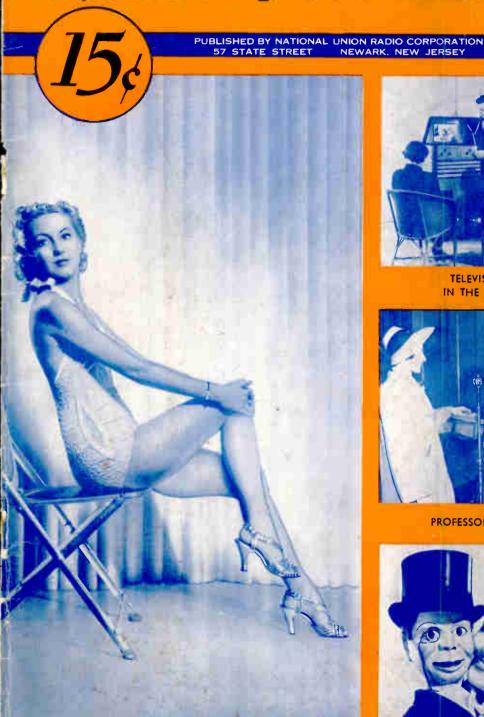
Radio Foto Log





TELEVISION IN THE HOME

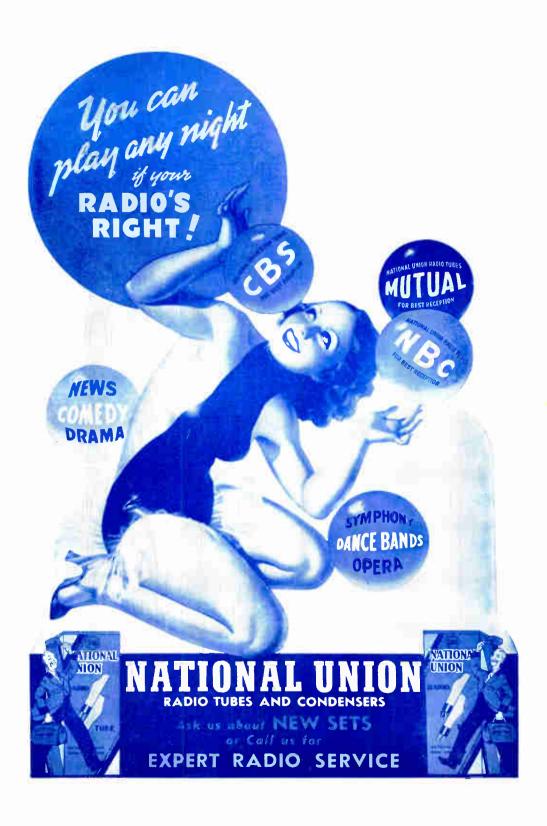


PROFESSOR QUIZ



CHARLIE McCARTHY AND ANDREA LEEDS

MARTHA TILTON Vocal Star of Benny Goodman's SwingorBaladio History



Radio Foto Log PUBLISHED BY NATIONAL UNION RADIO CORPORATION 57 STATE STREET NEWARK, NEW JERSEY

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EDITED BY SAMUEL KAUFMAN

The Listener Always Wins

PROGRAM executives of leading radio stations and advertising agencies are ever on the alert for new ideas that will win mass audiences. The competition to win and hold listeners to air features is always keen. Keen rivalry is demonstrated between sponsors of similar wares as well as between advertisers who maintain simultaneous broadcasting schedules.

Radio editors of newspapers and magazines have often indicated that their readers disliked two stellar hours on the air at the same time inasmuch as they were forced to forego one in favor of the other and it was difficult to make a choice.

However, sponsors haven't got much choice in the matter of time. True, there are twenty-four hours to the day but most big advertisers desire the evening hours between 7 and 10 o'clock when they believe they can reach the biggest possible audiences.

Rather than the listener losing one good program by listening to another excellent feature on the air at the same time, he should remember that the high standard of the broadcast to which he's listening is main-

tained by the scheduling of a high · calibre hour on the other station or network. He's not losing anything. Rather, he's given a wider choice of program fare and the odds of giving him a program he'll enjoy are considerably in his favor.

From season to season, the main classifications of radio programs retain large followings they have earned through the years. Dance bands, comedy, drama, news, variety, classical music and other headings are never replaced. But new ideas as well as new stars do constantly pop into the radio schedules and some of them reach the high-salary and high-popularity brackets in very short time.

Audience-participation shows have been gaining larger and larger followings since they came into being on a big scale a couple of seasons back. Amateur hours, under this heading, were the opening guns in the campaign to recruit Mr. Next Door Neighbor for microphone appearances. Now the lead in audience participation has been taken by the many quiz, spelling bee and "what do you know?" features that stud program scne. Jules.

But the heavy draw of new ideas—even the smash hits—doesn't dig into the popularity of such perennial headliners as Jack Benny, Rudy Vallee, Bing Crosby and the many other topnotch stars who helped make broadcasting the leading entertainment medium it now is.

The intriguing thing about radio listening

is that it always brings surprises and thrills in new offerings as well as reliably present-ing the best of the old established stars. And listeners. through experience, know that forthcoming features are "sure things" in the way of good, wholesome en. tertainment.



Jack Benny Comes to Town

KNOWLEDGE IS FUN

YOU may never have thought so when you went to school. But since radio quizz programs came into popularity, it's been fun indeed to participate in the "what do you know?" games. Sidewalk interviews, studio spelling and question bees, word games and even musical-guessing programs have soared the heights of radio fame, many of these features ranking among the most popular (according to surveys) on the air. One reason why the listener gets an added kick out of the quizz features is that he has the chance of participating in the mike game himself. He can test his own wits against the microphone contestants. But he must remember that he has two advantages. He can look the answer up in dictionaries, atlases and other reference books, and there is no chance of mike-fright.



"True or False?" asks Dr. Harry Hagen after he reads a statement. No, the placard-toting men are not pickets. It's customary on quiz programs to have the contestants wear their names on cards over their chests so that the master-of-ceremonies can address them.







Left to right: Max Eastman, author, humorist and raconteur, who heads the CBS Word Game; Professor Quiz (Craig Earl) paying off a winner with silver dollars, and Paul Wing, master of the NBC Spelling Bee.







Three topnotch cross-examiners: (left to right): "Uncle Jim" McWilliams of Question Bee fame; Kay Kyser, the orchestra leader who directs the musical quizz show known as the Kollege of Musical Knowledge, and Franklin P. Adams ("F. P. A.") of NBC's "Information Please."



VOX POP

THIS program, conducted by Parks Johnson and Wallace Butterworth, was one of the first of the quiz programs and claims to be the first network show of its type. The show differs from the other question-and-answer periods in that it is broadcast from public and semi-public spots and never from a studio. It used to go on the air from street corners until traffic congestion caused it to be moved into hotel lobbies, railroad terminals and the like. Passers-by, unrehearsed, are recruited from the crowd that gathers around the mike and the result is an amusing, informative quiz program which is greatly enhanced by the spontaneous humor arising from Johnson's and Butterworth's banter with their guests. Turn over to the next page and see how you would score if you happened to be selected for the Vox Pop broadcast. Parks Johnson selected the questions (and parenthetical answers) especially for readers of Radio Foto Log.

Here they are: Vox Poppers Parks Johnson and Wallace Butterworth.





Left: They're never too young to know the answer! Here's a five-year-old doing his stuff! Right: The English vicar who married the Duke and Duchess of Windsor—Rev. Robert Anderson Jardine—and a Chinese nurse meet for a session of Q's and A's wit!: Johnson.





Even a cigar store Indian pops up at the Vox Pop mike, but we doubt whether he was interviewed. Right: Harry M. Nanos—noted for his likeness to the late Will Rogers—takes to the air with Parks and Wally.

WHAT DO YOU KNOW?

You've often had the answer while listening at home much quicker than the fellow at the mike. Here's a specimen mike quiz prepared by Parks Johnson. Try it with your family and friends and figure how you would have fared if you faced the Vox Pop mike.

QUESTIONS

- A monkey climbing a greased pole 30 feet high goes up 3 feet in 10 seconds. He slips back 2 feet in 5 seconds. How long will it take him to reach the top?
- Quickly: 11 is 1/6th of 3 times what number? Is the half of a hundred the same as 100
- divided by 1/2? If you stand on your head, face to the East, in
- which direction is your right shoulder pointed? Would it be the same if you were standing on your feet, facing East?
- If you drive 60 miles at 20 m.p.h. going, and return at 30 m.p.h., what is your "AVERAGE"
- return at 30 m.p.h., what is your "AVERAGE" speed for the 120 miles?

 Two candles, one will burn 4 hours and the other will burn five hours. Both are lighted simultaneously. Both are extinguished when what remains of one is exactly four times as long as what remains of the other. How long had the academ hours have house in a second to the other.
- had the candles been burning?

 If I work the first day for \$100, the second day for \$50, the third day for \$25, and so on . . . how many days will I work before I have carned \$200?
- You have an engagement for 12 noon. Your friend phones that he must "Advance" the engagement a half hour. At what time will you meet him?
- In 15 seconds tell me how to change a twenty-dollar bill into dollars and half-dollars so that will have ONE MORE half-dollar than I will
- If "This and That" plus one-half of "This and That" equals 11, how much is "This and That"?
- If a person is consistently inconsistent, would you say that person is consistent or inconsistent?
- If a coat is turned inside out, would the right arm still go into what was the right sleeve?
 Would you think a "Hugger-mugger" is a lov-
- ing sort of a person?
- Which is fartbest West: Detroit, Michigan-Pensacola, Florida, or Indianapolis, Indiana?
- Honestly, DO you know how many of your own teeth you now have in your mouth? A bieyele rider travels a mile in three minutes
- WITH the wind; he returns over the same course in four minutes AGAINST the wind. How fast could be make the mile if there were NO wind?
- 18. Which is the longer, a cigarette or a stick of chewing gum?19. Is the Sahara desert flat, rolling or mountain-
- ous?
- What abbreviations for State names make complete words?
- I start work Monday morning at \$1 per day. You start work Tuesday morning at \$2 per day. How many days will you work before you will have earned TWICE as much as I?

 22. How many times per day does the ordinary watch tick?

- How many STATES in the United States?

 Do the words "In God we Trust" appear on all current U. S. Coins?
- On every package of ordinary pins there appears the initials: "S. C.", "M. C." or "B. C.". What do these mean?

 If a chicken has a gizzard what has an
- 'Izzard''?
- 29. If the laundry goes out Monday morning and is returned Thursday noon, what is the minimum number of shirts a man must have in order to wear a clean shirt each morning?
- Assume it takes 30 seconds to toast one side of a slice of bread. Now, in an old-style two slice toaster, what's the shortest time it will take to toast THREE slices of bread on BOTH sides?

- 31. If Tom, Dick and Harry agree to lunch together, each bearing his own share of the cost, what about this situation. Tom brings 6 eggs; Dick brings 3 eggs; Harry brought NO eggs, but tossed 15c on the table. HOW should the 15c be divided?
- 32. Take an ordinary sheet of letter paper, business size. Tear it in two, and stack the halves on top of each other. Do this fifty times. How high will the stack be after the fiftieth
- tear and stacking?
 A barrel has three spigots. They empty the barrel in 15, 30 and 45 minutes, respectively. If ALL are opened at the same time, how long will it take to empty the barrel?

TRICKS TRIED AGAINST DESIGNATED TIME LIMITS:

Say Alphabet backward in 30 seconds. Spell one's full name backward in 15 seconds. Say months of year backward in 10 seconds.

	lestuning OE of GI mort rewent liw gai	
- Ani dı	see 1 Iths minutes, though many without	33.
	OVER 22 million noilles high:	32.
	(eggs	
s wo t	to g sie liuc 19c, as liarry ate 3 of	31.

- .06 .62
- .82 AO, they do not appear on either threecent piece, or the Indian Head one-cent coin.

 Small, medium or Big COMERIN. Corkin being an old Scotch-English term meaning "Pin".

 Included the contraction of the
- .07
- Ah, ah . . . it should be 1, 2, 3, etc.! "Com-Technically, forty-four States and four "Com-monwealths", vis: Kentucky, Massachusetts, Pennsylvania and Virginia. SZ
- receptable. 432,000 times per 24-lionr day. An old English measure, the equivalent of half-bushet. She probably sat on the inverted
- .12
- Unabridged. Arkt Illt Idat Lat Met Masst Misst Nebt Oret O; Keut Wash. .02
- 10,000 feet above sea level-see Webster's The stick of chewing gum.
- ineves off to
- Penaceous, Florida, farthest West.
 Estimated not one in a thousand knows.
 NOT 34 minutes, but 3 minutes, 26 seconds.
 You forgot the wind HELFED him only 3 of the 7 minutes, while it HINDERED him four of the seven!
- Hugger-Mugger, according to Webster is: "pri-vacy, secrecy, or in privacy, secrecy." Or, also, "confusion, a muddle". At any rate, NO privacy or secrecy about hugging or mugging filece days!
- ·oN
- Fourteen halves, and 13 dollars. 7-1/3. 3/2 equals 11; ½ equals 1/3 of 11. or 3-2/3; 2/2, or 'This and That" then equals 2 x 3-2/3, or 7-1/3. .01
- Webster says "Advance; to make earlier, as an everal of date", so you would meet at 11:30—15ough personally, I would not show up until
 - Mever.
 - NOT 25, but 24 miles per hour. 3 hours and 45 min.
 - 2° .0 1 North.
 - .oN ъ. (22)
- .cl:0 10 ,ebnoses clf. latot ,ebnoses 6 minutes and 55 seconds. He uses 28 upward surges or 280, seconds; 27 back slips or 135

VIZAKEKS (No lair peekin?)

Mr. Next Door Neighbor Takes the Air

THE quiz programs mentioned on the preceding pages are but one of several popular forms of audience-participation shows. There are amateur hours, public forums and comedy and variety hours in which the listener is heard from by voice, applause and laughter. Audience-participation shows have gained tremendous popularity probably because listeners like to hear from Mr. Next Door Neighbor as well as from professional broadcasters.



Tickets to broadcasts are in great demand





"America's Town Meeting of the Air" has been cited as the best example of freedom of the air. Here, the listener can debate with the celebrities on the platform on topics of the day. George V. Denny, Jr., is shown at the left giving the floor to a questioner who (above) is seen taking it.







Jerry Belcher (left) takes his mike right into homes of listeners. Center: Lyman Bryson (at head of table) invites "typical citizens" to dinner for the extemporaneous "People's Platform" feature of CBS. The mikes are bidden under napkins to keep the guests immune of mikefright. Right: Major Bowes and his amateurs hold their grip on popularity. Here he is with a fellow playing two musical saws.



The applause and laughter of a typical studio audience such as the one portrayed on the right are measured by the "applause meter" shown above.





George Burns and Gracie Allen, one of the highest-paid comedy teams in the land.

KING COMEDY STILL REIGNS

FROM the very beginning of radio entertainment, comedy has never been displaced as a smash hit classification on stations' schedules. Listeners like to laugh and the broadcasters and sponsors spare no expense in obtaining the world's best funsters. Many of the comedy stars have held their popularity through the years but declare it's a tough assignment to get new material for every broadcast.





"Feud for Thought" might be the caption of the photo at the left showing Jack Benny and Fred Allen meeting. Above: "The Bee or not The Bee—that is the question" Jack seems to wonder as he raises his bow.









Left: Bob Burns, who skyrocketed to comedy stardom and who many believe comes closest to filling the philosopher-comedy role of the late Will Rogers. Above: Two of the old reliables. Al Jolson and Joe Penner. In center oval: Oliver Wakefield, the English comedian who scored favorably in his American broadcasts.





Top: Two popular comedy pairs—Marion and Jim Jordan (Fibber McGee and Molly) and (right) Stoopnagle and Budd. The latter pair, whose real names are F. Chase Taylor and Wilbur Budd Hulick, have popped up solo in recent seasons but singly or doubly, they're great fun!







Parkyakarkas (Harry Einstein), The Mad Russian (Bert Gordon) and the man who introduced both to big-time broadcasts—Eddie Cantor.



Left: Pick and Pat (Pick Malone and Pat Padgett) talk things over with their production man —Frank MacMahon.





Above: Teddy Bergman and Jack Haley who add merriment to the airwaves. Right: The Stroud Twins. Clarence brings the mike to brother Claude. The twins have scored sensationally with Charlie McCarthy.







Left: Kaltenmeyer's Kindergarten has a recess. Left to right, Professor August Kaltenmeyer (Bruce Kamman), Izzy Finkelstein (Johnny Wolf). Percy Van Schuyler (Merrill Fugit), Cornelius Callahan (Billy White) and Yohnny Yohnson (Thor Ericson). Above: Sam Hearn, better known as Schlepperman whose "Hullo, Stranzer" remark is a fanous tag-line.







The movies are the source of considerable comedy material. Andy Devine and Charles Butterworth (above) are popular mike performers. Left: "Tim and Irene"—Tim Ryan and Irene Noblette, do a comedy-ventriloquis! routine for the camera.







Bob Hope used the air as a short cut to screen stardom after many years on the stage. He's shown at the left with his comely nemesis, Honeychile. He's known to change his mike partners from season to season, so it's not always the same Honeychile you hear. Above: Billy House, star of "The Laugh Liner" and Cal Tinney, a youngster who, like Bob Burns, has been nominated as a successor to the late Will Rogers.

Young Deanna Durbin who followed her radio success with film triumphs has earned a grown-up as well as juvenile following.



Walter Tetley, veteran child dramatic performer, who now shares time between radio and talkie mikes. Hollywood scouts signed him after his spectacular supporting roles with leading air stars. Right: Madge Tucker, director of NBC's children's features and discoverer of many talented youngsters.





"Jolly Bill" Steinke, conductor of a novel junior news program, and Hendrick Willem Van Loon, author and artist, who is as popular with child listeners as with grown-ups, a knack few writers or broadcasters can achieve.

KID STARS AND KID PROGRAMS

A LARGE share of each day's program schedule is devoted to features of especial appeal to youngsters. Sponsors feel that if they reach the children with good programs they are building sales for the future. Network standards for children's programs are very high and each new feature must pass a board of experts on child welfare and psychology.



Ireene Wicker, radio's famous "Singing Lady". Below: Uncle Don (Donald Carney), popular children's program story-teller, singer, pianist and master-of-ceremonies.



A LITTLE BIT OF EVERYTHING

T'S a standard gag around the studios that whenever a sponsor has a lot of money to spend on an airshow, he auditions all types of programs and finally winds up with a band, a comedian, a vocal star, a dramatic sketch and a master-of-ceremonies, or, in other words, a variety show. It's not always a sure-fire formula but there are many exceptional hit combinations under the heading of "Variety."







Don Ameche, popular singer, actor and master-of-ceremonies of the Chase & Sanborn Hour.



Leaders of three top-notch variety shows. Left to right: Rudy Vallee, Kate Smith and Bing Crosby, all of whom are versatile entertainers as well as program directors.





It's "Good News" to many when the program of that name hits the air. Four of its headliners are shown above: Left to right: Frank Morgan, the hesitant conversationalist of the films; Hanley Stafford, the exasperated daddy of Baby Snooks; Meredith Willson, musical director, and Robert Taylor, the movie star serving as master-of-ceremonies. Right: Ben Bernie, graduated from bandsman to program "m.c." is shown with Sophie Tucker.

Fanny Brice, veteran of the musical comedy and vaudeville stages, in her Baby Snooks characterization—a radio sensation.

DON'T BE YOURSELF!

A FEW radio entertainers have proved that it pays to follow that slogan. In recent seasons, persons who could do exceptional stunts with their voices won lucrative long-time contracts. Ventriloquism, minicry and other vocal oddities, all of which were once thought unsuitable for the air, are now acknowledged smash-hit formulas.



That impish but lovable Charlie McCarthy and his master (?), Edgar Bergen, try out a script. Below: Bergen shows that even a ventriloquist's dummy demands a wardrobe suited to his status.









Left: Walt Disney, creator of Mickey Mouse. Donald Duck and numerous other imaginary cartoon characters who magically come to life on air programs. Center: Arthur Boran, a first-rate radio mimic who can impersonate the air's "great." Right: Tommy Riggs whose vocal creation of Betty Lou brought him nation-wide fame.

BROADCASTING STATIONS of THE UNITED STATES

	RKOADCA3		IIOU2		IE OMIIED 214	VIE2
Call ∟etters	Location	Frequency Power (K C.) (Watts)		Call Letters	Location	Frequency Power (K C.) (Watts)
KABC	San Antonio, Tex.	1420 100-250		KGEK KGER	Sterling, Colo.	1200 100
KABR KADA	Aberdeen, S. Dak. Ada, Okla.	1420 100 1200 100		KCE7	Sterling, Colo. Long Beach, Calif Kalispell. Mont. Shawnee, Okla. Brownsville, Tex. Los Angeles, Calif. Roswell, N. Mex.	1360 1000 1310 100
KALB	Alexandria, La.	1210 100		KGFF	Shawnee, Okla.	1420 100-250 1500 100-250
KALE	Corsicana, Tex.	1300 1000 1310 100		KGFJ	Los Angeles, Calif.	1200 100-250
KANS KARK	Wichita, Kans.	1210 100 890 500-1000		KGF L KGF W	Roswell, N. Mex.	1370 100
KARM	Fresno, Calif.	1310 100		KGFX	Kearney, Nebr. Pierre, S. Dak. San Francisco, Calif. Coffeyville, Kans.	630 200
KASA Kast	Elk City, Okla. Astoria. Ore.	1210 100 1370 100		KGFX KGGC KGGF	San Francisco, Calif.	1420 100 1010 1000
KATE	Albert Lea, Minn.	14:20 250 1500 100		KGĞM KGHF	Albuquerque, N. Mex.	1230 1000
KAWM KBIX	Muskogee, Okja.	1500 100		KGHI	Little Rock, Ark.	1320 500 1200 100-250
KBKR KBND	Baker, Ore. (C.P.) Bend. Dre. (C.P.)	1500 100 1310 100-250		KGHL KG1R	Billings, Mont.	780 1000-5000 1340 1000-2500
KBPS	Portland, Ore. Corsicana, Tex. Wichita, Kans. Little Rock, Ark. Fresno, Calif. Elk City, Okla. Astoria, Ore. Albert Lea, Minn. Gallup, N. Mex. Muskogee, Okla. Baker, Ore. (C.P.) Bend, Dre. (C.P.) Portland, Ore. Big Spring, Tex.	1420 100 1500 100		KGIW	Albuquerque, N. Mex. Pueblo, Colo. Little Rock, Ark. Billings, Mont. Butte, Mont. Alamosa, Colo. Tyler, Tex. San Angelo. Tex	1420 100
KBST KBTM	Jonesboro, Ark.	1200 100		KĞKB KĞKL	San Angelo, Tex.	1500 100-250 1370 100-250
KCKN KCMC	Kansas City, Kans. Texackana Tex	1310 100 1420 100-250	þ	KGKO KGKY	San Angelo, Tex. Wichita Falls, Tex. Scottsbluff, Nebr.	570 250-1000 1500 100-250 1210 100-250
KCMO	Kansas Citv. Mo.	1370 100	ă	KGLO	Mason City, Iowa Safford, Ariz. (C.P.)	1210 100-260
KCRC KCRJ	Enid, Dkla. Jerome, Ariz.	1360 250 1310 1 00-2 50	.00	KGLU KGMB	Honolulu, Hawaii	1320 1000
KDAL	Jerome, Ariz. Duluth, Minn. Şanta Barbara, Calif	1500 100-250	e n	KGNC KGNF	Amarillo, Tex.	1410 1000-2500 1430 1000
KDFN	Casper, Wyo.	1440 500	Ď.	KGNO	North Platte, Nebr. Dodge City, Kans.	
KOKA KDLR	Pittsburgh, Pa. Devils Lake, N. Dak.	990 50000 1210 100	- E	KGO KGU	San Francisco, Calif.	790 7500 750 2500
KDNC	Devils Lake, N. Dak. Lewistown, Mont.(C.P.)	1200 100-250 14:20 100	p	KGVL	Greenville, Tex. (C.P.)	1200 100
KDNT KDON	Denton, Tex. Monterey, Calif. Dubuque, lowa (C.P.)	1210 100	. =	KGYD K GW	Portland, Ofe.	
KDTH	Dubuque, lowa (C.P.) Sait lake City, Utah	1340 500 1290 1000	E	KGY KHBC KHBG	Dodge City, Kans. San Francisco, Calif. Honolulu, Hawaii Greenville, Tex.(C.P.) Mis&ould, Mont. Portland, Ofe. Olympia, Wash. Hilo, Hawaii Okmulqee, Okla. Los Angelea, Calif. Spokane, Wash.	1210. 100 1400 250
KECA	Sait Lake City, Utah Los Angeles, Calif	1430 1000-5000	be:	KHBG	Okmulgee, Okla.	1210 100
KEEN KEHE	Seattle, Wash. Los Angeles, Calif. Centralia, Wash.	780 1000-5000	a a	KHO	Los Angeles, Calif. Spokane. Wash.	590 1000-5000
KELO	Centralia, Wash.	1440 500 1370 100 1200 100 1370 100 1420 100	.0	KHO		
MELO KERN	N. of Eldorado, Ark Sloux Falls, S. Dak. Bakersfield, Calif.	1200 100	151	KHUB	Watsonville, Calif. Clovis, N. Mex. Idaho Falis, Idaho	1370 100
KEUB	Price, Utah	1370 100 1420 100	Ë	KIDO	Idaho Falis, Idaho Boise, Idaho	1330 1000-2300
KEX	Portiand, Ore. Lincoln, Nebr.	1180 5000 770 10000	ns	KIDW KIEW KIEV KINY		1420 100 1450 500-1000
KEAC	Los Angeles, Calif	1300 1000 1420 100	00	KIEŸ	Eureka, Calif. Glendale, Calif Juneau, Alaska	850 250
KFAM KFAR KFBB	Price, Utah Portland, Ore. Lincoln, Nebr. Los Angeles, Calif St. Cloud, Minn. Fairbank, Alaska (C.P.)	610 1000	G	KINY	Juneau, Alaska Seattle, Wash.	650 25 0
KFBB KFBI		1280 1000-5000 1050 5000	;at	i KIŤ KITE	Yakima, Wash.	1250 250-500
KFBK KFDM	Abilene, Kans. Sacramento, Calif Beaumont, Tex. Brookings, S. Dak. Denver, Colo.	1490 5000 560 500-1000	P. after station location, indicates construction permit has been issued	KIUL	Seattle, Wash. Yakima, Wash. Kansas City, Mo. Garden City, Kans.	1210 100
KEDY	Brookings, S. Dak.	780 (000	Ξ.	KIUN	Durango, Colo.	1420 [00] 1370 100
KFEL KFEO KFGO	St. Juseph, Mo.	920 500 680 2500	Ę,	KJBS KJR	San Francisco, Calif. Seattle, Wash.	970 5000
KFGQ KFH	Boone, Iowa Wichita, Kans.	1370 1000-5000	.0	KLAH	Carlsbad, N. Mex. La Grande, Ore. (C.P.) Blytheville, Ark.	.970 5000 [210 100
KFI	Los Angeles, Calif.	640 50000 1120 100 1420 100 1200 100-250 1210 100 1410 500-1000	ca1	KLEM	Blytheville, Ark.	14:20 1 00-2:50 1290 100
KF10 KF1Z	Spokane, Wash. Fond du Lac, Wisc.	1420 100	Ď	KLO KLPM	Ogden, Utah Minot, N. Dak. Little Rock, Ark. Oakland, Callf.	124:0 250
KFJB KFJ1	Marshalltown, lowa	1200 100-250	Ē	KŁRA	Little Rock, Ark.	1390 1000-5000 1280 250 1370 100
KFJM	Klamath Falls, Ore. Grand Forks, N. Dak.	1410 500-1000 1300 500	÷	KLS KLUF	Galveston, Tex.	1370 100
KFJR KFJZ	Grand Forks, N. Dak. Portland, Ore. Fort Worth, Tex. Greeley, Colo. Lawrence, Kans. Shenandoah, lowa Lincoin, Nebr. Long Beach, Callf. Dublin, Tex. Ft. Smith Ark.	1370 100-250	sta	KLX KL7	Gaiveston, Tex. Oakland, Calif. Denver, Colo.	560 1000 5000
KFKA KFKU	Greeley, Colo.	880 500-1000 1220 1000-5000	Į.	KLZ	onenandoan, lowa	930 1000-5000 1370 100-250 950 1000-5000 1410 250 560 1000
KENE	Shenandoah, lowa	ROU FUUT IUUU	Ų	KMAC KMBC	San Antonio, Tex. Kansas City, Mo.	950 1000-5000
KFOR KFOX	Lincoln, Nebr. Long Beach, Callf.	1210 100-250 1250 1000 1310 100-250	α •	KMED KMJ KMLB	Medford, Ore. Fresno, Calif. Monroe, La.	1410 250 580 1000
KFPL KFPW	Dublin, Tex. Ft. Smith. Ark.	1310 100-250 1210 100	=	KMLB	Monroe, La.	1200 100-250
KFPY		890 1000-5000	Ċ.	KMMJ KMO	Clay Center, Nebr. Tacoma, Wash.	740 1000 1330 1000
KFOD KFRÇ	Anchorage, Alaska San Francisco, Callf.	780 250 610 1000-5000 1370 250	••	KMOX	St. Louis, Mo. Beverly Hills, Calif. Los Angeles, Calif.	1090 50000 710 500
KFRO	LODOVIEW INV	1370 250 630 500-1000		KMTŘ KNE L	Los Angeles, Calif.	570 1000
KFRÓ KFRU KFSD KFSG KFUO	Longview, Tex. Columbia, Mo. San Diego, Calif. Los Angeles, Calif.	630 500-1000 600 1000 1120 500-2500 550 500-1000	OTE	KNET	Brady, Tex. Palestine, Tex.	1420 100
KFUO	Clayton, Mo.	550 500-1000	Z	KNOW Knx	Los Angeles, Calif	1500 100 1 0 50 50000
				KOAC KOAC	Denver, Colo. Corvallis, Ore.	830 50000
KFVS KFWB KFXD	Hollywood, Calif.	1210 100-250 950 1000-5000 1200 100-250 1200 100-250		KOAM	rittsburg, Kans.	790 1000
KFXJ KFXM	Nampa, Idaho Grand Junction, Coto.	1200 100-250		KOB KOBH	Albuquerque, N. Mex. Rapid City, S. Dak	1180 10000 1370 100-250
KENO		1210 100		KOCA KOCY KOH	Kilgore, Tex. Oklahoma City, Okla. Reno, Nev.	1370 100-250 1210 100-250 1310 100-250
KFUO KFYO	Lubbock, Tex.	550 500 1310 100-250 550 1000-5000		KOH	Reno, Nev.	1380 500 1260 1000-5000
KFYR KGA	Clayton, Mo. Lubbock, Tex. Bismarck, N. Dak. Spokane, Wash. Tucson, Ariz.	1470 5000		KO I L	Umaha, Nebr. Portland, Ore:	1260 1000-5000 940 1000-5000
KGAR KGB	Tucson, Ariz. San Diego, Calif.	1370 100-250 13:30 1000		KOKO KOL	La Junta, Colo.	940 1000-5000 1370 100 1270 1000-5000
KGBU	Ketchikan, Alaska Springfield, Mo.	900 500		KOMA	Omaha, Nebr. Portland, Ore. La Junta, Colo. Seattle, Wash. Oklahoma City, Okla. Seattle, Wash. San Antonio Tey	1480 5000
KGBX KGCA	opringfield, Mo. Decorah, Iowa	1230 500 1270 100		KOMO KONO	San Antonio, Tex.	1480 5000 920 1000-5000 1370 100
KGC A KGC I KGC U KGC X	Coeur d'Alene, idaho (CP) Mandan, N. Dak	1200 100		KONO KOOS KORE	San Antonio, Tex. Marshfield, Ore. Fugene Ore	1200 100-250 1420 100
KGCX	Decorah, lowa Coeur d'Alene, Idaho(CP) Mandan, N. Dak. Wolf Point, Mont. Fergus Falls, Minn. Stockton Calls.	1450 1000		KOTN	Eugene, Ore. Pine Bluff, Ark.	1500 100
KGDM	Stockton, Calif. Huron. S. Dak.	1100 1000	[10]	KOVC KOY	Valley City, N. Dak.	1500 100-250 1390 1000
KGDY	muron, S. Dak.	1340 250	[12]	KPAB	Phoenix, Ariz. Laredo, Tex. (C.P.)	1500 100-250

KPBM Poplar Bluffs, Mo. (C.P.) 1310 100 KWSC Pullman, Wash. 1220 1000- KPDN Pampa, Tex. 1310 100 KWTN Watertown, S. Dak. 1210 1210 100-250 KWTO Springfield, Mo. 560 500 500 KPLC Lake Charles, La. 1500 100-250 KWYO Sheridan, Wyo. 1370 100-250 <th>wer Call Frequency Power ts) Letters Location (K.C.) (Watts)</th>	wer Call Frequency Power ts) Letters Location (K.C.) (Watts)
RROY Reslace, Tex. (C.P.) 1500 1000 1500	Letters

Call Letters	Location			Call Letters	Location	Frequency Power (K.C.) (Watts)
NOT ANUCORCOLULIVERY AGTO LA BAYSOGLIMRE A LA DISTONE MEBBEDE ELLIVERY AGTO LA RAYSOGLIMRE A LA DISTONE MEBBEDE ELLIVERY AGTO WE	Battle Creek, Mich. Milwaukee, Wisc. Chicago, ill. Elmira, N.Y. (C.P.) Evansville, Ind. Elmira, N. Y. Easton, Pa. **we York, N. St. Louis, Mo. Royal Oak, Mich. Dallas, Tex. New York, N. Y. South Bend, Ind. White Plains, N. Y. Greenville, S.C. Altoona, Pa. Syracuse, N.Y. Indianapolis, Ind.	1200 100-250 1210 100-250 1210 100-250 1220 1000-5000 1220 1000-5000 1220 1000-5000 1220 1000-5000 1220 1000-5000 1230 1000-5000	NOTE: C. P. after station location, indicates construction permit has been issued.	JIHNDCSO DVW ARTBHNOVWZUKCT OCKPW CARTBHNOVWZUKCT OCKPW CARTBHNOVWZUKCT OCKPW WWW.WWW.WW.W.W.W.W.W.W.W.W.W.W.W.W.W.	Calumet, Mich. Boston, Mass. Olean, N. Y. Rosciusko, Miss. Cicero, Iil. Dayton, Ohio Hammond, Ind. Bluefield, W. Ya. Cleveland, Ohio Columbus, Ohio Virginia, Minn. Port Huron, Mich. Passey City, N.J Harrisburg, Pa. Jackson, Mich. Poynette, Wisc. Topeka, Kans. Utica, N. Y. Ashtabula, Ohio Bridgeport, Conn St. Louls, Mo. Urbbna, Iil. Wilnington, Del. Gary ind. New York, N. Y. Miami, Fla. Philadelphia, Pa. Indianapolis, Ind. Columbia, S.C. Milwaukee, Wisc. Johnstown, Pa. Norfolk. Nebr. Providence, R. Pittsburgh, Pa. Jackson, Milas. Hagerstown, Miss.	1260 1000-5000 1410 500-1000 620 250 1390 1000-250 1390 1000-250 1370 250 1010 1000-5000 1450 250 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1000-5000 1290 1200-50000 1200-5000 1200-5000 1200-5000 1200-5000 1200-5000 1200-5000 1200-5000

Call Letters	Location	Frecuency Power (K.C.) (Watts)	Call Letters	Location	Frequency Power (K.C.) (Watts)
MMBBIOM AMMERS AXDER MMBBIOM AMMERS AXDER MMFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	Hibbing, Minn. Daytona beach, Fla. Decatur, Ala. High Point, N.C. St. Paul, Minn. Fairmont, W. Va. Lapeer, Mich. Memphis, Tenn. Sheffield, Ala. Cedar Rapids, Iowa Boston, Mass. Norman, Okla. Yankton, S. Dak. New Britain, Conn. Binghamton, N.Y. New Bedford, Mass. Springfield, Vt. Saranac Lake, N.Y. San Juan, Puerto Rico New York, N.Y. New London, Conn. Knoxville, Tenn. New York, N.Y. San Antonio, Tex. Davenport, Iowa Barnstable Twp., Mass. Ames, Iowa Albany, N.Y. Washington, D.C. Florence, S.C. Owensboro, Ky. Manitowoc, Wisc. Grand Rapids, Mich. Bristol, Tenn. Newark, N.J. Worcester, Mass. York, Pa.	1370 100 100 120	WSASAYZ CTANXI MKJCAOPPINASB MSASAYAZ CTANXI MKJCAOPPPINASB MSASASAAAA CTANXI MKJCAOPPPINASB MSASASAAAA WSASASASAAAA WSASASASAAAA WKJCAOPPINASB MSASASAAAA WKJCAOPPINASB MSASASAAAA WKJAAAAA WKJAAAAAA WKJAAAAAA WKJAAAAAA WKJAAAAAAA WKJAAAAAAAAAA	Fall River, Mass. Wausau, Wisc. Savannah, Ga. Rcchester, N.Y. Huntington, W.Va. Atlanta, Ga. Chicago, 111. South Bend, Ind. Montgomery, Ala. Birmingham, Ala. Nashville, Tenn. Winston-Salem, N.C. Jackson, Miss. (C.P.) Nashville, Tenn. New Orleans, La. Dayton, Ohio Bridgeton, N.J. Charlotte, N.C. Spartanburg, S.C. Toledo, Ohio Springfield, Mass. Salisbury, N.C. (C.P.) Iowa City, Iowa St. Petersburg, Fla. Harrisonburg, Va. Buffalo, N.Y. Rutland, Vt. Syri Syracuse, N.Y. Quincy, III. Worcester, Mass. Tallahassee Fla. Cleveland, Ohio Green Bay, Wisc. Norfolk, Va. Coilege Station, Tex. Springfield, III. Cumberland, Md. Minneapolis, Minn. Philadelphia, Pa. Hartford, Conn. Jackson, Tenn. Milwaukee, Wisc. E. St. Louis, III. Trenton, N.J. Savannah, Ga. Toledo, Ohio EIkhart, Ind. Brooklyn, N.Y. Hammond, Ind. Detroit, Mich. New Orleans, La. Asheville, N.C. Woodside, N.Y. Pittsburgh, Pa. Wheeling, Wa. Detroit, Mich.	1320
WORL WOSU WOV	Boston, Mass. Columbus, Ohio New York, N.Y.	920 500 570 750-1000 1130 1000	WXYZ		1240 1000
	Omaha, Nebr. ft. Wayne, Ind. Paducah, Ky. Parkersburg, W. Va. Thomasville, Ga. Portsmouth, Ohio Philadelphia, Pa. Atlantic Citv, N.J. Sharon, Pa. (C.P.) Mayaguez, Puerto Rico Raleigh. N.C. Miami, Fla. Scranton, Pa. Vicksburg, Miss. St. Albans, Vt. New York, N.Y. Williamsport, Pa. Raleigh, N.C. (C.P.) Reading, Pa. Philadelphia, Pa. Columbus, Ga. Washington, D.C. Augusta, Me. Augusta, Ga. Memphis, Ienn. Lawrence, Kans. Rome, Ga. Racine, Wisc. Richmond, Va. Rockford, Ill. Knoxville, Tenn. Dallas, Tex. Richmond, Va. Gainesville, Fla. Richmond, Va.	1420 100-2550 680 5000 560 1000 880 500-1000 1360 1000 1390 1000 1550 1000 1550 1000		CANADIAN BROADCAST STA CBF CPL CPL CPL CPL CPL CPC CRO LaPrairie, Oue. CBO Lattin Island, B.C. CGR CAI CFC CFC CFC CFC CFC CFC CFC	910

THE CURTAIN RISES

B ROADCASTING is now an acknowledged branch of drama and the leading names of the stage and screen are attracted by its many opportunities as well as the fat salaries that go with appearance on a sponsored show. Radio drama is divided in two classes: Original and adapted plays are in one branch, and serial and sketch programs are in the second. As far as air audiences go, such names as Amos 'n' Andy and Myrt and Marge, made popular on the air, are just as much an attraction as the marquee names radio recruits from the footlights and kleiglights.





Edward G. Robinson and Claire Trevor, costars of the popular CBS serial "Big Town" are in the ranks of "regular" air performers, differing from most other big movie names who just appear on guest spots.





James Cagney and Noel Coward are caught by the studio candid camerman. Circle: Irene Rich, who, in several seasons on the air, scored as favorably with listeners as she did with theatre and movie audiences.







Left to Right: Cecil B. De Mille, the movie director who added microphone triumphs to his megaphone hits as producer of the CBS "Radio Theatre" programs; Wallace Beery, an occasional guest star, and Jean Hersholt, portrayer of "Dr. Christian" in the radio series of that name.







The theatre's "royal family" is in constant air demand. Left to right: Lionel, Ethel and John Barrymore.



How a radio play takes the air is demonstrated by these four views from NBC's "Spy at Large" series. Upper left: The first script reading. Lines are ironed out and the cast learns story. Upper right: Director Joseph Bell gives some pointers to actresses Consuelo Lembke, Eileen Burns and Elena Karan. Lower left: The dress rehearsal with Miss Burns, Eric Dressler and Miss Lembke going through their paces. Lower right: On the air! Miss Lembke is shown reading the opening lines.





Two popular series of long standing are pictured above. Left: Four members of the cast of "One's Man's Family" which has been a radio hit since 1932. Photo shows Minetta Ellen (Fanny Barbour) with Bernice Berwin (Hazel) at left; Kathleen Wilson (Claudia) at right, and Winifred Wolfe (Teddy) below. Right: The popular team of Lum and Abner in make-up. Chet Lauck plays Lum and Norris Goff portrays Abner.



Amos 'n' Andy are shown with the only woman—and only third person—in their cast, Madaline Lee. The pair. Charles Correll (Amos) and Freeman Gosden (Andy) enact all the other characters themselves. Right: Myrt and Marge. (Myrtle Vail and Donna Damerel).





Fred Waring, head of the Pennsylvanians, a pioneer radio band. Choral offerings are his dish. Right: They don't usually call him the "king of jazz" any more but there's no doubt that he's still its master — Paul Whiteman.

ON WITH THE DANCE!

WHETHER personal preferences go to "swing" or "sweet" music, dance music is a "must" on most listeners' tuning schedules. There are scores of headlining bands and space permits only some of the representative ones to be pictured on these two pages. Most dance bands attempt to establish an individual style to be distinctive and the demand for special arrangements of popular tunes keeps the arrangers working day and night. Many bands have stellar vocalists and instrumental soloists to enhance their offerings.







Phil Spitalny and his All-Girl Orchestra, a radio act that's in great demand for stage appearances. Right: Raymond Paige. Below, left: Guy Lombardo (seated) and his versatile brothers, Leibert, Carmen and Victor. Below, right: B. A. Rolfe, radio old-timer who's still a radio big-timer.











Vincent Lopez, Peter Van Steeden and Robert Armbruster, three ace baton-wavers.





The Dorsey Brothers used to jointly conduct their own orchestra under that name but now they have separate aggregations—both highly successful. Jimmy Dorsey is at the left and Brother Tommy at the right.







Al Goodman, George Olsen and Joe Rines, all stellar bandsmen.







Left to Right: Horace Heidt, conductor of the Brigadiers, Gene Krupa, the drummer, who left Benny Goodman to bead his own band, and Richard Himber, a consistent broadcaster.

BEAUTY AND THE MIKE

RADIO vies with the stage and screen in the beauty of its female stars. In the long run, radio even goes the other entertainment mediums one better; the microphone drafts the "best-lookers" as well as the best talent from the stage and cinema. And the high standard of mike beauty has brought about many screen offers for the broadcasting damsels. With television in the offing, you will soon enjoy hearing as well as seeing these decorative persons.







Elaine Bassett, an NBC dramatic performer. Left: Betty Lou Gerson, NBC actress and Alice Frost, heard on both CBS and NBC in leading dramatic roles.



Left to right: Olga Andre, NBC songstress frequently featured on shortwave programs because of her ability as a linguist; Virginia Verrill, vocalist presented on both networks and the Lane Sisters—Priscilla and Rosemary, whose air work brought about a Hollywood cinema career. Below, left to right: Wendy Barrie, who reversed the Lane Sisters formula by coming to the air from the screen; Maxine, vocalist with Phil Spitalny's All-Girl Orchestra, and Bess Johnson who plays a featured role in the CBS series "Hilltop House."









C Chase & Sanborn Hour, whose picture on ished a quantity record for radio artists, Ruth Warrick (right), CBS actress, snows the photographer her idea of keeping cool during a broadcast.





Betty Caine and Helen Walpole, NBC actresses, who are undoubtedly adept on figures of speech.





Gale Page, NBC singer and actress, who also used the mike as a short-cut to Hollywood fame. Right: Templeton Fox, NBC actress.



The mirror-lid of this television receiver reflects a picture measuring 12 by 14 inches off a vertically-mounted cathode-ray tube. This set was introduced to the Berlin market and is similar in many respects to models developed in American laboratories.





No, this is not a Hollywood movie set. It is a typical European television studio. Left: This photograph reveals the excellent detail of a projection television image on a theatre-size screen ten feet high and twelve feet wide.







Preparations are under way for the introduction of public-participating television in many American cities. Gilbert Seldes and Peter C. Goldmark, respectively television program director and television engineer of the Columbia Broadcasting System, are seen at the left at the scanning panel of the network's New York video station. In the center photo they are inspecting one of ten giant transformers for the new Chrysler Building sight-and-sound station. A Columbia television studio setting of many years ago is shown at the right. The image was virtually confined to "head and shoulders" in those days. Today, however, the television camera can pick up wide-angle scenes in the manner of a movie camera.

TELEVISION BROADCAST STATIONS

LICENSEE AND	CALL	FREQUENCY (kc)	POW	macroor.o.:	
LOCATION	LETTERS	OR GROUP*	VISUAL	AURAL	EMISSION
Columbia Broadcasting System, Inc., New York, N. Y.	W2XAX	В, С	50w C. P. 7500w	7500w	A4 A3
Don Lee Broadcasting System, Los Angeles Calif.	W6XAO	В, С	150w C. P. 1kw	150w	A3, A4
Farnsworth Television Incorporated of Pa., Springfield, Pa.	W3XPF	в, с	4kw	1kw	A3, A4 (C. P. only
First National Tele- vision, Inc., Kansas City, Mo.	W9XAL	в, с	300w	150w	A3, A4
General Television Corporation, Boston, Mass.	W1XG	В, С	300w		A4
The Journal Company, Milwaukee, Wisconsin.	W-9XD	В, С	300w		A-4
Kansas State College of Agriculture & Applied Science, Manhattan, Kansas.	W9XAK	A	125w	125w	A3, A4 & Special
National Broadcasting Co., Inc., New York, N. Y.	W2XBS	В, С	12kw	15kw	A3, A4
National Broadcasting Co., Inc., Portable (Camden, N. J. & New York, N. Y.)	W2XBT	D(92,000 & 175000-180000)	400w	100w	A1, A2, A3, A4 & Special (C. P. only
Philco Radio & Tele- vision Corp., Philadelphia, Pa.	W3XE	в, С	10kw	10kw	A3, A4
Philco Radio & Tele- vision Corp., Philadelphia, Pa.	W3XP	D(204000- 210000)	15w		A4 & Special (C. P. only
Purdue University, West Lafayette, Ind.	W'9XG	A	1500w		A4
Radio Pictures, Inc., Long Island City, N. Y.	W2XDR	В, С	1kw	500w	A3, A4
RCA Manufacturing Co., Inc., Portable (Bldg. No. 8 of Camden Plant)	W3XAD	D(124000 to 130000)	500w	500w	A3, A4
RCA Manufacturing Co., Inc., Camden, N. J.	W3XEP	в, С	30kw	30kw	A3, A4
RCA Manufacturing Co., Inc., Portable-Mobile	W10XX	В, С	50w	50w	A3, A4
The Sparks-Witbington Company, Jackson, Michigan.	W8XAN	в, с	100w	100w	A3, A4
University of Iowa, Iowa City, Iowa.	W 9XK	A	100w		A4
University of Iowa, Iowa City, Iowa.	W9XUI	В, С	100w		A4
Dr. George W. Young, Minneapolis, Minnesota	W9XAT	в, с	500w		A4

*FREQUENCY GROUPS

_	Group A	Group B	Group C	Group D
• -	2000 to 2100 kc	42,000 to 56,000 kc	60,000 to 86,000 kc	Any 6,000 kc frequency band above 110,000 kc excluding 400,000 to

THE SERIOUS SIDE OF RADIO MUSIC

N this age of swing music and such dances as the Big Apple, Lambeth Walk and Yam, radio renditions are by no means confined to jitterbugs' tastes. The serious side of music is not neglected. The best symphony concerts, operas and instrumental and vocal solo bits are offered on radio schedules. Sponsors and networks spare no expense to obtain the best names in the music world.



Lily Pons, the world-famed coloratura, and her noted conductor-husband. Andre Kostelanetz.





There's beauty on the classical programs, too, as these views of Gladys Swarthout and Grace Moore adequately prove.



Arturo Toscanini, acclaimed by many experts as the greatest symphonic conductor of all time. As chief conductor of the NBC Symphony Orchestra, he has contributed greatly towards the advance of broadcast entertainment. An NBC photographer, took these candid shots of Toscanini in action.







Three popular singers of classics-Lawrence Tibbett, Margaret Speaks and Walter Cassell.







Judging by the smiles of these three stars, serious music has its bright side. Left to right: Howard Barlow, CBS conductor; Vivian Della Chiesa, NBC lyric soprano, and Erno Rapee. NBC conductor.





Mario Cozzi, NBC baritone. Left: Pierre French, conductor, who scored favorably with American listeners. Right: Frank Black, NBC conductor.



WORLD-WIDE SHORT-WAVE STATION LIST

Kc. Meters Call	Location	Kω.	Service, etc.	Ke. Meters Call	Location	Kω.	Service, etc.
409,000 0.75 W1XEG 40,500 4.96 W8XKA 53,500 5.41 W3XKA	Storrs, Cons. Pittsburgh, Pa.	0.5	Experimental Experimental Exp.; relays KDKA Experimental Experimental Experimental Exp. relays KYW	15,626 18.21 JVF 15,506 19.35 CMA3	Namiti, Japan Havana, Cuba	20.0	
33,500 5.41 W3XKA 41,000 7.32 W2XG 31,000 9.50 W1XKA 31,000 9.49 W3XKA	Pittsburgh, Pa. Pittsburgh, Pa. New York, N. Y. Changes Fills, Mass	0.1	Exp.; relays KDKA Experimental	15,506 19.35 CMA3 15,490 19.37 KEM 15,476 19.39 KKL	Namer, Japen Havana, Cube Belimas, Calif. Belimas, Calif. Addis Ababa, Ethiopia Magatian, Manico Didno, Calif.	40.0	Phone
31,600 9.49 W3XKA 31,600 9.49 W8XAI	Chieopee Falls, Mass. Pailadelphia, Pa. Roshester, N. Y. Pittsburgh, Pa. Detsoit, Mich. St. Louis, Mo.	0.1	EXD.: releva WMAM	15,420 19.45 XEBM 15,430 19.45 KWO	Mazatian, Sinalea, Menico Distra, Calif.	29.0 20.0	Phone Be.; relays XEBL Phone to Hawaii, Manila Broadcast
31,600 9.49 W8XKA -31,600 9.49 W8XWJ	Pittsburgh, Pa. Detsoit, Mich.	0.1	Experimental Exp.; relays WWJ Exp.; relays KSD	15,370 19.52 HASS 15,360 19.53 DZG	Seesan, Germany	20.0	Phone
91,000 9.49 W9XPD 26,100 11.49 GSK 21,540 13.93 W8XK	St. Louis, Mo. Daventry, England Pitteburgh, Pa. Daventry, England Wayne, M. J. Nasaki, Japan Daventry, England Bartes, Mass. Pedebrady, Creehoslovakia Lawrenceville, N. J. Hurlimgham, Argentina	0,1 20.0	Exp.; relays KED Broadcast Be.; relays KDKA	15,400 19.37 M SIM 15,475 19.37 M SIM 15,475 19.43 TUG 15,400 19.43 TUG 15,400 19.43 TUG 15,400 19.45 X EBM 15,500 19.45 X EBM 15,500 19.45 X EBM 15,500 19.45 X EBM 15,500 19.45 D DEC 15,300 19.57 W 32AAD 15,300 19.57 W 32AAD 15,300 19.50 CEP 15,200 19.45 D UR 15,200 19.45 UR 15,200 19.75 UR 15,200 19	Maasthan Hinden, Menico Diben, Calif. Robendsherver, Hungary Zosom, Germany Dime, Calif. Zosom, Germany Schonestudy, N., Y., Pedebandy, Comboolovakia Davantry, Ragland Lara, Belivia Zosom, Germany Benono Aine, Argericia Wayne, N.J. Bayen, M.J. Bayen, M.B.	20.0 50.0 20.0	Phone to Hawaii Broadcast Bc.; relaya WGY
21,530, 13.93 GSJ 24,520 13.94 W2XE	Daventry, England Wayne, N. J.	15.0	Breadcast Be.; ralays WABC	15,230 19.58 OLR58 15,210 19.60 GSP	Pedebrady Czeshoslovakia Daventry, Ragicad	26 0 20.0	Broadeast Broadcast
34,520 12.94 W2XE 21,520 13.94 JZM 21,470 13.97 GSH	Nasaki, Japan Davestry, England	20 0	Broadeast	15,300 19.00 CP7 15,200 19.63 DJ@	LaPse, Belivia Zeman, Germany	1.0 5-50	Phone
21,480 13.98 WIXAL 21,460 13.99 OLR6A 21,430 14.01 WKK	Pedebrady, Czechoslovakia	25.0	Breadcast Breadcast	15,280 19.68 Light 15,220 16.46 Waxe	Wayne, NIJ.	\$.0 15.0 15.0	Be.; relays LR1 Bc.; relays WABC Broadcast
21,100 14.18 L8L4	Hurlingham, Argentina	60 0	Phone Phone to London and Rio; day	15,250 19.67 WAXAL 15,266 19.66 TPA2	Besten, Mass. Penteies, Fenne	5.0 12.0	Broadcast
21,140 14.19 KBI 21,080 14.22 PSA	Manila, P. I. Marapien, Brant	10.0 10.0	Phone Phone; broadcast Phone to England	16,220 19,70 OLRSA 15,220 19,71 PCJ	Pedebands, Coophorlevakia Huben, Holland	25.0 29.0	Breadcast Experimental
21,080 14.22 PSA 21,060 14.25 WKA 21,060 14.25 KWN 21,060 14.27 LBN 6	Laurenceville, N. J. Dinon, Calif.	10.8 20.0 20.8 60.0	Phone to England Phone Phone to New York; day	15,310 19.78 WEXK 15,300 19.74 DJB	Pitteburgh, Fa. Zoesen, Gormany	40 0 5-50	Be.; relays KDKA Brondcast Brondcast
20.916 14.35 PSB	Manala, P.I. Marapieu, Branil Lauceaceville, N. J. Discos, Calif. Burlingham, Agentina Marapieu, Brazil Bolinas, Calif. Bolinas, Calif. Bolinas, Calif. Naccon Germany	10.9	Phone to Buenes Aires	15,126 19.76 CMO 16.160 19.76 JSK	Ritaburgh, Ra. Zecsen, Gottmany Ronghong, China Darcestry, Hughand Rumini, Japan Podohady, Guscheslovakia Bundeeng, Java Daymany, Hucland National Resident	15.0	Broadcast Broadcast
20,880 14.37 EHY 20,820 14.41 KSS 29,780 14.44 KMM	Bolinas, Calif. Bolinas, Calif.	40.0 40.0	Phone Phone	15,160 10.70 OLRSC 15,180 19.80 YPC	Pedebendy, Osesheslovakia Bandeeng, Java	25.0 15.0	Broadcast Broadcast
29,780 14.44 KMM 20,146 14.90 DWG 26,646 14.97 OPL 26,020 14.99 DFZ	Bolinas, Calif. Nauen, Germany Leopoldville, Belgian Congo Nauen, Germany Marela P. 1	9.0	Phone to ORG; mernings Phone to South America Phone to Calif.	15,140 18.M GEF 15,123 18.94 HVJ	Daventer, Bucland Vations City	15.0 10.0 5-\$0	Broadcast Broadcast Broadcast
19,980 15.62 KAX 50,820 15.14 WKN 19,720 15.21 EAQ	Manila, P. I. Lawrenceville, N. J.	20 0	Phone to Calif. Phone to England Phone to Latin America	15,070 19:91 99D 15,086 19:98 WNC 15,040 19:05 REI	Marapico, Brazil Historia, Florida	12.0	Phone Phone
19,720 15.21 EAQ 18,780 15.28 DFJ	Manila, P. 1. Lawrenceville, N. J. Madrid, Spain Nauen, Germany	10 0		15,000 19.05 R.K.I 15,000 20.0 WWV	Manuples, Bermany Manuples, Benail Historia, Placida Messew, U.S.S.R. Beltswife, Md.	20.0 1.0	Phone to WOG mornings
18,700 15.28 DPJ 18,600 15.24 SUY 10,600 15.31 LSF 19,520 15.37 IRW	Naues, Germany Abeashai, Egypt Monte Grande, Argentina Rem-, Italy Nauen, Germany Baudoeng, Java, D. E. I. Sepetiba, Penzil Lowranceville, N. J. Ruysselded, Belgium Idurlingham, Argentina	0.1 7 0 20 0	Phone Phone Phone to South America	14 985 YSL	Con Colon don El Colon don	40.0	Free, standard; Tue., Wed., Fri., 2-3 p.m. E. S. T. Phones Mexican stations Phone to Dixon
19,460 15.42 DFM 19,345 15.51 PMA	Nauen, Germany Baudoeng, Java, D. E. I.	40.0	. Phone Phone: sometimes bc.	14,978 20.64 LZA 14,968 20,66 YSL	Sofia, Bulgaria San Salvador, El Salvador		Broadcast Phone
19,460 15.42 DPM 19,345 15.51 PMA 19,260 15.58 PPU 19,220 15.61 WKF 18,200 15.62 ORG	Sepetiba, Brazil Lawrenceville, N. 8.	12 0 20 0 8.0	Phone Phone	14 930 30.08 KAY 14.970 20.04 LZA 14.900 30.06 YSL 14.935 30.09 PME 14.910 20.12 JVG	Manile, P. J. Sofie, Beiggria Son Selvador, El Salvador Mampieu, Bestil Nasaki, Japan	10.0	Phone; broadcast Phone to Formosa; broad-
19 140 15.08 LSM18	Ruysseleds, Belgium Murlingham, Argentina	8.0 66.60	Phone to Madrid, Berlin,			20.0	Phone: broadcast Phone: broadcast
19,050 15.75 JVC 19,020 15.77 HS8PJ	Nazaki, Japan Bangkek, Mam		Paris; day Phone; sometimes be. Breadoast	14,620 20.42 PSF 14,600 20.55 JVH 14,590 20:56 WMN 14,585 20:64 HBJ 14,530 20:65 LSN1	Marspiqu, Brazil Hamis, Japan Lawrenceville, N. J. Prangine, Switzerland Hurlingham, Argentina	20.0 20.0	Phone Phone
19.050 15.75 JVC 19.020 15.77 HS8PJ 18.910 15.86 JVA 18.800 15.88 ZSS 18.800 16.91 WKM	Nazaki, Japan Klipheuvel, S. Africa	20 0 5.0	Breadoast Pheas to Europe; osc, bs. Phone to Rugby			60.0	Phone to New York; mora_eve. Phone to Madrid, Berlin,
18,830 15.93 PLE 18,670 16.08 OC1	Nanaki, Japan Banghek, shana Ranghek, shana Ranghek, shana Ranghi, Japan Rilipheurel, S. Africa Rocky Penn, N. Y. Bandeeng, Java, D. E. I. Lima, Peru Hugby, England Kootwijk, Heiland Kootwijk, Heiland Franging, Switze-land kastwijk, Heiland Lawrenceville, N. J. Sagon, Escapi Indo-China Aidas Ababa, Ethicpia Nanshi, Japan Lawrenceville, N. J. Nanshi, Japan Lawrence	40.0 49.9	Phone to Dixon and Nasaki	14,500 30.69 LSM2	Hurlingham, Argentina Managua, Micaragua	00.0	Paria; moro., eve.
18,620 16.11 GAU 18,600 16.13 PDM 18,545 16.18 PCM	Rugby, England Kootwijk, Heiland	15.0 40.0	Phone to WM1, VWY Phone	14,480 20.72 YHA 14,409 20.75 DEH 14,440 20,78 GBW 13,380 21,46 YPD2 13,820 21,78 BUS	Managua, Bisaragua Nassa, Germany Rugher, England Suva, Fiji Islands Abu Zabal, Caro, Egypt	15.0	Phone Phone
18 ASO 16 23 HRH	Keotwijk, Holland Prangins, Switze land	20.0	Phone Phone	13,850 21,46 VPD2 13,820 21,70 BUX	Suva, Piji Islands Abu Zahel, Caire, Egypt	20.0	Experimental Phone
18,465 16.30 PCK 18,340 16.36 WLA 18,310 16.38 FZS	Lawrenceville, N. J.	40.0 20.0 15.0	Phone to Bandeeng Phone to GAS Phone to France	13.811 21.78 50331	Chire, Egypt Abu Sahai, Egypt Ponthios, Prance Belinas, Calif.	8.0 12.0	Amateur; broadcast Phone Phone to U. S. A.
18 970 16 42 11/1)	Addas Ababa, Ethicpia Nazafii, Japan Sepetiba, Brazil	16.0	Phone to Java; E. I.; bc.	18,400 21,91 RES 13,600 21,91 RES 13,630 RLM FYK 13,530 RLM FYK 13,546 22,66 GEB 13,540 22,72 JVI	Belinns, Cultf. Warness, Peland	40.0 20.0	Phone to Japan, Java. Broadcast
18,190 16,49 JVB 18,165 16,51 PPZ 18,135 16,55 PMC 18,090 16,58 TYE	Sepetiba, Brazil Bandoong, Java Pontomo, France	20.0 40.9 12.0	Phone Phone; somatimes be. Phone to U.S. A.	12.536 12.66 GBB	Wangam, Peland Kanakasa-Cho, Japan Rugby, England Nesakt, Japan	15.0 10.0	Experimental; be. Phone Phone to Manchukuo; also
18,040 16.63 KQR 18.020 16.65 KQJ	Relinas, Calif. Bolinas, Calif. Bolinas, Calif.	40.0 40.0	Phone Transpacific phone	13.387 22.47 YYQ		20.0	bc. Phone
17,980 16.69 KQZ 17,940 16.72 WQB- W2XBJ		40.0	Phone	13,337 22.47 YVQ 13,380 22.70 12,386 22.58 CGLA3 13,380 21.60 KBJ 12,310 22.71 PNSK 12,140 22.83 CWH 13,050 23.84 2ZE 12,706 23.84 4 LAC 12,885 23.28 NPG	Marpony, Venesuela Bellish Gripe Drummond ville, Canada Mahlla, P. J. S.S. Normandie	15.0	Phone to ships
W2XBJ 17,820 16.74 WQF 17,790 16.86 GSG	Rocky Point, N. Y. Rocky Point, N. Y. Daventry, England Nazaki, Japan	40.0 40.0 15.0	Phone Phone Breadcast	13,510 22.00 KBJ 13,510 22.71 PNSK	Mahla, P. I. S.S. Normandie	1.5	Phone Phone Phone
17,785 16.87 JZL 17.780 16.87 W8XK	Nasaki, Japan Pittaburgh, Pa.	40.0	Broadeast	13,050 22.99 13,028 23.04 JZE	Italien Shipe Navaki Jamas	10.0	Phone Phone to ships
17,780 16.87 W3XAL	Bround Breck, N. J. Chicago, Illinois	15.0 0.5 23.6	Broadcass; relays WJZ Experimental	12,785 23.44 IAC 13,885 23.28 NPG	Coltano, Italy San Francisco	52.0	Phone Time signals; 4:55-5:00 p.m. E. S. T.
17,775 16.88 PHI 17,760 16.89 W2XE 17,760 16.89 D1E	Nazaki, Japan Pittaburgh, Pa. Brouad Breck, N. J. Chicage, Illinois Huizen, Holland Wayne, N. J. Zeesen, Germany Hongkong, China Coltano, Italy Ranekole Simm		Broadcast Bc., relays WABC Broadcast	12,630 23.15 CNR 12,680 23.66 YNE 12,630 23.76 NAA	Rabat, Mosocco Pearso Cabonas, Nicaragua Arhugton, Ya.	12.0	Phone to France
17,760 16.89 DJE 17,755 16.90 ZBW5 17,750 16.90 IAC 17,740 16.91 HSP	Hongkong, China Coltano, Italy	5-50 2.0 14.0	Broadcast Phone; early moraings Phone to JVG				a m E S T
17,740 16.91 HSP 17,640 17.00 17,520 17.12 DFB	Coltano, Italy Bangkok, Siam Britah Ships Nauea, Germany Kirkee, India Bound B. ook, N. J. Norddeich, Germany Szekszfehervar, Hungary Arlington, Virginia	20.0	Phone	12,290 24.41 GBU 12,250 24.39 TYB 12,235 24.52 TPJ	Rugby, England Pontoise, France Reykjavik, Isoland	13.0	Phone to JVH, ships
17.480 17.16 VWV2	Kirkee, Indus Bound B. onk. N. J.	20 9	Phone to Rughy			15.0 15.0	Phone Phone to U. S. A.
17,310 17.33 W3XL 17,265 17.37 DAF 17,860 17.51 HAS5	Norddeich, Germany Szekesfehervar, Hungary	20.0	Phone Broadcast	12,153 24.50 TVA 12,150 24.60 GBS 12,180 24.73 DZE 12,060 24.88 PDV 12,020 24.86 VIV- VE344B	Kootwijk, Holland	60.0	Phone Phone
16,820 17.84 NAA	Arlington, Virginia		Experimental Phone Broadcart Time signals; 9:55-10.00 a.m. E. S. T. Phone Phone to Bandoeng	12,020 24.96 VIX- VK3A/B 12,000 25.00 RV59	Melhourne, Amstralia Messew, U.S.S. R. Addis Ababa, Ethlopia Bolinna, Calff. Mexico, D. F., Mexico Pardez, Pertugal Podebrady, Coseboelovakia Aquadules, Panama Mexico, D. F., Mexico Mexico, D. F., Mexico Pontorios, France Chicago, Illinois Podebrady, Csechoslovakia	20.0	Tests with Drummondville Bc. and phone
16,305 18.40 PCL 16,270 18.44 WLK 16,240 18.47 KTO	German Ships Kootwijk, Holland Lawrenceville, N. J. Manila, P. I.	20.0	Phone to Bandoeng Phone to Rugby Phone to Dixon	11,955 25.09 IVC 11,950 25.11 KKO	Addis Ababa, Ethiopia Bolinas, Calif.	3.5 40.0	Phone Phone
14 120 18 61 LRY		40.0 20.0	Phone to Dixon	11,955 25.09 IUC 11,950 25.11 KKQ 11,900 25.21 X&WI 11,900 25.21 CTIGO 11,900 25.21 OLB4D 11,895 25.22 HPSI	Mexico D. F., Mexico Parede, Portugal	0 35	Broadcast Broadcast
16,030 18,71 KKP 15,985 18.77 KQH 15,950 18.81 PLG	Kahuku, Hawaii Kabuku, Hawaii Bandoeng, Java	40.0 40.0	Phone to KWO Phone Phone; afternoons	11,900 26,21 OLR4D 11,895 25,22 HPSI 11,865 25,29 YFYP	Aquadulee, Panama Marion D. P. Marion	25 0 0.05	Broadcast Broadcast Broadcast
15,880 18.89 FTK 16,865 18.91 CEC 15,860 18.90 JVD	Sta. Assise, France La Granja, Chile Nazaki, Japan	30 0 0 5	Phone to Saigon	11.895 25.22 XEXR 11.890 25.85 XEXA 11.880 25.25 TPA3 11.880 25.25 W9XF	Mexico D. F., Mexico Pontoise, France	0.1	Broadcast Broadcast
15,860 18.90 JVD 15,810 18.97 LSL3	Nasaki, Japan Hurlingham, Argentina	60 0	Phone to Shanghai Phone to London, Rio; morn.	11,880 25.25 W9XF 11,876 25.26 OLR4C	Chicago, Illinois Podebrady, Caechoslovakia	25.0	Bc., relays WENR
15,750 19.05 JIA 25,680 19.13 JZA	Tyureki, Formosa Kanjeshi, Manchukue	10 0 20,0	and eve. Phone to Nazaki Phone to Nazaki	11,876 25,26 OLR4C 11,876 25,27 W8XK 11,876 25,27 WBXK 11,860 26,29 YDB 11,860 25,30 GSE	Chicago, Illinoss Podebrady, Czechoslovakia Pittsburgh, Pa. Soerabaja, Java, D. E. I. Daventry, England Zeesen, Germany	40.0 1 0 20 0	Bc.; relays KDKA Broadcast Broadcast
15,660 19.16 JVE	Nazaki, Japan	10.0	Phone to PLE, P. I.; occ. be.	11,860 25.30 GSE 11,855 25.31 DJP	Zeesen, Germany	\$-50	Broadcast

Ko M-1 C-11	Forest or							
Kc. Meters Call 11.840 25.34 OLR4A	Location Podebrady, Csechoslevakia	Κω. 26 0	Brandons		Kc. Meters Call 9,320 31.51 XEME	Location Merido, Yasaban, Mexico	Kw.	
11,830 25,36 W2XE 11,830 25,36 W9XAA	Podebrady, Csechoslevakia New York, N. Y. Chicago, Illinois	10.0	Be.; relaye WABC Be.; relaye WCPL		9,520 31.51 HJ4ABH 9,530 31.56 GSB	Armenia, Colombia Daventry, England	4 414	Ba.; relaye XEPC Ba.; relaye EJ4ABN Brendcast
11,830 25.36 XEBR 11,820 25.38 GSN	Hermonitle, Sonera, Menice Daventey England	20.0	Be.; relaye XEBH		PAIG STRE HILL STREET STREET			Broadcast
11,810 25.40 CRCX	Toronte, Canada	0.5	Breadeast		9,504 31.57 OLR3B 3,500 31.58 PRF5	Melbourne, Australia Podebrady, Cacheslovakie Rio de Jamies Reseil	25.0	Broadcast Broadcast
11,810 25.40 12RO4 11,804 25.42 OAX5A 11,801 25.42 OER2 11,800 25.42 JZJ	Chicago, Illinois Hermonille, Sonera, Mesiso Daventry, England Toronte, Canada Rome, Italy Jea, Peru Austris, Yenna Nasaki, Japan Zeeser, Germany Bouton, Mass. Zeeser, Germany	23.0	. Broadcast		9,500 31.58 HJJABE	Rio de Jassire, Brasil Gartagena, Colombia Vernarus, Ver., Mexico Relless Calif	0 06	Brondenst Brondenst
11,800 25.42 JZJ 11,795 25.43 DJO	Nasaki, Japan	1.3	Broadenst		9,490 31.61 KEI	Vernarus, Ver., Maxico Belluas, Calif.	.02 20 0	
11,790 25.45 W XAL	Boston, Mass.	5.0	Erptrimental Breadmat		9,400 24.61 KEI 9,400 24.61 KEI 9,400 21.61 WEF 9,400 21.65 XEDQ	Bellma, Calif. Rocky Peins, M. Y. Guadalajare, Jaliece, Mexico Belimas, Calif.	40 0	Phono
11,770 25.49 DJD 11,760 25.51 OLR4B	Pedebrady, Caecheslevakia.	35.0	Printed Street,		8,480 E1.66 KET 9,450 B1.75 TGWA	Mexico Bolines, Calif.	40.5	Bc.; relays XED
11,750 25.53 GBD 11,740 25.55 HP5L	Daventry, England David, Panama Huisen, Holland	7 20	Breadcast Breadcast		9.450 \$1.75 TGWA			Experimental
11,730 25,57 PHI 11,730 25.57 CJRX	Winnings, Man., Canada		Boarditet; winter months	•	9,441 31.78 HC2EBA 9,428 31.82 GOCH +	Guayaquil, Ecuador Havana, Cuba Arlington, Va.	10.0	Broadcast Beendcast Time signals; see article or
11,729 25.60 TPA4 11,718 25.60 CR7BH	Pontoise, France Lourence Maranes,		Bresiest		9,426 31.82 GOCH + 9,426 31.83 NAA	Arlington, Va.		Time signale; see article or
11,795 25.63 SM\$SX 11,680 25 68 KIO	Penteise, France Leurense Marques, Mommbeque Stockholm, Sweden Kabuku, Haweli Sepetiba, Brasel Nazaki, Japas Stony Hill, Jamaica Shanghai, Chum		Breadcast Breadcast		9,415 31.86 PLV 9,300 32.95	Bandeeng, Java, D. E. I. Fort de France, Martineque	20 0	time agnals Phone; sometimes bc.
11,680 25 68 KIO 11,670 25.71 PPQ	Kabuku, Hawait Sanatiba Brand	40 B	Phone to Boltons		9,340 32.00 H26PJ	_ F. W. L_		Broadcast
31,660 25.73 JVL 11,595 25.88 VRR4	Nazaki, Japan Steav Hill Inmaios	10.0	Phone to Furmous; he.		9,500 RL 16 OA X () 9,500 32.26 YMOU 9,220 32.54 TH B	Bangkok, Siam Lime, Peru Managua, Nicaragua Puerte Cabezsa, Nicaragua Snekosfeherrar, Hungary Kirkes, India		Breadcast Breadcast
11,540 26.00 XGR 11,495 26.10 VIZ-3		20 6	Phone		9,220 32.54 TNB 9,125 32.87 HAT4	Poerte Cabezas, Nicaragua	9.1	Phone
11.435 26.24 COCX 31,430 26.25 YNE	Havana, Cuba Puerte Cabesae, Niseragua	1.4	Ber rolem CM X		9,048 33.17 VWY 9,048 33.19 TYA2	Kirkes, India	20.0	Phone to England: morning Phone to Algeria
11.385 26.35 HBO	Prancina Switzerland	0 1 20,0	Phone Breadcast			Pontoue, France	15.0	Phone to Algeria
11,340 26.46 DAF 11,280 26.50 HIN	Norddoch, Germany Trujille, D. R.	0 75	Phone Breadcast		8,648 33,58 HCJB 8,688 33,96	Algoria, Algoria, Quade, Ecuador British Mupa, French Ships Bagota, Colombia Makasan, Colobea, D. E. I. Manila, P. I. Sava, Fiji Islands Camacouv, Cuba.	• 5	Broadeast Phone
11,140 26.93 11,040 27.17 HRW-	•	**			8,795 34.11 HKV 8,778 34.18 PNI	Bogota, Colombia Makassar, Calebra, D. E. I.	2.0	Breadcast Phane are be
11.040 27.17 CSW	La Ceiba, Henduras Lisbon, Pertural	0.1 3 0	Phone Breedcast			Manila, P. I.		Phone
11,000 27.27 ZLT4 11,000 27.27 PLP	Lishon, Pertugal Wallington, New Zealand Bandoeng, Java		Phone; and be.		3.719 34.40 VPD2 8.665 34.42 COUJO 8.606 35.27 YNLO	Camaguay, Cuba Matagua, Nitaragua		Broadcast Broadcast Broadcast
10,955 27.38 HSG2 10,850 27.65 DFL	Bangkok, Stam				8,470 35.42	German Ships		Phone
10,840 27.68 KWV 10,770 27.86 GCP	Nauen, Germany Dixon, Calif. Rugby, Edgland Nasaki, Janan	. 20.0 15.0	Phone; he. Phone to Hawaii Phone		8,400 35.71 BC2CW	German Ships Norddrich Germany Gunyaquil, Ecundor Asuncion, Paraguay	******	Phone to ships Brendeast Brondcast
10,740 27.93 JVM	Nasaki, Japan	20 U	Phone to U. E. A.; one, he.;		8.470 35.42 8.765 34.23 DAF 8.400 35.71 HC2CW 8.500 36.16 ZP16 8.300 36.19 HRW-			
10,670 28.12 CEC	La Granja, Chile	0.6	relaye JOAK Phone			La Ceiba, Honduras Marapicu, Brazil	0.1	Phone: bc.
10,660 28.14 JVN 10,620 28.25 WEF	Nazaki, Japan Rocky Point, N. Y. Rocky Point, N. Y.	30.0 40.0	Phose to Butue		8,185 36.65 PSK 8,350 36.05 RA2 8,485 37.34 CNR 8,685 37.24 CED 7,501 37.36 LSL1	Rabat, Morocco	20 0 13 0	Phone to Dixon, Calif. Phone. bc.
10,610 28.28 WEA 10,578 28.36 FYB	Rocky Point, N. Y. Paris, France	40 0	Experimental Time ageals; 7:56- 8 p. m., E.S. T.		2886 37.24 CED 7901 37.36 LSL		0.4	Phone Phone to Rio; night
10,635 28.48 JIB	Tvurelo, Formom	6.0	R. S. T. Phone to Japan		1,800 38.07 JYR 2300 36.15 881 Y	Suringham, Argentina Kemikawa-Cho, Japan Abu Zabal, Egypt	5 0 20 0	Broadcast Phone
10.430 28.76 TYE3 10.430 28.76 YBG	Pontouse France	12 0	Phone to B. S. A. Phone; use, be,		7,854 \$1.30 EC2J88	Ouayaquel, Ecuador Koowuja, Heliand	0.5	Broadcast Phone
10,420 28.79 XGW 10,410 28.82 KES	Shanghai, Chem	20.0 40.0	Phone		7,800 35.40 151.0 7,800 38.32 80X 7,804 38.30 EC3488 2,800 38.41 EA 7,800 38.41 TNB 7,900 38.47 EBP		0.1	Phone
10,410 28.82 LSY 10,410 28.82 PDK	Shaghai, Calif. Bulinas, Calif. Mente Grande, Argentina Heetwijk, Halland Dixon, Calif.	10.0	Phone Phone Phone Phone Phone Phone to Manchuleue; be. Broadcast Brandonst		7,947 38.76 CEO 7,820 88,88 IUB 7,840 89.06 YNLP 7,840 89.06 YNLP 7,840 89.06 YNLP 7,840 89.06 YELN 1,810 89.85 JVP	Prangina, Switzerland Lateranjo, Chile Addis Ababa, Bibiopia Managua, Menragua Puntarenas, Conta Rica	20 0 0.5	Broadcast Phone
10,490 28.85 KEZ 10,375 28.92 JVO	Dixon, Calif.	40.4	Phone		7,540 89.44 YNLP	Addu Ababa, Ethiopia Managua, Mearagua	******	Phone Broadcast
10.370 28 93 EAJ43	Nasati, Japan Tenerife, Cheazy Islands	10.0	Potas to Manchulsto; be. Breadoust		7,800 29.74 T38WG 7,800 30.07 E3KH		40.6	Broadcast Broadcast Phone
16,350 29.98 BAJ33 16,350 26.98 LSX	Dixon, Calle. Namel, Japan Tenerife, Canary lelands Cassmen, Span Moste Grande, Angestica St. George, Sertinela, Raysoldela, Edglern Smattle, Brasil	12.0	President. Phone; also he.		TAIL SALE OF THE LAND AND THE L	Nameli, Japan Nameli, Japan Resky Peint, N. Y. Kabuka, Hawaii	20.0	Bc.; phone Phone to Java
10,335 29 03 ZFD 10,380 29.03 ORK	St. George, Bereiten. Reventiede, Beleiten	1.5	Phone; size he. Phone; morely telegraph Denicless.		2.455 40.45 WIRL	Rooky Point, N. Y.	40 B 40.0	Phone
10,310 29.10 PPM 10,300 29.13 LSL2	Marking A.	20 0 60.0	Phone to Leadon Rice sinks		THE REPORT OF		20 ●	Broadcast Breadcast
10,290 29.16 DZC 10,360 29.24 PM N	Zonon, Germany Bandoong, Java, D. B. I. Burlingham, Acquation	3.0	Phone to Leadon, Rio; night Phone Phone; cos. hó.		Zam Zabi	Grennia, Masragus Adelaide, Australia Steekhelm, Sweden		Breadcast Broadcast
18,260 20.27 LBK3	Burlingham, Arguntina	6.0	Phone to Madaid, Bortin.		SE HA REL	Barcelona, Spain	• • • • • • • • • • • • • • • • • • • •	Broadcast
10,230 29.33 CED	Antologasta, Chille	0.6	Paris; uight Plants; be.		THO HALL BASAB	Barelens, Spain Maragua, Nicaragua Sasta Oras, Tenerife, C. I. San Schuttlan, Spain	******	Be.; amateur Breadcast
10,230 29.25 PSH 10,170 29.48 R10 10,140 29.50 OPM	Marapies, Brani Balca, U.A.S.R.		Photos; be. Photos, be; Photos		THE RESP CHEAL	lan Schurtlan, Spain Lobits, Angela	••••••	•••••
18,080 29.76 RIR	Balva, U.S.S. R. Laysidville, Belgion Congo Tillia, W.S.S. R. Madrid, Spain Kanjoshi, Manshukuo St. George, Bermeda Abu Zebai, Egypt Zessee, Germany Baltsyille, Md.	4.0	Phone to ORK Phone to BIQ, RNE Paper to BIQ		7.165 01.87 7.106 02.38 POMAA 7.056 02.38 PHJ 7.056 02.38 PHJ 7.056 03.08 E3.5 E3.5 H 7.056 03.0 E3.5 E3.5 H 7.056 03.0 FJ 8.056 03.0 FJ 8.056 03.0 FJ 8.056 03.0 FJ 8.056 03.0 FJ 9.056	John Schultun, Spain Lebits, Angela Pert, W. Africa Valentia, Spain Paporta, Tahiti Boodresht, Holland Barcelena, Spain	0.5	Be.; C. W., phone Brondonst
10,070 29,79 RDN 10,065 29.81 TDE 10,065 29.84 ZFB	Madrid, Spein Kanjdelii, Maashukse	16.8 20.0	Phone to JVO		7,000 00.36 POSAA 7,000 02.36 PIIJ	Paperte, Tahiti Bordresht, Holland	0 2	Broadcast Broadcast Amateur; sometimes bo.
10,065 29.84 ZFB 10,065 29.84 SUV 10,042 29.87 DZB	·St. George, Barmeda Abu Zobai, Egypt	20.0	Phone to Germany, England		7,000 48.7% EGP1 7,000 48.86 EASAH	Baroclena, Spain Telesa, Sn. Morocce		Breadcast Breadcast
10,042 29.87 DZB 10,000 30.00 WWV	Zomen, Germany Beltsville, Md.		Plane Standard frequency		7,000 48.86 PZA 4,920 48.04 HORTC	Parameriba Dutch Guiana	0.03	Broadcast Broadcast
9,990 30.03 KAZ 9,940 30.18 CSW	Mania, P. I.	44	Phone		AMO ALM VERNC	Holdard Barcelera, Holdard Barcelera, Spain Telema, Sp. Morocce Passmanisha, Dutch Guiana Quito, Soundor Acustralia Chadad, Tugillo Belinas, Calif. Nunkias, Chira.		Broadcast Broadcast
9,890 30.32 LAN2 9,860 30.43 EAQ	Rowlingham Amendias	66 Ú 20 6			AND MAI TOOY	Belians, Calif.	40 0	Phone Brondont
9,840 30.49 JYS 9,740 30.80 COCQ	Familiana Cha Issan	10 0	Bo., teste Be ; relays CMQ		6,886 M.OF BITT	Trajillo, D. R.	0.025	Breadcast
9,675 31.01 DZA			Phone		4,750 44.44 TVT 4,750 44.48 HISC 4,718-44-66 KBE	Belines, Calif. Nunking, China Trujillo, D. R. San Pedro de Maceris, D. R. Nanhi, Japan La Remana, D. R. Manila, P. L. Belines, Calif.	20 0	Phone to U. S. A.; be.
9,666 31.04 CTIAA 9,660 31.06 PSJ	Lisbon, Portugal	2.0	Broadcast Broadcast		O'18-44-00 EBE	Manila, P. L.	40 0 40 0	Phone
9,660 31.06 LRX	Buenos Aires, Argentina Port-au-Prince, Haiti	5:0	Phone Re.; solays LR1 Broadcoot		6,007 44.08 11EP	Man Jess, Costa Rica		Breadcast
9,685 31.14 [2RO3	Rome, Italy	20.0	Breadent Brondent		6,635 46.22 HC2RL	Guayaquil, Ecuador	0 15	Phone Broadcast
9,618 31.18 HJIABP 9,610 31.22 YDB	Socrabain, Java, D. E. L.	10	Ne.: relears YDA		6,690 45.25 HIT 6,630 45.33 PRADO	Trajille, D. R. Riebumbs, Renador	0.2	Brondcast Be.; Thursdays
9,605 31.23 HP5J 9,600 31.25 CQN	Panama, Panama Macao, Pert China		Breadcast Breadcast Breadcast		6,578 45.60 HCVT 6,685 45.76 HI4D			
9,600 31.25 CQN 9,600 31.25 CB960 9,600 31.25 RAN	Santinge, Chile Moscow, U.S.S.R.	0.1	Breadenst Breadenst		6.450 45.80 TIRCC	Truffile, D. R. San Josa, Casta Rica Tatesas, Morecce Cladad Bolivar, Vanezuela	0.7	Broadcast Broadcast
9,597 31.26 VK6ME 9.585 31.27 FB1.	Perth, Australia Prangine, Switserland	20.0	Breedenst Broadenst		6.545 46.54 TVORB	Chadad Bolivar, Vaneruela Managua, Nicaragua	0.25	Brondcast Brondcast
9,890 31.28 PCJ 9,590 31.28 W3XAU 9,590 31.28 VK2ME					4,821 44.36 YVQ 4,825 45.22 HCTRL 4,600 45.25 HIT 4,600 45.25 HIT 4,600 45.25 HIT 4,600 45.25 HIT 6,500 45.20 TIRCC 6,545 45.24 TYMER 6,500 46.27 TYMER 6,500 46.01 HV4/RB 6,500 46.01 HRW-	Valencia, Venezuela		Broadcast
	Philadelphia, Pa. Sydney, Australia Lyndhurst, Vic., Australia Daventry, Bagland	20 0	Breadcast		unv	La Caiba, Monduras	0 1	Phone
9,580 31.31 VK3LR 9,580 31.31 GSC	Lyndhurst, Vie., Australia Daventry, Bagland -Ciscuta, Cotombia Millia, Mass.	20,0	Breedenst Breedenst		6,500 44.15 HIL 0,800 46.15 YV1RM 6,679 46.33 H18A 6,673 46.33 H14V 6,625 46.87 GAX4K 6,425 46.89 W3XL 6,426 47.1 H18	La Caiba, Honduras Trafillo, D. R. Cristo de Aranza, Venezuela		Broadcast
9,575 31.34 HJ2ABC 9,570 31.35 W1XK	Millis, Mass.	10.0	Breadcast Bc.; relays WBZ, WBZA		6,477 46.33 H14V	Transle, D. R.	******	Broadcast
9,565 31.36 HPSS 9,665,31.36 VUB	Bembay, India	0.1 4.5	Breadcast Breadcast		6,425 46.69 W3XL	Isima, Peru Bound Brook N. I	en a	Brondenst Experiments!
9,560 31,38 DJA 9,569 31,38 HJ1ABB	Zeesen, Germany Barranquilla, Celembia	5-50 1 0	Broadcast Broadcast Broadcast Broadcast Broadcast		6,420 46.73 HIIS 6,410 46.80 TLPG	Santiago, D. R. San Jose, Cesta Rica		
9,545 31.36 WIXE 9,545 31.36 WUB 9,645,31.36 WUB 9,549 31,38 BJA 9,549 31,38 HJIABB 9,541 31.41 HH2Y 9,550 31.41 OLR3A 9,540 31.41 OLR3A	Post-su-Prince, Holli Podebrady, Czechodovakia	0 03 25.0	Broadcast Broadcast		6,410 46.80 TIPG 6,400 46.88 YV5RH 6,380 47.02 YV5RF	Santiago, D. R. San Jose, Coste Rica Caracas, Venezuela Caracas, Venezuela	0 25	Broadcast Broadcast Broadcast
9,540 31 47 DdN	Podebrady, Czechodovakia Juloy, Norway Zeesen, Germany	5-50	Breadcast		6,325 47,10 HKW-			
9,535 31 46 JZ1 9,530 31 48 W2XAF	Nazaki, Japan Schenectady, N. Y.	40 D	Brondeast Bc.; ,elays WGYt Bc.; relays ZBW		6.365 47.14 YVIRH 6.360 47.37 TIFA 6.350 47.24 YNH6	Maracaibo, Venesuela San Jose, Gosta Rica	. I i i	Phone Be.; relays YV1RF Broadcast
9.525 31 49 ZBW3	Hong-Kong, China	2.0	Be.; relays ZBW	^	67350 47.24 YNH6	Beom, Nicaragua	0 1	Broadcast Phone

Ka Matan Citi							
Kc. Metere Call 6,350 47.24 YNJ5 6,350 47.24 YNJ7	Locotion Waspook, Nicaragua	Kω. 0.1	Service, etc.	Kc. Meters Coll 6,025 49.79 HJIABJ	Location	Kω.	Service, etc.
6,350 47.24 YNJ7	Wapam, Nicaragua	0.1	Phone	6.020 40.92 1142	Santa Marta, Colombia Zeesen, Germany	0.025 5-50	Broadcast Broadcast
6,357 47.20 HRP1 6,340 47.32 YNE	San Pedro Sula, Honduras Puerto Cabezas, Nicaragua	0.075	Broadcast Phone	6,020 49,83 XEUW 6,015 49,88 XEWI 6,012 49,90 HJ3ABH 6,010 49,92 VF3MR	Verserus, Ver., Mexico Mexico, D. F., Mexico Bogota, Colombia		Broadcast
6,340 47.32 HIX 6,330 47.39 JZG	Trujillo, D. R. Nazaki, Japan Trujillo, D. R. Maracay, Venezuela Trujillo, D. R.	10.0	Broadcast	6.012 49.90 HJ3ABH	Bogota, Colombia		Broadcast Broadcast
6,330 47,39 JZG 6,310 47,54 H1Z	Truullo, D. R.	0.02				0.25	Amateur; be. Broadcast
6,300 47.62 YV4RD 6,280 47.77 HIG	Maracay, Venezuela Truitlo, D. R.	0.1	Broadcast Broadcast	6 010 40 02 OI D24	Havana, Cuba Podebrady, Czechoslovakia Montreal, Quebee Mostreal, Quebee Mexico, D. F., Mexico Quidot, Colombia Bucharest, Roumania Bucharest, Roumania Hoscow, I.S.S. R. Cuatemala City. Gustemal Trujllo, D. Radagascar Trujllo, D. Radagascar Vacican City Bogota, Colombia	25 0	Broadcast
	Sancti Spiritus, Cuba Caracas, Venezuela	0 15	Broadcast	6,005 49,96 CFCX 6,005 49,96 VE9DN 6,003 49,97 XEBT	Montreal, Quebec Montreal, Quebec	0 075	Bc., relays CFCF Broadcast
6,270 47.84 YV5RP 6,260 47.92 OAX4G 6,250 48.00 YV5RJ	Caracas, Venezuela Lima, Peru	*****	Broadcast Broadcast	6,003 49.97 XEBT 6,000 50.90 HJ1ABC	Mexico, D. F., Mexico	1.0	Bc.; relays XEB
6,250 48.00 YV5RJ 6,243 48,05 HIN	Caracas, Venezuela		Broadcast	6.000 50.00 YOI	Bucharest, Roumania	0.1	Broadcast Broadcast
6 235 48 11 HPD	Caracas, Venezuela Lima, Peru Caracas, Venezuela Trujillo, D. R. La Ceiba, Honduras Valera, Venezuela Coro, Venezuela	0 25	Broadcast Broadcast	6,000 50,00 RV59 6,000 50,00 TGWA	Moscow, U.S.S.R.	20.0	Broadcast Broadcast
6.225 48.19 YVIRG 6.205 48.35 YVIRI 6.200 48.39 XEXS 6.200 48.39 COKG	Valera, Venezuela	0.2	Broadcast	6,000 50.00 FIQA 5,980 50.17 HIX	Tananarive, Madagascar	. 0.2	Brondenst
6.200 48.39 XEXS		0.1	Browleast	5 060 50 26 HUI	Trujillo, D. R. Vatican City	1.0	Broadcast Broadcast
0.198 48.08 H18O	Santiago, Cuba Ciudad, Trujillo	0.025	Bc.; relays CM KB Brondcast	5,955 50.38 HJN	Bogota, Colombia	1.0	Broadcast
6.190 49.47 HIIA	Santiago de los Caballeros D. R.			5,955 50.38 HJN 5,995 50.04 RPT 5,990 50.08 HJ2ABD	Tashkent, U.S.S.R. Bucaramanga, Colombia	0.1	Phone Broadcast
6,164 49.67 OAX1B 6,150 48.70 CJRO		0.05	Broadcast Bc.; relays OAK1A	5,990 50.08 HP5K 5,940 50.50 TG2X	Colon, Panama Guatemala City, Guatemala Port-au-Prince, Haiti Valencia, Venezuela Maracay, Venezuela	0 2	Broadcast Police; bc.
6,150 48.70 CJRO 6,150 48.78 FT4AJ	Chiclayo, Peru Winnipeg, Man., Canada Tuns, Tunnon, Caracas, Veneruria Santiago, Chile Santiago de los Caballeros, D. R. Pereira, Colombia Winnipeg, Man., Canada Bulawayo, So. Rhodesia Pittaburah, Pa.		Be.; relays CJRC	5 00K KO KA 1711/00	Port-au-Prince, Haiti	0 1	Bc.; relays HH2T
6,156 48.73 YV5RD	Caracas, Venezuela	1.0		5,917 50,71 YV4RH 5,917 50,71 YV15RV 5,899 50.84 YV3RA 5,882 51,00 ZEA 5,880 51,02 IUA	Valencia, Venezuela Maracay, Venezuela		Broadcast Broadcast
6,150 48.78 CB615 6,150 48.78 HI5N	Santiago, Chile	0.15	Broadcast	5,899 50.84 YV3RA		0 25	Broadcast
	D. R.		Broadcast	5,880 51.02 IUA	Salisbury, So. Rhodesia Addis Ababa, Ethiopia		Broadcast Phone
6.150 48.78 HJ4ABU 6.150 48.78 VE9CL	Pereira, Colombia Winning Man Canada		Broadcast Broadcast	5,875 51.06 HRN 5,865 51.15 HILJ		0.4	Broadcast
6,150 48.78 VE9CL 6,148 48.80 ZEB 6,140 48.86 W8XK	Bulawayo, So. Rhodesia	0.325	Broadcast	5,850 51.28 YV1RB	Maracaibo, Venezuela	0.3	Broadcast Broadcast
6,137 48.88 CR7AA	Pittsburgh, Pa. Lourenzo Matques,	40.0	Bc.; relays KDKA	5,850 51.28 YVIRB 5,845 51,32 KRO 5,830 51,46 TDD	Kahuku, Hawaii	40.0	Phone
	Mozambique		Broadcast	5,830 51.46 CWD	San Pedro de Macoris, D. R Maracaibo, Venesuela Kahuku, Hawaii Shinkio, Manchukuo Montevideo, Uruguay		Phone to Tokyo
6,133 48.91 XEXA 6,132 48.92 CTIGO 6,130 48.94 COCD	Mexico, D. F., Mexico Parede, Portugal		Broadcast Broadcast	5,830 51.46 TIGPH	(Cerrito) San Jose, Costa Rica	1.5	Phone Broadcast
6,130 48.94 COCD 6,130 48.94 LKJ1	Havana, Cuba	0.2	Re : releve CMCD	5,830 51.46 TIX2 5,800 51.72 YV5RC	San Jose, Costa Rica San Jose, Costa Rica Caracas, Venezuela Manila, P. I. Nazaki, Japan	0.5	Broadcast
6,130 48,94 VP3BG	Jeloy, Norway Georgetown, British Guiana	0.15	Broadcast Broadcast	5,800 51.72 KZGF	Manila, P. I.	1.0	Broadcast Phone; occ. bc.
6,128 48,96 OAX7A	Cuzco, Peru			5,790 51,81 JVU	Nasaki, Japan	10 0	Phone to Manchukuo:
6,125 48.98 CXA4 6,122 49.01 HJ3ABX	Cuzco, Peru Montevideo, Uruguay Luguta, Colombia		Broadcast Broadcast	5,780 51.90 OAX4D	Lima, Peru	20 0	also be. Broadcost
6,122 49.01 OAX4P 6,122 49.01 OAX6A	liuaocayo, l'eru		Broadcast	5,780 51.90 OAX4D 5,780 51.90 HJ4ABD 5,758 52.10 YNOP 5,735 52.31 HC1PM	Medellin, Colombia Managua, Nicaragua		Broadcast
8 190 40 02 VID 15	Bandoeng, Java, D. E. 1.	1,5	Broadcast	5,735 52.31 HCIPM		0.2	Broadcast
6,120 49 02 XEPW 6,120 49 02 XEFT	Merico, D. F., Mexico Veracruz, Veracruz, Mexico	0 12	Broadcast Broadcast	5,730 52.36 JVV 5,713 52.51 TGS	Nazaki, Japan Guatemala City, Guatemala San Cristobal, Venezuela Roseland, B. C., Canada	10 0	Phone to Formosa; bc. Broadcast
6,120 4 · 02 HP5Z	Panama City, Panama	0.2	broudcast	5,710 52.54 YV2RA	San Cristobal, Venezuela	0.75	Broadcast
6,120 ±0.02 W2XE 6,117 49.04 XEUZ 6,115 49.06 XECU	Arequips, Feru Bandoeng, Java, D. E. I. Menico, D. F., Menico Veracruz, Veracruz, Menico Panama City, Panama Wayne, N. J. Menico, D. F. Christiana Marico	10 0	Bc.; relays WABC Broadcast	5,710 52.54 YV2RA 5,705 52.59 CFU 5,670 52.91 DAF 5,555 54.00 YNE 5,500 54.55 T15HH	Norddeich, Germany		Phone; bc., Phone
6,115 49 06 XECU 6,115 49,06 HJ1ABB	Guadalajara, Mexico		Broadcast	5,555 54.00 YNE 5,500 54.55 TI5HH	Puerto Cobesco Nicosanius	0 1 0 2	Phone Broadcast
6.115 49.06 OLR2C	Podebrady, Czechoslovakia	25.0	Broadcast Broadcast		San Ramon, Costa Rica Sverdlovak, U.S.S.R. Monte Grande, Argentina Bandoeng, Java, D. E. I.	15 0	Phone
6,110 49 10 GSL 6,110 49 10 VE9HX	Daventry, England Halifax, N. S., Canada	20 0	Broadcast Be.; relays CHNS	5,435 56,19 LSH 5,415 55,40 PMY	Monte Grande, Argentina Bandoeng, Java. D. E. I.	0.45	Phone Phone; bc.
6,109 49.10 VUC	Mexico, D. F. Guadalajara, Mexico Barranquilla, Colombia Podebrady, Czechoslovakia Daventry, England Halifax, N. S., Canada Calcutta, India	0.5	Broadcast	5,435 55,19 LSH 5,415 55,40 PMY 5,170 58.03 HRW- HRY 5,140 58.37 PMY			
6,108 49.11 HJ4ABB 6,100 49.18 W3XAL 6,100 49,18 W9XF	Round Brook N I		Brondcast Bc.: relave WJZ	5,140 58.37 PMY	La Ceiba, Honduras Bandoeng, Java, D. E. I.	0.1 0.6	Phone Broadcast
6,100 49,18 W9XF 6,100 49.20 YTC	Chicago, Illinois Belgrade, Yugoslavia Johannesburg, S. Africa Medellin, Colombia	5.0 2.5	Bc.; relays WJZ Bc.; relays WENR Broadcast	5,110 58.71 KIKB 5,105 58.76 KEC	Bandoeng, Java, D. E. I. Bolinas, Calif. Bolinas, Calif.	40.0	Phone Phone
6,098 49.20 ZTJ	Johannesburg, S. Africa	5.0	Broadcast	5,025 59.70 ZFA	Hamilton, Bermuda Beltsville, Md	1.5	Phone
6,097 49 20 HJ4ABE 6,090 49.26 ZBW2	Medellin, Colombia Hong-Kong, China	0.1 2.0	Broadcast Bo.; relays ZBW	5,000 60.00 WWV	Beltsville, Md	1.0	Frequency Standard; Tue., Wed., Fri.; noon, 1 p.m. E. S. T.
6,090 49.26 HJ4ABC 6,090 49.26 CRCX 6,085 49.30 HJ5ABD 6,083 49.32 VQ7LO 6,080 49.34 ZHJ	Ibague, Colombia Toronto, Unt., Canada		Broadcast	5,000 60,00 ZUD	Pretoma & Aferra		E. S. T.
6,085 49.30 HJ5ABD			Broadcast	4.975 60.30 GBC	Pretona, S. Africa Rugby, England Rugby, England	5 0	Experimental Phone to ships Phone to U. S.
6,083 49.32 VQ7LO 6,090 49.34 ZHT	Nairobi, Kenya, Africa	1.25	Broadcast	4,820 62,24 GDW 4,795 62,56 VE9BK	Rugby, England	15 0 0 25	Phone to U.S. Broadcast
0.080 49.34 CF5	Penang, Straits Settlements La Paz, Bolivia		Broadcast Broadcast	'4,753 63.11 WOY	Vancouver, B. C. Lawrenceville, N. J. Ocean Gate, N. J.	20 0	l'hone
6,080 49.34 W9XAA 6,079 49.35 DJM	hicago, Illinois Zeesen, Germany Colon, Panama	20 0	Bc.; relays WCFL Experimental	4,753 63,11 WOO 4,610 65.08 YNJ7		0.1	Phone Phone
6,075 49 38 HP5F	Colon, l'anama	0.2	Broadcast	4.610 65.08 YNJ5	Waspook, Nicaragua Puerto Cabezas, Nicaragua	0.1	Phone
6,073 49.37 CQN	Maracaibo, Venezuela Macao, Asia	0.5	Broadcast Broadcast	4,610 65.08 YNE 4,610 65.08 YNH6	Boom, Nicaragua	0.1	l'hone Phone
6,073 49.37 CQN 6,070 49.42 VL9CS 6,070 49.42 CFRX 6,070 49.42 HJ3ABF	Vancouver, B. C., Canada	0.01	Broadcast	4,605 65.16 HRW- HRY	La Ceiba, Honduras		Phone
6,070 49.42 HJ3ABF	Bogota, Colombia	0.1 1	Broadcast Broadcast	4,600 65,22 HC2ET 4,465 (* 19 CFA2	Guavaquil Fenadoe	0.4	Broadcast
6.065 49.46 XEXR	Macao, Asia Vancouver, B. C., Canada Toronto, Ontario Bogota, Colombia Colombo, Ceylon Mexico, D. F., Mexico Skamleback, Denmark Cucinnati, Ohio	ļ	Broadcast Broadcast		Drummondville, P. Q.		Phone
6,060 49,50 OXY	Skamleback, Denmark	0.5 I	Broadcast	4,355 68.89 IAC 4,273 70.21 RV15 4,107 73.05 HCJB	Canada Coltano, Italy	56 0	Phone
6,060 49.50 W8XAL 6,060 49.50 W3XAU	runadeipma, ra.	10.0 I	Bc.; relays WLW Bc.; relays WCAU	4,107 73.05 HCJB	Khabarovsk, U.S.S.R. Quito, Ecuador	20.0 0.5	Broadcast Broadcast
6.050 49.59 HJ3ARD	Bozota Colombia	1.0	iroadcast	4,100 73.17 LKJ1 4,097 73.23 WND	Jeloy, Norway Hinland, Flo	1.0	Experimental
6,050 49.59 XEXF 6,045 49.62 XETW		I	Broadcast Broadcast	4,002 74.77 CT2AJ	Jeloy, Norway Hisleah, Fla. San Miguel, Azores	0.5	Phone Amateur; be.
6,042 49.65 HJIABG 6,040 49.67 W4XB	Barramquilla, Colombia Miarm Beach, Fla.	0.15 I 2.5 I	Brondcast Bc.; relays WIOD	4,000 75.00 CT3AQ 3,175 94.48 YN 17	Funchal, Madeira Wanam, Nicaragua	0.1	Broadcast; exp. Phone
6,040 49.67 H19B	Santiago de los			3,175 94.48 YN 17 3,175 94.48 YNJ5 3,175 94.44 YNH6	Funchal, Madeira Wapam, Nicaragua Waspook, Nicaragua Room, Nicaragua	0 1	Phone
6.040 49.67 WIXAL	Caballeros, D. R Boston, Mass.		Broadcast Broadcast	3,170 94.48 YNE	Boom, Nicaragua Boom, Nicaragua Puerto Cabezas, Nicaragua Asuncion, Paraguay Basia, Switzesland	0.1	Phone Phone
6,040 49.67 YDA	Tandjongpriok, Java, D. E. I.			3,800 78.95 ZP11 3,770 79.56 HB9B	Asuncion, Paraguay Basle, Switzerland	1	Broadcast Broadcast
6,033 49.72 HJ4ABP	D. E. I. Medellin, Colombia		Broadcast Broadcast	3,525 85.11 HB9AQ	Lausanne, Switzerland		Broadcast
6,030 49.75 OLR2B 6,030 49.75 HP5B	Podebrady, Czechoslovakia	25.0 E	Broadcast	3,376 88.83 HJA3 3,330 92.88 YDV2	Barranquilla, Colombia Bandiermasin, Borneo		Phone
6,030 49.75 VERCA	Podebrady, Czechoslovakia Panama, Panama Calgary, Alberta, Canada	0.1 E	Broadcast Bc.; relays CFCN	3,040 98.68 YDA	D. E. I. Tandjongpriok, Java, D. E. I.	20 0	Broadcagt
6,030 49.75 XEBQ	Masatian, Mexico		Prondenst	9/210 #3/05 117A	D. E. I.	10.0	Broadeast



Fine quality radio tone depends on fine quality radio tubes and parts . . . Insist on . . . NATIONAL UNION TUBES and PARTS to get the most out of your set.



Ted Husing recruits a mowing machine to carry himself, portable relay transmitter and engineers around the lengthy fairway of a golf club while he presents a word picture of the event.



BROADCASTING THE NEWS

WITH greater speed than newspapers can be published and distributed, radio supplies the public with news flashes throughout the day. In addition to news bulletins, there are stellar commentators who interpret the events of the day editorially. News re-enactment programs are also popular; actors and actresses with expert mimicking ability bring to life the stories of the headlines.



A section of the busy news department of NBC where wired material from press associations is prepared for the air. Right: A scene from the "March of Time," a pioneer news re-enactment feature,







Walter Winchell, the Broadway columnist, Lowell Thomas and Edwin C. Hill, three long-established air commentators.





It's always news when the President and the First Lady takes to the airways. The President is shown at the left in a typical railroad platform broadcast. Mrs. Roosevelt is apparently setting a record for broadcasts by Presidents' wives.

SAY IT WITH A SONG

THAT'S what sponsors believe and they do that very thing! Only they're smart enough to have talented men and women do it for them. On these pages are representative vocalists who are responsible for the tunes you hum to yourself after a night of radio listening. This branch of radio, particularly, offers big opportunities to newcomers.

The Revelers, a pioneer air quartet that's still going strong.







"Autograph please!" is the request and Lucille Manners and Lanny Ross are seen obliging.







Del Casino and Loretta Clemens, whose voices are known from coast to coast.





And Harriet Hilliard and Don Ross, two more top-notch mike vocalists. Left: Recognize her! It's Martha Tilton, the girl on the cover. She's featured with Benny Goodman's Orchestra.





Songstresses Dorothy Arnold and Sylvia Froos, who have "an eye" as well as "ear" appeal.







Left to right: Claire Sherman, Jack Baker and Joan Edwards, popular network songsters. And below, left to right, are Lucy Monroe, Jane Froman and Ethel Shutta, whose voices have wide followings.







Right: A scene such as this can only occur in a dream or in a Hollywood musical talkie. In this case it's the latter. And in the foreground is Kenny Baker, the young singer who "made the grade" cinematically as well as microphonically.



YE OLDE FAMILY ALBUM

HERE are some photos from the family albums of your air favorites. Can you identify them from these photos taken when they were young? See how good your guess is before you look at the captions on the lower right.



2. She's known as "The Nitwit of the Networks." She looks innocent enough here but she turned into radio's leading exponent of daffy humor.



1. He's popular as a dance conductor, singer and variety show director. He looks the same today (outside of the haircut!)



3. These two lads used burnt cork and a Harlem dialect to gain fame.





4. This girl's name comes to mind whenever you hear "Shine on, Harvest Moon." The young man at the right scored his greatest mike success with the aid of a gong. He's pictured here as a young yachtsman making a formal (see the hat!) call on neighboring boats.

OF COURSE YOU KNEW!

- I. Rudy Vallee.
- 2. Gracie Allen.
- 3. Freeman Gosden (Amos) and Charles Correll (Andy).
- 4. Ruth Etting and Major Bowes.



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