



RCA Manufacturing Company, Inc.

A Service of Radio Corporation of America

Camden, N. J.

"RADIO HEADQUARTERS"

ENGINEERING PRODUCTS DIVISION

MEADE BRUNET, Manager

AVIATION RADIO EQUIPMENT	MEASURING EQUIPMENT
BROADCAST STATION EQUIPMENT	PUBLIC ADDRESS AND SOUND SYSTEMS
COMMUNICATIONS TRANSMITTERS	POLICE RADIO EQUIPMENT
FARADON MICA CONDENSERS	SPECIAL ELECTRONIC APPARATUS
FACSIMILE APPARATUS	TELEVISION TRANSMISSION SYSTEMS
U. S. GOVERNMENT APPARATUS	

TRANSMISSION EQUIPMENT SALES

I. R. BAKER, Manager

Affiliated Company Contact	C. L. Beach	Faradon Condensers	J. A. Fried
Broadcast Transmitters	S. W. Goulden, T. W. Enis	Measuring Equipment & Television Apparatus	T. A. Smith, H. E. Rhea
Facsimile & Communications Transmitters	H. C. Vance	Speech Input Equipment	C. M. Lewis, W. L. Lyndon

1 **EASTERN DISTRICT**—Ben A. Miller, Manager and CBS Contact, 1270 Sixth Ave., New York City; R. P. May, Assistant; C. W. Slaybaugh, Assistant

MAINE	RHODE ISLAND	VIRGINIA	WEST VIRGINIA
NEW HAMPSHIRE	CONNECTICUT	DELAWARE	NORTH CAROLINA
VERMONT	NEW YORK	MARYLAND	
MASSACHUSETTS	NEW JERSEY	PENNSYLVANIA	

2 **CENTRAL DISTRICT**—A. R. Hopkins, Manager, 589 E. Illinois Street, Chicago, Illinois; A. Josephsen, Assistant; Dana Pratt, Assistant.

NORTH DAKOTA	NEBRASKA	MISSOURI	OHIO
SOUTH DAKOTA	WISCONSIN	IOWA	MICHIGAN
MINNESOTA	ILLINOIS	KENTUCKY	MINNAPPA
			KANSAS CITY (KANSAS)

3 **WESTERN DISTRICT**—W. H. Beltz, Manager, 1016 N. Sycamore Street, Hollywood, California; Edmund Frost, Assistant, 170 Ninth Street, San Francisco, California.

WASHINGTON	IDAHO	UTAH	MONTANA
OREGON	NEVADA	ARIZONA	WYOMING
	CALIFORNIA	HAWAII	ALASKA

4 **SOUTHWESTERN DISTRICT**—W. M. Witty, Manager, Santa Fe Building, Dallas, Texas; J. P. Taylor, Assistant

TEXAS	ARKANSAS	NEW MEXICO	KANSAS
OKLAHOMA	COLORADO		LOUISIANA

5 **SOUTHEASTERN DISTRICT**—D. A. Reesor, Manager, 530 Citizens' and Southern Bank Bldg., Atlanta, Ga.

TENNESSEE	GEORGIA	ALABAMA	NORTH CAROLINA
MISSISSIPPI	FLORIDA	SOUTH CAROLINA	

BROADCAST NEWS

REG. U. S. PAT. OFF.

PAUL V. LUTZ, Editor

NUMBER 34

AUGUST, 1940

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RCA MANUFACTURING COMPANY, INC.
CAMDEN, NEW JERSEY, U. S. A.



CONVENTION CAMERA CONTEST!



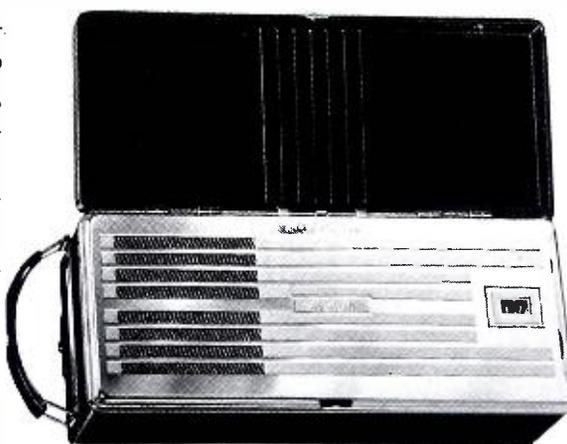
For the photo fiends and fanatics from Philadelphia to Frisco and from Flattery to Florida, Broadcast News feverishly fanfares a flighty but not flippant flyer in focussing. Formidable photometer fixers will flexibly flit from fervid futurism to formal frigid frescoes. Flora and fauna, fantasies and phenomena, phlegmatic plizzes and philosophers, frigates or flotillas—taken from flouncing flivvers or fancy phaetons are fraught with fruitful fortune for filter flaunters. Forward frenzied fraternity! Flash failures feaze no fearless photographer! Film flaws are fixed by local pharmacists. Forget filaments and fidelity, floor plans and frustration! Don't flinch, flee, flag or fly when faced with feminine figures. Frankly frame frail flowers, foreboding frontiers, firs, fiords, firths, or fairways.

Forty niners found fortunes in Frisco . . . well to get down to brass tacks we are staging a camera contest in the belief that many NAB Members attending the convention will find it of interest. Three classifications are included:

1. On the Way
2. In San Francisco
3. At Treasure Island

These classifications should give ample opportunity to specialists in panoramic views, character study or still life. In submitting prints we would appreciate it if you would include a title, the location and any other technical data that might be of interest.

The first prize in each classification will be an



For the second and third prizes in each class—an RCA Victor Personal Radio.

RCA Victrola and the two runners-up in each group will receive one of the new RCA Victor personal radios.

Prints will be judged by the very competent Keith Henney, editor of Photo Technique, assisted by members of the art department of Lord and Thomas.



— FOR THE THREE WINNERS —
An RCA Victrola Deluxe Model V-300

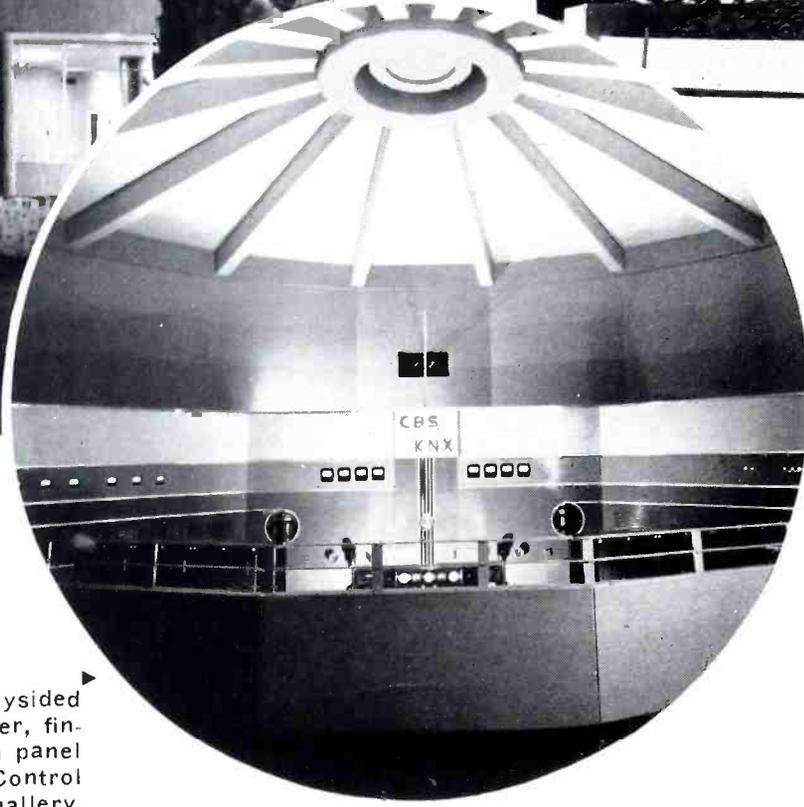
THE RULES

1. Contest is open to owners, managers and personnel of broadcasting stations.
2. Submit no more than 1 print in each classification, set out on this page.
3. Do not send negatives.
4. All entries must be postmarked on or before September 15, 1940.
5. Entries should be mailed to Box 55, RCA Manufacturing Co., Inc., Camden, N. J.
6. Name and address of Contestant must be clearly written or typed on the back of each print submitted, together with the station with which he is connected.
7. No entry will be returned. All photographs or other material submitted become the property of RCA Manufacturing Co., Inc., to make use of in publicity and advertising material, or otherwise, with or without contestant's names, as the Company sees fit.
8. Contestant grants permission to RCA Manufacturing Co., Inc., automatically upon submission of photograph, to publish said photograph and his or her name in connection therewith for advertising, publicity or other purposes.
9. The decision of the judges shall be final. In case of ties, duplicate prizes will be awarded. Prints will be judged on the basis of interest of subject and excellence of photography.

VIEWS OF A FEW WELL-KNOWN WESTERN INSTALLATIONS



▲
Modernistic KNX Transmitter House.



▲
A view of the beautiful KNX Building.

▶
Interior view, showing polysided room of new KNX transmitter, finished in blending colors, with panel in background and top of Control Desk, as seen from visitor's gallery.

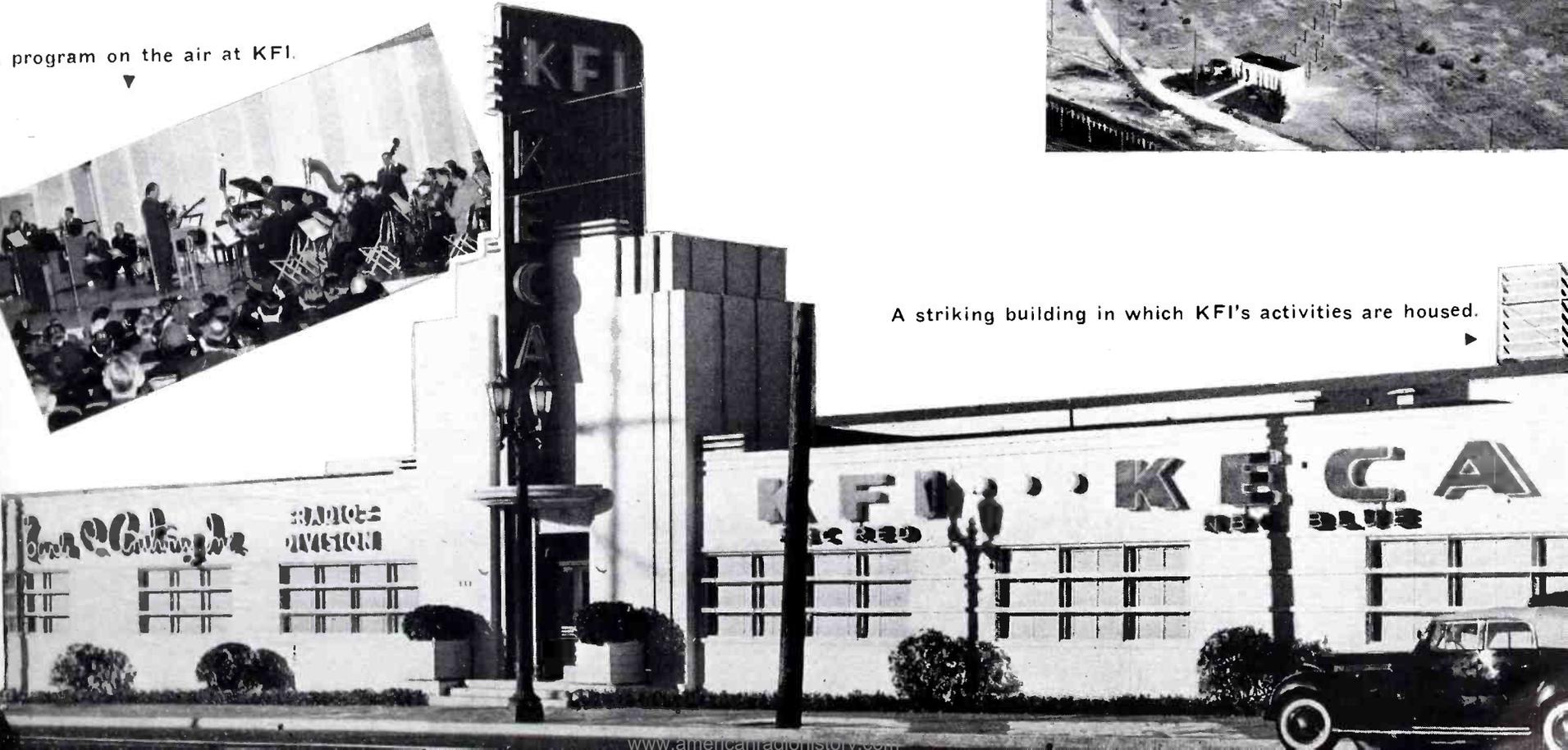
▶
Antenna and Transmitter house of KOMO-KJR.



▼
A program on the air at KFI.



▶
A striking building in which KFI's activities are housed.



A DIRECTORY OF COAST STATIONS

California

City	Call Letters	Network	Chief Owner General Manager	Chief Engineer
Bakersfield	KERN	NBC California	Guy C. Hamilton Robert L. Stoddard	Verne Shatto
	KPMC	MBS Don Lee	F. G. R. Schamblin L. A. Schamblin	L. P. Jarvis
Berkeley	KRE	—	Arthur Wetstlund Arthur Westlund	James Moore
Chico	KHSL	MBS Don Lee	Horace Thomas M. F. Woodling	E. P. Milburn
El Centro	KXO	MBS Don Lee	—	—
Eureka	KHEM	MBS Don Lee	Wm. B. Smullin Wm. B. Smullin	{Alvor Olson {Chas. Baker
Fresno	KARM	CBS	George Harm Estate	John Scales
	KMJ	NBC-Red California	Guy C. Hamilton Keith B. Collins	Irvin E. Dickinson
Glendale	KIEV	—	{David H. Cannon {Reed E. Callister L. W. Peters	George Neff
Long Beach	KFOX	California	Hal G. Nichols Hal G. Nichols	Lawrence W. McDowell
	KGER	—	C. Merwin Dobyms C. Merwin Dobyms	Jay Tapp
Los Angeles	KECA	NBC-Blue	Earle C. Anthony Harrison Holliday	{Curtis W. Mason {H. L. Blatterman
	KEAC	—	E. L. Cord Calvin J. Smith	H. W. Anderson
	KFI	NBC-Red	Earle C. Anthony Harrison Holliday	{Curtis W. Mason {H. L. Blatterman
	KFSG	—	Aimee Semple McPherson Dr. Giles N. Knight	Myon E. Kluge
	KFVD	—	Frank Burke Frank Burke	John Smithson
	KFWB	California	Jack L. Warner Harry Maizlish	Harry Myers
	KGFJ	—	Ben S. McGlashan Ben S. McGlashan	H. Duke Hancock
	KHJ	MBS Don Lee	Thomas S. Lee Lewis Allen Weiss	Frank Kennedy
	KMPC (Beverly Hills)	CBS	G. A. Richards Leo B. Tyson	Roger Love
	KMTR	—	Victor E. Dalton Kenneth O. Tinkham	Carroll Hauser
Merced	KXX	CBS	CBS-D.W. Thornburgh Donald W. Thornburgh	Lester H. Bowman
	KRKD	—	Frank P. Doherty John Austin Driscoll	Willis O. Freitag
	KYOS	MBS Don Lee	Hugh McClung John W. Crews	La Rue Curd
	Modesto	KTRB	—	William H. Bates, Jr. William H. Bates, Jr.

City	Call Letters	Network	Chief Owner General Manager	Chief Engineer
Monterey	KDON	MBS Don Lee	Allen Griffin Howard V. Walters	Melvin Johnson
Oakland	KLS	—	S. W. & E. N. Warner S. W. Warner	Russell Butler
	KLX	—	J. R. Knowland, Jr. Preston D. Allen	Roswell S. Smith
	KROW	—	Wesley I. Dumm Philip G. Lasky	C. E. Downey
Pasadena	KPPC	—	David Black David Black	N. Vincent Parsons
Redding	KVCV	MBS Don Lee	Hugh McClung	Clyde Weigand
Sacramento	KFBK	NBC California	Guy C. Hamilton Howard Lane	Norman D. Webster
	KROY	CBS	Royal Miller Will Thompson, Jr.	Milton Cooper
San Bernardino	KFXM	MBS	J. C. & E. W. Lee J. Clifford Lee	Richard Sampson
San Diego	KFSD	NBC-Blue California	Thomas E. Sharp Sam Lipsett	—
	KGB	MBS Don Lee	Thomas S. Lee S. W. Fuller	Milam D. Cater
San Francisco	KFRC	MBS Don Lee	Thomas S. Lee William D. Pabst	Ernest Underwood
	KGO	NBC-Blue	Gen. Elec. Co.—NBC A. E. Nelson	Curtis Peck
	KJBS	—	Ralph R. Brunton E. P. Franklin	Ken Owen
	KPO	NBC-Red	NBC—A. E. Nelson A. E. Nelson	Curtis Peck
	KSAN	California	S. H. Patterson S. H. Patterson	Wm. C. Grove
San Jose	KSFO	CBS	Wesley I. Dumm Lincoln C. Dellar	Royal V. Howard
	KYA	—	Hearst Radio Inc. Reiland Quinn	Paul C. Schulz
	KQW	MBS Don Lee	Ralph R. Brunton C. L. McCarthy	C. V. Davey
	KVEC	MBS Don Lee	Christina M. Jacobson Les Hacker	Earl Travis
	KVOE	MBS Don Lee	Ernest L. Spencer Ernest L. Spencer	Wallace S. Wiggins
Santa Barbara	KDB	MBS Don Lee	Thomas S. Lee Earl M. Pollock	Robert E. Arne
	KTMS	NBC-Blue California	Thomas M. Storke Frank V. Webb, Jr.	Clinton Van Cott
Santa Rosa	KSRO	—	E. L. Finley Wilt Gunzendorfer	Robert Nichols
Stockton	KGDM	—	E. F. Pepper Joe D. Carroll	Max Kelch
	KWG	NBC California	Eleanor McClatchy George Ross	Russell Bennett
Visalia	KTKC	MBS Don Lee	Charles A. Whitmore Charles P. Scott	Bert Williamson
Watsonville	KHUB	—	John P. Scripps Marion S. Walker	Jack R. Wagner

Oregon

City	Call Letters	Network	Chief Owner General Manager	Chief Engineer
Astoria	KAST	—	M. R. Chesman James C. Wallace	Lawrence L. King
Baker	KBKR	—	Louis P. Thornton Ellwood W. Lippincott	Robert B. Sutton
Bend	KBND	—	Robert W. Sawyer Frank H. Loggan	Gene Lovejoy
Corvallis	KOAC	—	State of Oregon Luke L. Roberts	Grant S. Fiekert
Eugene	KORE	MBS Don Lee Pacific	Frank L. Hill Glenn McCormick	Harold Gander
Grants Pass	KUIN	—	A. E. Voorhies John G. Bauriedel	William R. Rambo
Klamath Falls	KFJI	—	J. A. Kincaid George Kincaid	Lon Hunt
La Grande	KLBM	—	Harold M. Finlay Harold M. Finlay	Paul Walden
Marshfield	KOOS	MBS Don Lee Pacific	Sheldon F. Sackett Ben E. Stone	Roger L. Spaugh
Medford	KMED	NBC	Mrs. W. J. Virgin Mrs. W. J. Virgin	D. H. Rees
Portland	KALE	MBS Don Lee Pacific	C. Roy Hunt Theodore Kooreman	Louis S. Bookwalter
	KBPS	—	Portland Public Schools William Allingham	Fred E. Miller
	KEX	NBC-Blue	Portland Oregonian W. Carey Jennings	Harold C. Singleton
	KGW	NBC-Red	Portland Oregonian W. Carey Jennings	Harold C. Singleton
	KOIN	CBS	C. W. Myers C. Roy Hunt	Louis S. Brookwalter
	KWJJ	—	Wilbur J. Jerman John C. Egan	W. J. Jerman
	KXL	—	T. W. Symons, Jr. T. W. Symons, Jr.	Ralph Miffin
Roseburg	KRRR	MBS Don Lee Pacific	Harris Ellsworth Marshall H. Pengra	Henry J. Chandler
Salem	KSLM	MBS Don Lee Pacific	H. B. Read H. B. Read	Leslie Vaught

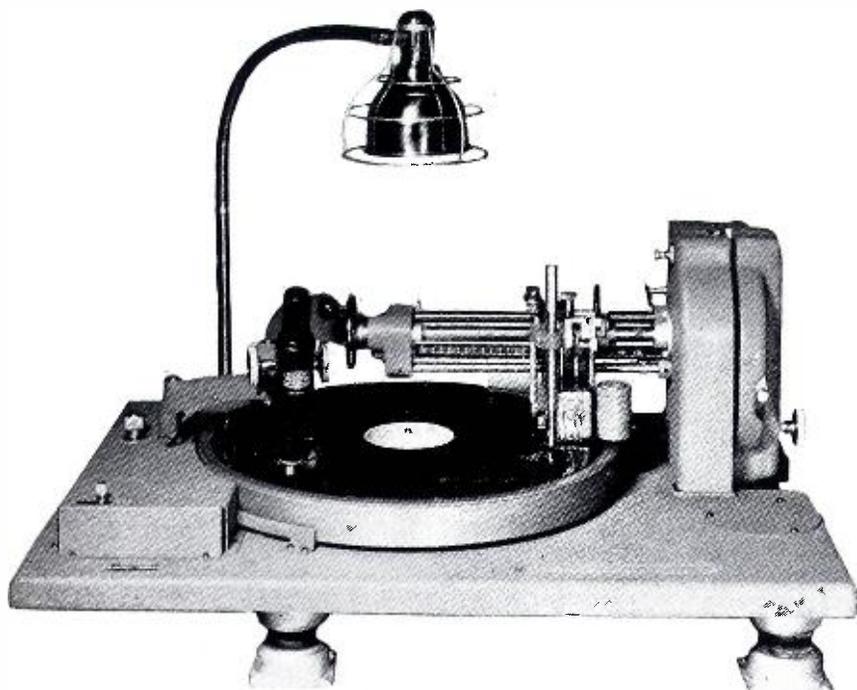
Washington

Aberdeen	KXRO	MBS Don Lee Pacific	Harry R. Spence Harry R. Spence	W. M. McGoffin
Bellingham	KVOS	MBS Don Lee Pacific	Rogan Jones —	—
Centralia	KELA	MBS Don Lee Pacific	Arthur C. St. John J. Elroy McCaw	Sam Norin

City	Call Letters	Network	Chief Owner General Manager	Chief Engineer
Everett	KRKO	MBS Don Lee Pacific	Lee E. Mudgett Lee E. Mudgett	F. E. Steele
Longview	KWLK	MBS Don Lee Pacific	A. C. Campbell A. H. Green	
Olympia	KGY	MBS Don Lee Pacific	Tom Olsen Tom Olsen	John H. Thatcher
Pullman	KWSC	—	E. O. Holland Kenneth E. Yeend	Hugo T. Libby
Seattle	KEVR	—	Robt. S. McCaw	
	KIRO	CBS	Al K. Lear Saul Haas H. J. Quilliam	J. B. Hatfield
	KJR	NBC-Blue	O. D. Fisher Birt F. Fisher	Francis J. Brott
	KOL	MBS Don Lee Pacific	Archie Taft Archie Taft	Perry Lind
	KOMO	NBC-Red	O. D. Fisher Birt F. Fisher	Francis J. Brott
	KRSC	—	P. K. Leberman Robert E. Priebe	G. A. Freeman
	KTW	—	First Presbyterian Church James S. Ross	James S. Ross
	KXA	—	R. F. Meggee Florence Wallace	Maurice H. McMullen
	Spokane	KFIO	—	Arthur L. Smith Arthur L. Smith
KFPY		CBS Northwest Triangle	T. W. Symons, Jr. Arthur L. Bright	George E. Langford
KGA		NBC-Blue	Louis Wasmer Harvey Wixson	Al G. Sparling
KHQ		NBC-Red	Louis Wasmer Harvey Wixson	Al G. Sparling
Tacoma	KMO	MBS Don Lee Pacific	Carl E. Haymond Carl E. Haymond	J. D. Kolesar
	KVI	CBS	Mrs. Vernice Irwin Mrs. Vernice Irwin	James W. Wallace
Vancouver	KVAN	—	Walter L. Read Walter L. Read	Paul W. Spargo
Walla Walla	KUJ	—	H. E. Studebaker H. E. Studebaker	Milton MacLafferty
Wenatchee	KPQ	MBS Don Lee Pacific	Rogan Jones Cole E. Wylie	Ellwood Lippincott
Yakima	KIT	MBS Don Lee- Pacific	Carl E. Haymond —	—

NEW RCA EQUIPMENT

◀ TYPE 73-A RECORDING EQUIPMENT



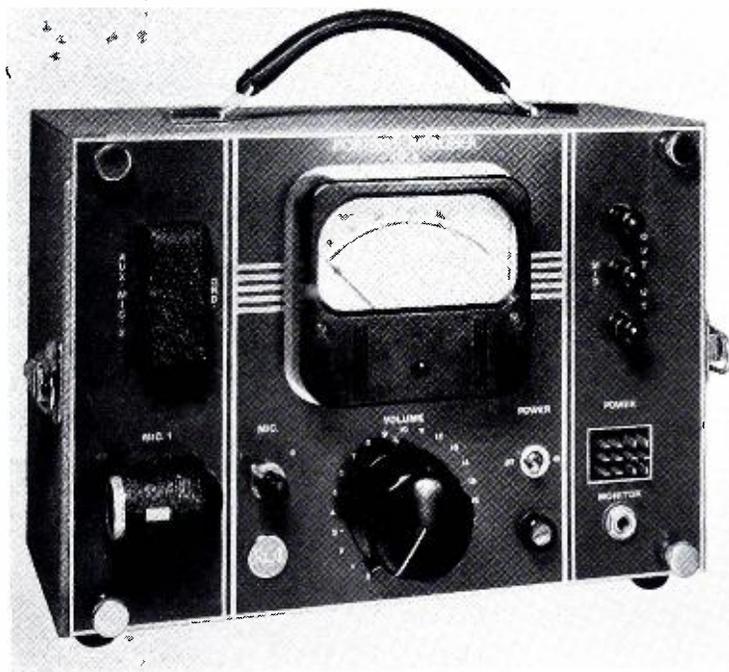
A professional type recorder incorporating many new and unique features. Every precaution has been taken to insure the making of high fidelity records with a 50 to 10,000 cycle frequency characteristic and a minimum of background noise. Double rubber shock mountings protect the recorder from building vibrations and the rubber mounted motors and thick rubber driving pulleys suppress motor rumble to below audibility. A lathe-type construction provides a maximum of rigidity for the feedscrew and carriage assembly. It also permits quick and convenient changing of record blanks.

The unit may be instantly adjusted to cut at any number of lines per inch from 96 to 154. Moreover, it will cut from "inside-out" or "outside-in" at either 33-1/3 r.p.m. or 78 r.p.m. The change of cutting direction and line spacing requires only the turning of a knob.

Two motors simultaneously rim-drive the heavy turntable. The use of two motors provides high torque, excellent regulation and low slippage. The electrical circuits and roller release mechanisms for both motors are controlled from a single switch lever. This lever also applies a brake to the turntable whenever the switch is thrown to the "off" position.

An RCA high fidelity recording head is furnished as a part of the equipment. A newly developed oil-damped stabilizer prevents "flutter." The stabilizer is in a sealed container which eliminates any possibility of oil leakage. An improved mechanism slowly lowers the recorder head to the disc and prevents stylus breakage. Convenient thumb screws provide adjustments for stylus angle and depth of cut. A suction nozzle and mounting is furnished.

Operation of the 73-A is further improved by the high quality microscope with groove illuminating lamp, the shielded general illuminated lamp, the spiraling handwheel and the complete set of timing scales. Accessories include an automatic equalizer, a fixed equalizer, and a pickup kit. The recorder is furnished on a finished wooden slippage skid which can serve as a temporary mounting.

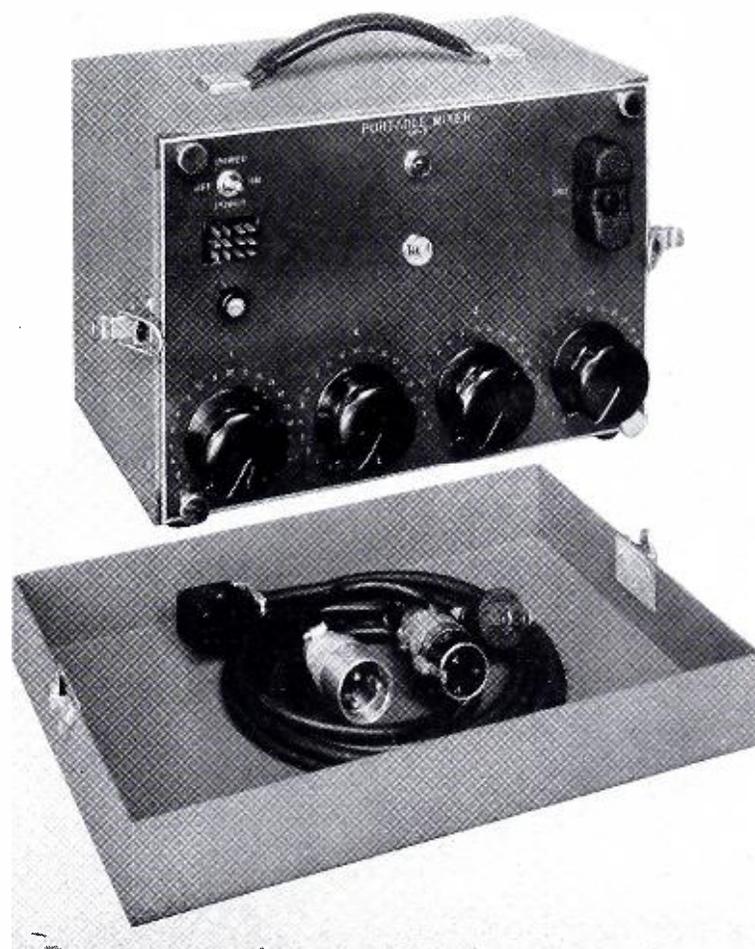


OP-6 REMOTE AMPLIFIER

Contains built-in AC power supply but may be used with batteries. Equipped with Cannon microphone receptacle and input terminals. Volume control is Daven step-by-step type. May be obtained with or without vu meter and unique circuit uses three tubes with two feedback loops. Equipped with steel reinforced, leather handle and a shoulder strap. Weighing but 20½ lbs., the OP-6 provides high-fidelity performances equal to the finest studio installations.

OP-7 REMOTE PREAMPLIFIER AND MIXER ▶

Four single stage preamplifiers in a portable carrying case with a built-in, self contained power supply. It may be used with batteries if desired. Equipped with Cannon microphone input receptacle and a Cannon output receptacle. Includes interconnection cable but will perform equally as well with any remote amplifier having sufficient gain. Use of the OP-7 permits mixing four high quality microphone channels without the increase of noise level which results from the use of low level mixes.



FOR THE EPICURE AND EPICURIOS

A trusted representative of this publication—a San Francisco broadcaster—supplies the attached primary service area of places in which food, drink and amusement are to be found. We could not hope to give you complete coverage on this phase of the convention since San Francisco has long been known to epicures everywhere, as a city in which there are many fine restaurants. But since time is valuable we thought these few local spots would help.

EATERIES

Name	Where	Why and What
Cliff House	At the Beach	Good food, good view of ocean and Seal Rocks. Famous old place—beautiful redwood bar. Lunch, \$1.25.
Fred Solari's	Maiden Lane at Kearney	Conveniently located—good club steaks—or what's your pleasure.
Bernstein's Fish Grotto	123 Powell St. (near Market)	Gifulta Fish. Lobster Thermadore. Clam Chowder.
Shanghai Low	532 Grant Ave.	Chinese food.
Lee Jun	Washington between Grant & Stockton	Native Chinese foods. If you speak Chinese it will help. Ask for George and order the 50c dinner downstairs.
Rice Bowl	California at Grant Ave.	Fine new Chinese restaurant.
Joe Di Maggio's	Fisherman's Wharf	Order cioppiano. A fine place to lunch. The ladies will enjoy this place.
Pierre's	447 Pine St.	The original world-famous French restaurant. Since the Bonanza Days. Here Kipling and Stevenson dined.
The Shadows	1349 Montgomery St.	Overlooking S. F. Bay from atop Telegraph Hill. Fine foods at reasonable prices.
Grison's	Van Ness Ave. at Pacific	Really fine steaks and food. Kansas City corn-fed steaks—the steak gourmets go here.
Grison's	Van Ness Ave. at Pacific	Separate establishment across the street specializing in chicken and roast beef—English style.
Omar Khayyam's	O'Farrell at Powell	Armenian and exotic foods. Ask the intelligencia and celebs, who flock here, about the food. Lunch, 60c; Dinner, \$1.25.
New Joe's	536 Broadway near Columbus Ave.	Italian food. Favorite drop-in spot for late stay-uppers.
Venessi's	495 Broadway near Columbus Ave.	Renowned for its Italian food. A real late spot, known for its thick steaks.
Veneto's	389 Bay St. near Fisher- man's Wharf	Top-notch Italian food—Italian atmosphere. Dinner, 65c.

DRINKERIES

Name	Where	Why and What
Top O' the Mark	Mark Hopkins Hotel	Finest view of San Francisco—one of its highest points. S. F.'s finest cocktail lounge.
Old San Francisco	333 O'Farrell St.	"Slum Fun." Salon de rum.
Izzy Gomez's	848 Pacific Street	The only original bar remaining from the old Barbary Coast. Called a "magnificent dump." Interesting mainly because of Izzy.
Skyroom	Hotel Empire, Leavenworth & McAllister Sts.	Fine view—24 floors above the city.
Orchid Room	St. Francis Hotel	100,000 cartwheels worth of shimmering lights, patent leather walls, real orchids.
Trader Vic's	6500 San Pablo Ave., Oakland	If you want a ride across the San Francisco-Oakland Bay bridge—no finer spot to head for than this. A quiet, refined South Sea atmosphere featuring Chinese food and Zombies (the drink).
Cliff House	Seal Rocks at the Beach	Originally built in 1850. If you'd like a nice ride out to the beach the Cliff House Redwood bar is worth seeing.
The Pink Rat	Stockton at Sutter St.	If you like to sing—they'll supply the mike and music. Ask for Frank.
Twin Dragons	158 Waverly Place Chinatown	Little Chinese atmosphere with your drinks.
El Prado	Post at Stockton Sts.	A strikingly beautiful bar.
Redwood Room	Cliff Hotel Geary at Taylor Sts.	New and different.
Iron Pot	Montgomery at Columbus St.	Bohemian.

NIGHTERIES

Name	Where	Why and What
365 Club	365 Market St.	Dine, dance, drink and entertainment.
Royal Hawaiian	360 Bush St.	Ditto surrounded by Hawaiian atmosphere. \$1.50 Dinner—No cover.
John's Rendezvous	50 Osgood Place	Dine, dance, drink entertainment and good steaks.
Bal Tabarin	1025 Columbus Ave.	San Francisco's largest exclusive night spot. Floor show, girls, dancing. Featuring 2nd edition "Grandfather's Follies." Dinner \$2.00.
Hotel Mark Hopkins	Atop Knob Hill	Music by top-notch orchestra. Also San Francisco's famous bar, "Top O' the Mark," with the whole city below you.
Hotel St. Francis	Union Square	In the Mural Room—Orchestra.
Palace Hotel	Market at Montgomery	Orchestra. Pied-Piper Bar (for men only). "Happy Valley" bar has long been a favorite spot.
Forbidden City	Sutter Street in Chinatown	Chinese night club—featuring a Chinese Sally Rand and entertainers. Not recommended for innocent executives.
Finocchio Club	506 Broadway	Unique entertainment—certainly different from anything else in these U. S.
Streets of Paris	54 Mason Street	Drinks, entertainment and dancing. Not recommended for children!
Hotel Sir Francis Drake	Powell at Sutter Sts.	Joseph Sudy's Orchestra playing in the Persian Room. No cover charge to dinner guests Cover weekdays, 75c. Cover Saturdays, \$1.00.

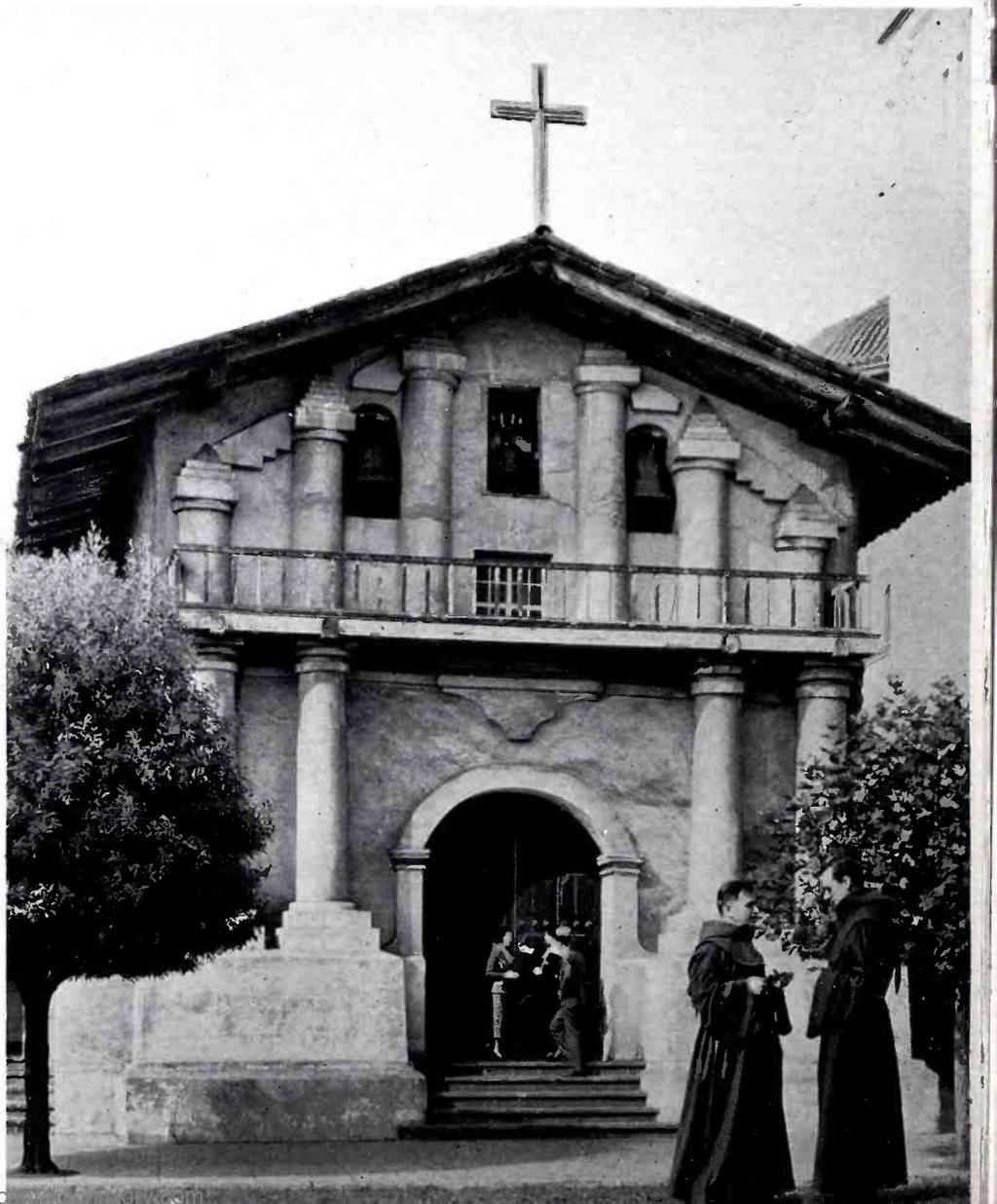
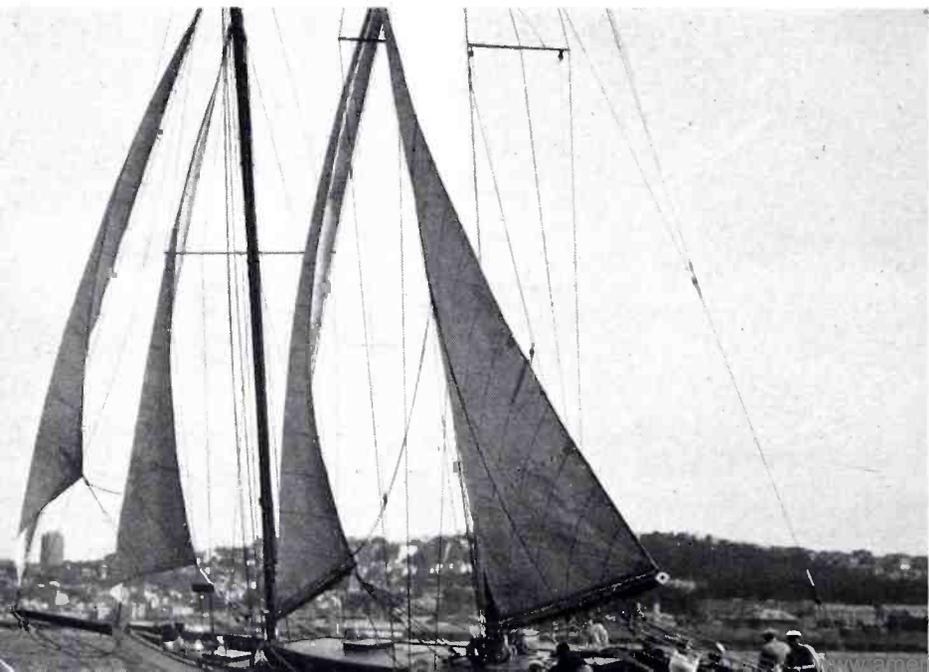
SAN FRANCISCO—WHERE THE EAST



▲ From Nob Hill in San Francisco, looking down to the hotel and financial section and the Bay of San Francisco.

▶ Mission Dolores—San Francisco. Established in 1776. The mission is one of the most historic landmarks in the city by the Golden Gate.

Yachting on San Francisco Bay.



, THE WEST, AND THE NAB MEET

Portsmouth Square—San Francisco. Stevenson's Monument is surrounded by greenery in this little oasis, close to Chinatown.



Chinese New Year Celebration in San Francisco. The bejeweled Buddha Lion prances through the streets of the largest Chinatown in the world outside of the Orient.



Rhododendrons in San Francisco's Golden Gate Park.

Fishing in San Francisco. A run of striped bass at Baker's Beach attracts the fishermen.

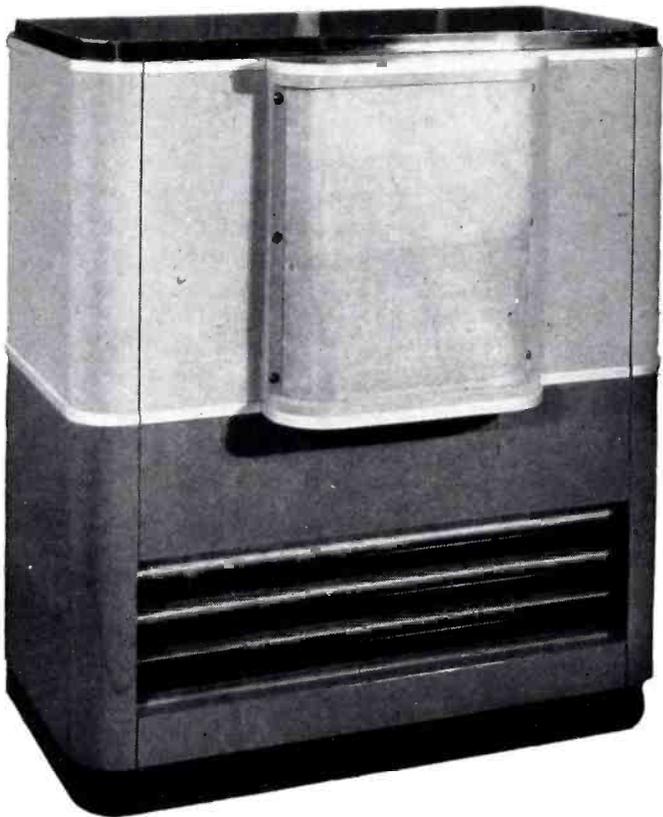


NEW RCA EQUIPMENT



TYPE 77-C1 COMBINATION MICROPHONE

May be set to operate as a uni-directional, bi-directional or non-directional microphone by means of the screw-driver controlled switch located in the base. The 77-C1 features wide band frequency response, directivity at all frequencies, shielded output transformer, shock mounting and spring type cord protector. It's low cost and fine performance makes it ideally suitable as the universal microphone for every station.

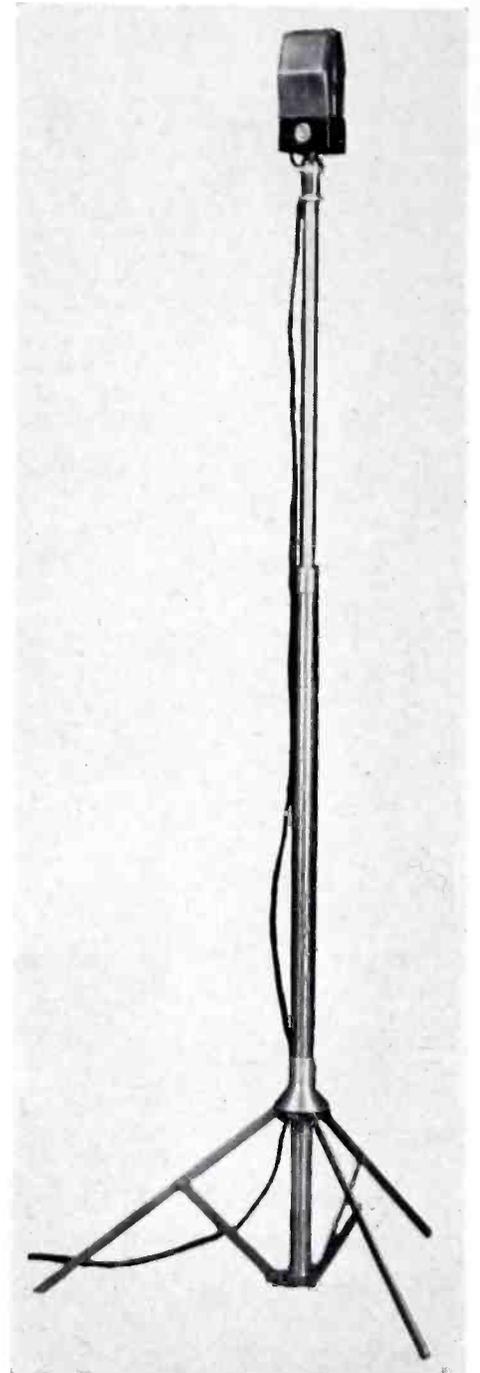


TYPE 64-B HIGH-FIDELITY MONITORING LOUDSPEAKER

An attractive cabinet housing an RCA double voice coil speaker mechanism with a permanent magnet field and a sturdily constructed folded horn. The frequency response is uniform from 50 to 10,000 cycles and all cabinet resonance or vibration has been avoided. Diffusing vanes in front of the cone spread the high frequency response over a wide angle.

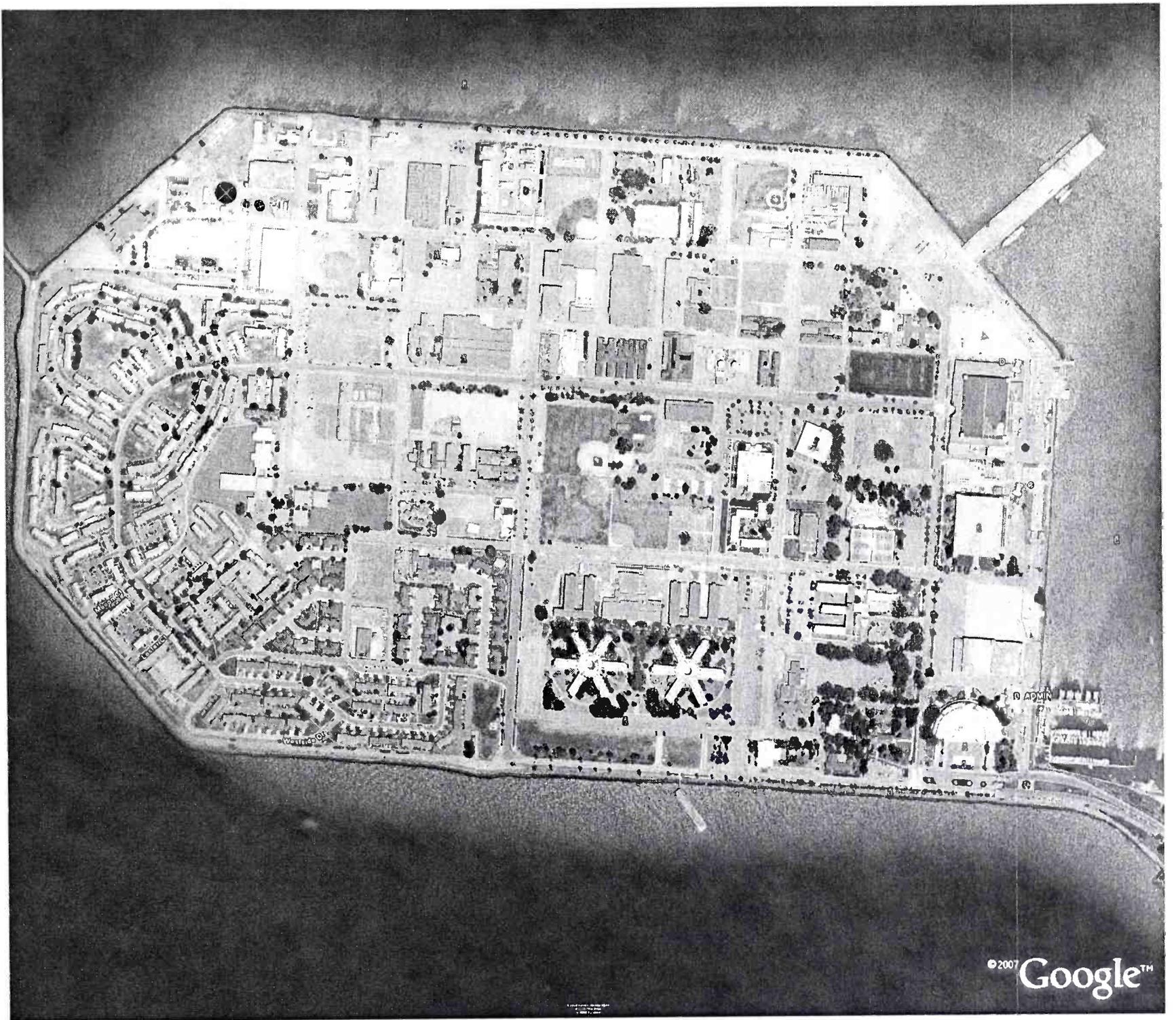
TYPE 72-C RECORDING ATTACHMENT▶

A reasonable priced recording attachment with which high quality instantaneous recordings can be made. Although designed for use on RCA 70 C Turntables, it can be adapted for use with any RCA turntable. The 72-C includes almost every known device for assisting the operator in producing highly satisfactory records.



TYPE 59-B PORTABLE MICROPHONE STAND ▶

Weighing slightly over 3 lbs., RCA's new 59-B Microphone Stand is made from aluminum and stainless steel. The patented clutch permits the height to be adjusted between 36 and 60 inches without operating any release mechanism.



2009 ALL REMAINS IS N-D

NEW RCA EQUIPMENT



TYPE 77-C1 COMBINATION MICROPHONE

May be set to operate as a uni-directional, bi-directional or non-directional microphone by means of the screw-driver controlled switch located in the base. The 77-C1 features wide band frequency response, directivity at all frequencies, shielded output transformer, shock mounting and spring type cord protector. Its low cost and fine performance makes it ideally suitable as the universal microphone for every station.

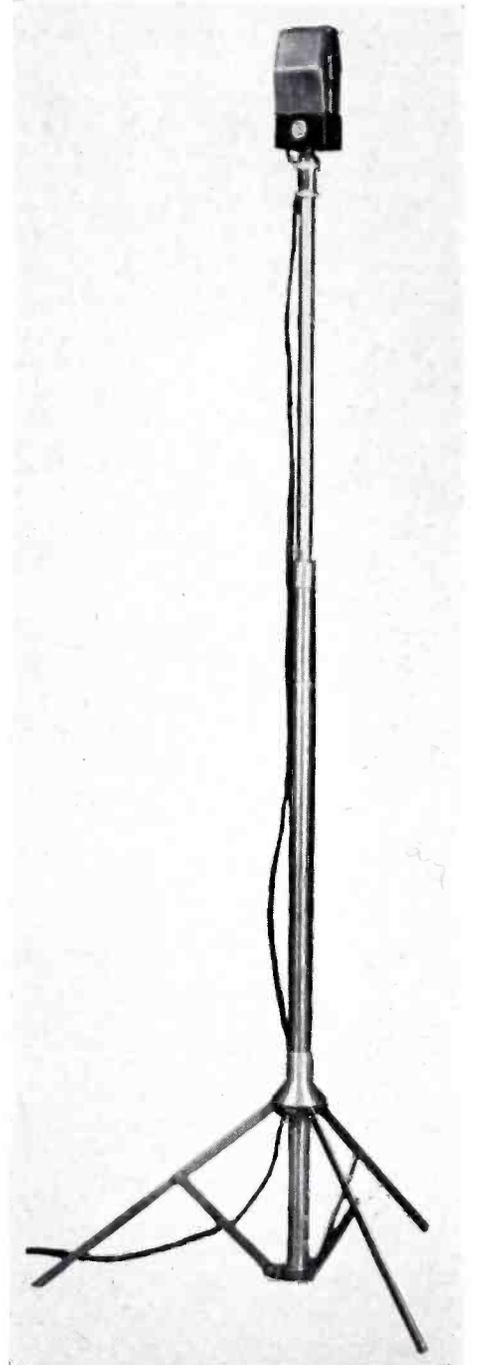


TYPE 64-B HIGH-FIDELITY MONITORING LOUDSPEAKER

An attractive cabinet housing an RCA double voice coil speaker mechanism with a permanent magnet field and a sturdily constructed folded horn. The frequency response is uniform from 50 to 10,000 cycles and all cabinet resonance or vibration has been avoided. Diffusing vanes in front of the cone spread the high frequency response over a wide angle.

TYPE 72-C RECORDING ATTACHMENT▶

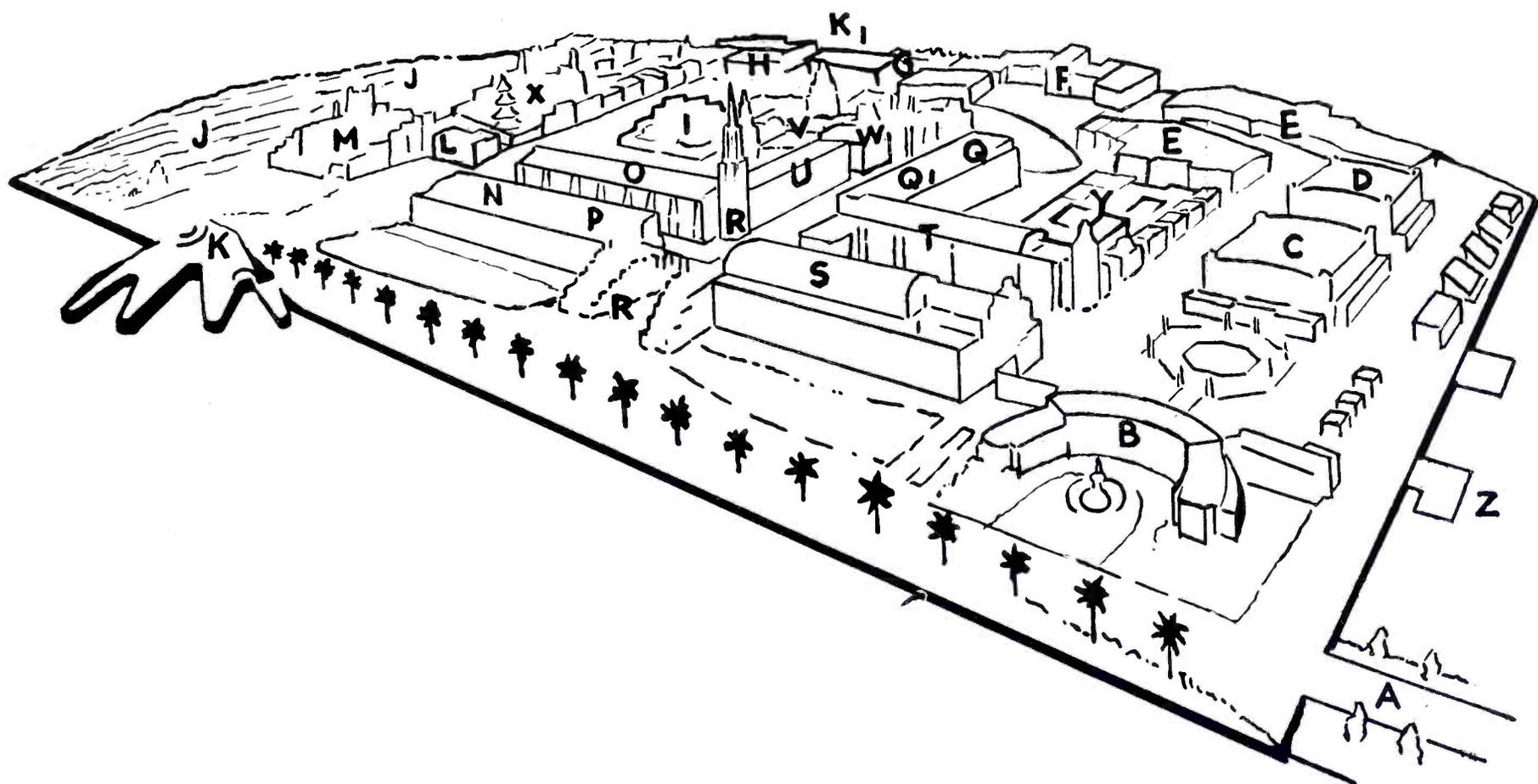
A reasonable priced recording attachment with which high quality instantaneous recordings can be made. Although designed for use on RCA 70 C Turntables, it can be adapted for use with any RCA turntable. The 72-C includes almost every known device for assisting the operator in producing highly satisfactory records.



TYPE 59-B PORTABLE MICROPHONE STAND ▶

Weighing slightly over 3 lbs., RCA's new 59-B Microphone Stand is made from aluminum and stainless steel. The patented clutch permits the height to be adjusted between 36 and 60 inches without operating any release mechanism.

A GUIDE FOR VISITORS TO TREASURE ISLAND



- A**—Automobile causeway from S. F.—Oakland Bay Bridge.
- B**—Administration Building.
- C**—Hall of air transportation. Trans-Pacific Clipper Base.
- D**—Fine and Liberal Arts.
- E**—California State Buildings: Alameda and Contra Costa Counties; Alta California; Mission Trails; Redwood Empire; Sacramento and Lake Tahoe Region; San Francisco; San Joaquin Valley; Shasta Cascade; Southern California.
- F**—Federal Buildings.
- G**—Hall of Western States: Arizona; British Columbia; California; Colorado; Idaho; Montana; New Mexico; Nevada; Oregon; Utah; Washington; Wyoming.
- H**—Recreation Building and Stadium; California Coliseum; Livestock Pavilion.
- I**—Foreign Pavilions: Argentina; Brazil; France; Italy, Norway.
- J**—Parking Area.
- K**—San Francisco Ferry Terminal.
- K₁**—Oakland East Bay Ferry Terminal.
- L**—Ford Building.
- M**—Cavalcade of the Golden West.
- N**—Hall of Science.
- O**—Vacation Land.
- P**—Electricity and Communications (RCA Exhibit).
- Q**—International Exhibits: Czecho-Slovakia; Denmark; Holland; Portugal; Sweden.
- Q₁**—Hall of Agriculture.
- R**—Tower of the Sun and Gateway.
- S**—Mines, Metals, Machinery.
- T**—Homes and Gardens.
- U**—Foods and Beverages.
- V**—Pacific Nations Lagoon; Australia; Chile; Colombia; Costa Rica; Ecuador; El Salvador; French Indo-China; Guatemala; Hawaii; Japan; Johore; Mexico; Netherlands; East Indies; New Zealand; Panama; Peru; Philippines.
- W**—Festival Hall.
- X**—Gayway—Fun Zone.
- Y**—Hall of Horticulture. Model Homes Exhibits.
- Z**—Port of the Trade Winds Yacht Harbor.

A TOUR OF SAN FRANCISCO

Civic Center where San Francisco has proudly created a monumental group of buildings. The central and most dominant feature is the City Hall, a splendid edifice of granite surmounted by a lofty dome rising 300 feet above ground level and which compares architecturally with any dome the world over; other buildings in the Civic Center group are the Exposition Auditorium in which San Francisco's many conventions are held; the State of California Office Building; the Public Library with its millions of volumes of literature; the Federal Building for which a granite quarry was opened in the high Sierras in order to have a well matched structure; the War Memorial Building, dedicated to the Veterans of the World War; the Opera House with its wonderful stage where music, symphonies and the artistic as well as the cultural life of San Francisco are expressed.

Down Town Shopping and Hotel District. In the vicinity of Union Square are a number of hotels and a downtown retail shopping district with its many attractive shops.

Financial District. Montgomery Street, "The Wall Street of the West" with its towering structures forming veritable canyons. The largest building in the West in cubic footage is in this section as well as headquarters of our nation's leading businesses. The skyline, created by these buildings stepping upward, forms a most interesting and impressive picture from the bay and the Bay Bridge. A great many visitors who have seen New York speak of the similiarity of silhouette as

compared with that great metropolis of the Atlantic coast.

Chinatown. You now come upon that cluster of steep-pitched streets, where the largest Chinese settlement outside of China lives its own life. Here the shops, and sounds, even the architecture, suddenly becomes truly Oriental. Strange music issues from theatres where artists from Canton and Shanghai appear in their colorful attire, and a visit to the Chinese temples will prove most fascinating. High above the street you will dine on Chinese food amid the sights and sounds of the Orient.

Latin Quarter of "A Little Bit of Old Italy" with its colorful shops of interesting Italian displays is always a pleasant experience. The quarter is famous for its Bohemian Restaurants and Italian dishes — cheeses, breads, paste and sausages in every shape and flavor are available. The food as prepared here even surpasses that which is served in Italy.

Telegraph Hill. The Coit Memorial Tower which has an elevator to the top reaches into the sky and marks the scene around which many of the early shipping romances of San Francisco were born. A grand terrace has been built on the summit of the hill. From the parapet wall, one looks out the Golden Gate, sees the islands of the Bay and the long curving waterfront, the busy harbor, as well as a bird's eye view of the Exposition.

Fishermen's Wharf. A picturesque bit of Italy in San Francisco; a miniature harbor berthing 600 gaily painted ships of the

Italian fishermen. Besides the docks you will find stalls serving fresh crab and shellfish from a boiling cauldron. Yards and yards of mended nets are stretched out in the sun to dry.

Aquatic Park. For outdoor swimming in San Francisco Bay, boating and the curved Municipal Pier where men and boys are busy every day in the week fishing for bass and other bay fish.

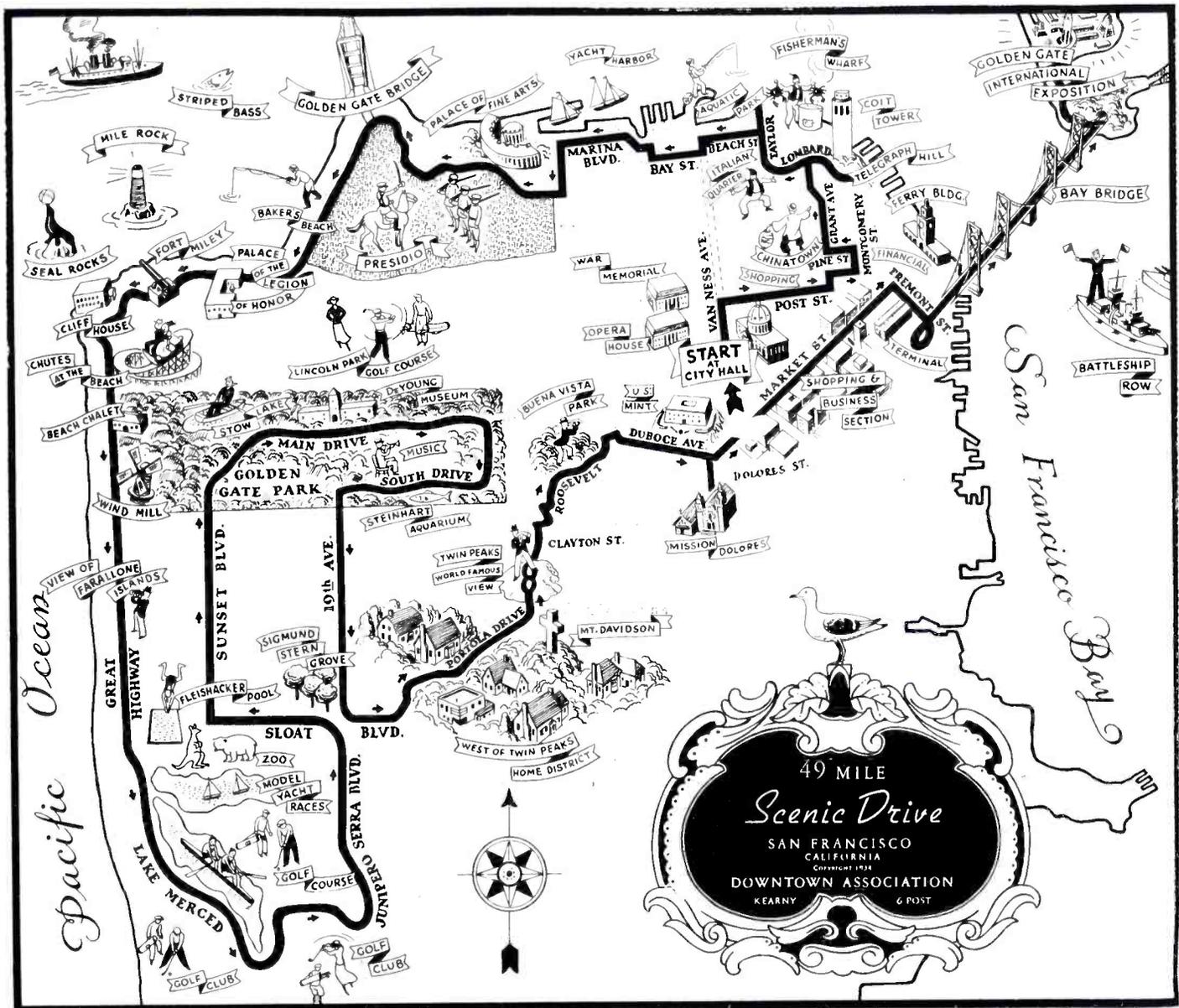
Fort Mason & Transport Docks. A Military Reservation, the chief interest of which lies in the Transport Docks where the troop and supply ships load provisions and changing personnel for our Far Eastern possessions.

Marina & Yacht Harbor. The picturesque Marina Boulevard is an attractive residential district. Sailing yachts round the islands of the bay and luxurious motor craft pass in and out of San Francisco's beautiful Yacht Harbor.

Palace of Fine Arts. Beyond the Yacht Harbor we turn past the Palace of Fine Arts, one of the most beautiful buildings in the world. This masterpiece of architecture which was built to house the Art Exhibits of the Panama Pacific International Exposition in 1915 is now a permanent structure and retains all its original beauty.

Entering the **Presido**, a United States Military Reservation of 1540 acres, we pass the Letterman General Hospital and come to the Parade Grounds. At the far end are old Spanish cannon that saw service with Pizarro in Peru. The Officers Club is the
(Continued on Page 18)

A DRIVE WHICH INCLUDES THE LEADING POINTS OF INTEREST IN SAN FRANCISCO



This map has been supplied through the courtesy of the Downtown Association of San Francisco in order that members of the NAB may see the city with the greatest economy of time.

(Continued from Page 16)

oldest adobe building in San Francisco. This was the place of the first white settlement in San Francisco.

Through trees the road winds above Crissy Field and here you have a view of the Golden Gate Bridge, and then by gun pits and the heavy fortifications that guard the San Francisco shoreline of the Golden Gate. We pass by a dirigible hangar, leaving the military reservation to enter Sea Cliff, a residential section where San Franciscans have homes that own the sunsets of the Golden Gate.

Lincoln Park is a Municipal Golf Course and overlooks the entrance to the Golden Gate and the broad Pacific. Our road turns about the flagpole that marks the western terminus of the Lincoln Highway.

The California Palace of the Legion of Honor is located at this terminus, housing many treasures in tapestry, painting and sculpture.

Seal Rocks—Cliff House. The famous Cliff House and the Seal Rocks are familiar names as also Sutro Baths with the world's largest indoor swimming tank. Past the amusement zone we note the Dutch Windmill in Golden Gate Park and the ship Gjoa in which Amundsen made the north-west passage, and then down the Great Highway, a marvelous road which runs for three miles with a pedestrian esplanade and a seawall built upon which to view the booming surf of the Pacific Shore,

and where a view of the Farallones can be had.

Fleishhacker Zoo and World's Largest Outdoor Swimming Pool a quarter of a mile long with heated ocean water. The Zoo with nine acres where animals from all the jungle lands of the world live in sunny enclosures or spacious cages.

Lake Merced, part of San Francisco's great Hetch Hetchy water supply system, is adjacent to the Harding Municipal Golf course.

Over Junipera Serra Boulevard we pass parklike residential districts to Sloat Boulevard, and then past the Sigmund Stern Grove with its natural open-air theatre, to the beautiful new Sunset Boulevard into

Golden Gate Park with its 1013 acres of beauty which signifies the spirit that built and rebuilt a great city. This was once a wasteland of shifting sand dunes and today is the finest park in the world.

We take the north drive circling the Chain of Lakes, past the Buffalo Paddocks to Spreckels Lake, and then to the "Portals of the Past," the Japanese Tea Garden, Temple of Music, de Young Museum, Academy of Sciences and the Steinhart Aquarium, Horticultural Palace.

A whole day should be spent in this park with its miles of drives including Stow Lake—Strawberry

Hill, Bear Pits, Deer and Elk Parks—ball grounds, tennis courts, conservatories, stadiums, aviary and tropical gardens.

Back over Nineteenth Avenue to Portola Drive and the residential section to

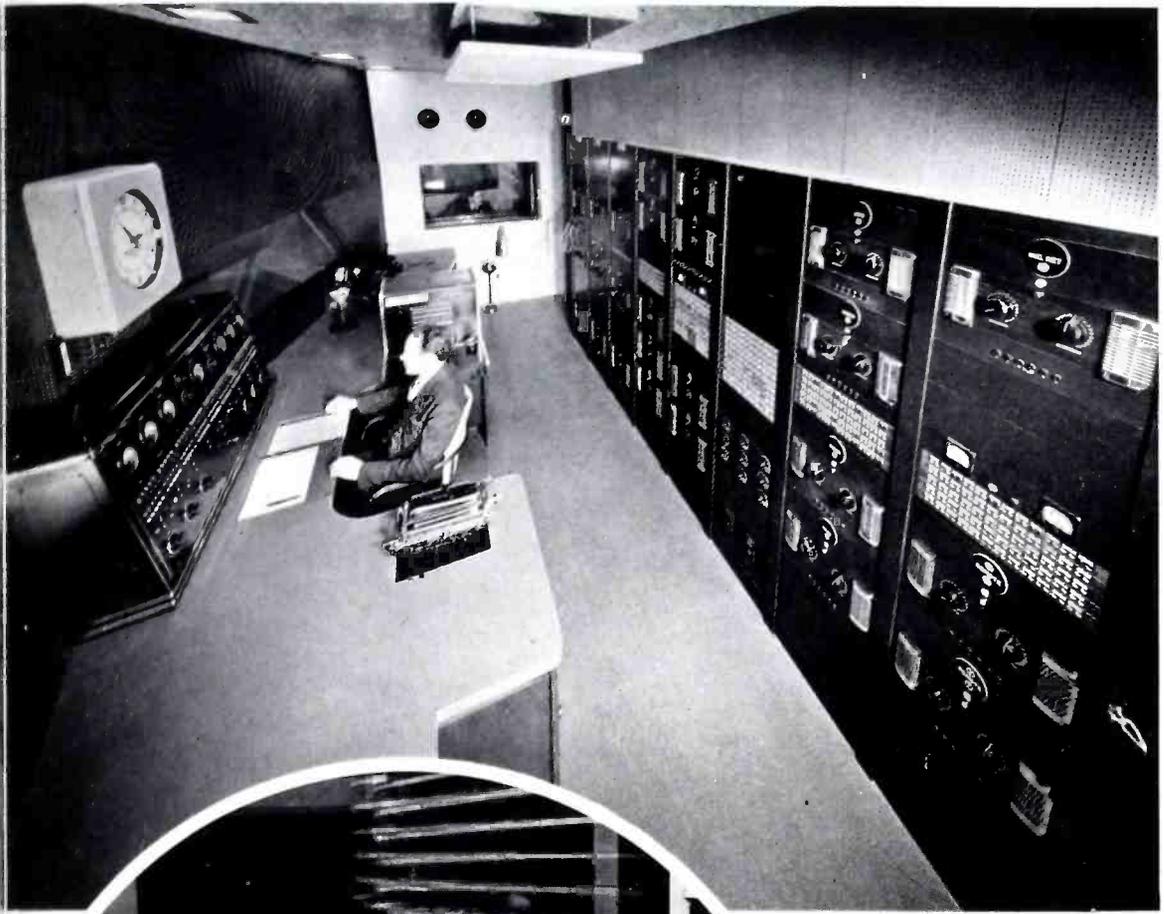
Twin Peaks. A wide motor road winds to the top where the world-famous panoramic view of the city and surrounding Bay Area can be had. From here also can be seen Mt. Davidson, the highest peak in San Francisco (elevation 926 feet), surmounted by a large cross; it is the site of the annual outdoor Easter service.

Mint & Mission Dolores. The new United States Mint on an eminence just off Market Street, is passed and one comes to Dolores Street; it is a very short distance to Mission Dolores, founded in 1776 by the Franciscan Fathers, and which houses many interesting relics of Spanish California.

Back to **Market Street**, the 125-foot main artery of San Francisco noted for its high-class and interesting retail shops and which has at its eastern terminus the Ferry Building and the waterfront.

San Francisco-Oakland Bridge is reached by turning right on Market into Fremont Street to the on-ramp of the bridge which conveys you quickly to the Golden Gate International Exposition built on "Treasure Island," the largest man-made island in the world.

SOME OUTSTANDING COAST INSTALLATIONS



▲
KSFO Master
Control Room.



KARM Transmitter Plant.



▲
KSFO Transcription and Local Studio.

▶
NBC's magnificent home in Hollywood.



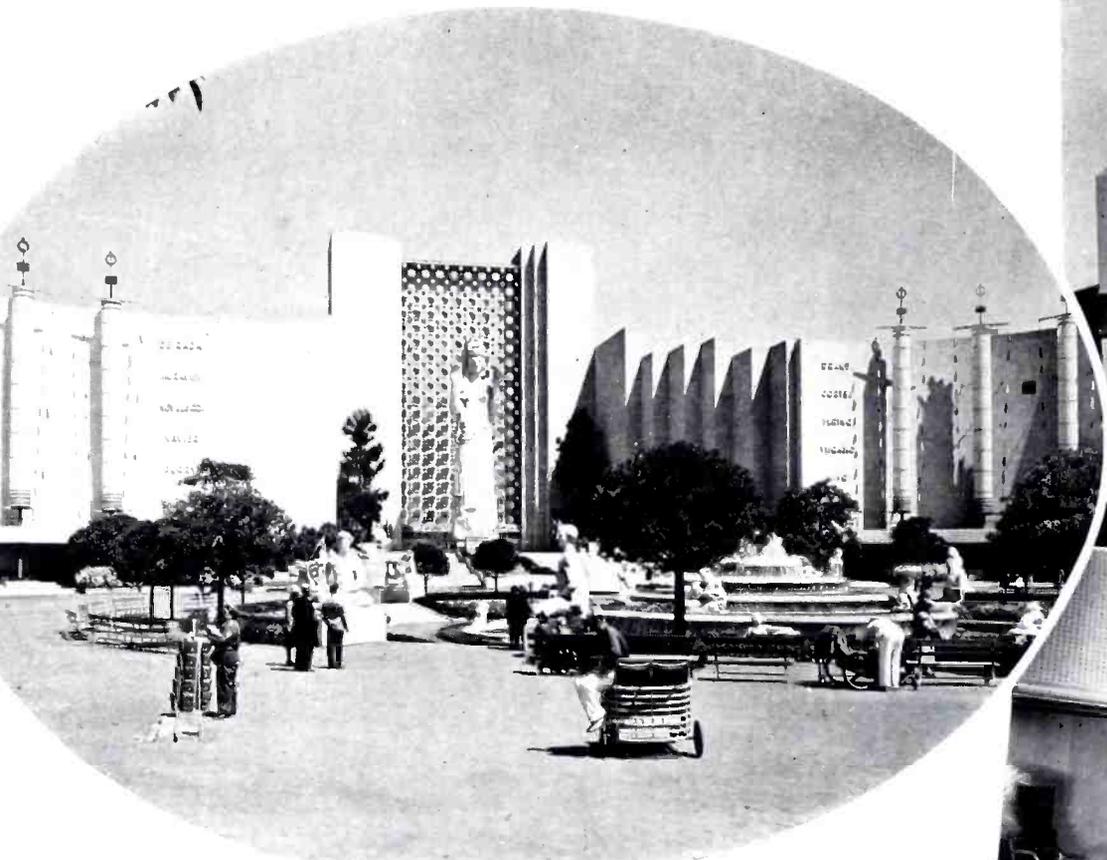


Broadcasting turntable booth.



▲ Broadcasting facilities Master Control Room. CA custom built.

Public Address Master Control Room.



One of the beautiful courts at the Exposition.



Broadcasting Studio Control Room.



◀ Public Address Turntable booth.

RCA AT THE GOLDEN GATE EXPOSITION

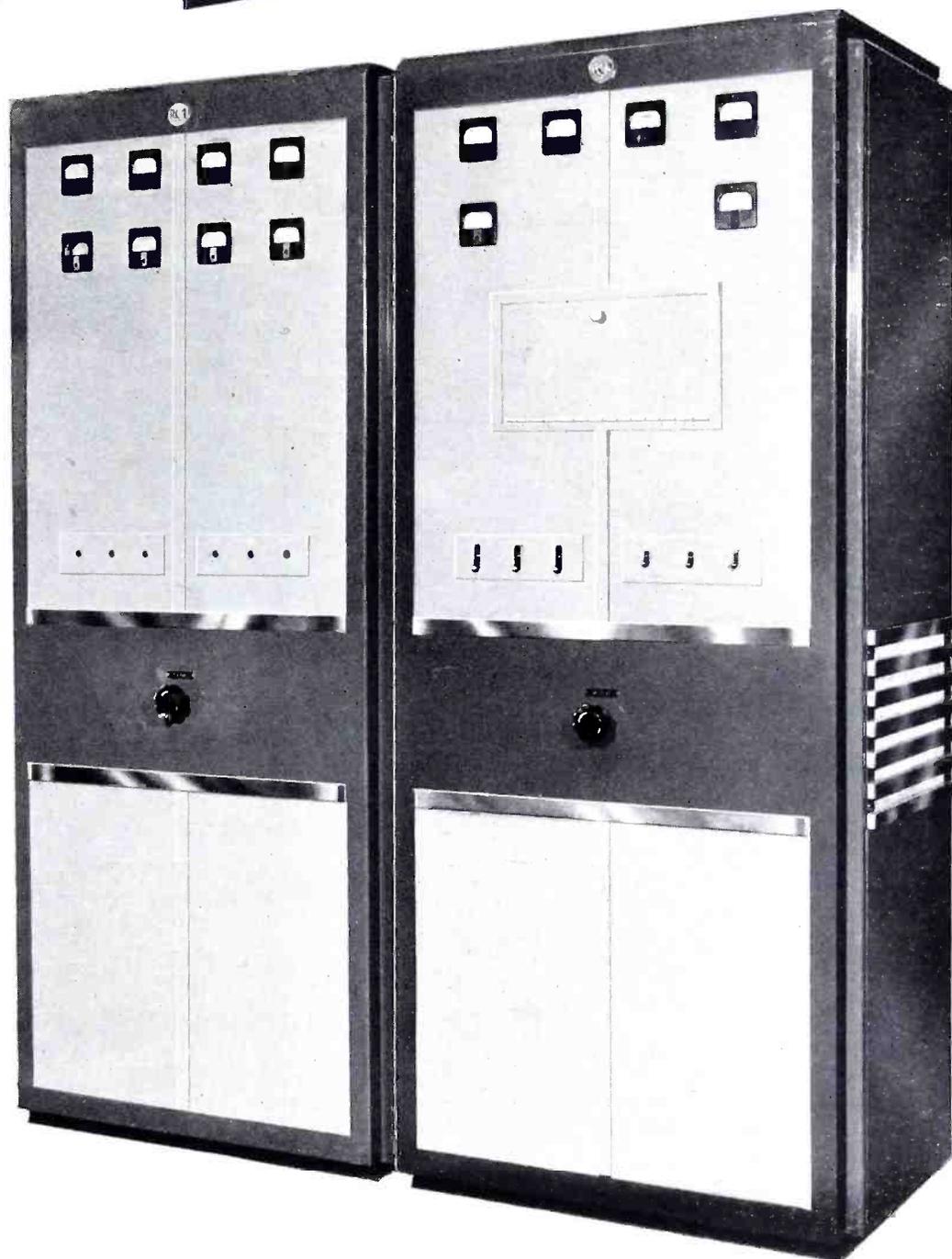
NEW RCA EQUIPMENT



Upper right: RCA Type 311-A Broadcast Frequency Monitor.

Upper left: RCA 301-A HF Field Intensity Meter used in measurements of frequency modulated field intensities.

Right: RCA FM-1-B, 1 KW Frequency Modulated Transmitter.



SUGGESTIONS FOR COUPLING OF R-F TO MEASURING EQUIPMENT

Easier Methods For Making Measurements In Transmitting Stations

By DANA PRATT

AT new transmitter installations, questions often arise regarding the best operation of measuring equipment. A few suggestions are offered for such occasions.

General Suggestions

The principal cause for improper operation, especially true with distortion meters and frequency monitors, is that the speech racks with the measuring equipment tend to float at an RF potential different from the transmitter frame. The voltage difference appears on the shield of the concentric cables carrying the monitoring voltage. This voltage is in series with the voltage desired for the measuring equipment and usually manifests itself as follows:

1. The frequency monitor deviation reading may swing with modulation because the voltage drop on the shield of the concentric line is usually produced by the radiated field which is modulated. The frequency monitor must receive an unmodulated excitation voltage.

2. The distortion meter's phasing and amplitude controls interact on each other excessively and the distortion reading appears unreasonably high. A good check for this condition is to set both the calibration gain and the amplitude at 100% (the first step in measuring distortion anyway). Then after varying the phasing and the fine amplitude controls (do not touch the coarse controls), it should be possible to recheck the original gain calibration and amplitude settings within 2% or 3%.

3. If the asymmetry of the RF voltage to the modulation monitor is too much, it may be impossible to effect an adjustment in the

monitor (C8 in the 66-A monitor) to maintain the same reading on the carrier meter for the positive and negative setting of the polarity switch.

Since the cause of the difficulty is usually interpreted as an undesired voltage drop on the measuring equipment lines between the speech racks and the transmitter frame, the obvious solution is to reduce the voltage drop as much as possible or use a system of coupling that will not include the voltage drop on the shield of the concentric cable.

General Suggestions for New Stations

1. Install a thin copper ribbon 2" to 4" wide and 5 mils thick as directly as possible between the test equipment and the transmitter ground. The transmitter ground should be considered a convenient point on the frame of the final amplifier. In installations where the antenna is near the transmitter building, it is advisable to run a similar ground strap from the transmitter ground to the antenna ground.

2. Use a good grade of rubber covered crystal microphone cable for the concentric lines between the transmitter and the measuring equipment. Crystal microphone cable of 24 mmfd. capacity per foot has been used very successfully for this purpose.

3. If the crystal microphone cable is used, use an inductive pickup coil at the transmitter and do not ground the shield of the microphone cable except at the measuring equipment end of the line. This will reduce the voltage drop on the shield since there will be only one connection to ground.

The following comments apply particularly to existing situations:

Suggestion for Modulation Monitors

The modulation monitors now on the market are designed with high impedance inputs. Very little power is required to drive them but the peak voltage is in the order of 60 volts. If 60 volts is required from the usual concentric lines used for obtaining the voltage from the transmitter, the losses will be unduly high in the poor insulation of the lines. This loss can easily amount to as much as ten or fifteen watts, which is an appreciable part of the output power of a 100 watt station.

1. Use a matching transformer as described on page 5 of the 66-A Instruction Book, IB-32007. Use as little capacity in the parallel resonant circuit as possible to avoid erroneous readings for high-frequency modulation. In addition to using as little capacity as possible, it is often desirable to load the parallel resonant circuit with a few thousand ohms of resistance connected in parallel.

2. Series resonate the line—practical for stations over 250 watts.

- (a) Adjust the number of turns on the pickup coil for maximum voltage to the modulation monitor. The number of turns on the coil will depend upon the length and capacitance per foot of the line and the operating frequency. The required number of turns is often considerably less than the unexperienced would suspect. The turn requirement is critical and a change of one turn, if near the critical value may give a 100% increase in voltage. Always determine the opti-

imum number of turns for maximum voltage.

- (b) Connect a capacitor from RF input to ground at the modulation monitor. The capacitance necessary may be as high as .001 to .002 mfd. The exact value is determined by experiment and is somewhat critical.

3. If it is impossible to balance the modulation monitor so that the carrier meter will return to the same value with either setting of the polarity switch, the easiest solution is to use a rubber covered concentric line such as the crystal microphone cable and ground the shield only at the monitor end. This, of course, necessitates an inductive pickup at the transmitter end.

Suggestion for Frequency Monitors

The input impedance of many Frequency Monitors is high and very little RF is required to drive them. For high impedance instruments:

1. Use as much RF voltage as possible on the line and insert a very small coupling capacitor between the line and the input to the frequency monitor. The value of this capacitor is usually in the order of 5 to 25 mmfds. The reason for using the high RF voltage on the line is to make the ratio of unmodulated voltage on the inner conductor predominate over the voltage appearing on the shield of the line. The voltage on the shield usually has modulation which causes the frequency monitor reading to swing as the transmitter is modulated. The small capacitor must be used to isolate the low impedance line from the high impedance input to the monitor and also to reduce the amount of RF voltage to prevent blocking the grid of the mixer tube in the monitor.

The new RCA-311-A Frequency Monitor however is designed with a low impedance input and also uses a low input voltage—1 volt. The 311-A has also been tested in strong RF fields such as setting it beside the tank coil in the 5-D transmitter. The monitor appears to be en-

tirely unaffected by external RF fields. If appreciable modulation is present on the RF voltage for any of the frequency monitors, the frequency reading will swing with modulation and it will be necessary to install a crystal microphone cable and use the precautions already discussed.

Unlike many frequency monitors the 311-A is unaffected by the wave form of the sampled voltage and a change in transmitter tuning will not affect the accuracy of measurement. Hence, there is likely to be less difficulty in setting up this instrument for use.

Distortion Measuring Equipment

The RCA distortion meter is capable of producing a more accurate distortion measurement than any distortion measuring equipment known on the present market. For this reason the RCA distortion measuring set usually indicates slightly higher distortion than other sets, particularly at the higher frequencies. The audio amplifier in the 69-A is flat within 1 db. to 25,000 cycles and the 69-B is flat to within 1 db. to 30,000 cycles. In addition to measuring the higher order harmonics, the meter will also measure all hum components and cross modulation components produced by hum frequencies beating with the tone modulation. These hum and cross-modulation components are not measured on equipments that use low-pass filters to eliminate the fundamental. These components are considerable, especially in linear amplifiers with the filaments quarter-phased. Remember that a hum or noise level of -40 db. will appear as 1% distortion so the first step in transmitter adjustment is to obtain a low noise level. The commercially available wave analyzer does not measure distortion components higher than 16,000 or 17,000 cycles. In some transmitters using overall feedback (especially the carrier peak type linear amplifier) the feedback is seldom effective above 15,000 cycles which permits the distortion components above this range to cause inter-channel interference, therefore, these components

should be measured. The third and fifth harmonics are usually strong. These harmonics of 7000 cycles are 21,000 and 35,000 cycles.

If a few precautions are used a very accurate distortion measurement can be obtained with the RCA measuring set.

1. Lowest distortion is usually obtained with 30 to 60 volts of RF input to the 69-A distortion meter. This corresponds to about one-half inch deflection on the usual three-inch oscilloscope when the amplifier is not used. The voltage may also be checked with a vacuum tube voltmeter. This is rather a minor point unless the distortion of the transmitter is in the order of .3% to .5% distortion.

The proper voltage may also be determined by using different values and making observations for the lowest distortion. The calibration of the 69-B distortion meter determines the proper RF input voltage for this instrument.

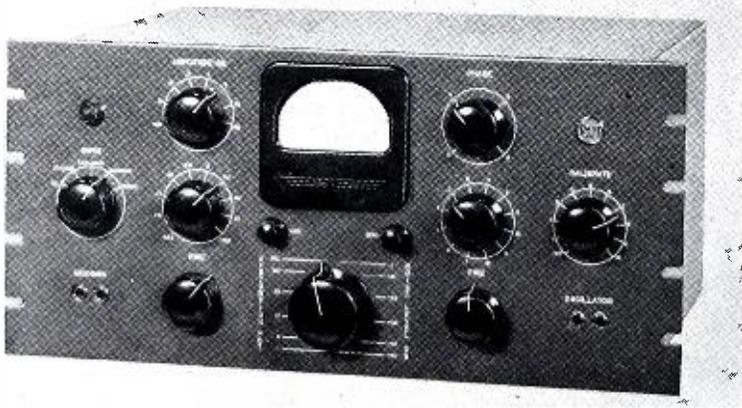
2. If the voltage is obtained by use of a transformer as mentioned under the modulation monitor, it will be necessary to load the parallel resonant circuit with as low value resistance as possible. If this is not done, very high distortion is likely to be measured at the higher frequencies, such as at 7500 cycles. The optimum value of this resistance is usually in the order of 200 to 500 ohms.

3. If the phasing and amplitude controls interact on each other excessively, there is probably too much voltage drop on the shield of the concentric line. The only solution for this is to use an inductive pickup at the transmitter and ground the shield of the rubber covered concentric line (crystal microphone cable) only at the distortion meter.

4. Always use a pad 5 db. or more to isolate the low distortion oscillator from the equipment being measured. This is necessary to obtain true frequency response readings.

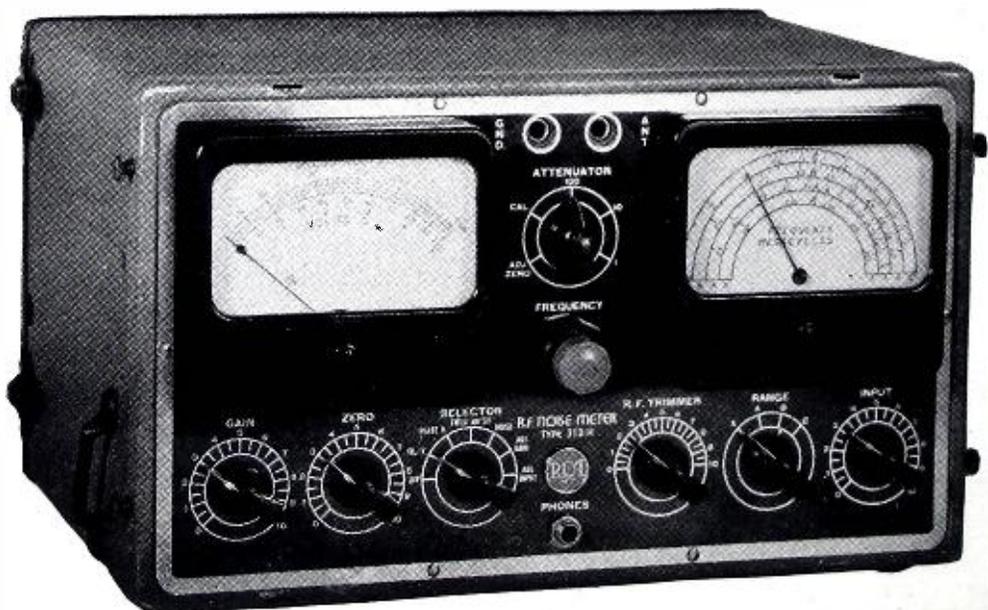
NEW RCA EQUIPMENT

The Type 68-B Beat-Frequency Oscillator is a high-quality laboratory-type audio oscillator having negligible distortion. It is unexcelled as an audio source for making distortion measurements, and may be used in any form of development work where a source of exceptionally pure audio frequencies is necessary.



The Type 69 B Distortion Meter, used with a low-distortion audio oscillator such as the Type 68-B, permits rapid measurement of distortion, noise and frequency-response characteristics of broadcast installations from studio to antenna. Harmonic distortion can be determined at any frequency within the normal audio range.

The RCA 312-A Noise Meter is an accurate, portable, and low priced instrument which measures the intensity of noise, as well as the radio signal, and from which may be computed the ratio of noise to signal. When used with a suitable coupling network it will measure these noises when conducted by power transmission lines of either DC or polyphase AC. It will measure disturbances to radio signals originating in electrical units such as motors, generators, contactors, transformers, and high tension insulators and bushings.



RCA EQUIPMENT FOR HIGH FIDELITY

Recording and Reproduction of Transcribed Programs

OVER 1400 RCA 70 SERIES transcription turntables are now in use. Surely this is impressive evidence of the high regard broadcasters have for the performance of this equipment. Designed to meet every requirement of all types of transcribed programs, RCA equipment gives maximum dollar for dollar service.



• **RCA 70-C Turntable With Lateral Pickup!** Long wear Diamond Point Stylus. Frequency response 30 to over 9,000 cycles. Low distortion. High quality Lateral Reproducer, adjustable filters for properly reproducing all recordings. Accurate timing. Low noise level in reproduction, operates quietly. 33 $\frac{1}{3}$ and 78 RPM—speed change mechanism in rim where it can be seen at all times and can be changed quickly. Quiet starting synchronous motor with gear speed reducer provides accurate timing. Large flywheel which always revolves at 78 RPM. Large front door provides complete accessibility. Finished rear of cabinet improves appearance.



• **Vertical Pickup Attachment Type 71-C.** Proper frequency response in reproducing present day vertically cut recordings is assured by a new compensator. The tone arm is similar in appearance and construction to the lateral tone arm of the 70-C. Pickup head is of the moving-coil type with a diamond point stylus.



• **Instantaneous Recorder Attachment Type 72-C.** Complete with fittings to adapt it for use on 70-C turntable. RCA "float stabilizer" prevents "flutter." High quality 6,000-cycle cutting head. Three pin drive prevents slippage and eliminates knocks. Spiraling handwheel permits separating selections without breaking continuity of groove. New lowering mechanism prevents damage to stylus. Accurate and convenient adjustments for stylus pressure and angle.

Use RCA Radio Tubes in your station for reliable performance



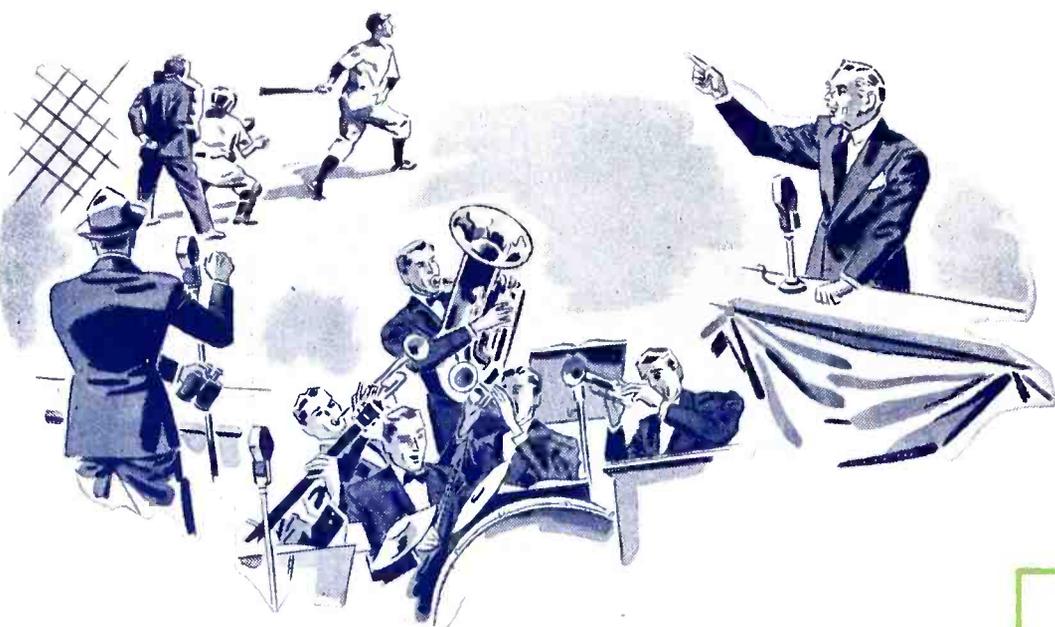
Broadcast Equipment

RCA Manufacturing Co., Inc., Camden, N. J. • A Service of the Radio Corporation of America

FOR FINER PERFORMANCE...
GO **RCA** ALL THE WAY

Microphones
Speech Input Systems
Associated Equipment
Transmitters

"Feed the Line" with **QUALITY** on **YOUR REMOTE PICKUPS!**



BASEBALL OR POLITICS . . . across the street or across the state . . . *this* year you'll be running more remote pickups than ever! Let this new RCA-engineered high-fidelity portable equipment feed studio-quality audio through your lines!

Use RCA radio tubes in your station for finer performance

NEW RCA Portable Remote Amplifier*

Just a 20½-pound handful of RCA efficiency, the new OP-6 amplifier is ideal by itself where channel-mixing is not required. A switch selects one of two microphones; and the amplifier plugs into either an AC power source or its compact battery box without circuit changes. Inverse feedback, varied automatically with gain, keeps circuit-noise far below output at *any* level. 3 stages of amplification with RCA 1620 low-noise, non-microphonic tubes give 90 db. gain—more than ample for low-level microphones. Illuminated vu Meter is optional—or can be added at any time. Response is within ± 1 db. from 40 to 10,000 cycles—distortion less than 1% even at maximum output.

OP-6



NEW RCA 4-Channel High-Level Mixer*

For mixing control, simply add the 22-pound RCA OP-7 mixer. It feeds the OP-6—or any amplifier with adequate gain. It provides high-level mixing of up to four microphone channels *without* the increased circuit-noise of low-level mixers.

Both the OP-6 and OP-7 can be simultaneously connected to a single power source (either AC or common battery supply). Get the facts on this new, flexible, low-cost equipment—write for literature today.

*Contains Built-In, Self-Contained AC Rectifier

OP-7



RCA Broadcast Equipment

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A SERVICE OF THE RADIO CORPORATION OF AMERICA