcstg. Station, Francis Hotel	1190	kilocy	cles (2	52.0)
CHAB ak 100 F Moose Jaw, Sask., CHAB, Ltd., P. O. Box 26 — (9/3.5) CKNX ak 50 Wingham, Ont., Wingham Radio Club, Box 65 — (9/3.5) CKTB ae 100 F St. Catherines, Ont., E. T. Sandell, Welland House CMCJ ak 350 Havana, Cuba, Rafael Rodriquez, Estevez No. 4 Havana, Cuba, Rafael Rodriquez, Estev	HIJ VONF WATR WOAI	z 15 ak 500 ak 100 ak 50000	1195 D N	Santo Domingo, D. R., Tuto Baez, Hostos 34 St. John's, Nfid., Dominion Brdcstg. Co., Ltd., Box 135 Waterbury, Conn., WATR Co., Inc., 47 Grand St. — (1),44) San Antonio, Tex., Southland Industries Inc., 1038 Navarro
CKNX ak CKTB ae 100 F CKCTB ae 100 F St. Catherines, Ont., E. T. Sandell, Welland House CMCJ ak 350 KADA ak 100 D KBTM ak 100 D KFJB ak 100 (.25) KFXD ae 100 (.25) KFXD ak 100 (.25) KFXJ ak 100 (.25) KGEK ak 100 (.25) KGEK ak 100 (.25) KGEK ak 100 (.25) KGFJ ae 100 (.25) KGEK ak 100 (.25) KGFJ ae 100 (.25) KGEJ ae 100 (.25) Little Rock, Ark, Arkansas Brdcstg. Co., Marion Hotel	1200	kilocy	cles (2	49.9)
WABI ak 100 Bangor, Maine, Community Brucstg. Set 100 (1/3) WAIM ak 100 Anderson, S. C., Anderson College (1/3) WBBZ ak 100 Ponca City, Okla., C. L. Carrell, 407 W. South Ave. WBNO ak 100 Ponca City, Okla., C. L. Carrell, 407 W. South Ave. New Orleans, La., Coliseum Baptist Church, Hotel N. O. (4/3) WCAT ak 100 D Rapid City, S. D., South Dakota State School of Mines Rapid City, S. D., South Dakota State School of Mines Rapid City, S. D., South Dakota State School of Mines	CKNX CKTB CMCJ KADA KBTM KFJB KFXJ KGDE KGEK KGFJ KGHI KMLB KSUN KVOS KWG WABI WAIM WBBZ WBNO WCAT WCAX WCLO WCPO WEST WFAM WHBC	ak 50 ae 100 ak 350 ak 100	F D (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25) (.25)	Wingham, Ont., Wingham Radio Club, Box 65 (9/33) St. Catherines, Ont., E. T. Sandell, Welland House Havana, Cuba, Rafael Rodriquez, Estevez No. 4 Ada, Okla., C. C. Morris Jonesboro, Ark., Jay P. Beard Marshalltown, Iowa, Marshall Elec. Co., Inc., 1603 W. Main St. Nampa, Idaho, Frank E. Hurt, 1024 Twelfth Ave., S. Grand Junction, Colo., Western Slope Brdcstg. Co., Hillcrest Mnr. Fergus Falls, Minn., C. L. Jaren Sterling, Colo., Elmer G. Beehler, 109 W. 2nd St. Los Angeles, Calif., Ben S. McGlashan, 1417 S. Figueroa Little Rock, Ark., Arkansas Brdcstg. Co., Marion Hotel Lowell, Ariz., Copper Electrical Co., Drawer C Bellingham, Wash., KVOS, Inc., 115 W. Magnolia St. Stockton, Calif., Medico-Dental Bldg., **Colarchy **Mosspaners, Inc. Bangor, Maine, Community Brdcstg. Service (9/35) Anderson, S. C., Anderson College (10/35) Ponca City, Okla., C. L. Carrell, 407 W. South Ave. New Orleans, La., Coliseum Baptist Church, Hotel N. O. (4/55) Rapid City, S. D., South Dakota State School of Mines Burlington, Vt., Burlington Daily News, 203 College St. Janesville, Wis., Gazette Prtg. Co., 200 E. Milwaukee St. (1) Cincinnati, Ohio, Continental Radio Co., Hotel Sinton (11/35) Easton, Pa., Lancaster Brdcstg. Serv. South Bend, Ind., South Bend Tribune, 225 W. Colfax Ave. Canton, Ohio, Edw. P. Graham, 319 Tusc. St., W. Green Bay Wis WHRY, Inc., Bellin Bldg.

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WIL
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Bloomington, Ill., Kaskaskia Broadcasting Co.
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San Bernardino, Cal., Lee Bros. Brdcstg. Co., California Hotel
Olympia, Wash., KGY, Inc., 11th and Capitol Way
Garden City, Kans., Garden City Brdcstg. Co.
Pasadena, Calif., Pasadena Presb. Church, 585 E. Colorado
Ardmore, Okla., Ardmoreite Publishing Co., Inc.
Watertown, S. D., Citizen's Bank Bldg., Greater Mampes het Radio Corp.,
Guatemala City, Ministerio de Fomento
Zanesville, Ohio, WALR Brdcstg. Corp., 1st Trust & Bank Bldg.
Wilkes Barre, Pa., John M. Stenger, Jr., 70 S. Main St.
Richmond, Va., Grace Presb. Church, 1627 Monument Ave.
Red Bank, N. J., Monmouth Brdcstg. Corp., 63 Broad St.
Columbus, Ohio, WCOL, Inc., 33 N. High St.— (11/34)
Chicago, Ill., Clinton R. White, 2756 Pine Grove Ave.
Harrisburg, Ill., Harrisburg Brdcstg. Co., 100 E. Popular
Chicago, Ill., Emil Denemark, 3850 Ogden Ave.
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1240	kilo	ocycl	les (24	41.8)
CJCB CMHB KGCU KLPM KTAT KTFI WKAQ WXYZ XEAI XEKL	ak z ak ak ak ae ae ak z	1000 50 250 250 1000 1000 1000 1000 500	F	Sydney, N. S., N. Nathanson, 318 Charlotte St. Sancti Spiritus, Cuba, V. E. Weiss y Cia., Independencia 33 Mandan, N. D., Mandan Radio Assn., 404 W. Main St. Minot, N. D., John P. Cooley, Box 707 Fort Worth, Texas, Ft. Worth Nat'l. Bank Bldg, Southwest Brd., Twin Falls, Idaho, Radio Brdcstg. Corp., Box 521 San Juan, P. R., Radio Corp. of P. R., Box 1414 Detroit, Mich., Kunsky-Trendle Brdcstg. Corp. Mexico City, D. F., Carlos Gonzales C., Insurgentes 366 Leon, Guan., Cia. Radio del Bajio, 5 de Mayo 26
1250	kil	ocve	les (2	39.9)
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1260	kil	ocyc	les (2	38.0)
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1270	kil	осус	1es (2	36.1)
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1280	kil	ocyc	les (2	34.2)
CMCU KFBB WCAM WCAP WDOD WIBA	z ae ae ae	150 100 0 500 500 1000	(2.5) 1 1 C (5) N (5)	Havana, Cuba, San Fransisco No. 13, Vibora Great Falls, Mont., Buttrey Brdcstg., Inc., P. O. Box 1817 Camden, N. J., City of Camden, City Hall Asbury Park, N. J., Radio Industries, Inc., Convention Hall Chattanooga, Tenn., WDOD Brdcstg. Corp., Hotel Patten Madison, Wis., Badger Brdcstg. Co., 111 King St.

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Worcester, Mass., Alf. E. Kleindienst, 60 Franklin St.
Dallas, Texas, City of Dallas, Southland Bldg.
Trenton, N. J., Trenton Brdcstg. Co., Stacy Trent Hotel
Mexico City, D. F., Alfonso T. Avales, Salamanca 87
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Houston, Texas, KTRH Brdcstg. Co., Rice Hotel
Superior, Wis., Spaulding Hotel, Duluth, Minn, Heal of the lake Brdcstg. Co.
Pittsburgh, Pa., Chamber of Commerce Bldg, Pittsburgh, Richio Superly History
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Portland, Ore., KALE, Inc., New Heathman Hotel
Los Angeles, Calif., E. L. Cord, 645 So. Mariposa
Wichita, Kans., KFH, 124½ S. Market St.
Portland, Ore., KFJR, Inc., 622 Lumberman's Bldg.
Brooklyn, N. Y., Peoples Pulpit Assn., 124 Columbia Hts.
New York, N. Y., Jewish Daily Forward, Hotel Claridge
New York, N. Y., 5th Ave. Brdcstg. Corp., 154 W. 57th St.
Greenville, S. C., Greenville News-Piedmont Co., Imperial Hotel
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Yarmouth, N. S., Laurie L. Smith, Grand Hotel
Quebec, Que., CKCV, Ltd., 142 St. John St. — (9/35)
Jerome, Ariz., Chas. C. Robinson, Drawer D
Dublin, Texas, C. C. Baxter, Box 176
Oklahoma City, Okla., 541 Hightower Bldg. Exchange Ave. Baptist Church
Lubbock, Texas, Kirksey Bros., Hotel Lubbock
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Kearney, Neb., Cent. Nebr. Brdcstg. Corp., 919 W. 27th
Juneau, Alaska, Edwin A. Kraft (1/35)
Yakima, Wash., Carl E. Haymond, 1091/6 E. Yakima Ave.— (?)
Santa Fe, N. Mex., W. C. Ervin— (9/35)
Medford, Ore., Mrs. W. J. Virgin, Sparta Bldg.
Shreveport, La., KRMD, Inc., Jefferson Hotel
Rochester, Minn., Southern Minnesotta Broadcasting Co.
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Lafayette, La., Evangeline Hotel) Fvanceline Oroxicating Co. Aberdeen, Wash., KXRO, Inc., Hotel Morck
Laurel, Miss., New Laurel Radio Co., Box 26— (12/35)
Marquette, Mich., Lake Superior Brdcstg. Co., 146 W. Washington Terre Haute. Ind., Banks of Wabash, Inc., 19 Beach Block
Wilkes Barre, Pa., Louis G. Baltimore, 16 N. Main St.
Joliet, Ill., WCLS, Inc., 301 E. Jefferson St.
Ashland, Ky., Ashland Brdcstg. Co., Box 106
El Paso, Texas, Tri-State Brdcstg. Co., Box 1976
Buffalo, N. Y., Howell Brdcstg. Co., Inc., 23 North St.
Milwaukee, Wis., Milwaukee Brdcstg. Co., 212 W. 6th St.
Altoona, Pa., Gable Brdcstg. Co., Union Industrial Bldg.
Newport News, Va., Hampton Rds. Brdc. Corp., 2813 Washington
Philadelphia, Pa., Indp. Brdcstg. Co., Public Ledger Bldg.
Johnstown, Pa., WJAC, Inc., Locust St.
Muncie, Ind., D. A. Burton, Anthony Bldg.
Laconia, N. H., Northern Brdcstg. Co., 523 Main St.
Auburn, N. Y., WMBO, Inc., Metcalf Bldg.
Plattsburg, N. Y., Plattsburg Brdcstg. Corp., Hotel Cumberland
New Bedford, Mass., E. Anthony & Sons, 251 Union St. — (1/24)
Washington, D. C., American Brdcstg. Co., Annapolis Hotel
Reading, Pa., Reading Brdcstg. Co., 533 Penn St.
Knoxville, Tenn., Stuart Brdcstg. Corp., 524 S. Gay St.
Grove City, Pa., Grove City College, 418 Popular St.
Birmingham, Ala., R. B. Broyles, Tutwiler Hotel
Winston-Salem, N. C., Winst.-Salem Jour. Co., 416 N. Marshall
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Elkhart, Ind., Truth Pub. Co., Hotel Elkhart — (6,3.5)
Oaxaca, Oax., Enrique M. Crihuela, 3a, Curroro 18
Mexico City, D. F., M. E. Bravo de Cordero, Av. Juarez 104
Tampico, Tams., J. E. Martinez, Salvador Diaz Miron 6
Torreon, Coah., P. O. Box 225
Monterrey, N. L., L. F. Petit Jean, P. O. Box 10
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Pueblo, Colo., C. P. Ritchie, 113 Broadway
Honolulu, T. H., Honolulu Brdcstg. Co., Box 2663
Idaho Falls, Idaho, KID Brdcstg. Co., Box 487,
Des Moines. Iowa, 715 Locust St. Jova Brdcstg. Co.,
Akron, Ohio, Allen T. Simmons, P. O. Box 29
York, Pa., York Brdcstg. Co., 15 S. Beaver St.
New Orleans, La., WSMB, Inc., Maison Blanche Bldg.
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C (2.5) San Diego, Calif., Don Lee System, 1012 First Ave.
Tacoma, Wash., KMO, Inc., Hotel Winthrop
C (2.5) Sioux City, Iowa, Perkins Bros. Co., 415 Douglas St.
C (2.5) Hartford, Conn., WDRC, Inc., Corning Bldg., 11 Asylum St.
R (2.5) Cincinnati, Ohio, Crosley Radio Corp., 1329 Arlington, St.
Eau Claire, Wis., WHBY, Inc., Hotel Eau Claire
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   1340 kilocycles (223.7)
                                                                                  Camaguey, Cuba, M. Caymares, Republica 181
Huron, S. D., Voice of S. D., Inc., 347 Dakota St.
Butte, Mont., KGIR, Inc., 121 W. Broadway
Dodge City, Kans., First National Bank Bldg., MGNO Bredgity. Station
Pensacola, Fla., Pensacola Brdcstg. Co., San Carlos Hotel
Manchester, N. H., N. Hamp. Brdcstg. Co., Carpenter Hotel
Toledo, Ohio, Toledo Brdcstg. Co., 505 Jefferson
Jalapa, Ver., Gobierno Estado de Veracruz
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Boise, Idaho, Boise Brdcstg, Station, Hotel Boise
St. Louis, Mo., Thomas Patrick, Inc., Hotel Chase
Zarephath, N. J., Pillar of Fire
New York, N. Y., Standard Cahill Co., 260 E. 161st St.
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     1360 kilocycles (220.4)
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Enid, Okla., Enid Radiophone Co., Oxford Hotel
Long Beach, Calif., Consolidated Brdcstg. Co., 435 Pine Ave.
Charleston, S. C., S. C. Brdcstg. Corp., Francis Marion Hotel
Syracuse, N. Y., Onondaga Brdcstg. Co., Onondaga Hotel
Chicago, Ill., Oak Leaves Brdcstg. Co., 4000 Washington— (10/25)
Vicksburg, Miss., Delta Brdcstg. Corp., Hotel Vicksburg
South Bend, Ind., South Bend Tribune, 225 W. Colfax Ave.
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Philadelphia, Pa., WDAS Brdcstg. Co., 1211 Chestnut St.
Fort Wayne, Ind., F. C. Zieg., 213 W. Main St.
Memphis, Tenn., WHBQ. Inc., Hotel Claridge
Calumet, Mich., Upper Mich. Brdcstg. Co., Box 643
Jackson, Mich., WIBM. Inc., 306 W. Michigan Ave.
Atlanta, Ga., Atlanta Brdcstg. Co., Volunteer Life Bldg. (9/3)
Lowell, Mass., Merrimac Brdcstg. Co., Box D (9/35)
Jacksonville, Fla., F. J. Reynolds, Carling Hotel
Wilmington, N. C., Richard A. Dunlea, Hotel Wilmington
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    1380 kilocycles (217.3)[
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Reno, Nev., The Bee, Inc., 440 N. Virginia St.
Pittsburgh, Pa., KOV Brdcstg. Co., 1406 C. of C. Bldg.
Mobile, Ala., Pape Brdcstg. Co., P. O. Box 288—(6 3-1)
LaCrosse, Wis., WKBH, Inc., 409 Main St.
New Britain, Conn., Wm. J. Sanders, 147 Main St.
Dayton, Ohio, WSMK, Inc., 121 N. Main St.—(12134)
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C (2.5) Little Rock, Ark., Arkansas Brdcstg, Co., Box 550
Marsahfield, Ore, H. H. Hanseth, Hall Bldg.
(1) Phoenix, Ariz., Nielson, Co., P. O. Box 1323
C (2.5) Cleveland, Ohio, Radio Air Corp., 1311 Terminal Tower
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                                                                                        Matanzas, Cuba, Oscar Mechoso, Independencia 56
Santiago, Cuba, Jaime Nadal, Calle "B", Maso alta 71
Ogden, Utah, Interstate Brdcstg. Corp., 405-25th St.
Tulsa, Okla., Tulsa Brdcstg. Co., Nat'l. Bank Bldg.
Guatemala City, Gt., Ministerio de Fomento
Brooklyn, N. Y., U. S. Brdcstg. Corp., 427 Fulton St.
Brooklyn, N. Y., Brooklyn Brdcstg. Corp., 552-54 Atlantic
Indianapolis, Ind., 540 N. Meridian St., Indianapolis, Producting, Inc.
Brooklyn, N. Y., Voice of Brooklyn, 105 2nd Ave., N. Y. C.
Brooklyn, N. Y., Paramount Brdcstg. Co., 4 & 5 Court Sq.
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Vancouver, B. C., Sprott-Shaw Co., 1604Bekins Bldg.
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Boston, Mass., Bay State Brdcstg. Co., 21 Brookline Ave. Bay City, Mich., James E. Davidson, Hotel Wenonoh Sheboygan, Wis., Press Publishing Co., Press Bldg. Bluefield, W. Va., Daily Telegraph, Bland St. Rockford, Ill., Rockford Brdcsters, Inc., 109 S. Water Montgomery, Ala., Mont. Brdcstg. Co., Jefferson Davis Hotel
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San Antonio, Texas, Alamo Brdcstg. Co., Texas Theater Bldg...
Aberdeen, S. Dak., Aberdeen Brdcstg. Co.
Alexandria, La., Alexandria Brdcstg. Co.
Portland, Ore., Benson School, 546 N. E. 12th Ave.
Texarkana, Ark., No. Miss. Brdcstg. Co., Box 865
Fond du Lac, Wis., Reporter Ptg. Co., 18 W. First St.
Shawnee, Okla., KGFF, Inc., 9th & Bell Sts.
San Francisco, Cal., Golden Gate Brdcstg. Co., 230 Eddy St.
Alamosa, Colo., Leonard E. Wilson, 326 N. Commercial
Hilo, T. H., Honolulu Brdcstg. Co.
Lamar, Colo., Lamar Brdcstg. Co., Box 688
Pecos, Texas, J. H. Hawkins & B. H. Hubbs
Palestine, Texas, Palestine Brdcstg. Assn.
Eugene, Ore., Eugene Brdcstg. Station, 733 Willamette St.
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Palestine, Texas, Palestine Brdcstg. Assn.
Eugene, Ore., Eugene Brdcstg. Station, 733 Willamette St.—
Lewiston, Idaho, H. E. Studebaker, Lewis-Clarke Hotel
Midland, Tex., Clarence Scharbaur
Yuma, Ariz., Dr. A. H. Schermann, Box 267
Hutchinson, Kans., W. N. Greenwald
Portland, Ore., KXL Broadcasters, Multnomah Hotel
Waco, Texas, Cent. Tex. Brdcstg. Co., Amicable Bldg.—
Waco, Texas, Cent. Tex. Brdcstg. Corp., Main St.
Hazleton, Pa., Hazelton Broadcasting Service, Inc.
Springfield, Ill., WCBS, Inc., 208½ S. 5th St.
Rocky Mount, N. C., Wm. Avera Wynne, Box 221
Charlottesville, Va., Community Brdcstg. Corp., Box 221
Cicero, Ill., WEHS, Inc., 6138 Cermak Road
Battle Creek, Mich., Enquirer News, 38 W. State St.
Albany, Ga., Americus Brdcstg. Corp., Rylander Theater
Olean, N. Y., Tupper Lake Brdcstg. Co., Exchange Bank
Cicero, Ill., WHFC, Inc., 6138 W. Germak Road
Wilmington, Del., Del. Brdcstg. Corp., 920 King St.
Baton Rouge, La., Baton Rouge Brdcstg. Co., 334 Florida St.
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    WMBC
                                           100
                                                            (.25)
    WMBH
                                           100
                                                           (.25)
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    WMFJ
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    WNRA
WPAD
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                                           100
                                                           (.25)
                                           100
                          ak
    WPAR
                          ak
                                           100
                                                            P (.25)
    WPRP
                                           100
                           z
    XEAZ
                           Z
    XEFB
                           ak
                                           100
    1430 kilocycles (209.7)
                                                                                Camaguey, Cuba, Cesar Canall, Callejas No. 28
Los Angeles, Calif., E. C. Anthony, Inc., 1000 S. Hope St.
North Platte, Neb., Great Plains Brdcstg. Co., W. 12th St.
Des Moines, Iowa, Iowa Brdcstg. Co., 715 Locust St.
Columbus, Ohio, WBNS, Inc., 33 N. High St.
Rochester, N. Y., WHEC, Inc., 40 Franklin St.
Harrisburg, Pa., WHP, Inc., 216 Locust St.
Memphis, Tenn., Memphis Brdcstg. Co., Hotel DeVoy
Albany, N. Y., WOKO, Inc., Hotel Ten Eyck
    CMJP
                          ak
                                           100
                                                           (5) N
    KECA
                           ah
                                         1000
    KGNF
KSO
                                         1000
                           ak
                                                           B (1)
C (1)
C (1)
C (1)
                           ak
                                            500
     WBNS
                                            500
                           ae
     WHEC
                           ae
                                            500
     WHP
                           ak
                                            500
     WNBR
                                            500
                                                            (1)
C (1)
                           ae
     WOKO
                           ai
                                            500
     1440 kilocycles (208.2)
                                                                                  Colon, Panama
Casper, Wyo., Donald Lewis Hatthaway, Box 930
                                           25
500
                           ak
     KDFN
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KSYZ
KXYZ
TIFS
                                                                          Oakland, Calif., Warner Bros., 2201 Telegraph Ave.
Houston, Texas, Harris County Brdcstg. Co., Gulf Bldg.
Cartago, C. R.
                       ag
ak
                                     1000
                                                      (1441)
C (1)
                                        7.5
                        7.
   WBIG
                                        500
                                                                           Greensboro, N. C., N. C. Brdcstg. Co., The O. Henry Hotel
Allentown, Pa., B. B. Musselman, 39-41 Tenth St.
                        98
   WCBA
                       aj
ak
                                       500
                                                      a
C (1)
   WMBD
                                                                           Peorla, Ill., Peorla Brdestg. Co., 11r No. Madison
Allentown, Pa., WSAN, Inc., 39 Tenth St.
                                        500
   WSAN
                                        500
                        aj
  XEFI
                                        250
                                                                           Chihauhua, Chih., Feliciano Lopez Isles, Aptdo. 157
  1450 kilocycles (206.8)[
                                                                          Victoria, B. C., Vic. Brdcstg. Assn., 620 View St. Summerside, P.E.I., R. T. Holman, Ltd., 190 Water St. Eureka, Calif., Redwood Brdcstg. Co., Vance Hotel—(10)34) Shreveport, La., Tri-State Brdcstg. Sys., Box 17 Cleveland, Ohio, WGAR Brdcstg. Co., Hotel Statler Jersey City, N. J., N. J. Brdcstg. Corp., 2870 Hudson Blvd. Fall River, Mass., Academy of Music Bldg. Athens, Ga., Liberty Brdcstg. Co., 133 E. Washington
 CFCT
CHGS
                                                      ....
                                         75
                       96
                                          50
                       ae
  KIEM
                       ak
                                       500
  KTBS
                                     1000
                       ak
  WGAR
                                      500
250
                       ak
                                                      B (1)
  WHOM
                       ae
  WSAR
                       ae
                                     1000
                       яk
                                       500
 1460 kilocycles (205.4)[
                                                                          Holguin, Cuba, Manuel J. De Gongora, Libertad esq. Arias St. Paul, Minn., Nat'l. Battery Brdcstg. Co., St. Paul Hotel Washington, D. C., Old Dominion Brdcstg. Co., Earle Bldg.
 CMKF
                                         50
 KSTP
WJSV
                      ak 25000
                      ak 10000
 1470 kilocycles (204.0)
                                                                          Havana, Cuba, Rafael Valdez, Estrella 121
Spokane, Wash., Louis Wasmer, 1023 W. Riverside Ave.—(?)
Nashville, Tenn., WLAC, Inc., 2421 West End Ave.—(5/35)
CMOK
 KGA
WLAC
                      ak
                                    5000
                                   5000
 1480 kilocycles (202.6)[
¥OMA ak
WKBW ck
                                                                          Oklahoma City, Okla., Nat'l. Radio Man. Co., Biltmore Hotel
Buffalo, N. Y., Buffalo Brdcstg. Corp., Rand Bldg.
                                   5000
 1490 kilocycles (201.2)[
KFBK
WKY
                                                                         Sacramento, Calif., Sacramento Bee, 7th & I Sts. James McClatchy Pub. Co.,
                                   5000
                                                                          Covington, Ky., L. B. Wilson, Inc., 6th & Madison
1500 kilocycles (199.9)[
                                                                       Sault Ste. Marie, Ont., Hyland & Whitby, 678 Queen St., E. — (1/36) Havana, Cuba, Reina y Av. Buen Retiro, Marianao Santa Barbara, Calif., Sta. Barbara Brdcsters. Ltd., 15-17 E. Haley Corpus Christi, Tex., Eagle Brdcstg. Co., Box 1508 Moorhead, Minn., Red River Brdcstg. Co., Comstock Hotel Tyler, Texas, East Texas Brdcstg. Co., 115 S. College Scottsbluff, Neb., Hilliard Co., 1517½ Broadway Brady, Tex., G. L. Burns
Austin, Texas, KUT Brdcstg. Co., Norwood Bldg.— (5/25) Prescott, Ariz., Scott & Sturm, Box 782
Lake Charles, La., Calcasleu Brdcstg. Co., Majestic Hotel Wenatchee, Wash., Westcoast Brdcstg. Co., KPO Bldg., 20 2nd Santa Ana, Calif., The Voice of the Orange Empire, Ltd. Roseburg, Ore., Oregon Publishing Co.
El Centro, Calif., F. M. Bowles. Box 140— (9/3*) Brooklyn, N. Y., Arthur Faske, 864-868 Flatbush Ave. Durham, N. C., Durham Radio Corp., Washington Duke Hotel—(1/2) Brooklyn, N. Y., Arthur Faske, 864-868 Flatbush Ave. Durham, N. C., Durham Radio Corp., Washington Duke Hotel—(1/2) Kosciusko, Miss., Attala Brdcstg. Corp., Box 631—(6/3*) Detroit, Mich., Jas. F. Hopkins, Inc., 6559 Hamilton Ave. E. Dubuque, Ill., Sanders Brook Hotel Julian—(1/35) Richmond, Ind., Knox Radio Corp., Box 308—(1/35) Richmond, Ind., Knox Radio Corp., Box 308—(1/35) Boston, Mass., The Northern Corp., Hotel Manger Binghamton, N. Y., Metropolitan Brdcstg. Corp., 95 Leonard—(1/35) Boston, Mass., The Northern Corp., Hotel Manger Binghamton, N. Y., Howitt-Wood Co., Arlington Hotel Bristol, Tenn., Radiophone Station WOPI, 22nd & State Augusta, Ga., Augusta Brdcstg. Corp., 309 Eighth St.—(2/35) Rome, Ga., Rome Brdcstg. Corp., 10 Third Ave.
CJIC
                      ak
                                      100
                                                     . . . .
CMCN
                                      150
                                                    <u>с</u> . . .
 KDB
                      ak
                                      100
                                                     (.25)
Y
KĞFI
                      ak
                                      100
KGFK
KGKB
KGKY
                      ak
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                      ak
                                      100
                                                     (.25)
DP
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KNEL
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KOTN
KPJM
KPLC
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KPO
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KRĚG
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KRNR
KXO
WCNW
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WDNC
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WGAL
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WHBB
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(.25)
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WHEF
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WJBK
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WKBB
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WKBV
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                                     100
WKBZ
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                                                     (.25)
                     ak
WKEU
WMBQ
                                     100
                     ak
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                                     100
                                                    (.25)
C
WMEX
                     ak
                                     100
WNBF
                     20
                                     100
WOPI
                                     100
                     20
WRDW ak
                                     100
                                                     (.25)
WRGA
                                     100
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WSYB ak 100 ... Rutland, Vt., Philip Weiss Music Co., Box 328

WTMV ak 100 ... East St. Louis, Ill., Miss. Valley Brdcstg. Co.

WWRL ak 100 i (.25) Woodside, N. Y., L. I. Brdcstg. Corp., 41-30 58th St.

WWSW ae 100 (.25) Pittsburgh, Pa., Walker & Downing Corp., Hotel Keystone Valley City, N. Dak., Seorge 8. Pair?

1510 kilocycles (198.6)

CFRC ak 100 Kingston, Ont., Queen's University, Fleming Hall CKCR ak 100 Waterloo, Ont., Mitchell & Liddle, 24 King St., So.

1530 kilocycles (196.0)

W1XBS z 1000 Waterbury, Conn., Amer. Republican Inc..136 Grand St. W9XBY ak 1000 Kansas City, Mo., 106 W. 14th St.); inst National Talerision, Inc.

1550 kilocycles (193.4)

W2XR z 1000 Long Isl. City, N. Y., Scientific Brdcstg. Serv., 41 Park Row, N. Y.—(3/35) W6XAI ak 1000 Bakersfield, Calif., Pioneer Mercantile Co.

KEY TO SYMBOLS

As Shown in the index by Frequencies and Dial Numbers

Frequency is given in kilocycles; wavelengths 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.

Second Column Symbols

- Verifies reception for return postage.
 Verifies only occasionally.
- b Verifies only occasionally.
 Does not verify.

postage.

- d Verification 10c: letter 25c.
- Sends Ekko stamp for 10c.
- Sends Ekko stamp for 5c.
 Sends Ekko stamp for postage.
- h Sends own station stamp for 10c.
- Sends own station stamp for 5c.
 Sends own station stamp for

- Has no stamps.
- m Verifies for 5c.
- n Weather or time only.
- No information available.

Fourth Column Symbols

- B National "Blue" network.
- C Columbia network.
- D Day time only.Dn Day time with occasional eve-
- ning hours.

 F Canadian Radio Brdcstg. Com-
- mission. N National "Red" and "Blue"

- networks.
- Has construction permit only.
- R National "Red" network.
- S Sunday only.
- Sy Synchronized.
 - Has permit to increase power. Has permit to change location.
 - Has permit to change focation.
- quency.
- a-b-c. Small letters show stations using same transmitter.
- 1-2-3. Figures denote stations sharing time.
 - No information.

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

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

ALABAMA	I Juneau I	El Dorado	Beverly Hills KMPC 710 500
ALADAMA	KINY 1310 100	KELD 1370 100	Burbank
Birmingham WAPI 1140 5000 N	Ketchikan KGBU 900 500	Fayetteville KUOA 1260 1000	KELW 780 500
WBRC 930 1000 C WSGN 1310 100	ARIZONA	Fort Smith KFPW 1210 100 Hot Springs	KHSL 950 250 Del Monte
Decatur WMFO 1370 100	Jerome	KTHS 1060 10000 N	KDON 1210 100 El Centro
Dothan WAGF 1370 100	KCRJ 1310 100 Lowell	KBTM 1200 100	KXO 1500 100 Eureko
Gadsden WJBY 1210 100	KSUN 1200 100 Phoenix	Little Rock KARK 890 250 KGHI 1200 100	KIEM 1450 500
Mobile WALA 1380 500 C	KOY 1390 500 KTAR 620 1000 N	KLRA 1390 1000 C	KMJ 580 1000 C
Montgomery WSFA 1410 500 C	Prescott KPJM 1500 100	Pine Bluff KOTN 1500 100	KIEV 850 100
Selma WHBB 1500 100	Tucson KGAR 1370 100	Texarkana KCMC 1420 100	KFWB 950 1000 KMTR 570 1000
Sheffield WNRA 1420 100	KVOA 1260 500 Yuma	CALIFORNIA	KNX 1050 50000 Long Beach
ALASKA	KUMA 1420 100	Bakersfield KERN 1370 100 C	KFOX 1250 1000
	ARKANSAS Blytheville	W6XAI 1550 1000 Berkeley	KGER 1360 1000 Los Angeles KECA 1430 1000 N
KFOD 780 250	KLCN 1290 100	KRE 1370 100	KEGA 1430 10001.

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

	I	STATIONS BT LO	CATIONS
KFAC 1300 1000	Waterbury	1	1
KFI 640 50000 N	WATR 1190 100	IDAHO	Gary
KFSG 1120 500	W1XBS 1530 1000	. Datas	- WIND 560 1000
KFVD 1000 250	1000 1000		Hammond
KGFJ 1200 100	DELAWARE	KIDO 1350 1000 Idaho Falls	WWAE 1200 100
KHJ 900 1000 C			Indianapolis
KRKD 1120 500	Wilmington	KII) 1320 250 Lewiston	WFBM 1230 1000 C WIRE 1400 500 R
KTM 780 500	WDEL 1120 250	KRLC 1420 100	
Modesto	WILM 1420 100	Nampa	Muncle WLBC 1310 100
KTRB 740 250		KFXD 1200 100	WLBC 1310 100 Richmond
Oakland KLS 1440 250	DISTRICT OF	Pocatello	WKBV 1500 100
*/ * */	COLUMBIA	KSEI 900 250	South Bend
L'DOW		Twin Falls	WFAM 1200 100
ROW 930 1000 Pasadena	Washington	I KTFI 1240 1000	WSBT 1360 500 C
KPPC 1210 50	WJSV 1460 10000 C		Terre Haute
Sacramento	WMAL 630 250 B WOL 1310 100	ILLINOIS	WBOW 1310 100
KFBK 1490 5000 C	1117		West Lafayette
San Bernardino	WRC 950 500 R	Bloomington	WBAA 890 1000
KFXM 1210 100	FLORIDA	WJBC 1200 100	
San Diego	, VEORIBA	Carthage	JOWA
KFSD 600 1000 N	Clearwater	WCAZ 1070 100	A
KGB 1330 1000 C	WFLA 620 1000 N	Chicago WAAF 920 1000	Ames WOI 640 5000
San Francisco	Daytona Beach	WAAF 920 1000 WBBM 770 50000 C	WO1 640 5000 Boone
KFRC 610 100 C	WMFJ 1420 100		IZ TOCO CONTRACTOR
KGGC 1420 100	Gainesville	THE STATE OF THE PARTY OF THE P	KFGQ 1370 100 Cedar Rapids
KGO 790 7500 N	WRUF 830 5000	WERW 1210 100 WEDC 1210 100	I sarager
KJBS 1070 500 KPO 680 50000 N	Jacksonville	WENR 870 50000 N	WMT 600 1000 B Council Bluffs
0000014	WJAX 900 1000 N	WGES 1360 500	KOIL 1260 1000 B
17 N/A	WMBR 1370 100 C	WGN 720 50000	Davenport 1000 B
KYA 1230 1000 N San Jose	Lakeland	WJJD 1130 20000	WOC 1370 100 C
47 45 484	1310 100	WLS 870 50000 N	Decorah
KQW 1010 1000 Santa Ana	Miami	I WMAQ 670 50000 N	KGCA 1270 100
KREG 1500 100	WIOD 1300 1000 N	WMBI 1080 5000	KWLC 1270 100
Santa Barbara	WQAM 560 1000 C	WSBC 1210 100	Des Moines
KDB 1500 100 C	## (#X #X #X	Cicero	KRNT 1320 500 C
Stockton	WDBO 580 1000 C	WEHS 1420 100	KSO 1430 500 B
KGDM 1100 1000	WCOA 1340 500 C	WHFC 1420 100	WHO 1000 50000 R
KWG 1200 100 C	St. Petersburg	WKBI 1420 100 Decatur	Jowa City WSUI 880 500
	WSUN 620 1000 N	WJBL 1200 100	WSUI 880 500 Marshalltown
COLORADO	Tallahassee	East Dubuque	KFJB 1200 100
Alamana	WTAL 1310 100	WKBB 1500 100	Shenandoah
Alamosa KGIW 1420 100	Tampa	East St. Louis	KFNF 890 500
KGIW 1420 100 Colorado Springs	WDAE 1220 1000 C	WTMV 1500 100	KMA 930 1000
KVOR 1270 1000 C	West Palm Beach	Harrisburg	Sioux City
Denver	1200 100	WEBQ 1210 100	KSCJ 1330 1000 C
KFEL 920 500	CEORCIA	Jollet	
KLZ 560 1000 C	GEORGIA	WCLS 1310 100	KANSAS
KOA 830 50000 N	Albany	Peoria	
KPOF 880 500	WGPC 1420 100	WMBD 1440 500 C	Abilene KFBI 1050 5000
KVOD 920 500	Athens	Quincy WTAD 900 500	KFBI 1050 5000 Coffeyville
Ourango	WTFI 1450 500	WTAD 900 500 Rockford	** ** ***
KIUP 1370 100	Atlanta	WROK 1410 500	KGGF 1010 1000 Dodge City
Grand Junction	WGST 890 500 C	Rock Island	KGNO 1340 250
KFXJ 1200 100	WJTL 1370 100	WHBF 1210 100	Garden City
Greeley KFKA 880 500	WSB 740 50000 N	Springfield	KIUL 1210 100
KFKA 880 500 Lamar	Augusta	WCBS 1420 100	Hutchinson
KIDW 1420 100	WRDW 1500 100	WTAX 1210 100	KWBG 1420 100
Pueblo	Columbus WRRI 1300 100	Tuscola	Kansas City
KGHF 1320 500	WRBL 1200 100 Griffin	WDZ 1070 100	WLBF 1420 100
Sterling	WKEU 1500 100	Urbana	Lawrence KFKU 1220 1000
KGEK 1200 100	Macon	WILL 890 250 Waukegan	KFKU 1220 1000 WREN 1220 100 B
***	WMAZ 1180 1000	WCBD 1080 5000	Manhattan
CONNECTICUT	Rome	WGBD 1000 5000	KSAC 580 500
	WRGA 1500 100	INDIANA	Topeka
Bridgeport	Savannah		WIBW 580 1000 C
WICC 600 500 C	WTOC 1260 1000 C	Anderson	Wichita
Hartford	Thomasville	WHBU 1210 100	KFH 1300 1000 C
WDRC 1330 100 C WTIC 1040 50000 R	WPAX 1210 250	Eikhart	****
WTIC 1040 50000 R	MANUA	WTRC 1310 100	KENTUCKY
WNBC 1380 250	HAWAII	Evansville	Ashland
	Hilo	WGBF 630 500	Ashland
New Haven WELL 900 500	KHBC 1420 100	1370 100	WCMI 1310 100 Covington
	Honolulu	Fort Wayne	WCKY 1490 5000 B
Storrs	KGBM 1320 1000 C	WGL 1370 100 C	Lexington 3000 B
WCAC 600 500	KGU 750 2500 N	WOWO 1160 10000 C	WLAP 1420 100

Louisville	MICHIGAN	MISSOURI	NEW JERSEY
WAVE 940 1000 N	l 	l 	Ashami Bash
WHAS 820 50000 C Paducah	Battle Creek WELL 1420 100	Cape Girardeau KFVS 1210 100	Asbury Park WCAP 1280 500
WPAD 1420 100	Bay City	Columbia	Atlantic City
	WBCM 1410 500	KFRU 630 500	WPG 1100 5000 C
LOUISIANA	Calumet WHDF 1370 100	Jefferson City WOS 630 500	Camden WCAM 1280 500
Alexandria	Detroit	Joplin	Jersey City
KALB 1420 100	WJBK 1500 100	WMBH 1420 100	WAAT 940 500
Baton Rouge WJBO 1420 100	WJR 750 50000 C	Kansas City KMBC 950 1000 C	WHOM 1450 250 Newark
Lafayette	WMBC 1420 100 WWJ 920 1000 R	KMBC	WHBI 1250 1000
KVOL 1310 100	WX YZ 1240 1000 B	WDAF 610 1000 R	WNEW 1250 1000
Lake Charles	East Lansing	WHB 860 1000	WOR 710 50000
KPLC 1500 100 Monroe	WKAR 850 1000 Flint	W9XBY 1530 1000 St. Joseph	Red Bank WBRB 1210 100
KMLB 1200 100	WFDF 1310 100	KFEO 680 2500	Trenton
New Orleans	Grand Rapids	St. Louis	WTNJ 1280 500
WBNO 1200 100 WDSU 1250 1000	WASH 1270 500 N	KFUO 550 500 KMOX 1090 50000 C	Zarephath WAWZ 1350 500
WJBW 1200 1000	WOOD 1270 500 N Ironwood	KSD 550 1000 R	- TANE 1330 300
WSMB 1320 500 N	WJMS 1420 100	KWK 1350 1000 B	NEW MEXICO
WWL 850 19000 C	Jacksen 1000	WEW 760 1000	Albanasanasa
Shreveport KRMD 1310 100	WIBM 1370 100 Kalamazee	WIL 1200 100 Springfield	Albuquerque KGGM 1230 250
KTBS 1450 1000 N	WKZO 590 1000	KGBX 1230 500	KOB 1180 10000
KWKH 1100 1000 C	Lansing	KWTO 560 5000	Clevis
MAINE	WJIM 1210 100	MONTANA	KICA 1370 100 Reswell
INAINE	WMPC 1200 100	- MONTANA	KGFL 1379 100
Augusta	Marquette	Billings	Santa Fe
WRDO 1370 100 Bangor	WBEO 1310 100	KGHL 780 1000 N	KIUJ 1310 100
WABI 1200 100	Muskegen WKBZ 1500 100	KGIR 1340 1000 N	NEW YORK
WLBZ 620 500 C	Royal Oak	Great Falls	
Pertland WCSH 940 1000 R	WEXL 1310 50	KFBB 1280 1000	Albany WABY 1370 100
WCSH 940 1000 R Presque isle	MINNESOTA	Kalispell KGEZ 1310 100	WOKO 1430 500 C
WAGM 1420 100		Missoula	Auburn
ASA BYLAND	Forgus Falls	KGVO 1260 1000 Welf Point	WMBO 1316 100. Binghamton
MARYLAND	KGDE 1200 100 Hibbing	KGCX 1310 100	WNBF 1500 100
Baltimore	WMFG 1210 100		Breeklyn
WBAL 1060 10000 B WCAO 600 500 C	Minneapelis	NEBRASKA	WARD 1400 500 WBBC 1400 500
WCAO 600 500 C WCBM 1370 100	WCCO 810 50000 C WDGY 1180 1000	Clay Center	WBBR 1300 1000
WFBR 1270 500 R	WLB 1250 1000	KMMJ 740 1000	WCNW 1500 100
Cumberland WTBO 800 250	WTCN 1250 1000	Kearney KGFW 1310 100	WLTH 1400 500 WMBO 1500 100
WTBO 800 250 Frederick	Meerhead KGFK 1500 100	Lincoln	WVFW 1400 500
WFMD 900 500	Northfield	KFAB 770 10000 C	Buffalo
Hagerstown	WCAL 1250 1000	KFOR 1210 100 C	WBEN 909 1000 R WEBR 1310 100
WJEJ 1210 100	Rochester KROC 1310 100	WJAG 1060 1000	WGR 550 1000 C
MASSACHUSETTS	St. Paul	North Platte	WKBW 1480 5000 C
	KSTP 1460 25000 N	KGNF 1430 1000	WSVS 1370 50 WBNY 1370 100
Babson Park WBSO 920 500	Virginia 1370 100	Omaha WAAW 660 500	Canton
Boston		WOW 590 1000 R	WCAD 1220 500
WAAB 1410 500 C	MISSISSIPPI	Scottsbluff	Chester WGNY 1210 100
WBZ 990 50000 B WCOP 1120 500	Clarksdale	KGKY 1500 100	Elmira
WEEI 590 1000 R	WMFN 1210 100	York	WESG 850 1000 C
WHDH 830 1000	Gulfport WGCM 1210 100	KGBZ 930 1000	Freeport WGBB 1210 100
WMEX 1500 100 WNAC 1230 1000 C	Hattiesburg	NEVADA	Jamestewn
Fall River	WPFB 1370 100		WOCL 1210 50
WSAR 1450 1000	Jackson WJDX 1270 1000 N	Reno KOH 1380 500 C	Long Island City
WLLH 1370 100	Kosciusko	KOH 1380 500 C	W2XR 1550 1000
New Bedford	WHEF 1500 100	NEW HAMPSHIRE	New York WABC 860 50000 C
WNBH 1310 100 C	Laurel WAML 1310 100	Lecario	WBNX 1350 250
Springfield	Meridian	Lacenia WLNH 1310 100	WBOQ 860 50000
WBZA 990 1000 B WMAS 1420 100 C	WCOC 880 500	Manchester	WEAF 660 50000 R WEVD 1300 1000
Worcester	Mississippi City WGCM 1120 500	WFEA 1340 500 C	WFAB 1300 1000
WORC 1280 500 C	Vicksburg	Pertsmouth	WHN 1010 1000
WTAG 580 500 R	WQBC 1360 1000	WHEB 740 250	WINS 1180 1000
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NORTH AMERICAN B. C. STATIONS BY LOCATIONS

	1		
WJZ 760 50000 B	WKRC 550 1000 C	WSAN 1440 500	Greenville
WLWL 1100 5000 WMCA 570 500	WLW 700 500000 N	Aitoona	WFBC 1300 1000
WMCA 570 500 WNYC 810 1000	WASI 1330 1000 R	WFBG 1310 100	Spartanburg
WOV 1130 1000	WGAR 1450 500 B	Easten WEST 1200 100	WSPA 920 1000
Olean	WHK 1390 1000 C	WEST 1200 100 Erio	SOUTH DAKOTA
WHDL 1420 100	WJAY 610 500	WLEU 1420 100	300TH DAKOTA
Plattsburg WMFF 1310 100	WTAM 1070 50000 R	Glenside	Aberdeen
Rochester	Columbus WAIU 640 500	WIBG 970 100	KABR 1420 100
WHAM 1150 50000 B	WBNS 1430 500 C	Greensburg WHJB 620 250	Brookings KFDY 780 1000
WHEC 1430 500 C	WCOL 1210 100	Grove City	KFDY 780 1000 Huron
WSAY 1210 100 Saranac Lake	WOSU 570 750	WSAJ 1310 100	KGDY 1340 250
WNBZ 1290 100	Dayton WHIO 1260 1000 R	Harrisburg WHP 1430 500 C	Pierre
Schenectady	WSMK 1380 200 C	WHP 1430 500 C WKBO 1200 100	KGFX 630 200 Rapid City
WGY 790 50000 R	Portsmouth	Hazleton	WCAT 1200 100
Syracuse WFBL 1360 1000 C	WPAY 1370 100	WAZL 1420 100	Sioux Fails
WSYR 570 250 B	Toledo WSPD 1340 1000 C	Johnstown WJAC 1310 100	KSOO 1110 2500
Troy	Youngstown	WJAC 1310 100 Lancaster	Vermillion KUSD 890 500
WHAZ 1300 500	WKBN 570 500 C	WGAL 1500 100	KUSD 890 500 Watertown
Utica WIBX 1200 100 C	Zanesviile	Philadelphia	KWTN 1210 100
White Plains	WALR 1210 100	KYW 1020 10000 R WCAU 1170 50000 C	Yankton
WFAS 1210 100	OKLAHOMA	WCAU 1170 50000 C WDAS 1370 100	WNAX 570 1900 C
Woodside	Ada	WFIL 560 1000 B	TENNESSEE
WWRL 1500 100	KADA 1210 100	WHAT 1310 100	
NORTH CAROLINA	Ardmore	WIP 610 1000 WPEN 920 250	Bristol
	KVSO 1200 100	WPEN 920 250 WRAX 920 250	WOPI 1500 100 Chattanooga
Asheville	KASA 1210 100	WTEL 1310 100	WDOD 1280 1000 C
WWNC 570 1000 N Charlotte	Enid	Pittsburgh	Jackson
WBT 1080 50000 C	KCRC 1360 250	KDKA 980 50000 B KQV 1380 500	WTJS 1310 100
WSOC 1210 100 N	Norman WNAD 1010 1000	WČAE 1220 1000 R	WNOX 560 1000 C
Burham	Oklahoma	WJAS 1290 1000 C	WROL 1310 100
WDNC 1500 100 C Gastonia	KFXR 1310 100	WWSW 1500 100	Memphis
WJBR 1420 100	KGFG 1370 100	Reading WEEU 830 1000	WHBQ 1379 100
Greensboro	KOMA 1480 5000 C WKY 900 1000 N	WRAW 1319 100	WMC
WBIG 1440 500 C	Ponca City	Scranton	WREC 600 1000 C
High Point WMFR 1200 100	WBBZ 1200 100	WGBI 880 500	Nashville
Raleigh	Shawnee	WQAN 880 250 Sunbury	WLAC 1470 5000 C
WPTF 680 5000 N	KGFF 1420 100	WKOK 1210 100	WSM 650 50000 N Springfield
Rocky Mount	KTUL 1400 500 C	Wilkes-Barre	WSIX 1210 100
WEED 1420 100 Wilmington	KVOO 1140 25000 N	WBAX 1210 100	
WMFD 1370 100		WBRE 1310 100 Williamsport	TEXAS
Winston-Salem	OREGON	WRAK 1370 100	Amarillo
WSJS 1310 100 C	Astoria KAST 1370 100	York	KGNC 1410 1000
NORTH DAKOTA	Corvailie	WORK 1320 1000	Austin
- NORTH BAROTA	KOAC 550 1000	PUERTO RICO	KNOW 1500 100 Beaument
Bismarck	Eugene	- FOER TO RICO	KFDM 560 500
KFYR 550 1000 N	KORE 1420 100	Ponce	Brady
Devils Lake - KDLR 1210 100	KFJI 1210 100	WPRP 1420 100	KNEL 1500 100
Fargo 1210 100	Marshfield	San Juan WKAQ 1240 1000	College Station WTAW 1120 500
WDAY 940 1000	KOOS 1390 250	WNEL 1290 500	Corpus Christi
Grand Forks	Medford KMED 1310 100		KGFI 1500 100
KFJM 1370 100 Mandan	Portland	RHODE ISLAND	Dallas
KGCU 1240 250	KALE 1300 500 C	Newport	KRLD 1040 10000 C WFAA 800 50000 N
Minot	KBPS 1420 100	WNRI 1200 100	WRR 1280 500
KLPM 1240 250	KEX 1180 5000 N KFJR 1300 500	Providence	Dublin
Valley City 1500 100	KGW 620 1000 N	WEAN 780 500 C	KFPL 1310 100
	KOIN 940 1000 C	WJAR 890 500 R WPRO 630 250	El Paso KTSM 1310 100
оню	KWJJ 1040 500 KXL 1420 100		WDAH 1310 100
Alvan	KXL 1420 100 Roseburg	SOUTH CAROLINA	Fort Worth
Akron WADC 1320 1000 C	KRNR 1500 100	Audanau	KFJZ 1370 100
WJW 1210 100	Salem	Anderson WAIM 1200 100	KTAT 1240 1000 WBAP 800 50000 N
Canton	KSLM 1370 100	Charleston	
WHBC 1200 100	PENNSYLVANIA	WCSC 1360 500	Galveston KLUF 1370 100
Cincinnati	Allentown	Columbia	Houston
WCPO 1200 100	WCBA 1440 500	WIS 1010 50 N	KPRC 920 1000 N
	<u> </u>	<u> </u>	<u> </u>

NORTH AMERICAN B. C. STATIONS BY LOCATIONS

			
KTRH 1290 1000 C KXYZ 1440 1600	WASHINGTON	Stevens Point WLBL 900 2500	Sydney
Longview KFRO 1370 100	Aberdeen KXRO 1310 100	Superior WEBC 1290 1000 N	CJCB 1240 1000 Wolfville
Lubbock KFYO 1310 100	Bellingham KVOS 1200 100		CKIC 1010 50 Yarmouth
Midland	Everett	WYOMING	CJLS 1310 100
Palestine	KRKO 1370 50 Olympia	Casper KDFN 1440 500	ONTARIO
KNET 1420 100 Pampa	KGY 1210 100 Pullman	Sheridan KWYO 1370 100	Brantford CKPC 930 100
1310 100 Pecos	KWSC 1220 1000 Seattle		Chatham
KIUN 1420 100	KIRO 710 500	CANADA	CFCO 630 100
Port Arthur KPAC 1260 500	KOL 1270 1000 C	ALBERTA	CKMC 1210 50 Fort William
San Angelo KGKL 1370 100 ·	KOMO 920 1000 N KRSC 1120 100	Calgary	CKPR 930 100 Hamilton
San Antonio (ABC 1420 100	KTW 1220 1000 KVL 1370 100	CFAČ 930 100 F	CHML 1010 100
KMAC 1370 100	KXA 760 250	CFCN 1030 10000 CJCJ 690 100 F	CKOC 1120 500 Kingston
KONO 1370 100 KTSA 550 1000 C	Spokane KFIO 1120 100 ·	Edmonton CFRN 1260 100 F	CFRC 1510 100 Kirkland Lake
WOAI 1190 50000 N	KFPY 890 1000 C	CJCA 730 1000 F	CJKL 530 1000
Tyler KGKB 1500 100	KHQ 590 1000 N	CKUA 580 500 Lethridge	London CFPL 730 100
Waco WACO 1420 100 C	Tacoma KMO 1330 250	CJOC 1230 100 F	North Bay CFCH 930 100
Weslaco KRGV 1260 500	KVI 570 1000 C Walla Walla	BRITISH COLUMBIA	Ottawa
Wichita Falls	KUJ 1370 100	Chilliwack	CKCO 1010 100 CRCO 880 1000
KGKO 570 250 C	Wenatchee KPQ 1500 100	CHWK 780 100 F Kamloops	Prescott CFLC 930 100
UTAH	Yakima KIT 1310 100	CFJC 880 100 F Kelewna	St. Catherines
Ogden 500		CKOV 630 100 F	CKTB 1200 100 Sault Ste. Marie
KLO 1400 500 Salt Lake City	WEST VIRGINIA	Prince Rupert CFPR 580 50	CJIC 1500 100 Stratford
KDYL 1290 1000 N KSL 1130 50000 C	Bluefield WHIS 1410 250	Trail CJAT 910 250 F	CJCS 1210 50
· · · · · · · · · · · · · · · · · · ·	Charleston	Vancouver	Sudbury CKSO 789 1000
VERMONT	WCHS 580 500 Fairmont	CJOR 600 500 CKCD 1010 100	Timmins CKGB 1420 100
Burlington WCAX 1200 100	WMMN 890 500 Huntington	CKFC 1410 50 CKMO 1410 100 F	Toronto CFRB 690 10000
Rutland WSYB 1500 100	WSAZ 1190 1000 Parkersburg	CKWX 1010 100 F	CKCL 580 100
St. Albans	WPAR 1420 100	CRCV 1100 500 F Victoria	CRCT 840 5000 I
WQDM 1370 100 Springfield	Wheeling WWVA 1160 5000 C	CFCT 1450 75	CKCR 1510 100
VNBX 1260 100 Waterbury	WISCONSIN	MANITOBA	Windsor CKLW 1030 5000
WDEV 550 500		Brandon	CRCW 600 500
VIRGINIA	Eau Claire WTAQ 1330 1000	CKX 1120 100 F Winnipeg	Wingham CKNX 1200 50
Arlington	Fond du Lac KFIZ 1420 100	CJRC 580 100 F	PRINCE EDWARD
NAA 690 1000	Green Bay	CKY 960 15000 F	ISLAND
Charlottesville VEHC 1420 100	Janesville	NEW BRUNSWICK	Charlottetewn
Danville VBTM 1370 100	WCLO 1200 100 LaCrosse	Fredericton CFNB 550 500 F	CFCY 630 1000 CHCK 1310 50
Harrisonburg VSVA 550 500	WKBH 1380 1900 Madison	Moncton	Summerside
Lynchburg	WHA 940 1000	CKCW 1370 100 F	CHGS 1450 50
VLVA 1200 100 Newport News	WIBA 1280 1000 N Manitewoc	St. John CHSJ 1120 500 F	QUEBEC
WGH 1310 100	WOMT 1210 100	N. W. TERRITORY	Chicoutimi
Norfelk WTAR 780 500 N	Milwaukee WEMP 1310 100		CRCS 950 100
Petersburg	WISN 1120 250 C WTMJ 620 1000 N	Aklavik CJCU 1210 50	CKCH 1210 100
WPHR 880 500 Richmond	Poynette	NOVA SCOTIA	Montmagny VE9EK 1185 10
WBBL 1210 100	WIBU 1210 100	Glace Bay	Montreal
WMBG 1210 100 C WRVA 1110 5000 N	Racine WRJN 1370 100	VAS 685 2000	CFCF 600 400 I CHLP 1120 100 I
Roaneke WDBJ 930 1000 C	Sheboygan WHBL 1410 500	Halifax CHNS 930 1000 F	CKAC 730 5000 CRCM 910 5000
MDB3 330 1000 C	WIIDL 1410 300	GIING /50 1000 I	CRCM1 910 3000

	1	STITE OF BI DO	011110110
New Carlisie CHNC 1410 500 F	MEXICO	XEMZ 1210 250	CMJK 780 250
Quebec CHRC 580 100 F	AGUASCALIENTES	MICHOACAN	CMJL 1340 100 CMJP 1430 100 Cardenas
CKCV 1310 100 F	Aguascalientes	WICHOACAN	CMGE 1370 50
CKCK 1010 1000 F	XFA 1310 5	Morelia	Clego de Avila
SASKATCHEWAN	XFC 810 350	XEI 1370 125	CMJH 1360 100 CMJI 1130 50
	CHIHUAHUA	NUEVO LEON	CMJI 1130 50 CMJO 1180 50
Moose Jaw CHAB 1200 100 F	CHIHOAHUA	***************************************	Clenfuegos
CJRM 540 1000 F	Chihuahua	Monterrey XEFB 1420 100	CMHJ 1160 100 CMHW 810 100
Prince Albert	XEFI 1440 250	XEFJ 1230 100	CMHW 810 100 CMHX 760 500
CKBI 1210 100 F	Juarez XEFV 1210 100	XEH 1150 250	Cruces
Regina	XEFV 1210 100 XEJ 1020 1000	XET 690 500 XEX 1310 125	CMHK 1330 250 Havana
CHWC 1010 500 F CKCK 1010 500 F		1310 123	CMBC 940 500
Saskatoon	COAHUILA	OAXACA	CMBD 1170 150
CFQC 840 1000 F	Piedras Negras	Oaxaca	CMBG 1140 200
Yorkton	XELO 1110 10000	XEAJ 1310 15	CMBN 880 150 CMBS 770 150
CJGX 630 500 F	XEPN 590 50000		CMBX 1380 500
NEWFOUNDLAND	Saltillo XEAS 1160 100	PUEBLA	CMBY 640 150
HENTOUNDLAND	XEOX 640 500	Puebla	CMBZ 1000 250 CMCA 1350 250
St. John's	Torreon	XETH 1210 100	CMCB 1230 150
OAC 1065 40	XETB 1310 125 Villa Acuna	CAN LUC TOTAL	CMCD 960 250
/OAS 940 100 /OGY 840 400	XERA 840 250 0 00	SAN LUIS POTOSI	CMCF 815 250 CMCG 1255 250
VONF 1195 500		San Luis Potosi	CMCG 1255 250 CMCJ 1200 350
OWR 681 500	D. F.	XEZZ 1370 100	CMCN 1500 150
MIQUELON	Mexico City	SONORA	CMCO 1110 250 CMCO 680 250
MIGOELON	XEAI 1240 100	SONORA	CMCQ 680 250 CMCR 1410 150
St. Pierre	XEB 1030 10000	Nogales	CMCU 1280 150
FQN 609 250	XECW 1310 10 XEFA 1180 500	XEAF 990 500	CMCW 750 150
CENTRAL	XEFO 940 5000	TAMAULIPAS	CMCX 660 150 CMCY 1030 1000
AMERICA	XEFZ 1370 100		CMK 1060 250
AMERICA	XEK 990 100 XEL 1100 250	Matamoros	CMOA 790 150
COSTA RICA	XEMX 1280 12	XEAM 750 7.5 Nuevo Laredo	CMOK 1470 150 CMOX 1320 250
	XEN 710 1000	XEFE 850 250	CMQ 840 500
Cartago	XEP 840 500 XETW 820 500	XENT 910 65000	CMW 600 1000
FIFS 1441 7.5 FIGA 1014 30	XETW 820 500 XEW 890 50000	Reynosa XEAW 960 50000	CMX 920 650 Holguin
San Jose	XEWZ 1150 100	Tampice	CMKF 1460 50
TIEP 850 500	XEYZ 780 10000 XFX 610 1000	XEFW 1310 250	Manzanillo
TIFA 1050 75	XFX 610 1000	XEMA 1080 50 XES 990 250	CMKM 1120 200 Matanzas
FIGH 1000 500 FIRH 930 50	DURANGO	770 250	CMGC 1400 100
	P	VERACRUZ	CMGF 1120 100
GUATEMALA	Durango XEE 1210 50	Jalapa	CMGI 1420 50 Sagua la Grande
Guatemala City		XFB 1270 250	CMHA 1070 50
Guatemala City GW 1210 19000	GUANJUATO	XFD 1340 350	Sancti Spiritus
GX 1400 250	Guanjuato	Veracruz	CMHB 1240 50
HONDURAS	XEAZ 1420 7	XETF 1220 12 XEU 1010 250	Santa Clara CMHI 1210 150
HUNDUKAS	Leon	7120 1010 250	Santiago
Tegucigalpa	XEKL 1240 500	YUCATAN	CMKC 1250 150
IRN 1270 100	JALISCO	Basida .	CMKD 1050 250
NICARAGUA	*	Merida XEFC 560 100	CMKR 1400 100 CMKV 1190 50
	Guadalajara XEA 1060 500	XEY 1000 10	3.7.1.
Managua	XED 1155 2500	XEZ 630 500	DOMINICAN
YNLF 1275 20 YNOP 1230 100		WEST INDIES	REPUBLIC ,
YNVA 950 30	LOWER CALIFORNIA	WEST INDIES	San Pedro de Macoris
	Ensenada	CUDA	HIH 1395 15
PANAMA	XEG 1270 200	CUBA	Santo Domingo
Colon	Mexicali	Caibarien	HIJ 1195 15 HIX 800 700
IP50 1440 25	XEAA 920 200	CMHD 1270 250	HIZ 1300 10
EL CALVEDOD	XEAO 560 250	Camaguey	
EL SALVADOR	Tijuana XEC 1160 30	CMJA 1010 300	HAITI
San Salvador	XEC 1160 30 XEFL 1150 500	CMJC 1390 150 CMJE 1220 50	Port-au-Prince
RDN 680 500	XEMO 860 5000	CMJF 1150 200	HHK 920 1000
			1

-	CFAC 930	100		CJLS 1310	100		CMBS 770	150
	Calgary, Alta.	L		Yarmouth, N. S.	1		Havana, Cuba	
	CFCF 600	400		CJOC 1230	100		CMBX 1380	500
	Montreal, Que.	-		Lethbridge, Alta.			Havana, Cuba CMBY 640	150
KARN III.	CFCH 930	100		CJOR 600 Vancouver, B. C.	500		Havana, Cuba	130
	North Bay, Ont. CFCN 1030 1	10000		CJRC 580	100		CMBZ 1000	250
	Calgary, Alta.			Winnipeg, Man.	100		Havana, Cuba	
	CFCO 630	100		CJRM 540	1000		CMCA 1350	250
	Chatham, Ont.			Moose Jaw, Sask.			Havana, Cuba	
	CFCT 1450	75		CKAC 730	5000	l	CMCB 1230	150
	Victoria, B. C.	-		Montreal, Que.	400		Havana, Cuba CMCD 960	250
	CFCY 630 Charlottetown, P.E.	1000		CKBI 1210 Prince Albert, Sask	100		Havana, Cuba	230
	CFJC 880	100		CKCD 1010	100		CMCF 815	250
	Kamloops, B. C.	100	- 1	Vancouver, B. C.	200		Havana, Cuba	
10110	CFLC 930	100		CKCH 1210	100		CMCG 1255	250
	Prescott, Ont.	1		Hull, Que.	-		Havana, Cuba	
	CFNB 550	500		CKCK 1010	500		CMCJ 1200	350
	Fredericton, N. B.			Regina, Sask.		<u> </u>	Havana, Cuba	450
	CFPL 730	100	1	CKCL 580	100	1	CMCN 1500 Havana, Cuba	150
	London, Ont.	50		Toronto, Ont.	100		CMCO 1110	250
	Prince Rupert, B. C			Ottawa, Ont.	100		Havana, Cuba	230
	CFQC 840	1000		CKCR 1510	100		CMCQ 680	250
	Saskatoon, Sask.			Waterloo, Ont.			Havana, Cuba	
	CFRB 690 1	10000		CKCV 1310	100	i !	CMCR 1410	150
	Toronto, Ont.	L		Quebec, Que.		ļ	Havana, Cuba	
	CFRC 1510	100		CKCW 1370	100		CMCU 1280	150
	Kingston, Ont.			Moneton, N. B.		<u> </u>	Havana, Cuba CMCW 750	150
	CFRN 1260	108		CKFC 1410 Vancouver, B. C.	50	j	Havana, Cuba	130
	Edmonton, Alta.	100		CKGB 1420	100		CMCX 660	150
	Moose Jaw, Sask.	100		Timmins, Ont.	100		Havana, Cuba	
	CHCK 1310	50		CKIC 1010	50		CMCY 1030	1000
	Charlottetown, P.E.	.I.		Wolfville, N. S.			Havana, Cuba	
	CHGS 1450	50		CKLW 1030	5000		CMCG 1400	100
	Summerside, P.E.I.			Windsor, Ont.			Matanzas, Cuba	
	CHLP 1120 Montreal, Que.	100		CKMC 1210 Cobalt, Ont.	50		CMGE 1370 Cardenas, Cuba	50
	CHML 1010	100		CKMO 1410	100		CMGF 1120	100
	Hamilton, Ont.			Vancouver, B. C.	200		Matanzas, Cuba	
	CHNC 1410	500		CKNX 1200	50		CMGI 1420	50
	New Carlisle, Que	L		Wingham, Ont.			Matanzas, Cuba	
	CHNS 930	1000		CKOC 1120	500		CMHA 1070 Sagua la Grande, Ci	50
	Halifax, N. S.	400		Hamilton, Ont.	400		CMHB 1240	u. 50
	CHRC 580 Quebec, Que.	100		Kelowna, B. C.	100		Sancti Spiritus, Cub	
	CHS.J 1120	500		CKPC 930	100		CMHD 1270	250
	St. John, N. B.			Brantford, Ont.		<u></u>	Caibarien, Cuba	
	CHWC 1010	500		CKPR 930	100		CMHI 1210	150
	Regina, Sask.			Fort William, Out			Santa Clara, Cuba	
	CHWK 780	100		CKSO 780	1000		CMHJ 1160 Cienfuegos, Cuba	100
	Chillwack, B. C.	200		Sudbury, Ont.	100		CMHK 1330	250
	CJAT 910 Trail, B. C.	250		St. Catherines, On			Cruces, Cuba	230
	CJCA 730	1000		CKUA 580	500	. ——	CMHW 810	100
	Edmonton, Alta.	1		Edmonton, Alta.			Cienfuegos, Cuba	
	CJCB 1240	1000		CKWX 1010	100		CMHX - 760	500
	Sydney, N.S.			Vancouver, B. C.			Cienfuegos, Cuba	_
	C1C1 690	100		CKX 1120	100		CMJA 1010 Camaguey, Cuba	301
	Calgary, Alta.			Brandon, Man.	15000		CMJC 1390	150
	Stratford, Ont.	50		Winnipeg, Man.	13000		Camaguey, Cuba	230
	CJCU 1210	59		CMBC 940	500		CMJE 1220	50
	Aklavik, N. W. T.	30		Havana, Cuba			Camaguey, Cuba	
- 100	CJGX 630	500		CMBD 1170	150		CMJF 1150	29
	Yorktown, Sask.			Havana, Cuba			Camaguey. Cuba	
111	CJIC 1500	100		CMBG 1140	200		CMJH 1360	10
	S. Ste. Marie, Ont.	400-		Havana, Cuba	150		Ciego de Avila, Cul CMJI 1130	
	CJKL 530 Kirkland Lake, Ont	1000		CMBN 880 Havana, Cuba	150	1	CMJI 1130 Ciego de Avila, Cut	5(ha
	I MITEIRING LARM INT.		ı	LIMTAHA, OUDA		L	C.C. Carriss, Cal	- 44

10 (KFJM 1370	500	KALE 1300 Portland, Ore.	780 250 guey, Cuba	CMJK Camaguey
500	Grand Forks, N. D.	250	KARK 890	1340 100	CW1F
300	Portland, Ore.		Little Rock, Ark.	ruey, Cuba 1180 50	Camaguey
100	Fort Worth, Texas	160	Eik City, Okla.	de Avila, Cuba	Clego de A
500	KFKA 880	100	KAST 1370	1430 100 ruey, Cuba	CMJP Camaguey
	Greeley, Colo.		Astoria, Ore. KBPS 1420	1060 250	CMK
1000	Lawrence, Kans.	100	Portland, Ore.	a, Cuba	Havana, C
500	KFNF 890	100	KBTM 1200 Jonesboro, Ark.		Santiago,
100	Shenandoah, Iowa KFOR 1210	100	KCMC 1420	1050 250	СМКО
100	Lincoln, Neb.		Texarkana, Ark.		Santiago, CMKF
1000	KFOX 1250 Long Beach, Calif.	250	Enid, Okla.	n, Cuba	Holguin, C
100	KFPL 1310	100	KCRJ 1310	1 1120 200 nillo, Cuba	
100	Dublin, Texas KFPW 1210	100	Jerome, Ariz. KDB 1500	1400 100	CMKR
100	Fort Smith, Ark.	alif.	Santa Barbara, Ca		Santiago, (
1000	KFPY 896 Spokane, Wash.	500	KDFN 1440 Casper, Wyo.		Santiago, (
250	KFQD 780	50900	KDKA 980	790 150	CMOA Havana, C
	Anchorage, Alaska KFRC 610	100	Pittsburgh, Pa.	1470 150	CMOK
1000	San Francisco, Calif	100	Devils Lake, N. D.	a, Cuba	Havana, C
100	KFRO 1370 Longview, Texas	100	MOON 1210 Del Monte, Calif.	230	Havana, C
500	KFRU 630	1000	KDYL 1290	840 500	CMQ
	Columbia, Mo.		Salt Lake City, Ut	680 1000	Havana, C
1000	San Diego, Calif.	1000	Los Angeles, Callf.	, Cuba	Havana, C
500	KFSG 1120	100	KELD 1379 El Dorado, Ark.	920 650 1. Cuba	CMX Havana, C
500	Los Angeles, Calif. KFUO 550	500	KELW 780	1050 1000	CRCK 1
300	St. Louis, Mo.		Burbank, Calif.	· · ⊢	Quebec, Qu CRCM
250	KFVD 1900 Los Angeles, Calif.	100 .	KERN 1370 Bakersfield, Calif.		Montreal, (
100	KFVS 1210	5000	KEX 1180	880 1000	Ottawa, On
1000	Cape Girardeau, Mo KFWB 959	10888	Portland, Ore. KFAB 770	950 100	CRCS
1000	Hollywood, Calif.		Lincoln, Neb.		Chicoutimi,
100-	KFXD 1200 Nampa, Idaho	1096	KFAC 1300 Los Angeles, Calif.		Toronto, O
100-	KFXJ 1208	1000	KFBB 1280	1100 500	CRCV 1 Vancouver,
	Grand Jet., Colo.		Great Falls, Mont.	600 500	
100- f.	San Bernardino, Call	5000	Abitene, Kans.	Ont.	Windsor, Or
100	KFXR 1310 Oklahoma City, Okla	5000	KFBK 1490 Sacramento, Calif.	609 250 re, Miq.	FQN St. Pierre, 1
100.	KFYO 1310	580	KFDM 560	920 1000	ННК
	Lubbock, Texas		Beaumont, Texas	-Prince, Halti 1395 15	
1000	KFYR 550 Bismarck, N. D.	1000	Brookings, S. D.	ro de M., D.R.	San Pedro d
5000		500	WFEL 920 Denver, Colo.	1195 15 omingo, D. R.	
100	Spokane, Wash. KGAR 1370	2500	KFEQ (80	880 700	HIX
	Tucson, Ariz.	2300	St. Joseph, Mo.	omingo, D. R.	
1000	KGB 1330 : San Diego, Calif.	100	KFGQ 1370 Boone, Iowa	1300 10 omingo, D. R.	
500	KGBU 900	1000	KFH 1300	1440 25	HP50 14 Colon, Pana
500	Ketchikan, Alaska KGBX 1230	50000	Wichita, Kans.	1270 100	
300	Springfield, Mo.	30000	Los Angeles, Calif.	lpa, Hond.	Tegucigalpa
1000	KGBZ 930 1 York, Neb.	100	KFIO 1120 Spokane, Wash.	1420 160 onio, Texas	San Antonio
100	KGCA 1270	100	KFIZ 1420	1429 100	KABR 14
	Decorah, Iowa		Fond du Lac, Wis.	1200 100	Aberdeen, 8
250	Mandan, N. D.	100	KFJB 1200 Marshalltown, Iowa	a.	Ada, Okla.
100	KGCX 1310	100	KFJI 1210	1420 100	KALB 14 Alexandria,
	Wolf Point, Ment.		Klamath Falls, Ore.	, La.	- ANGABIIUIIA,

	Lucas ann an E		KHJ 900 1000		KMTR 570 1000
	KGDE 1200 100 Fergus Falls, Minn.		KHJ 900 1000 Los Angeles, Callf.		Hollywood, Calif.
	KGDM 1100 1000		KHQ 590 1000		KNEL 1500 100
	Stockton Calif. KGDY 1340 250		Spokane, Wash. KHSL 950 250		Brady, Texas KNET 1428 100
	Huron S D		Chico, Callf.		Palestine, Texas
	KGEK 1200 100		KICA 1370 100		KNOW 1500 100
	Sterling, Colo		Clovis, N. M.		Austin, Texas KNX 1850 50000
	KGER 1360 1000 Long Beach, Calif.		KID 1320 250 Idaho Falls, Idaho	1	Hollywood, Calif.
	KGEZ 1310 100		KIDO 1350 1000		KOA 830 50000
	Kalispell, Mont.		Boise, Idaho		Denver, Colo.
	KGFF 1420 100 Shawnee Okla.		KIDW 1420 100 Lamar, Colo.		Corvallis, Ore.
	KGFG 1370 100		KIEM 1450 500		KOB 1180 10000
	Oklahoma City, Okla. KGFI 1500 100		Eureka, Calif.		Albuquerque, N. M.
	KGFI 1500 100 Corpus Christi, Texas		Glendale, Calif.		Reno, Nev.
	KGFJ 1200 100		KINY 1310 100		KOIL 1260 1000
	Los Angeles, Calif.		Juneau, Alaska	<u> </u>	Council Bluffs, Iowa
	Moorhead, Minn.		KIRO 710 500 Seattle, Wash.		KOIN 940 1000 Portland, Ore.
	KGFL 1370 100		KIT 1310 100		KOL 1270 1000
	Roswell, N. M.		Yakima, Wash.		Seattle, Wash.
	KGFW 1310 100 Kearney, Neb.		Santa Fe, N. Mex.		KOMA 1480 5000 Oklahoma City, Okla.
	KGFX 630 200		KIUL 1210 100		KOMO 920 1000
	Pierre, S. D.		Garden City, Kans. KIUN 1420 100	ļ	Seattle, Wash.
	KGGC 1420 100 San Francisco, Calif.		Pecos, Texas		KONO 1370 100 San Antonio, Texas
	KGGF 1010 1000		KIUP 1370 100		KOOS 1390 250
	Coffeyville, Kans.		Durango, Colo.	<u> </u>	Marshfield, Ore.
	KGGM 1230 250 Albuquerque, N. M.		KJBS 1070 500 San Francisco, Calif.		KORE 1420 100 Eugene, Ore.
	KGHF 1320 500		KJR 970 5000		KOTN 1500 100
	Pueblo, Colo	<u> </u>	Seattle, Wash.		Pine Bluffs, Ark.
	KGHI 1200 100 Little Rock, Ark.	1	KLCN 1290 100 Blytheville, Ark.		KOY 1390 500 Phoenix, Ariz.
	KGHL 780 1000		KLO 1400 500		KPAC 1260 500
	Billings, Mont. KGIR 1340 1000	ļ	Ogden, Utah		Port Arthur, Texas KPJM 1500 100
	Butte, Mont.		KLPM 1240 250 Minot, N. D.		Prescott, Ariz.
	KGIW 1420 100		KLRA 1390 1000		KPLC 1500 100
	Alamosa, Colo. KGKB 1500 100	<u> </u>	Little Rock, Ark.		Lake Charles, La.
	Tyler, Texas	1	KLS 1440 250 Oakland, Calif.		San Francisco, Calif.
1 - 1 - 1	KGKL 1370 100		KLUF 1370 100		KPOF 880 500
	San Angelo, Texas KGKO 570 250		Galveston, Texas		Denver, Colo. KPPC 1210 50
	Wichita Falls, Texas		Oakland, Calif.		Pasadena, Calif.
	KGKY 1500 100		KLZ 560 1000		KPQ 1500 100
	Scottsbluff, Neb. KGMB 1320 1000	 	Denver, Colo.	 	Wenatchee, Wash.
122	Honolulu, T. H.	L	KMA 930 1000 Shenandoah, Iowa		Houston, Texas
	KGNC 1410 1000		KMAC 1370 100		KQV 1380 500
-	Amarillo, Texas KGNF 1430 1000	<u> </u>	San Antonio, Texas KMBC 950 1000		Pittsburgh, Pa. KQW 1010 1000
	North Platte, Neb.		Kansas City, Mo.		San Jose, Calif.
	KGNO 1340 250		KMED 1310 100	-	KRE 1370 100
-	Dodge City, Kans.	—	Medford, Ore. KMJ 580 1000		Berkeley, Calif. KREG 1500 100
	San Francisco, Calif.	L	Fresno, Calif.		Santa Ana, Calif.
	KGU 750 2500		KMLB 1200 100		KRGV 1269 500 Weslaco, Texas
	Honolulu, T. H. KGVO 1260 1000	—	Monroe, La. KMMJ 740 1000		KRKD 1120 500
2	Missoula, Mont.		Clay Center, Neb.	ļ	Los Angeles, Calif.
	KGW 620 1000		KMO 1330 250		KRKO 1370 50 Everett, Wash.
-	Portland Ore. KGY 1210 100	— —	Tacoma, Wash. KMOX 1090 50000	<u> </u>	KRLC 1420 100
	Olympia, Wash.		St. Louis, Mo.		Lewiston, Idaho
	KHBC 1420 100	1	KMPC 710 500		KRLD 1040 10000 Dallas, Texas
	Hilo, T. H	L	Beverly Hills, Calif.		Danas, 1exas

	KRLH 1420 108					_	
	KRLH 1420 109 Midland, Texas	1	Tucson, Ariz.	500		VE9EK 1185 Montmagny, Que.	10
	KRMD 1310 100 Shreveport, La.		KVOD 920	500	 	VOAC 1065	40
	KRNR 1500 100		Denver, Colo.	100		St. John's, Nfld.	
ļ	Roseburg, Ore.	<u> </u>	Lafayette, La.	100	ļ	St. John's, Nfld.	100
	Des Moines, Iowa		KVOO 1140 Tulsa, Okla.	25000		VOGY 840	400
	KROC 1310 100	<u> </u>	KVOR 1270	1000		St. John's, Nild.	500
	Rochester, Minn.	<u> </u>	Colorado Spgs.,			St. John's, Nfld.	508
	Oakland, Calif.	ł	KVOS 1200 Bellingham, Was	100 h.	1	VOWR 681 St. John's, Nfld.	500
-	KRSC 1120 100 Seattle, Wash.		KVSO 1210	100		WAAB 1410	500
	KSAC 580 500	<u> </u>	Ardmore, Okla. KWBG 1420		-	Boston, Mass.	1000
<u> </u>	Manhattan, Kans.	<u> </u>	Hutchinson, Kan	100 s.		Chicago, Ill.	1000
1	Sioux City, Iowa		KWG 1200 Stockton, Calif.	100		WAAT 940 Jersey City, N. J.	500
	KSD 550 1000	 	KWJJ 1040	500		WAAW 660	500
-	St. Louis, Mo. KSEI 900 250	 	Portland, Ore.			Omaha, Neb. WABC 860	
	Pocatello, Idaho		St. Louis, Mo.	1900		New York, N. Y.	50000
	KSFO 560 1800 San Francisco, Calif.		KWKC 1370	100		WABI 1200	100
	KSL 1130 50000		Kansas City, Mo	10000	——	Bangor, Maine WABY 1370	100
	Salt Lake City, Utah KSLM 1370 100	<u></u>	Shreveport, La.	10000		Albany, N. Y.	100
	Salem, Ore.		KWLC 1270 Decorah, Iowa	180		WACO 1420 Waco, Texas	100
	KSO 1430 500 Des Moines, Iowa		KWSC 1220	1900		WADC 1320	1000
<u> </u>	KSOO 1110 2500	<u> </u>	Pullman, Wash. KWTN 1210	100	ļ	Akron, Ohio. WAGF 1370	100
-	Sloux Falls, S. D.		Watertown, S. D.	100		Dothan, Ala.	100
L	KSTP 1466 25000 St. Paul, Minn.		Springfield, Mo.	5000		WAGM 1420 Presque Isie, Me.	100
	KSUN 1200 100		KWYO 1370	100	 	WAIM 1200	190
	Lowell, Ariz. KTAR 620 1000		Sheridan, Wyo.		<u> </u>	Anderson, S. C. WAIU 640	500
	Phoenix, Ariz.		Seattle, Wash.	250		Columbus, Ohio	
Ĺ	Fort Worth, Texas		KXL 1420 Portland, Ore.	100		WALA 1380 Mobile, Ala.	500
	KTBS 1450 1000 Shreveport, La.		KXO 1500	100		WALR 1210	100
	KRFI 1240 1000		El Centro, Calif.		 	Zanesville, Ohio WAML 1310	100
	Twin Falls, Idaho		Aberdeen, Wash.	100	L_	Laurel, Miss.	100
1	Hot Springs, Ark.		Houston, Texas	1000		WAPI 1140 Birmingham, Ala.	5000
	KTM 780 500		KYA 1230	1000	\vdash	WARD 1400	500
	Los Angeles, Calif. KTRB 740 250		San Francisco, Ca	lif. 10000	 	Brooklyn, N. Y. WASH 1270	500
	Modesto, Calif.		Philadelphia, Pa.	10000		Grand Rapids, Mici	
	KTRH 1290 1000 Houston, Texas		NAA 690 Arlington, Va.	1000		WATR 1130 Waterbury, Conn.	100
	KTSA 550 1000		RDN 680	500		WAVE 940	1000
	San Antonio, Texas KTSM 1310 100		San Salvador, E. S TGW 1210	3.		Louisville, Ky. WAWZ 1350	500
<u></u>	El Paso, Texas		TGW 1210 Guatemala, Gua.	10000		Zarephath, N. J.	500
	KTUL 1400 500 Tulsa, Okla.		TGX 1400 Guatemala City	250		WAZL 1426 Hasieton, Pa.	100
	KTW 1220 1000		TIEP 850	500		WBAA 890	1000
<u> </u>	Seattle, Wash. KUJ 1370 100		San Jose, C. R. TIFA 1050			West Lafayette, Inc	
	Walla Walla, Wash.		San Jose, C. R.	75		WBAL 1060 Baltimore, Md.	10000
ĺ	KUMA 1420 100 Yuma, Arlz.		TIFS 1441 Cartago, C. R.	7.5			50000
	KUOA 1260 1000		TIGA 1014	30		Fort Worth, Texas WBAX 1210	100
	Fayetteville, Ark.		Cartago, C. R.	ļ		Wilkes-Barre, Pa.	
	KUSD 890 500 Vermillion, S. D.		TIGH 1000 San Jose, C. R.	500		WBBC 1400 Brooklyn, N. Y.	500
	KVI 570 1000 Tacoma, Wash		TIRH 930	50		WBBL 1210	100
	KVL 1370 100		San Jose, C. R. VAS 685	2000		Richmond, Va. WBBM 770	50000
	Seattle, Wash.		Glace Bay, N. S.			Chicago, Ili	

	WBBR 1300	1000	WCFL 970	5000	WEED 1420 100
	Brooklyn, N. Y.	1000	Chleago, Ill.	3000	Rocky Mount, N. C.
	WBBZ 1200	100	WCHS 580	500	WEEL 590 1000 Boston, Mass.
	Ponca City, Okla. WBCM 1410	500	Charleston, W. Va.	5000	WEEU 830 1000
	Bay City, Mich.	300	Covington, Ky.	3000	Reading, Pa.
		1000	WCLO 1200	100	WEHC 1420 100 Charlottesville, Va.
	Buffalo, N. Y. WBEO 1310	100	Janesville, Wis. WCLS 1310	100	WEHS 1420 100
	Marquette, Mich.		Joliet, Ill.		Cicero, Ill.
	WBIG 1440 Greensboro, N. C.	500	WCMI 1310 Ashland, Ky.	100	WELI 900 500 New Haven, Conn.
	WBNO 1200	100	WCNW 1500	100	WELL 1420 100
	New Orleans, La.		Brooklyn, N. Y.	500	Battle Creek, Mlch. WEMP 1310 100
	WBNS 1430 Columbus, Ohlo	500	WCOA 1340 Pensacola, Fla.	500	Milwaukee, Wis.
	WBNX 1350	250	WCOC 880	500	WENR 870 50000
	New York, N. Y. WBNY 1370	100	Meridian, Miss.	100	Chicago, Ill. WESG 850 1000
	Buffalo, N. Y.	100	WCOL 1210 Columbus, Ohio	100	Elmira, N. Y.
		000C	WCOP 1120	500	WEST 1200 100 Easton, Pa.
-	New York, N. Y. WBOW 1310	100	Boston, Mass.	100	WEVD 1300 1000
	Terre Haute, Ind.		Cincinnati, Ohlo		New York, N. Y.
	WBRB 1210 Red Bank, N. J.	100	WCRW 1210 Chicago, Ill.	100	WEW 760 1000 St. Louis, Mo.
-	WBRC 930	1000	WCSC 1360	500	WEXL 1310 50
	Birmingham, Ala.		Charleston, S. C.		Royal Oak, Mich. WFAA 800 50000
	WBRE 1310 Wilkes-Barre, Pa.	100	WCSH 940 Portland, Me.	1000	Dallas, Texas
	WBSO 920	500	WDAE 1220	1000	WFAB 1300 1000
	Babson Park, Mass.		Tampa, Fla.		New York, N. Y. WFAM 1200 100
	WBT 1080 S Charlotte, N. C.	50000	WDAF 610 Kansas City, Mo.	1000	South Bend, Ind.
	WBTM 1370	100	WDAH 1310	1.00	WFAS 1210 100
	Danville, Va.	50000	El Paso, Texas	100	White Plains, N. Y. WFBC 1300 1000
	Boston, Mass.	3000	Philadelphia, Pa.	100	Greenville, S. C.
	WBZA 990	1900	WDAY 940	1000	WFBG 1310 100 Altoona, Pa.
-	Springfield, Mass. WCAC 600	500	Fargo, N. D. WDBJ 930	1000	WFBL 1360 1000
	Storrs, Conn.		Roanoke, Va.		Syracuse, N. Y. WFBM 1230 1000
	Canton, N. Y.	500	WDBO 580 Orlando, Fla.	1000	Indianapolis, Ind.
	WCAE 1228	1000	WDEL 1120	250	WFBR 1270 500
	Pittsburgh, Pa.	1000	Wilmington, Del.	500	Baltimore, Md. WFDF 1310 100
	WCAL 1250 Northfield, Minn.	1000	WDEV 550 Waterbury, Vt.	500	Flint, Mich.
	WCAM 1280	500	WDGY 1180	1000	WFEA 1340 500 Manchester, N. H.
	Camden, N. J. WCAO 600	500	Minneapolis, Minn. WDNC 1500	100	WFIL 560 1000
	Baltimore, Md.		Durham, N. C.	100	Philadelphia, Pa.
	WCAP 1280	500	WDOD 1280	1000	WFLA 620 1000 Clearwater, Fla.
	Asbury Park, N. J. WCAT 1200	100	Chattanooga, Teni WDRC 1330	1000	WFMD 900 500
	Rapid City, S. D.		Hartford, Conn.		Frederick, Md. WGAL 1500 100
	WCAU 1170 Philadelphia, Pa.	50000	New Orleans, La.	1000	WGAL 1500 100 Lancaster, Pa.
	WCAX 1200	100	WDZ 1070	100	WGAR 1450 500
	Burlington, Vt.	100	Tuscola, III.		Cleveland, Ohio WGBB 1210 100
	Carthage, Ill.	100	WEAF 660 New York, N. Y.	50000	Freeport, N. Y.
	WCBA 1440	500	WEAN 780	500	WGBF 630 500 Evansville, Ind
	Allentown, Pa. WCBD 1080	5000	Providence, R. I. WEBC 1290	1090	WGBI 880 500
	Waukegan, Ill.		Superior, Wis.		Scranton, Pa.
	WCBM 1370 Baltimore, Md.	100	WEBQ 1210 Harrisburg, Ill.	109	WGCM 1210 100 Gulfport, Miss.
	WCBS 1420	100	WEBR 1310	100	WGES 1360 500
	Springfield, Ill.		Buffalo, N. Y.	100	Chicago, Ill. WGH 1310 100
	WCCO 810 Minneapolis, Minn.	50000	WEDC 1210 Chicago, III.	100	Newport News, Va.
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	WGL 1370 100 Fort Wayne, Ind.		WIBA 1280 Madison, Wis.	1000	WJSV 1460 1000 Washington, D. C.
	WGN 720 50000 Chicago, Ill.		WIBG 970	100	WJTL 1370 10
	WGNY 1210 100		Glenside, Pa. WIBM 1370	100	Atlanta, Ga. WJW 1210 10
	Chester, N. Y. WGPC 1420 100	<u> </u>	Jackson, Mich.		Akron, Ohio
	Albany, Ga.	L.	WIBU 1210 Poynette, Wis.	100	WJZ 760 5000 New York, N. Y.
	WGR 550 1008 Buffalo, N. Y.		WIBW 580 Topeka, Kans.	1000	WKAQ 1249 100
	WGST 890 500		WIBX 1200	100	San Juan, P. R. WKAR 850 190
	Atlanta, Ga. WGY 790 50000	<u> </u>	Utica, N. Y.	500	East Lansing, Mich. WKBB 1500 10
	Schenectady, N. Y. WHA 940 1000		Bridgeport, Conn		East Dubuque, Ill.
	Madison, Wis.		WIL 1200 St. Louis, Mo.	100	WKBH 1380 100 LaCrosse, Wis.
	WHAM 1150 50000 Rochester, N. Y.		WILL 890	250	WKBI 1420 10
<u> </u>	WHAS 820 50000	-	Urbana, III. WILM 1429	100	Cicero, Ili. WKBN 570 50
<u></u>	Louisville, Ky. WHAT 1310 100		Wilmington, Del.		Youngstown, Ohio
	Philadelphia, Pa.		WIND 560 Gary, Ind.	1000	WKBO 1200 10 Harrisburg, Pa.
	WHAZ 1300 500 Troy, N. Y.	İ	WINS 1180 New York, N. Y.	1000	WKBV 1500 10 Richmond, Ind.
	WHB 860 1000		WIOD 1300	1000	WKBW 1480 500
<u> </u>	Kansas City, Mo. WHBB 1500 100		Miami, Fla.	1000	Buffalo, N. Y. WKBZ 1500 10
	Selma, Alabama WHBC 1200 100		Philadelphia, Pa.	1000	Muskegon, Mich.
	Canton, Ohio		WIRE 1400 Indianapolis, Ind.	500	WKEU 1500 10 Griffin, Ga.
	WHBF 1210 100 Rock Island, Ill.		WIS 1010	500	WKOK 1210 10
	WHBI 1250 1000	<u> </u>	Columbia, S. C.	250	Sunbury, Pa. WKRC 550 100
	Newark, N. J. WHBL 1410 500		Milwaukee, Wis.		Cincinnati, Ohio
	Sheboygan, Wis.		Johnstown, Pa.	100	Oklahoma City, Okla.
	WHBQ 1370 100 Memphis, Tenn.		WJAG 1960 Norfolk, Neb.	1000	WKZO - 590 100 Kalamazoo, Mich.
	WHRU 1210 100 Anderson, Ind.		WJAR 890	500	WLAC 1470 500
	WHBY 1200 100		Providence, R. I.	1000	Nashville, Tenn. WLAP 1420 10
ļ	Green Bay, Wis.		Pittsburgh, Pa.		Lexington, Ky.
	Calumet, Mich.		Jacksonville, Fla.	1000	WLB 1250 1000 Minneapolis, Minn.
	WHDH 830 1000 Boston, Mass.		WJAY 610	500	WLBC 1310 100 Muncie, Ind.
	WHDL 1420 100		Cleveland, Ohio WJBC 1200	100	WLBF 1420 100
<u> </u>	Olean, N. Y. WHEB 740 250	-	Bloomington, Ill.	100	Kansas City, Kans. WLBL 900 2500
	Portsmouth, N. H.		Detroit, Mich.		Stevens Point, Wis.
	WHEC 1430 500 Rochester, N. Y.		WJBL 1280 Decatur, Ill.	100	WLBZ 620 500 Bangor, Me.
	WHEF 1500 100 Kosciusko, Miss.		WJBO 1420	100	WLEU 1420 100
	WHFC 1420 100	 	Baton Rouge, La. WJBR 1420	100	Erie, Pa. WLLH 1370 100
	Cicero, III. WHIO 1260 1000	<u> </u>	Gastonia, N. C.		Lowell, Mass.
	Dayton, Ohio		WJBW 1200 New Orleans, La.	100	WLNH 1310 100 Laconia, N. H.
	WHIS 1410 250 Bluefield, W. Va.		WJBY 1210 Gadsden, Ala.	100	WLS 870 50000 Chicago, Ili.
	WHJB 620 250		WJDX 1270	1000	WLTH 1400 500
	Greensburg, Pa. WHK 1390 1000		Jackson, Miss. WJEJ 1210	160	Brooklyn, N. Y. WLVA 1200 100
	Cleveland, Ohio		Hagerstown, Md.	-44	Lynchburg, Va.
	WHN 1010 1000 New York, N. Y.		WJIM 1210 Lansing, Mich.	108	Cincinnati, Ohio
	WHO 1000 50000		WJ10 1130	20000	WLWL 1100 5000
	Des Moines, Iowa WHOM 1450 250		Chicago, Ill. WJMS 1420	100	New York, N. Y. WMAL 630 250
	Jersey City, N. J. WHP 1430 500		Ironwood, Mich.		Washington, D. C. '
	Harrisburg, Pa.		WJR 750 Detroit, Mich.	56080	Chicago, Ill.
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WMAS 1420 100 Springfield, Mass.	WNRI 1200 100	WRAX 920 250
WMAZ 1180 1000	Newport, R. I. WNYC 810 1000	Philadelphia, Pa. WRBL 1200 100
Macon, Ga.	New York, N. Y.	Columbus, Ga.
WMBC 1420 100	WOAI 1190 50000	WRC 950 500
Detroit, Mich. WMBD 1440 500	San Antonio, Texas WOC 1379 100	Washington, D. C. WRDO 1370 100
Peoria, Ill.	Davenport, Iowa	Augusta, Me.
WMBG 1210 100	WOCL 1210 50	WRDW 1500 100
Richmond, Va. WMBH 1420 100	Jamestown, N. Y. WOI 640 5000	Augusta, Ga. WREC 600 1000
Joplin, Mo.	Ames, Iowa	Memphis, Tenn.
WMBI 1080 5000	WOKO 1430 500	WREN 1220 1000
Chicago, Iil. WMBO 1310 100	Albany, N. Y. WOL 1310 100	Lawrence, Kans. WRGA 1500 100
Auburn, N. Y.	Washington, D. C.	Rome, Ga.
WMBQ 1500 100	WOMT 1210 100	WRJN 1370 100
Brooklyn, N. Y. WMBR 1370 100	Manitowoc, Wis.	Racine, Wis.
Jacksonville, Fla.	WOOD 1270 500 Grand Rapids, Mich.	WROK 1410 500 Rockford, Ill.
WMC 780 1000	WOPI 1500 100	WROL 1310 190
Memphis, Tenn. WMCA 570 500	Bristol, Tenn	Knoxville, Tenn.
New York, N. Y.	WOR 710 50900 Newark, N. J.	WRR 1280 500 Dallas, Texas
WMEX 1580 190	WORC 1280 500	WRUF 830 5000
Boston, Mass.	Worcester, Mass.	Gainesville, Fla.
WMFD 1370 100 Wilmington, N. C.	WORK 1320 1000 York, Pa.	WRVA 1110 5000 Richmond, Va.
WMFF 1310 100	WOS 630 500	WSAI 1330 1000
Piattsburg, N. Y	Jefferson City, Mo.	Cincinnati, Ohio
WMFG 1210 100 Hibbing, Minn.	WOSU 570 750	WSAJ 1310 100 Grove City, Pa.
WMFJ 1420 100	Columbus, Ohio WOV 1130 1000	WSAN 1440 500
Daytona Beach, Fla.	New York, N. Y.	Allentown, Pa.
WMFN 1210 100 Clarksdale, Miss.	WOW 590 1000	WSAR 1350 1000 Fall River, Mass.
WMFO 1370 100	Omaha, Neb. WOWO 1160 10000	WSAY 1210 100
Decatur, Ala.	Fort Wayne, Ind.	Rochester, N. Y.
WMFR 1200 100 High Point, N. C.	WPAD 1420 100	WSAZ 1190 1000 Huntington, W. Va.
WMMN 890 500	Paducah, Ky. WPAR 1420 100	WSB 740 50000
Fairmount, W. Va.	Parkersburg, W. Va.	Atlanta, Ga.
WMPC 1200 100 Lapeer, Mich.	WPAX 1210 250	WSBC 1210 100 Chicago, Ill.
WMT 608 1000	Thomasville, Ga. WPAY 1370 100	WSBT 1360 500
Cedar Rapids, Iowa	Portsmouth, Ohlo	South Bend, Ind.
WNAC 1230 1000	WPEN 920 250	WSFA 1410 500
Boston, Mass. WNAD 1910 1000	Philadelphia, Pa. WPFB 1370 190	Montgomery, Ala. WSGN 1310 100
Norman, Okia.	Hattiesburg, Miss.	Birmingham, Ala.
WNAX 570 1000 Yankton, S. D.	WPG 1100 5000	WSIX 1210 100
WNBC 1380 250	Atlantic City, N. J. WPHR 880 500	Springfield, Tenn. WSJS 1310 100
New Britain, Conn.	Petersburg, Va.	Winston-Salem, N. C.
WNBF 1500 100	WPRO 630 250	WSM 650 50000
Binghamton, N. Y. WNBH 1310 100	Providence, R. I. WPRP 1429 190	Nashville, Tenn. WSMB 1320 500
New Bedford, Mass.	Ponce, P. R.	New Orleans, La.
WNBR 1430 500	WPTF 680 5000	WSMK 1380 200
Memphis, Tenn. WNBX 1260 1000	Raleigh, N. C. WQAM 560 1800	Dayton, Ohio WSOC 1210 100
Springfield, Vt.	Miami, Fla.	Charlotte, N. C.
WNBZ 1290 100	WQAN 880 250	WSPA 920 1000
Saranac Lake, N. Y. WNEL 1290 500	Scranton, Pa. WQBC 1360 1000	Spartanburg, S. C. WSPD 1340 1600
San Juan, P. R.	WQBC 1360 1000 Vicksburg, Miss.	Toledo, Ohio
WNEW 1250 1000	WQDM 1370 100	WSUI 880 500
Newark, N. J.	St. Albans, Vt.	Iowa City, Iowa
WNOX 560 1000 Knoxville, Tenn.	WRAK 1370 100 Williamsport, Pa.	WSUN 620 1000 St. Petersburg, Fia.
WNRA 1420 100	WRAW 1310 100	WSVA 550 500
Sheffield, Ala.	Reading, Pa.	Harrisonburg, Va.

WEVE 1270		
WSVS 1370 50 Buffalo, N. Y.	XEA 1060 500 Guadalajara, Jaj	XEMO 860 5800 Tijuana, L. C.
WSYB 1500 100 Rutland, Vt.	XEAA 920 200	XEMX 1280 12
WSYR 570 250	Mexicall, B. C. XEAF 990 500	Mexico City, D. F.
Syracuse, N. Y.	XEAF 990 500 Nogales, Son.	XEMZ 1210 250 Tijuana, L. C.
WTAD 900 500 Quincy, Ill.	XEAI 1240 100	XEN 710 1000
WTAG 580 500	Mexico City, D. F. XEAJ 1310 15	Mexico City, D. F. XENT 910 65000
Worcester, Mass.	Oaxaca, Oax.	Nuevo Laredo, Tams.
WTAL 1310 100 Tallahassee, Fla.	XEAM 750 7.5 Matamoros, Tams.	XEOK 760 250
WTAM 1070 50000	XEAO 560 250	Tijuana, L. C. XEOX 640 500
Cleveland, Ohio WTAQ 1330 1000	Mexicali, B. C. XEAS 1160 100	Saltillo, Coah
Eau Claire, Wis.	Saltillo, Coah.	XEP 840 500 Mexico City, D. F.
WTAR 780 500 Norfolk, Va.	XEAW 960 50000	XEPN 590 50000
WTAW 1120 500	Reynosa, Tams. XEAZ 1420 7	Piedras Negras, Coah. XERA 840 250000
College Station, Tex.	Guanjuato, Gto.	Villa Acuna, Coah
WTAX 1210 100 Springfield, Ill.	XEB 1030 10000 Mexico City, D. F.	XES 990 250
WTBO 800 250	XEC 1160 30	Tampleo, Tams. XET 690 500
Cumberland, Md WTCN 1250 1000	Tijuana, B. C.	Monterrey, N. L.
Minneapolis, Minn.	Mexico City, D. F.	XETB 1310 125 Torreon, Coah.
WTEL 1310 100 Philadelphia, Pa.	XED 1155 2500	XETF 1220 12
WTFI 1450 500	Guadalajara, Jal. XEE 1210 50	Veracruz, Ver.
Athens, Ga.	Durango, Dgo.	XETH 1210 108 Puebla, Pue.
WTIC 1040 50000 Hartford, Conn.	XEFA 1180 500 Mexico City, D. F.	XETW 820 500
WTJS 1310 100	XEFB 1420 100	Mexico City, D. F. XEU 1010 250
Jackson, Tenn. WTMJ 620 1000	Monterrey, N. L.	Veracruz, Ver.
Milwaukee, Wis.	XEFC 560 100 Merida, Yuc.	XEW 890 50000 Mexico City, D. F.
WTMV 1500 100 East St. Louis, III.	XEFE 850 250	XEWZ 1150 100
WTNJ 1280 500	Laredo, Tams. XEFI 1440 250	Mexico City, D. F. XEX 1310 125
Trenton, N. J. WTOC 1260 1000	Chihuahua, Chih.	XEX 1310 125 Monterrey, N. L.
WTOC 1260 1000 Savannah, Ga.	XEFJ 1230 100 Monterrey, N. L.	XEY 1000 10 Merida, Yuc.
WTRC 1310 100	XEFL 1150 500	XEYZ 780 10000
Elihart, Ind. WVFW 1400 500	Tijuana, L. C. XEFO 940 5000	Mexico City, D. F.
Brooklyn, N. Y.	Mexico City, D. F.	Merida, Yuc.
WWAE 1200 100 Hammond, Ind.	XEFV 1210 100	XEZZ 1370 100
WWJ 920 1000	Juarez, Chih. XEFW 1310 250	San Luis Potosi, S.L.P. XFA 1310 5
Detroit, Mich.	Tampico, Tams.	Aguascalieutes, Ags.
WWL 850 10000 New Orleans, La.	XEFZ 1370 100 Mexico City, D. F.	XFB 1270 250 Jalapa, Ver.
WWNC 570 1000	XEG 1270 260	XFC 810 350
Asheville, N. C. WWRL 1500 100	Ensenada, B. C. XEH 1150 250	Aguasoalientes, Ags.
Woodside, N. Y.	Monterrey, N. L.	XFD 1340 350 Jalapa, Ver.
WWSW 1500 100 Pittsburgh, Pa	XEI 1370 125 Morella, Mich.	XFO 940 5900
WWVA 1160 5000	XEJ 1020 1000	Mexico City, D. F. XFX 610 1000
Wheeling, W. Va WXYZ 1240 1000	Juarez, Chih.	Mexico City, D. F.
WXYZ 1240 1000 Detroit, Mich.	XEK 990 100 Mexico City, D. F.	YNLF 1275 20 Managua, Nicaragua
WIXBS 1530 1000	XEKL 1240 500	YNOP 1230 100
Waterbury, Conn. W2XR 1550 1000	Leon, Guan. XEL 1100 250	Managua, Nicaragua
Long Island City, N. Y.	XEL 1100 250 Mexico City, D. F.	YNVA 950 30 Managua, Nicaragua
W6XAI 1550 1000 Bakersfield, Calif.	XELO 1110 10000	
W9XBY 1530 1000	Piedras Negras, Coah. XEMA 1080 50	
Kansas City, Mo.	Tampico, Tams.	

AROUND the CLOCK on the SHORT WAVES

MIDNIGHT TO NOON (EST)

GMT	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
		DJN DJQ VPD VK2ME W8XAL		GSB GSD PCJ VK3LR RV15	DJB DJN GSB GSD JVM PCJ RV15 VK2ME VK3LR	DJB DJN HVJ JVM LKJI PCJ RV15 VK2ME VK3ME VK3ME YDA YDB	DJB DJN GSF GSG JVM LKJI RNE RVI5 VK2ME VK3LR VK3ME VK3ME VBAL YDA	GSF GSG JVM LKJ1 PCJ RNE Pont. RV15 VK2ME VK3LR W1XK W8XAL W8XAL W8XAL	DJA DJB DJE DJN GSF GSG PCJ PHI Pont. RNE VK2ME WIXK W8XK YDA YDB	DJA DJB DJE DJN GSB GSD GSF GSG HAS3 PCJ PHI Pont. RNE W1XK	DJA DJB DJE DJN GSB GSD GSF GSG HVJ PCJ PHI Pont. RNE W1XK W8XAL W8XAL	DJA DJB DJE DJE DJN GSB GSD GSF GSG Pont. W1XK W2XE W3XL W8XK W9XAA

NOON TO MIDNIGHT (EST)

GMT	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00	4:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:90	8:00
		W2XAF W3XAU W8XK W9XAA	W8XK W9XAA	GSD GSI GSL 12RO ORK Pont. W1XK W2XE W3XAL W3XAL	W3XAU W8XAL W8XK	DJA DJC DJN EAQ GSA GSC HBL HJ1ABB Pont. PRF5 W1XK W3XAU W8XXA W9XAA XEBT YV2RC YV3RC	CHNX CJRO CJRO CJRN COCO CRCX CTIAA DJA DJC DJN EAQ GSA GSB GSC GSL HAT4 HC2RL HJ1ABB 12RO Pont. W1XAL W1XK W2XE W3XAU W8XK W9XAA XEBT XECR YV2RC YV5RMC	GSA GSB GSC GSC GSC HC2RL HJ1ABB HJ1ABB HP5B W1XAL W1XK W2XAF W2XE W3XAU W8XK W9XAA XEBT YV2RC YV3RC YV5RMO	HJ1ABB HP5B TIEP W1XAL W1XK W2XAF W2XE W3XAU W8XK W9XAA XEBT YV2RC YV3RC YV4RC YV5RMO	CRCX DJC DJN HCJB HCZET HCZET HIX HJ1ABB HP5B OAX4D PRADO TIGPH W1XK W2XAF W2XAF W3XAU W8XK W9XF	PRADO TGWA 'TGIX W1XK W2XAF W2XAF W3XAU W8XK W9XAA W9XAA XEBT	CJRO CJRX COCD CRCX IIJ4ABL TG1X W1XK W3XAU W8XK W9XAA W9XF

BEST SHORTWAVE BROADCASTING STATIONS BY CALL LETTERS

Frequencies are given in megacycles and the time is Eastern Standard, daily unless otherwise mentioned.

CEC, Santiago, Chile, 10.670. Daily. 2000-2100; Thu., Sun. 2030-2100. CHNX, Halifax, N. S., 6.110. 0900-

1230; 1600-2300.

CJRO, Winnipeg, Man. 6.150, Sun. 1500-2200; other days, 2000-2400 CJRX, Winnipeg, Man., 11.720. 1500-2200; other days, Sun.. 2000-2400

COCD, Havana, Cuba, 6.130. Sun., 1700-2300; weekdays, 1100-2400. COCH, Havana, Cuba, 9.428. Daily 1000-1200; 1600-1800; 2100-2200. COCO, Havana, Cuba, 6.010. Daily

1600-1900.

CO9GC, Santiago, Cuba, 6.150. Sun., 0000-0200. CO9JQ, Camaguey, Cuba, 8.665.

2000-2100. CO9WR. Sancti-Spiritus, Cuba.

11.800. CRCX, Bowmanville, Ont., 6.090.

Daily 1830-2330. CTIAA, Lisbon, Portugal,

Tues., Thurs., Sat., 1630-1900. DJA, Berlin, Germany, 9.560, 0030-0215; 0800-1130; 1705-2115.

DJB Berlin, Germany, 15.200. 0345-0715; 0800-1130.

DJC, Berlin, Germany, 6.020. 1200-1630; 1700-2245.

DJD, Berlin, Germany, 11.770. 1200-1630.

DJE, Berlin, Germany, 17.760. 0800-1130.

DJN, Berlin, Germany, 9.540, 0030-0215; 0345-0715; 1705-2245.

DJQ, Berlin, Germany, 15.280. 0030-0215

EAQ, Madrid, Spain, 9.862, 1730-1900; Sat., 1200-1400.

Daventry, England, 6.050 1645-1745; 1800-2000.

GSB Daventry, England, 9.510. 0300-0500; 0900-1200; 1215-1630; 1645-1745; 1800-2000.

GSC, Daventry, England, 9.580. 1645-1745; 1800-2000; 2200-2300. GSD, Daventry, England. 11.750.

0300-0500; 1215-1630; 2200-2300. GSE, Daventry, England, 11.860 0900-1200

GSF, Daventry, England, 15.140. 0700-0845; 0900-1200

GSG, Daventry, England, 17.790. 0700-0845; 0900-1200

GSI, Daventry, England, 15.260. 1215-1545

GSL, Daventry, England, 6.110 1215-1545; 1800-2000; 2200-2300

HAS3, Budapest, Hungary, 15.370. Sun. 0900-1000.

HAT4, Budapest, Hungary, 9.125. Sun., 1800-1900.

HBL, Geneva, Switz., 9.595. Sat., 1730-1815.

HBP. Geneva; Switz.; 7.797. Sat., 1739-1815.

HCJB, Quito, Ecuador, 8.214 Daily exc. Mon., 1915-2315.

HC2ET, Guayaquil, Ecuador, 4.600. ► Wed., Sat., 2130-2300.

HC2RL, Guayaquil, Ecuador, 6.659.

Tues., 2115-2315; Sun., 1745- LKJ1, Jeloy, Norway, 9.540. 0500-1945.

HIH, San Pedro de Macoris, D. R. 6.800. Sun., 0300-0400; 1230-1500; 1600-1700; Mon., Wed., Thur., Sat., 1210-1400; 1910-2100; Tues., Fri., 1210-1400; 1910-2010

HIX, Santo Domingo, D. R., Tues., Fri., 2000-2200,

HIZ, Santo Domingo, D. R., 6.315. Sat., 2300-0100; dally exc. Sun., 1700-1800.

HJIABB, Barranquilla, Colombia, 6.447. 1700-2200.

HJIABD. Cartagena. Colombia. 7.280. 1945-2115.

HJIABE. Cartagena, Colombia. 6.115. Sun. at 0400; Mon., 2200-2400; Wed., 2000-2200.

HJ1ABG, Barranquilla, Colombia 6.042. 1900-2200.

HJ1ABH, Clenaga, Colombia, 6.300. Tues., Fri., 1945-2200. HJ1ABJ, Santa Marta, Colombia,

6 006. Weekdays, 1100-1300; 1900-2100.

HJ2ABC, Cucuta, Colombia, 5.975. Weekdays, 1800-2100.

HJ2ABD, Bucaramanga, Colombia, HJ3ABD, Bogota, Colombia, 7.390.

1930-2300 HJ3ABF, Bogota, Colombia, 6,200.

1900-2300. HJ3ABH, Bogota, Colombia, 6.012. Sun., 1600-2100; other days,

1800-2300. HJ4ABA. Medellin. Colombia. 11.720. 1130-1300; 1830-2230.

HJ4ABC, Ibague, Colombia, 6.450. 2000-2200. HJ4ABD, Medellin, Colombia, 5.770.

1800-2300. HJ4ABE, Medeilin, Colombia, 5.900

1900-2300. HJ4ABL. Manizales. Colombia 6.100. Sat., 2300-2430.

HJ5ABC, Call, Colombia. Mon., Tues., Wed., Fri., 1900-2200.

HJ5ABD, Cali, Colombia, Thurs., Sat., Sun., 1900-2100. HJ5ABE, Cali, Colombia. 14.000. 1900-2200.

HKE, Bogota, Colombia, 7.090. HP5B, Panama City, Panama, 6.030 1900-2200.

HP5J, Panama City, Panama, 9.590. 1930-2200.

HRN, Tegucigalpa, Honduras, 5.875 Daily 2000-2200.

HVJ, Vatican City, 5.970. Sun., 0500-0530. 15.120. Tests late afternoons

12RO, Rome, Italy, 9.630. Mon.. Wed., Fri., 1800-2100.

I2RO, Rome, Italy, 11.810. Dally. 1430-1700.

Nazaki. Japan, 10.740. Daily, 0400-0745.

LCL, Jeloy, Norway, 6.130. 0500-0800.

0800

OAX4D, Lima, Peru, 5.780. Wed., Sat., 2100-2330. OAX4G, Lima, Peru, 6.230. 1900-

2200. ORK, Brussels, Belgium, 10.330. 1200-1400.

Hilversum. Netherlands, 15.220. Sun., 0730-1000; Tues. 0300-0600; Wed., 0700-1100.

PHI, Hilversum, Netherlands, 0830-1100, daily exc. 11.730. Tues. and Wed.

PRADO. Riobamba, Ecuador, 6.620. Thurs., 2100-2330.

PRF5, Rio de Janeiro, Brazil, 9.505. 1700-1745.

Moscow, USSR. 12.000. Daily, 1400-1800; Sun., 0700-1100; Wed., 0600-0700.

RV15, Khabarovsk, USSR., 4.273. Daily, 0300-0900.

SPW, Warsaw, Poland, 13.630. Testing.

TGWA, Guatemala City. Weekdays, 1930-2030; 2200-2400 TG1X, Guatemala City,

Weekdays, 1930-2030; 2200-2400 TG2X, City, 5.940. Guatemala Daily 2100-2200.

TIEP, San Jose, Costa Rica., 6.710. 1900-2200. TIGPH, San Jose, Costa Rica,

5.820. 1900-2200. TIPG, San Jose, Costa Rica, 6.385.

Weekdays, 1730-2230.
TIRCC, San Jose, Costa Rica, 6.550. Daily, 1800-1900. Sun. Thurs., 2000-2100; Sun., 1100-1300.

TI5HH, San Ramon, Costa Rica 5.520. 1530-1700; 2000-2130.

TI8WS, Puntarenas, Costa Rica 7.550. 1800-1900; 2000-2100. VK2ME, Sydney, Australia, 9.585. Sun., 0000-0200; 0430-0830:

0900-1100. VK3LR. Melbourne. Australia. 9.580. Mon.. Tues., Wed., Thurs., 0315-0730; Fri., 2230-

0200; Sat., 0500-0730. VK3ME, Melbourne, Australla, 9.503. Wed., Thurs., Frl., Sat., 0500-0700.

VPD, Suva, Fiji, 13.075. 0030-0130. VUB, Bombay, India, 9.565. Sun., near 7 a.m.

WIXAL, Boston, Mass. 11.790. Tues., Thur., 1915-2115. W1XK, Mills, Mass., 9.570. 0700-

0100.

W2XAD, Schenectady, N. Y. 15.330. Sat., 1300-1615; Sun., 1030-1600; other days, 1400-1500. W2XAF, Schenectady, N. Y., 9.530.

1840-2300. W2XE, Wayne, N. J., 6.120. 2000-2300. 11.830: 1700-1900. 15.270:

1000-1700. W3XAL, Bound Brook, N. J., 6.100:

Mon., Wed., Sat., 1700-0100. 17.780: Tues., Thurs., Fri.. 1500-1600.

W3XAU, Philadelphia, Pa., 9.590: 1200-2000.

W3XL, Bound Brook, N. J., 17.310: 1100-1700

W4XB, Miami, Fla., 6.040. Sun,, 1130-1500; 1700-2400. Other days, 1200-1400; 1730-2400.

W8XAL, Cincinnati, Ohio, 6.060. Sun., 0700-1900; 2200-0130. Other days, 0630-1900; 2200-0200.

W8XK, Pittsburgh, Pa., 6.140: 2100-0100. 11.870: 1700-2100. 15.210: 0900-1900. 21.540: 0700-0900.

W9XF, Chicago, III., 6.100: Monday to Friday, 0100-0200: 2100-2200: Sat., 0100-0200: Sun, 0100-0230: 2100-2200.

XBJQ, Mexico City, Mox., 11.000. Afternoons, irreg.

XEBI, Mexico City, Mex., 5,980. Thurs., 2200-2300. XEBT, Mexico City. D. F., 6,000. 1200-2400.

XECR, Mexico City, D. F., 7,380; Sun., 1800-1900,

XEDQ, Guadalajara, Mex., 9.520, 0800-0900; 1200-2400.

XEFT, Veracruz, Mex., 6.120. Daily, 1930-2400; Sat., 1830-2400; Sun., 2100-2400.

XEOK, Tiajuana, Mex., 6.130.

XEUW, Veracruz, Mex., 6.020.

YDA, Tandjongpriok, N. E. I., 11.000, 0530-1100.

YDA5, Bandoeng, N. E. I., 6.120; 0530-1100; 1745-1845; 2230-0130.

YDB, Soerabaja, N. E. I., 4.470. 0530-1100.

YVQ, Maracay, Venez., 6.672. Sat., 2000-2100.

YV2RC, Caracas, Venezuela, 6,112, 1700-2145.

YV3RC, Caracas, Venezuela, 6.150. 1700-2200.

YV4RC, Caracas, Venezuela, 6.375. 1630-2230.

YV5RMO, Maracalbo, Venezuela, 5.850. Daily exc. Sun., 1700-2130.

YV6RV, Valencia, Venezuela, 6.520: 1700-2200.

YV7RMO, Maracaibo, Venez., 5.810.

YV8RB, Barquisimeto, Venez., 5.875.

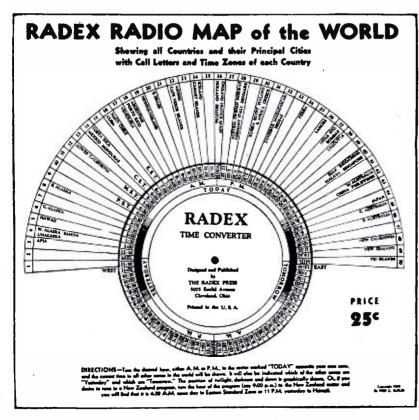
YV9RC, Caracas, Venez., 6.400. YV10RSC, San Cristobal, Venez., 5.720.

ZBW, Hong Kong, 8.750.

ZTJ, Johannesburg, Union of So. Af., 6.100. Heard near midnight, Pontoise, France, 11.720. 1800-2100; 2200-2400.

11.880: 1015-1315; 1400-1700. 15.250:

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Just turn the dial to the time in your zone and—Presto: Change—there is the time for every other place in the world.

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A most unusual sporting event. the Jungfrau, was carried recently by Beromunster. Described as an Alpine Relay Race, the event started finished at Zurich, covering virtually all of Switzerland. Runners covered the distance between Zurich and Milchbuck, where cyclists carried on to Eingang. At this point. runners again took over and went as far as Dubendorf, where the baton was passed to an airplane pilot. He flew to Jungfraujoch, high in the Alps. The distance from this point to Marjelensee was covered by skis. and then mountain-climbers carried on to Fiesch. Next, a motorcycle was used as far as Sitten, where a racing automobile took over. Lausanne, another airplane was used on the return to Dubendorf, and then the final stages back to Zurich were covered by a runner, a cyclist and another runner.

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☐ One copy of the next	t RADEX		25c
☐ One year's subscripti Per	on to RADEX, 10 year outside the U.		\$2.00
☐ Three years' subscrip	otion to RADEX	•••••	\$5.00
☐ Beginner's Story of (If you live in Ohio, ad			

Write Name Plainly

Street and Number

112



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 \$40.00 a Week!

\$40 a week! Man alive, a year ago I thought anyone making so much was just plain lucky.

Twelve months ago I was just barely getting by. It was the same old story—a little job; a lary as small as the job.

If you had told me that twelve months later I would be making \$40 a week in my own Radio business—I'd 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 hicky or have a string of college degrees to make good money.

One day I picked up a magazine and 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's all about."

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 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. 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 \$40 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. Broadcasting Stations, Radio Manufacturers, Operating on Board Ship, Servicing Scts, Aviation Radio, Television, Short Wave, Automobile and Police Radio, Loud Speaker Systems are other fields their training covers. And to think, until the day I wrote for that book, I'd been wailing, "I never had a chance and will never have one because I have no pull or a good education!"

Friend-you may not be as had 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 to 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. "Rich Rewards in Radio." 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 about Radio—a lot of facts and fixures on the opportunities in this new, fast-growing field. Where the jobs are, what they pay, how to get ready for them. Beginners as well as experienced men are making as much as \$500 to \$1,500 a year more as a result of N.R.I. training. And at the same time they send the book "Rich Rewards in Radio" they'll send you, without any cost or obligation, a Free Lesson to prove that their training is easy, practical, fascinating. The lesson they send "Radio Receiving Troubles—the Cause and Remedy" is valuable. And when you see how simple this lesson is to understand you'll know why many fellows with less than a grammar school education have mastered N.R.I. training and are now making good money as Radio Expe.

You are not placing yourself under any obligation by writing for this material as they will gladly send it to anyone who is ambitious and wants to get ahead. Mail the coupon in an envelope or paste it on a Ic postcard. Just address Mr. J. E. Smith, President, National Radio Institute, Dept. 6AO, Washington, D. C.

i	J. E. SMITH, President, National Radio Institute Dept. 6AO, Washington, D. C. Dear Mr. Smith: Without obligation, send me the sample lesson and your free book about spare time and full time Radio opportunities, and how I can train for them at home in spare time. (Please print plainly)
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1	Address
ĺ	City State



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ONCE again Midwest demonstrates its leadership by offering the world's most powerful Super De Luxe 18-METAL Tube 6-Tuning Range radio. It is a master achievement ... today's most highly perfected, precisely built, laboratory adjusted set. It is a radio-musical instrument that will thrill you with radio-musical instrument that will thrill you with its marvelous super performance ... glorious new acousti-tone . . . crystal-clear "concert" realism ... and magnificent foreign reception. Before you buy any radio, write for FREE 40-page 1936 catalog. Learn about the successful Midwest Laboratory-To-You policy that saves you 30% to 50% ... that gives you 30 days FREE trial.

FREE Trial!

GUARANTEED FOREIGN RECEPTION

This super radio will out-perform \$200 and \$300 sets on a side by side test. It is so powerful, so amazingly selective, so delicately sensitive that it brings in distant foreign stations with full loud speaker volume, on channels adjacent to powerful locals. The 18 tubes permit of advanced circuits, make it possible to use-the tremendous reserve power, and to exert the sustained maximum output of the powerful new tubes.

80 SENSATIONAL ADVANCEMENTS

80 SENSATIONAL ADVANCEMENTS
Scores of marvelous Midwest features, many of
them exclusive, explain Midwest glorious tone
realism, super performance and thrilling worldwide 6-band reception. They prove why nationally known orchestra leaders like Fred Waring,
George Olsen, Jack Denny, etc., use a Midwest in
preference to more costly makes. Pages 12 to 21
in FREE catalog illustrate the new Midwest features. Study them before you make up your mind.

PUSH BUTTON TUNING

Simply pushing Silencer Button silences set between stations. Beautiful tuning lishts automatically indicate when station is properly tuned. Release button....and action comes in perfectly. Pressing Station Finder Button (Midwest's exclusive ROBOT EAR) automatically determines proper dial position for bringing in extremely weak stations.

GINGER ROGERS AMAZED

ment. The tone qual-



Send for FREE 40-page four-color catalog. It pictures the complete line of beautiful 1936 Midwest Acousti-Tone V-Spread consoles ... and

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This exclusive engineering triumph puts Midwest radio years ahead of ordinary sets and makes them the "World's Greatest Radio Values." Now, it is easy to makes the nations of the world parade before you. You can switch instantly from American programs to Canadian, police, amateur, commercial, "accret," experimental, airplane and ship broadcasts. .. to the finest and most faccinating programs from Europe, Africa, Asia, Australia, South America...12,000 miles away.

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