

OFFICIAL
**Short Wave
Listener**

HUGO GERNSBACK
EDITOR

MAGAZINE

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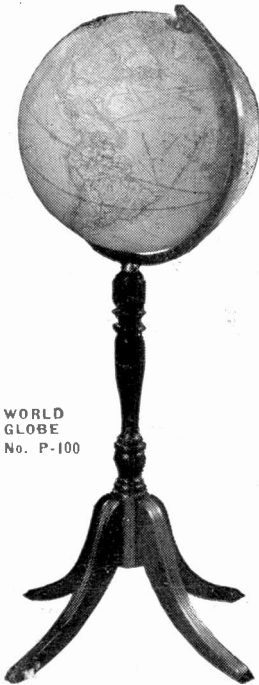


March

4,600
SHORT-WAVE
STATIONS
LISTED
IN THIS
ISSUE

• LARGEST AND BEST SHORT-WAVE STATION LIST IN PRINT • PHOTOS OF S-W ARTISTS
• HOW TO FIND S-W STATIONS ON YOUR DIAL • WORLD SHORT-WAVE STATION MAP

Best and lowest priced WORLD GLOBES FOR SHORT WAVE LISTENERS



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GLOBE
No. P-100

World Globe No. P-100

This beautiful floor model globe fills the demand for a globe of this type at a popular price. The standard ball shows 67 prominent international short-wave stations—steamship routes, ocean currents, mountain peaks with heights, principal railroads, Lindbergh's flight and other important data will be found clearly printed on the globe.

The ball is mounted in a fully graduated, semi-meridian. The solid walnut base has been gracefully patterned to harmonize with the interior of home or office. The base is sturdily constructed.

A beautifully illustrated, 32-page book, "The Story of the Globe" is included with this model. It is full of interesting facts, including the question and answer globe-game. Height of stand, including 12" globe—34". Shipping weight \$3.95

THESE remarkable, crack-proof globes, printed in popular non-fading colors, are indispensable to short-wave fans. Notable among the many features of these world globes, is that they give life-time service.

Short-wave fans are enabled to determine correct time in various centers of the world with the aid of these globes.

There is a graduated "Meridian" scale on many of the globes. Another feature is the movable hour scale found at the north pole—this facilitates determining the hour in any part of the world.

You will be thrilled when you put the globe to actual use—measuring distances from New York to Moscow; from Cape Town to Tokio; etc. A flat map is deceptive for measuring, but take a small string and stretch it across the globe, from city to city, and you have the correct distances.

Each globe contains a listing of several thousand cities in nations all over the world—spellings conform to international geographic standards. They contain such important features as—traces of Admiral Byrd's recent voyage to Little America; Lindbergh's Paris flight; the new Japanese Empire; principal railroads; principal international short-wave radio stations and rail letters; steamship routes; and other equally important data.

The colors on our fine handmade or Library globe maps are refined and delicate—their rich color harmony blends into a harmonious color unit.

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The 12" standard globe was the first to list principal international short-wave stations and call letters. On this model are 47 short wave stations—since they are printed in red. They are accurate and up-to-date.

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This attractive globe is highly suitable for home, studio, school or office. It is extremely low in price when compared to its beauty and utility value.

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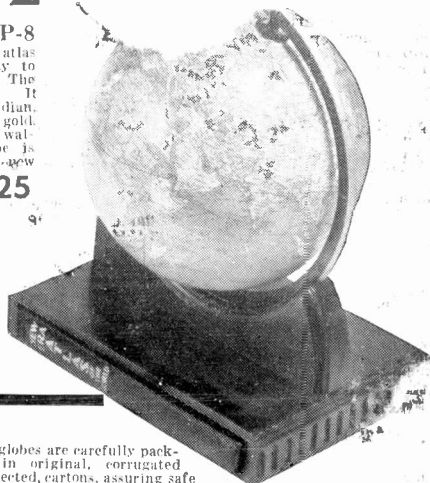
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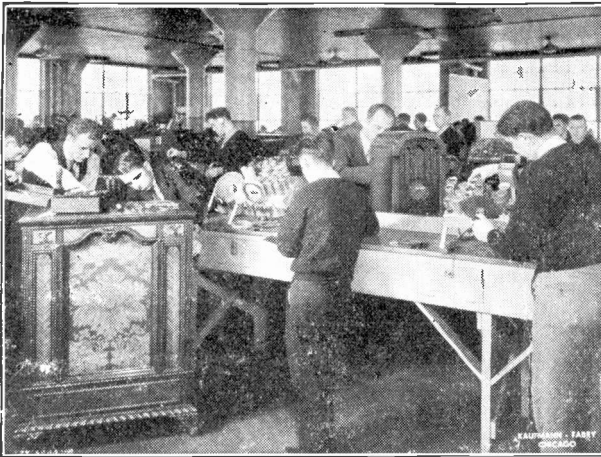


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<input type="checkbox"/>	World Globe No. P-100	@ 3.95
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Name _____		
Address _____		
City _____		State _____
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All globes are carefully packed in original, corrugated protected cartons, assuring safe delivery. ORDER BY NUMBER. Send check or money order, plus sufficient postage for delivery by parcel post. Globes are shipped from Chicago warehouse. Register letter if it contains remittance or stamps. Specify if shipment is to be collect. ALL ORDERS ARE FILLED PROMPTLY.

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Electric Refrigeration
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Right now I am including my new Electric Refrigeration and Air Conditioning course at no extra cost.

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Coyne is your one great chance to get into Radio. This school is 36 years old—Coyne training is tested—proven beyond all doubt—endorsed by many large concerns. You can find out everything absolutely free. Simply mail the coupon and let me send you the big, free Coyne Book with photographs... facts... jobs... salaries... opportunities. Tells you how many earn expenses while training and how we assist our graduates in the field. This does not obligate you. So act at once. Just mail coupon.

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... books ... you get individual ...
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This is our fireproof modern Building wherein is installed thousands of dollars' worth of Radio equipment of all kinds. Every comfort and convenience has been arranged to make you happy and contented during your Training.

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Dear Mr. Lewis: Without obligation send me your big free catalog and all details; also tell me all about your "Pay-Tuition-After-Graduation" Plan.

Name Age

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City State

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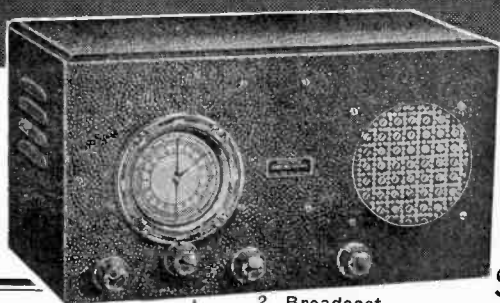
The DOERLE

5-TUBE DELUXE

A.C. SHORT-WAVE RECEIVER

Features CONTINUOUS BANDSPREAD

on All Bands!



- ★ USES DOUBLET OR STANDARD ANTENNA
- ★ 8 LOW-LOSS PLUG-IN COILS
- ★ RANGE 15 to 550 METERS
- ★ MICROMASTER BANDSPREAD DIAL
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- ★ HEADPHONE RECEPTION IF DESIRED
- ★ SENSITIVE REGENERATIVE CIRCUIT

\$27.55

2 Broadcast Coils, 200 to 550 Meters \$1.75 extra

READY TO OPERATE

RESULTS! are what COUNT

Dear Sirs:

Just a line or so to give you an idea of what my Doerle A.C. 5 hauled in during a 2 weeks listening test. All of the G and D stations were received also TIEP, W9SF, PRADO, HJ4ABE, W2XE, CJRO, YU2RC, CJRX, COC, HJ4ABB, HJ1ABB, UY5-RMO, YF3RC, CT1AA, W1XAZ, EAQ, HC2ML, HJ3ABD, KEJ, HJ2B, HP5B, HJ1ABD, WNB, YUIRC, HJZ, JYK, FYA, YU4RC, OA4AD, RNE, PHL, WNC, YBA, COE, PRF5, W0N, XEBT, LSL, 12RO, IHM, JYS, UK3LL. All stations come in with strong carriers with a QSA4-5-R9 plus. FRANCES KMTEZ, 213 Linden St., Allentown, Pa.

Gentlemen:

Here is a list of Short-Wave stations I have received in a short time with my "Doerle AC5", with a very poor aerial for short-wave work. EAQ—Madrid, COH—Havana, Cuba; VE9-GW—Bowmanville, Ontario, CT1AA—Lisbon, Portugal; PRF5—Rio De Janeiro, Brazil; HJ1ABB—Barranquilla; PRADO—Ecuador, S.A.; DJC—Berlin; XEBT—Mexico; YV5RMO—Venezuela, S.A.; CRJO—Winnipeg; W2XF—New York; HP5B—Panama; FYA—Paris; GSC-GSL—Davenport, England.

This is the third and best receiver I have owned in the short time I have been interested in S-W. EMERALD H. DELBRUGGE Rose-Mary Dahlin Gardens, Martins Ferry, Ohio Original Letters Plus Others May Be Seen At Our Office

Everybody's talking about the new 5-Tube Doerle Deluxe Short-Wave Receiver. If you are interested in short-waves, avail yourself of this opportunity to listen to this remarkable set with no obligation to buy it unless you are absolutely satisfied with its performance. Use the coupon below for fast service.

USES ANY TYPE AERIAL

Regardless of what type aerial you have, this receiver makes provisions for using it. Either the standard inverted-L type or noise-free doublet type may be utilized. This means that this receiver can be used in ALL localities regardless of noise disturbances.

REGENERATIVE CIRCUIT

Two tuned stages, regenerative detector, three A.F. stages with powerful '41 pentode output and perfectly matched dynamic speaker—all these features contribute to the great power and fine performance of this receiver. A special antenna-trimming scheme permits perfect alignment of both antenna and detector tuning circuits without affecting the setting of the tuning dial.

CONTINUOUS BAND-SPREAD

Continuous bandspread on the entire range from 15 to 200 meters is obtained through the use of a

FREE!

64-page Radio Treatise and Buying Guide. Contains radio data, diagrams, formulae, short-wave hints and thousands of interesting radio items at money-saving prices. Absolutely free! DO NOT DELAY

Write Today! Send 2c stamp in letter for postage. Treatise sent by return mail.

(See page 334 for our other "ad")



very ingenious dial having a ratio of 125 to 1 and two pointers. Furthermore, two knobs are provided, making possible fast and slow tuning. Foreign stations are spread out over a goodly portion of the dial thereby.

8-LOW-LOSS PLUG-IN COILS

Covers the range of from 15 to 200 meters in 4 bands, viz: 20, 40, 80 and 160 meter bands. These coils are of the 3-winding 6-prong type and are used 2 at a time. Wound on ribbed bakelite forms and designed especially for the Doerle receiver, they are highly efficient.

EXQUISITE WORKMANSHIP

All parts are mounted on a single, cadmium-plated chassis and contained in a large, hand-somely-finished black crackle cabinet. Provisions are made for using headphones with switch to cut out the dynamic speaker. A tone control is provided which not only varies the tone but helps materially to reduce back ground hiss.

FAMOUS FOR DX RECEPTION

Hundreds of testimonials in our files attest to the superlative performance of this world-famous receiver. Several of these testimonials are printed on this page. Set measures 17 1/4" x 8" x 8 3/4" high. Net weight 23 lbs., shipping weight 35 lbs. Designed for 110-120 volt, 50-60 cycle, A.C. operation.

Set of 2 broadcast coils \$1.75 additional. Add \$2.50 for 110 volt 25 cycle model or 220 volt 60 cycle model.

Send COUPON TODAY

5-DAY FREE TRIAL

RADIO TRADING CO., 103 A Hudson St., New York Gentlemen: SL-336

I enclose _____ dollars _____ cents, for your new Doerle 5-tube DeLuxo Short-Wave receiver on a five day free trial basis. If, at the end of five days I am not satisfied, I will write you for return shipping instructions. Upon receipt of the radio, you will refund me the full purchase price. I agree to pay express charges one way, and you the other.

PRINT Name _____ Address _____ Town _____ State _____

RADIO TRADING CO., 103A HUDSON ST., NEW YORK CITY

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OFFICIAL
**SHORT-WAVE
 LISTENER**
 MAGAZINE

Combined with
 OFFICIAL SHORT-WAVE
 LOG AND CALL MAGAZINE

February—March, 1936

VOLUME II, No. 4

Editor
 HUGO GERNSBACK

Managing Editor
 H. WINFIELD SECOR

Associate Editor
 G. W. SHUART, W2AMN

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The Girl On The Cover,
 Posed By

Jocelyn Gernsback, Age 5½ years, of New York City

This magazine is published every other month.

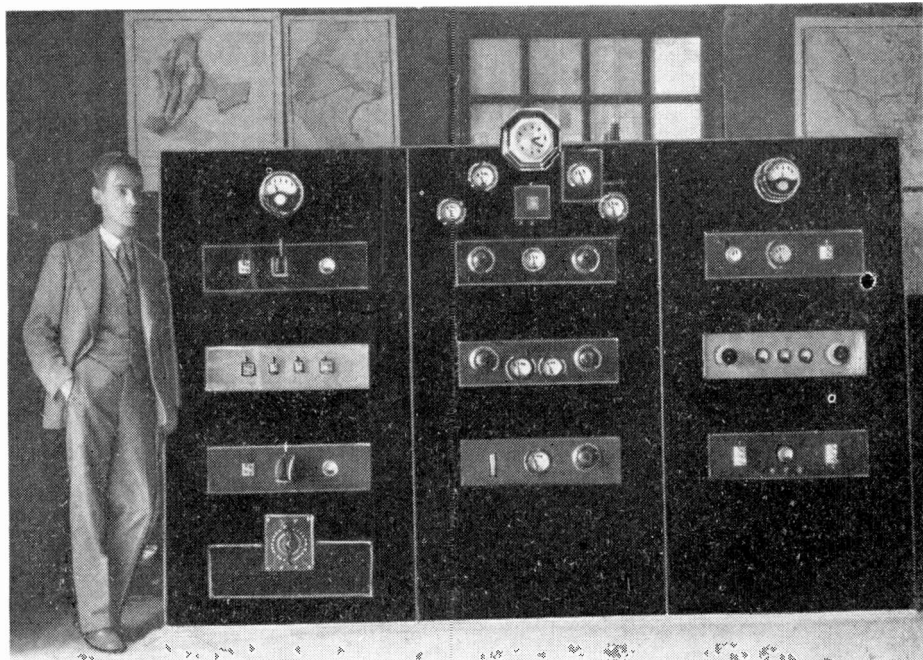
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HJ4ABB, Manizales, Colombia.

This station has long been familiar to short-wave "fans", and for several years operated on 7140 kc., first under the call "HKT" with 20 watts power, and later under the present call assignment, with some 300 watts power. The owner informed us that the power could readily be "stepped up" to 1 kilowatt. HJ4ABB has more recently been found on 6100 kc., as many amateurs protested the presence of a broadcaster in the midst on 7140 kc. The writer, for one, has greatly missed HJ4ABB, for it is rarely ever that we tune the 49 meter band in search of entertainment.

LATIN-AMERICAN Station News

By H. S. BRADLEY

● THOSE fans who have reported HRN, and are beginning to wonder if "La Voz de Honduras" verifies reports, will be pleased to know that this station has all reports on file, and is awaiting the assignment of a new official frequency; a QSL card, bearing data relative to this new station will be printed as soon as definite word is received from the Bureau of the International Telecommunications Union in Berne, Switzerland, and each report will be answered with one of these cards. A special English program takes place on HRN each Sunday at about 10 p.m., at which time listener's reports are acknowledged.

The second Honduras broadcaster, HRP1 may be numbered among the

ranks of those who found the interference from other stations on the 49 meter band a bit too objectionable, and we now find this station, "El Eco de Honduras" of San Pedro Sula, transmitting on a new frequency of 6360 kc. or 47.1 meters.

* * *

Guatemala has added a new station to its chain of government transmitters. The latest addition to the TGW-TGX-TG2X group is TGS, known as "Radiotransmisora de la Casa Presidencial" and it may be heard between 5700 and 5740 kc. (official frequency 5713 kc.) each Wednesday, Thursday and Sunday from 6-9 p.m., EST, according to Julio Caballeros, the technical director of TGS. The station has a power of 200 watts.

A card from a second Guatemalan government station, TG2X, operated by the National police, confirms our statements regarding this station, in a previous article. TG2X has 500 watts power, and an official frequency of 5950 kc. The QSL received from them mentions operation from 4-6 p.m., and at 9 p.m., EST, but TG2X may be heard throughout the evening hours, as a rule.

Nicaragua presents a new station, YNVA of Managua, working on 8590 kc. or 34.9 meters (the station has a "split-wave" and may be found on two spots on the dial, simultaneously), from 7-10 p.m., daily. The station is dedicated to the memory of a famous Nicaraguan poet, and is thus known by the title "Ruben Dario." Reports may be addressed to Manuel Lopez E.

A verification from Abel Salazar F., owner of the new Punta Arenas, Costa Rica station, clears up doubt as to the call about which we have previously spoken. Our guess "TI8WS" was strangely enough, correct. "Ecos del Pacifico" works with a power of 120 watts, from 6-7 and 8-9 p.m., EST, according to their card, and have always been found fairly close to their officially assigned frequency of 7550 kc.

From V. Barrios F., Director of Edu-

cation in Quibdo, Choco, Colombia, comes a letter verifying reception of the department's new station, HJ1ABC, "La Voz del Choco." The transmitter used, is a 100 watt "rig" of well-known American make, and it works on approximately 6010 kc., on the following schedule: daily, 5-6 p.m.; Wednesday and Sunday 9-11 a.m.; Sunday -5 p.m.

QSLs issued by HJ1ABK of Barranquilla confirm reception on 7250 kc., and state that, although the station is experimental, it is on the air regularly each Sunday from 3-6 p.m., with a power of about 50 watts, and on a new frequency of 7074 kc. Reports are wanted, and they should be directed to Clemente Vasallo G., Box 580 in Barranquilla, Col., S. A.

In the Colombian 2nd district, the new station of the *Radio Society of Bucaramanga* has, for several weeks been operating regularly on about 5985 kc., from 7-10 p.m. Considerable interference results, however, from HIX, when the latter station is on the air. Reports on "Radio Bucaramanga" should be sent c/o Sr. Hector McCormick in that city.

There has apparently been an error in the assignment of calls by the Colombian government, not only in the case of HJ1ABE to respective stations in Cartagena and Sincelejo, but also that of

(Continued on page 335)

HJ3-ABH



TRANSMISOR DE ONDA CORTA
1200 WATIOS - 5970 KILOCICLOS



AMPLIFICADOR DE LINEA Y EQUIPO DE ESTUDIOS

BOGOTA - COLOMBIA

DIRECCION TELEGRAFICA "ALVICTOR"
APARTADO POSTAL: 565
ESTUDIOS: EDIFICIO LIEVANO N° 112
TELEFONOS: 39-21 Y 52-94

PROPIEDAD: ALMACENES VICTOR - MANUEL J. GAITAN



LA VOZ DE LA VICTOR



TRANSMISOR DE ONDA LARGA
1000 WATIOS - 1005 KILOCICLOS

HJ3ABH, "La Voz de La Victor", Bogota.

Above is shown the equipment used by Victor Co., in Bogota to carry programs to their listeners at home and abroad. At the right is the 1 kw. "long wave" (standard broadcast) transmitter which works on 1005 kc. At the left is shown the new 1200 watt short-wave "rig", which has been operating on about 6015 kc. An alternate frequency of 5970 kc., may be used. The center view shows one of the "control" panels.

Win This

Sixth
Trophy Award to
Frank Petch,
Gananoque, Ont., Can.

The handsome Silver Trophy, illustrated, standing 19½ inches high, will be awarded to the person sending in what appears to be the judges the most interesting photograph of their short-wave listening post. The rules for this contest provide that the Trophy shall be awarded only for the BEST photo of listening post apparatus or set-up, and is not concerned with amateur TRANSMITTING stations.

Rules For Short Wave "Listening Post" Trophy Contest

THE editors of the OFFICIAL SHORT WAVE LISTENER magazine feel sure that our readers will be greatly pleased with this "Trophy Cup" Contest, in which the handsome silver trophy here illustrated, will be awarded to that Short Wave Listener who submits the best "Listening Post" photo.

Here are some of the points on which the "Listening Post" photos will be judged by the editorial staff: The photo must be clear and preferably not smaller than 5 x 7 inches, although 4 x 5 inches will do if the photo is particularly clear.

If possible try to have the photo show the owner or operator of the "Listening Post" appear in the same picture with the receiving apparatus, although a separate photo of yourself will do, of course.

Not only will the photo be judged for the quality of the photograph itself, but also for the ingenuity shown by the owner of the station in a neat and orderly arrangement of the receiving apparatus.

Do not write descriptions on the back of the photo, but simply place your name and address on the back of it or on the photo mounting.

All descriptions of Short-Wave "Listening Posts" should be typewritten or else written in ink, well spaced so that the editors can read them quickly. Do not send "pencil-written"



Here is the new design of Silver Trophy which the Editors will award for the best "Listening Post" photo. Isn't it a beauty! This new contest will cost you practically nothing to enter and you have a very fine chance of winning this handsome Silver Trophy. The editors will award one of these Silver Trophies for the best "Listening Post" photo submitted.

Silver Trophy

For the
Best
"Listening
Post Photo"

descriptions and moreover keep the description of the station and the results you have obtained as brief as possible; usually 300 words is plenty.

Describe your aerial briefly with its dimensions, and particularly tell in what geographic direction it points, north, south, etc. Also mention where it is located such as above any roofs, trees, or other objects, and what form of lead-in you employ.

The announcement of the Sixth Trophy Award for the best Short-Wave "Listening Post" photo appears on the opposite page. Entries for the next contest will be accepted up until March 15th, 1936.

The editors will not be responsible for any photographs or descriptions of "Listening Posts" which may be lost in the mail or otherwise, and return postage should be included with the photos if they are to be returned.

All members of the OFFICIAL SHORT WAVE LISTENER MAGAZINE'S editorial and business staff are excluded from this contest, as well as any members of their families.

In the event of a "tie" between two or more contestants, the judges will award a similar trophy to each contestant so tying. Please remember that this contest for the best Short-Wave "Listening Post" photo is purely an amateur or experimenter's proposition, and all commercial short-wave receiving stations are excluded.

The best "Listening Post" photo will also be judged not because of the fact that a handsome array of expensive short-wave receiving apparatus has been assembled for the picture, but the "pedigree" or "DX" reception results will also be carefully scrutinized by the judges. The board of judges for this contest will be the Editors of the Official SHORT WAVE LISTENER magazine.

Address all entries to this contest to: LISTENING POST CONTEST, care of OFFICIAL SHORT WAVE LISTENER MAGAZINE, 99-101 Hudson St., New York.

Sixth Trophy To Frank Petch

Frank Petch Trophy Winner, Has
950 Veris!

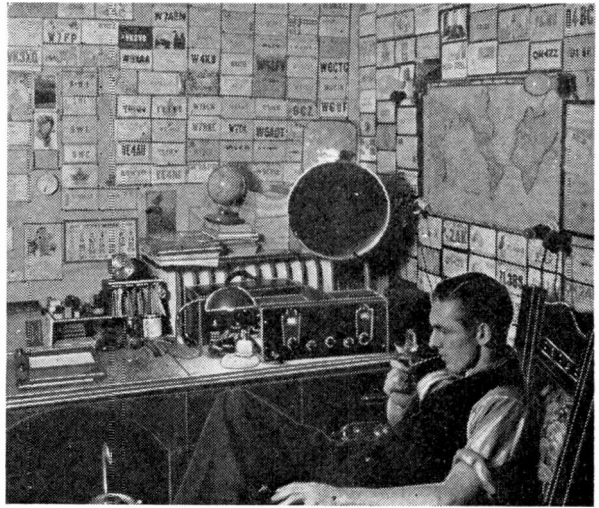
Editor, SHORT WAVE LISTENER:

The receiver is a Pilot A.C. Super Wasp, which I assembled in 1930 and it is "still going strong"!

On the wall are displayed short-wave QSL cards only. All short-wave veries by letter are filed, as are all my BCB verifications. Total verifications to date number approximately 950.

I use 6 aerials here—a doublet—inverted "L", 100 ft. vertical (fish-pole type)—cage type. A "T" type 350 ft. long and 90 ft. high, with shielded lead-in, was used with only fair results, until it was destroyed by lightning last summer — and an inverted V running E. and W. 450 ft. long and 80 ft. high over most of its length.

(Continued on page 330)



Frank Petch's Dandy Station.

Francis Kmetz Has Heard 210 S-W Stations

Editor, SHORT WAVE LISTENER:

I am submitting a photo of my Short-Wave "Listening Post." The main receiver is a Doerle A. C. 5; the one on my right is a Universal 2 Tuber. The receivers on the shelf are battery-operated and use type 30 tubes. At the present time I am using four antennas: A 78 ft. "L" running north and south; a DX 8-wire cage running north and south; a 29 ft. "L" running east and

west, and a 60 ft. flat-top pointing in a north-west, south-east direction.

The switching arrangement on the wall is used to change antennas and grounds, also loud-speakers. I have heard every continent several times and have a few rare "veries".

Among my best catches being ZEK China, VUB Bombay, JVM Japan, ORK Belgium, TFK Iceland, FZR3 Indo-China and HAT4 Budapest, which is a "stand-by".

To date I have received more than 210 short-wave stations and am still listening. The listening-post with its receivers has been built from plans printed in *Short Wave Craft*. I am also a member of the *Short Wave League*. Most of my listening is done on the two speakers but the phones are used for DXing during the A.M. hours. I have been reading *Short Wave Craft* since 1932 and never miss a copy, although your *Short Wave Listener* certainly did make a "hit" with us listeners, because it contains so much necessary data and information needed in DX work. Thanking you again for your F.B. (fine business) magazine and hope to never miss an issue.

FRANCIS KMETZ,
213 Linden Street,
Allentown, Penna.



Francis Kmetz enjoys his Listening Den.

SUN - SPOTS and Their Effect on Short Waves

Most of us no doubt pay little attention to sun-spot activity with regard to short-wave transmission and reception conditions, but to those engaged in commercial short-wave communication work, the effect of sun-spots on transmission is watched very sharply. Last summer was famous for its severe magnetic storms, caused by great sun-spot activity.

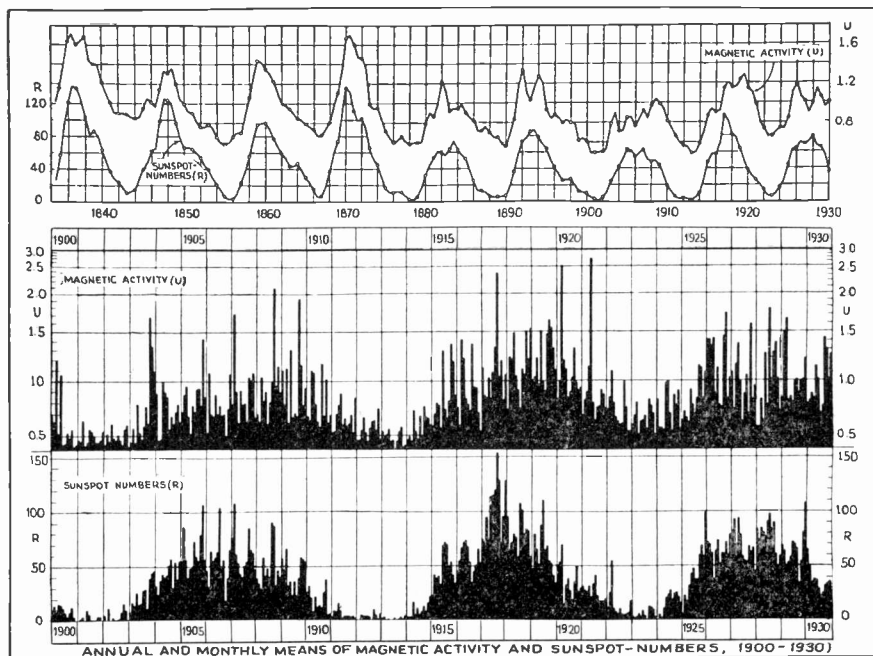
● THE accompanying charts show the close relation existing between sun-spots and short-wave transmission. Briefly, what happens is this—at periods of great sun-spot activity, the transmission of short waves falls off while, in many cases, long wave transmission improves. The decrease in the efficiency of short-wave transmission follows a strong variation in the earth's magnetic field, as one of the lines of the accompanying charts show.

This important relation between magnetic storms or variations in the earth's

magnetic field and sun-spot activity is shown clearly in one of the accompanying charts and this relation has been recorded and studied for nearly one hundred years. So important is it to watch the solar disturbances, especially sun-spot activity—their size and number—that a special scientific instrument for observing the sun, and known as a *spectroheliograph*, is used regularly at one of the Trans-Atlantic short-wave phone system laboratories.

During a recent *magnetic storm* caused by high solar activity, short-wave communication across the Atlantic Ocean became impossible and long waves were resorted to, a wave length of 5,000 meters being used. It is a peculiar paradox that as the short waves became weaker, the long wave signals usually become stronger. It is thought by scientists that the effect of the sun-spots on the earth's magnetic field and radio transmission is caused by streams of electrically charged gaseous particles or ions which are shot off by the sun during the period of high sun-spot activity. The effect of these magnetic storms do not manifest themselves in the

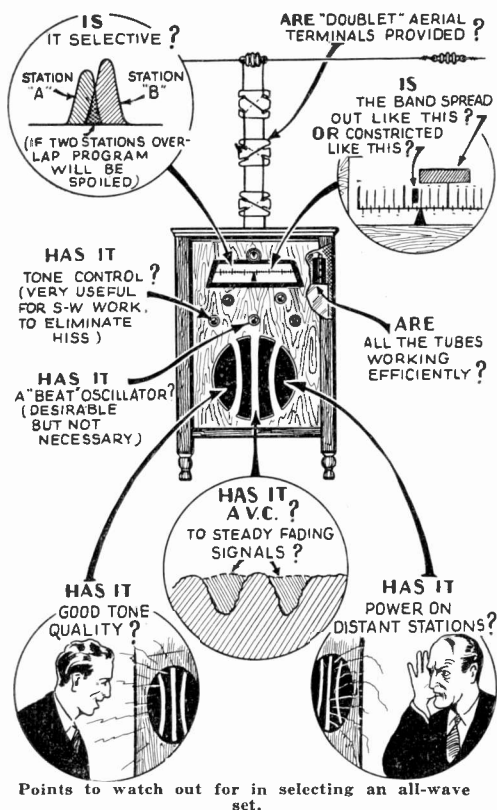
(Continued on page 333)



How to Select an ALL-WAVE SET

By H. W. SECOR

What is the relative importance of the number of tubes in a set; the degree of selectivity and the tone quality? These, and other important factors, to be considered in purchasing an all-wave receiver are here discussed.



Points to watch out for in selecting an all-wave set.

● PROBABLY the question most frequently asked the editors is how should I select an all-wave receiver? It is only too true, that many people undoubtedly have been over-impressed by handsome-looking cabinets, and large "professional" looking dials and other jimcracks which have been added on some of the cheaply-built but elaborate looking dual-wave receiving sets.

If you are going to purchase a combination short and broadcast receiver, there are several things which you will want incorporated in such a set. First, the set should have a sufficient number of tubes, a well-designed circuit, plus good craftsmanship in its construction, so that comfortable loudspeaker volume can be obtained on the average broadcast and short-wave station.

Next, the selectivity is a very important factor, and along with this consideration, we should also watch to see that the tuning of the set is not so sharp that it becomes actually "painful" to tune in and separate the foreign short-wave stations, particularly on the 6 megacycle (49 meter) band.

A great many sets are purchased through local dealers, and in this case, the purchaser will have the best chance to find just what a certain make of receiver can do, and if he finds that it does not tune in the stations

as clearly or as easily as he has seen them tuned in on other sets, he can invariably have installed another make of set. Most of the modern all-wave receivers are fitted with a two-needle dial, one of the needles moving rapidly over a circular inner scale, while the longer needle turns slowly over a larger outer scale. Some sets have but one needle or dial, which is rotated by a two-speed tuning control knob, and providing the dial is large enough, the principal short-wave broadcast bands, such as the 19, 31 and 49 meter bands, are spread out sufficiently to make comfortable tuning. When one remembers that as many as 10 or 15 different short-wave stations have been tuned in on a 49 meter or 6 megacycle band, all in the space of about 1/16 of an inch on the scale of an "old style" all-wave receiver, you will get some idea of what to look for in a new receiver. Generally speaking, the 49-meter band, for example, should be spread out over 8 or 10 degrees on the dial, or even more. In some cases, a check can be made on this in the store where the set is sold, but if not, you had best have a thorough understanding with the dealer that if this "band-spread" feature is not all that you expect it to be, that you shall have the opportunity of buying some other set.

The number of tubes in a set is one of those factors which, in many cases, leads to an unnecessary outlay, as many well-designed and carefully constructed receivers put out by reputable manufacturers have brought in the European and other short-wave "broadcast" stations on 7 to 8 tubes. Some of these sets (thanks to the new *dual-purpose* tubes) fitted with 7 tubes for instance, may give the equivalent results of 11 tubes of the old type. Just because a set has 15 or 20 tubes, is no ab-

(Continued on page 332)

THE LISTENER SPEAKS

Yes, We Have "Code Hogs"

Editor, SHORT WAVE LISTENER:

Tonight, from 6 to 9:30 P.M. E.D.S.T., I have been trying to listen to GSD, DJD, 2RO, EAQ, Radio Coloniale, et al. broadcast their news bulletins in English. I am reminded of your reply (August-September issue) to Mr. DuPont's letter complaining about "Code Hogs", and although I am not exactly "having a fine time," I nevertheless "wish you were here."

You are concerned regarding the possible effect of Mr. DuPont's attitude, on short-wave receiver sales; you should, rather, be concerned as to the effect caused by the thought expressed in your reply. Your apparent minimizing of this ever-present evil and nuisance, if voiced by many, might retard any remedy now in process.

You say that you "have never experienced any real difficulty due to code interference." That is why I wish you might be here any night when I'm picking up the foreign news and music, in which I am most interested.

I have a Philco Model 16X All-Wave Receiver. I live in a building housing several elevators, ninety multiple unit refrigerators, one dentist, many household electrical gadgets, and a trolley line goes past the front door. These cause a negligible amount of disturbance. But the "code hog" is always perched right on top of the frequency which interests me for the moment, although there happens to be an ocean of vacant space on either side. It is past comprehension and a sad commentary on the lack of coordination shown by the various interests which have vast sums invested in broadcasting stations.

I disagree with Mr. DuPont insofar that I think something will be done about it soon; too many large financial angles are involved. I further disagree: Not all programs are ruined; only 75% to 90%, and these not entirely! A very annoying sound is superimposed upon one which might, otherwise, have been pleasing to the listener.

Popular demand for the elimination of a nuisance usually bears fruit (not speaking politically). We used to be plagued by antique, outdated receivers in the neighborhood; these caused untimely, unearthly squeaks and trills. By almost general consent, these have gone the way of the pterodactyl and the horse-car. A few selfish listeners held out.

Somehow, the air traffic, except for regulated stations, reminds one of road traffic. There are, also, both kinds of drivers.

I have availed myself of the opportunity afforded to get Great Britain, Germany and France on the several frequencies. It's no use. The "code hogs" anticipated this and acted accordingly and characteristically.

I am sanguine, but not fatuous, so I am not trying to discourage prospective purchasers of all- or short-wave receivers. Mine is so much better than the one I had ten years ago, and the one I didn't have before that, I am inclined to wax philosophical and patient.

Your request for brickbats, suggestions and orchids has left me cold until now. Nary a brickbat, but here is a suggestion; the orchid will be found below, near the signature. Selfishly, I should appreciate a listing of times on the air of *News in English*, from all countries; National anthems and any other things of interest which are broadcast at a certain time. Aside from that, *Short-Wave Listener* seems to be improving apace, without any help from me.

FRED DELAVAN,
4619 Chester Ave.,
Phila., Pa.

O. K.! Let's hear from more readers on this "code" hiatus.—Editor.

There Ain't No "Code Hogs"!

Mr. DuPont is the gentleman who in the August-September issue of *Short Wave Listener* claims that short-wave reception is doomed, — done for — tried and convicted to be snuffed out, in the sizzling execution chair of the "code hog!"

At first something akin to laughter —

For the guidance of other readers, may we ask you, when you write to us, to bear this in mind:

1—If you get many foreign or distant stations, tell us so.

2—What set do you use? How many tubes?

3—What type of aerial do you find works best? (If necessary, make a rough sketch.)

This information in your letter to us makes it more valuable, and will help to get it printed.—Editor.

feeling that it was merely a blurb to start a controversy.

The editorial comment on Mr. PuPont's letter rightly calls attention to the seriousness of such a charge. The more so, as short wave is really just coming into its own and also from the fact that nearly all the sets of today stress the short wave feature. I hold no brief for any radio manufacturer nor any other interest, except my interest in short wave reception and the uncontrovertable fact that I DO get short wave reception about when and where I want it.

I am not a "ham." I don't know one code dot or dash from another — my short wave receiver is a standard make — my antenna, except with a *personal kink* or so is about the same as any commercial doublet on the market. Possibly not unlike hundreds of others who became interested in short wave reception, I had plenty of difficulties at first — then after purchasing a number of magazines of which — and this is not intended as a plug — *Short Wave Listener* and *ShortWave Craft* — and with the kindly offices of receiver owners I found that the air lines offered a splendid hobby.

thirty hours) was *one minute and three and one half seconds!*

On Wednesday, I shunted off my antenna, rigged up another inside the house — exactly twenty-four feet long, a single wire, cotton wrapped. And as this is being written, Daventry is coming in as clear as a bell—**WITH NO OUTDOOR ANTENNA!** I never use a ground!!

During the period mentioned I have logged practically all of the United States short wave stations and the following localities, which for brevity sake I merely mention as cities. On Friday, Guatemala, Havana, London, Japan and Victoria, Australia. Saturday—Winnipeg, Santiago, Cuba, Barranquilla, Sancti Spiritus. Sunday, Pontoise, London, Costa Rica, Medellin, Mexico City, Bogota S.A. Zeesen. On Monday Pontoise, London, Zeesen, Havana, Rome, Ecuador. On Tuesday, Madrid, London, Pontoise, Berlin, Australia, Japan. On Wednesday London, Berlin, Rome, Lima Peru, Cali, Columbia, Rio Bamba, Bowmanville, Canada.

If and when, Mr. DuPont would like to have a complete transcript of my log, and a word or so as to the how of securing

Our Readers Ideas

So—partly to answer Mr. DuPont and MOSTLY to off set his rather amazing claims—I pass along some observations—these cover a rather wide range of short wave receiving activities. First, in southern California—then on a recent trip from San Diego to Portland Oregon—and just now in Kentucky. On all these trips I carried my table model s.w. receiver in my car.

During all this time, I have meticulously kept a log. NEVER have I logged a station without clearly getting a station identification. So with that preliminary — just a final word and then we begin.

In the location here, my house is snuggled deep in a forest — heavy forest of maples, black walnut and hickory trees. These are high and strong in leaf. Add to this a series of leaky transformers and hi-tension wires—not so hot for good reception on any band. I first strung a single wire—north east to south west—100 feet long, and experienced no difficulty in bringing in stations when they were on.

On Friday of last week, I read Mr. DuPont's article. That day, and every day until this time, (Wednesday) I tuned in exactly five hours a day; in all *thirty hours of reception*. During this time, I recorded the *interference* of the "code hog" with a stop watch. The total time that I had severe interference from code signals, (in

GOOD short-wave reception, he may reach me through the editor of this magazine.

In the meantime, let no one be discouraged by such bugaboos as the "code hog," ANYONE with a good receiver, a good antenna, and the friendly guides of *Short Wave Craft* and *Short Wave Listener*, any man who can read words and numerals, can get what he wants, almost when and where he wants it.

Ever try to get a phone number and find the line busy? Don't yank out the phone by its roots—be a little patient. Patience is a cardinal virtue in any short-wave fan. "Hams" DO NOT INTERFERE —take that statement for a fact! Should a code come on now and then, its either some one paying heavily for the privilege (we pay nothing) or it might be a message of life and death—of international interest to millions of people—or an S.O.S. Whatever it is and when ever it comes—select another channel for the minute — retaining always a friendly interest in the "box of wonders" before which dwarfs Aladdin in brightest imagination.

Here's to good tuning—

Portland Walker (himself)
Crestwood, Kentucky.

(Bravol Portland, and from other reports, it seems the major opinion is on your side.—Editor.)

THE LISTENER

Ham Interference

Sterling L. Brady, Matamoras, Pa.

(Q) One afternoon I picked up two amateurs talking, although I had my receiver tuned to the broadcast band. I would like to know just why this should have been the case. My receiver was tuned to around 2,600 kc. on the short wave, and 1150 on the regular broadcast band.

(A) We cannot account for this reception of an amateur station on 1,150 kc. or, for that matter, on 2,600 kc. It was probably due to either some improper adjustment of the amateur transmitters, or some peculiar qualities of your receiver. If you had picked up these amateurs on some frequencies slightly different than those specified, we might be able to blame it to the image response of your receiver.

(Q) Around 2,500 kc. I pick up a regular telephone conversation. I am convinced this is not wireless telephone because the people remarked that the phone is noisy. Can this be direct pickup from the telephone line?

(A) The frequency you give does not check with the regular commercial radio telephone frequencies. However, these people do talk over regular type telephones, and it is quite possible during the conversation that you might hear them mention the fact that the line was becoming noisy. We do not believe you are picking it up from the telephone land wire because, from what you state, it appears to be on a definite frequency.

E. S. T = 7:00 PM.

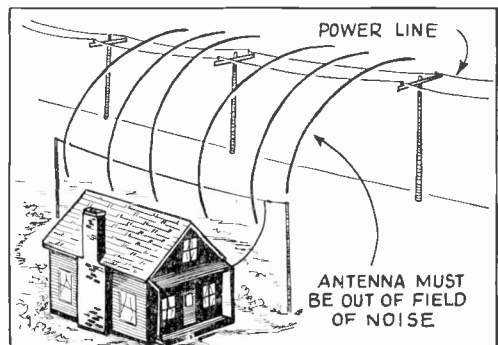
HAWAIIAN IS - 1:30PM	KENYA ----- 2:30 AM.
HONDURAS --- 6:00 PM.	JAPAN ----- 9:00 AM.
MEXICO --- 6:00 PM.	NEW ZEALAND - 9:00 AM.
COSTA RICA --- 6:00 PM.	MALAY STATES - 7:00 AM.
GERMANY	CENTRAL AUSTRALIA - 9:30 AM.
AUSTRIA	EASTERN " - 10:00 AM.
SWITZERLAND - 1:00 AM.	CHINA (EAST COAST) - 8:00 AM.
ITALY	INDIA ----- 5:30 AM.
POLAND	CANARY IS. --- 11:00 PM.
EGYPT ----- 2:00 AM.	PUERTO RICO --- 8:00 PM.
SO. AFRICA --- 2:00 AM.	LUXEMBERG --- 1:00 AM.
W. RUSSIA --- 2:00 AM.	CUBA ----- 7:00 PM.

Standard time in the most prominent countries of the world.

Time In Important Cities of the World

We have had a great number of requests for a chart showing the time difference in the most important cities or

countries of the world. We have chosen 7 o'clock, Eastern Standard Time, and have prepared a table showing what the corresponding time would be in the various parts of Europe, Asia, Africa, Hawaiian Islands, Australia, New Zealand, etc. This will serve as a simplified chart. Of course, if it is 2 P.M. Eastern Standard Time instead of 7 P.M. that you wish to find out the time in some foreign country, it is only necessary to subtract five hours from the time given for the 7 o'clock condition.



This shows how your antenna picks up noise from power lines.

Power Line Interference

John Whitehead, New Orleans, La.

(Q) I live in a location where many high-voltage power lines are present. Some of them run past my door. I have tried a number of antenna systems, such as the doublet and also the shielded lead-in type, and have not been able to eliminate the interference.

(A) You undoubtedly, as have many others, not considered the fact that if the antenna is not moved away from the source of noise, no amount of alteration in the feeder or lead-in system and no special types of lead-ins will be of any benefit whatsoever. The antenna proper, i. e., the flat-top portion, must be outside the range of the noise, then bringing a noise-reducing lead-in through the field of noise, which of course, is necessary.

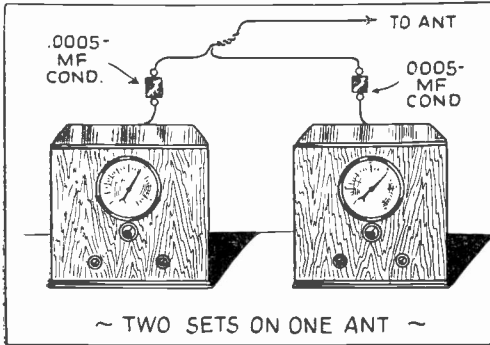
Two Sets on One Antenna

Sidney Romaine, Dallas, Tex.

(Q) I would like to operate two receivers in my home, but am not able to erect two individual antenna systems. I have heard and read that it is possible to operate two receivers from a single antenna. I would like to know if this is true and just how it is done.

ASKS

Only questions of general "Listener" interest will be answered here. No queries can be answered by mail. No diagrams of a technical or involved nature will be given here — only those which the Editors feel will be of value to the non-technical "Short-Wave Listener."



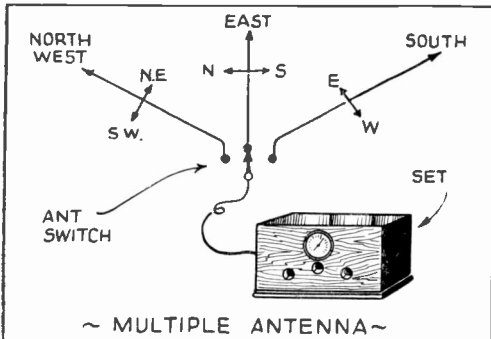
Operating two receivers from one antenna.

(A) In a good many cases, regardless what has been said and printed on this subject, it is entirely possible to connect the two receivers to a *single* antenna, with no special coupling arrangements, and in many cases, no interference between the receivers will be encountered — if they are not of the regenerative type. In some instances, superheterodynes have caused a slight amount of interference, but on very rare occasions. In the drawing, we have shown how two sets may be operated from a single antenna, merely by wrapping wire around the antenna or through the use of two small, fixed condensers.

Multiple Antenna System

Harry Davis, Freeport, Ill.

(Q) I have read in a number of magazines where short wave "fans" have employed anywhere from three to six receiving antennas for receiving stations in different directions. I would like to know if this is really a worthwhile proposition, and if so, I will erect several antennas



A multiple antenna system which receives well in all directions.

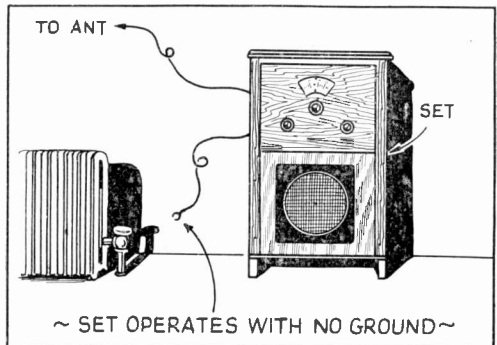
which you might suggest to me, incidentally, in your next issue of the *Short-Wave Listener*.

(A) It is true that various types of antennas, which are slightly directional, will perform differently on different stations and wavelengths, particularly antennas of various lengths will perform in the manner in which you mention. In the drawing, we have shown several types of antennas of suitable lengths. You might try this arrangement.

Ground Makes No Difference

Edith Robinson, Oneonta, N. Y.

(Q) Not being familiar with the technicalities of radio, I am turning to you for an answer to a relatively simple question. In the instruction book that came



A ground connection is necessary, even though it appears not to affect reception.

with our "all-wave" receiver, it states that a *ground* connection must be used. However, upon disconnecting the ground, I find that it makes absolutely no difference so far as I can determine in the reception of the stations. Would you be kind enough to tell me why they are so adamant in the use of the ground, when it makes so little difference?

(A) You will find generally that the *ground* connection will not affect the distance which can be covered by the receiver or its sensitivity in any manner, although the ground is a precautionary measure and is required in most state Fire Underwriter's laws. The ground will also, in many cases, reduce the noise pick-up by the receiver.

Why International Reply Coupons?

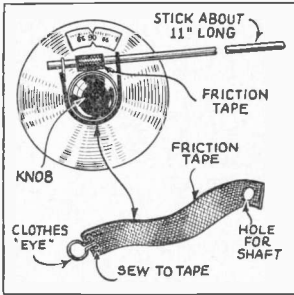
Carl Stevens, Philadelphia, Pa.

(Q) Why is it necessary to send an International Reply Coupon, costing 9c, in
(Continued on page 335)

\$3.00 for Best S-W Hint

\$3.00 PRIZE WINNER
Dial Handle

A "Ham" friend of mine, XU8JQ of Shanghai, interested me in short waves, and I finally



This makes Tuning Easier.

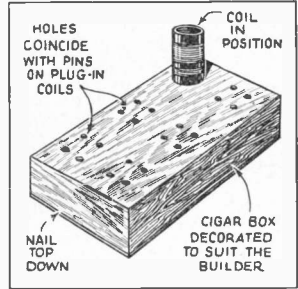
structural details. The only materials needed are a short length of wood, friction tape and a "hook-and-eye" fastener. The stick used happened to be a chopstick.—John G. Fee.

Each issue we are awarding \$3.00 for the best short-wave hint. Those presented on this page will give the reader an idea of the type of material that we are looking for. All hints printed other than the prize winner will be awarded a six months' subscription to this magazine.

obtained a 2-tube DX'er. I recently started reading your Short Wave Listener and felt that the following hint might be of interest to other readers. The drawing clearly shows the construction details. The only materials needed are a short length of wood, friction tape and a "hook-and-eye" fastener. The stick used happened to be a chopstick.—John G. Fee.

an ordinary cigar box. The cigar box is first given a coat of paint in order to provide a pleasing appearance. The lid of the box is also fastened down with a brad. Then holes are drilled into the top to accommodate the coils. The number of holes will depend upon the number of prongs in each coil and the number of coils.—Max Morrison.

Coil Holder
A. simple and inexpensive holder for spare short-wave coils may be constructed from



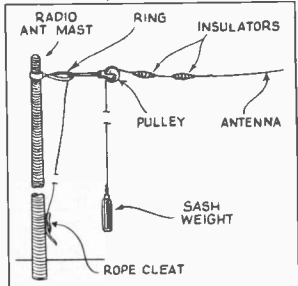
Rack for Unused Coils.

The number of holes will depend upon the number of prongs in each coil and the number of coils.—Max Morrison.

Trick Antenna Support

In a past issue of the Short Wave Listener there

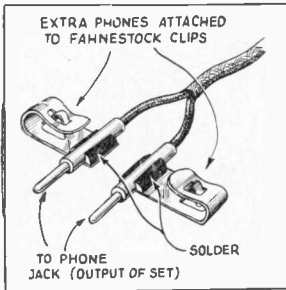
appeared a hint showing how to keep the antenna taut. You will find, however, that the rope may become fouled at the pulley, and if the mast happens to be a high one, it will be difficult to free the rope. With the method shown in the drawing, the sash weight will always keep the rope in place and aid in lowering the antenna when the rope is slackened. The antennas usually do not have enough weight to pull the rope through the pulley.—Eric G. Schaaff.



Improved Antenna Support.

Phone Cord Hint

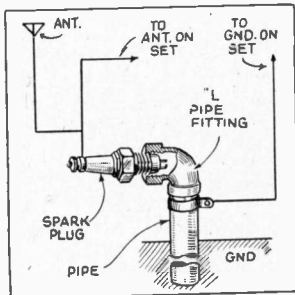
Recently I had the occasion to use more than one pair of earphones on my shortwave receiving set. This set had only one set of output terminals. In order to use two pairs of phones and connect them in parallel, I soldered two Fahnestock clips to the cord tips, as shown in the drawing. It is



Multiple Earphone Connections

now a simple matter for me to use an additional pair of earphones.—Loren R. Borland.

Simple Lightning-Arrester



Combination Ground and Lightning Arrester

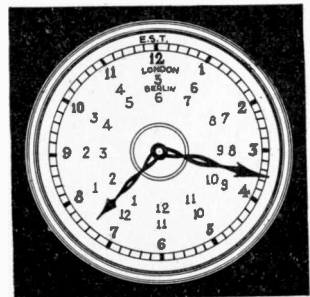
thoroughly clean and that no carbon remains, otherwise a considerable loss will be encountered.—Clyde Council.

When making a ground connection for my radio receiver consisting of a metal pipe driven into the ground, I hit upon the following idea as depicted in the drawing. By obtaining the proper size reducer to fit the spark plug into the pipe, it was possible to use the plug as a lightning arrester. Of course, if an old plug is employed, be sure that it is

The Radio Clock

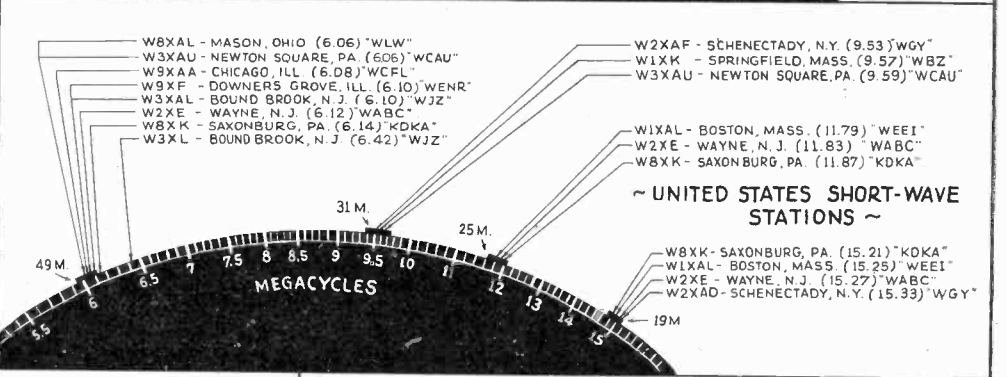
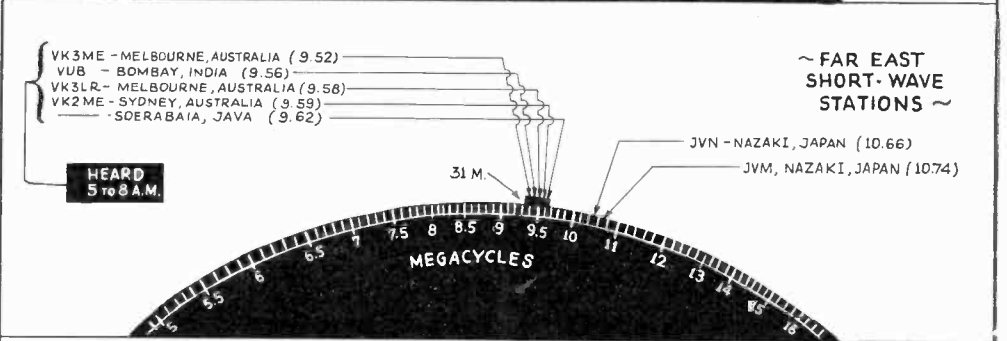
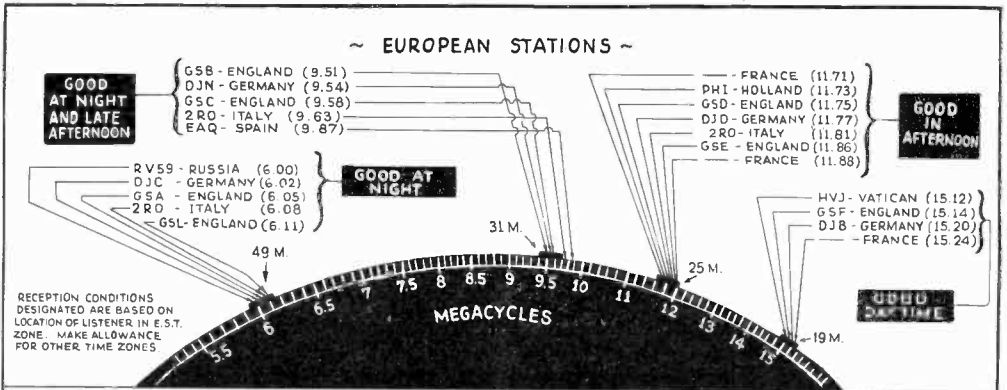
I removed the glass from an ordinary clock, and added two other sets of numbers, one set for London and another for Berlin. While only two sets of figures were added, there is no reason why several more could not be written in, making the clock complete for all major countries or cities. The one submitted is marked in Eastern Standard, London and Berlin Time. London time is five hours ahead of Eastern Standard Time. Therefore, 7:00 o'clock Eastern Standard Time would be 12:00 o'clock London (Greenwich) time and 1:00 o'clock (Middle European) time.—Paul Watkins.

(Come on, readers, let's have some more of these "World-Time" Ideas.—Ed.)



Multiple Time Clock.

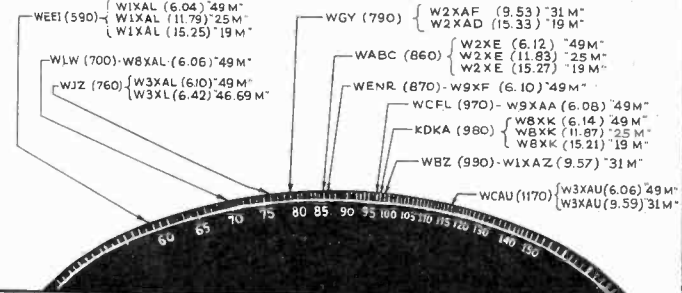
Where the Stations Appear on Your Dial



When to Tune and Where

● Until you have had considerable experience in short wave tuning, it is well to confine your efforts to the four bands indicated on the dial. These may look small, compared to the total length of the dial, but they contain the best "plums" among the foreign stations and many faint ones which, at first, you will probably pass unnoticed until you learn to tune slowly and carefully, intent upon identifying each slight "swish", which may be a station.

U.S. STATIONS BROADCASTING PROGRAMS ON SHORT-WAVE CHANNELS



Best Short Wave Stations

This list of short-wave relay broadcasting, commercial and experimental stations is the result of several years of work. Names and addresses of the stations have been included wherever possible, so that the Listener may know where to write. The blank spaces are for recording the dial settings of your own set.

* Stars designate the most active and best heard stations. Times are Eastern Standard
 C—Commercial phone. B—Broadcast service. X—Experimental service.

Station	Dial	Station	Dial	Station	Dial
21540 kc. W8XK -B- 13.93 meters WESTINGHOUSE ELECTRIC PITTSBURGH, PA. 7-9 a.m.; relays KDKA		17780 kc. *W3XAL -B- 16.87 meters NATIONAL BROAD. CO. BOUND BROOK, N. J. Relays WJZ, Daily exc. Sun. 9 a.m.-1 p.m.	35 10 49 CIA	15330 kc. *W2XAD -B- 19.56 meters GENERAL ELECTRIC CO. SCHENECTADY, N. Y. Relays WGY daily, 2-3 p.m. Sun. 10:30 a.m.-4 p.m.	55 4 CIA
21520 kc. W2XE -B- 13.94 meters ATLANTIC BROADCASTING CORP. 485 Madison Ave., N.Y.C. Irregular 8 a.m.-12 n.		17775 kc. PHI -B- 16.88 meters HUIZEN, HOLLAND Used irregularly		15310 kc. GSP -B- 19.6 meters DAVENTRY B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND Irregular	
20700 kc. LSY -C- 14.49 meters MONTE GRANDE ARGENTINA Test irregularly		17760 kc. DJE -B- 16.89 meters BROADCASTING HOUSE BERLIN, GERMANY Irregular 8-11:30 a.m.		15290 kc. LRU -B- 19.62 meters BUENOS AIRES, ARGENTINA Irregular 7-11:30 p.m.	
20380 kc. GAA -C- 14.72 meters RUGBY, ENGLAND Calls Argentina, Brazil, mornings		17760 kc. *W2XE -B- 16.89 meters ATLANTIC BROADCASTING CORP. 485 Madison Ave., N.Y.C. Irregular 11 a.m.-1 p.m.		15280 kc. DJQ -B- 19.63 meters BROADCASTING HOUSE BERLIN, GERMANY 12:30-2 a.m.	
19900 kc. LSG -C- 15.08 meters MONTE GRANDE, ARGENTINA Tests irregularly, daytime		17760 kc. IAC -C- 16.89 meters PISA, ITALY Calls ships, 6:30-7:30 a.m.		15270 kc. *W2XE -B- 19.65 meters ATLANTIC BROADCASTING CORP. 486 Madison Av., N.Y.C. Relays WABC daily, 1-6 p.m.	
19345 kc. *PMA -B,C- 15.51 meters BANDOENG, JAVA Calls Holland early a.m. Broadcasts Tues., Thur., Sat., 10:00-10:30 a.m.		17310 kc. W3XL -X- 17.33 meters NATIONAL BROAD. CO. BOUND BROOK, N. J. Tests irregularly		15260 kc. GSJ -B- 19.66 meters DAVENTRY, ENGLAND B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 12:15-2:15 p.m.	
18620 kc. GAU -C- 16.11 meters RUGBY, ENGLAND Calls N. Y., daytime		17080 kc. GBC -C- 17.56 meters RUGBY, ENGLAND Calls ships		15245 kc. * -B- 19.68 meters "RADIO COLONIAL" PARIS, FRANCE Service de la Radiodiffusion 103 Rue de Grenelle, Paris 6.55-11 a.m.	
18345 kc. FZS -C- 16.35 meters SAIGON, INDO-CHINA Phones Paris, early morning		16233 kc. FZR3 -C- 18.48 meters SAIGON, INDO-CHINA Calls Paris and Pacific (etc)		15220 kc. *PCJ -B- 19.71 meters N.V. PHILIPS' RADIO EINDHOVEN, HOLLAND Sun. 8-11 a.m. Also Tues. 3-6 a.m., Wed. 7-11 a.m.	
18340 kc. WLA -C- 16.36 meters LAWRENCEVILLE, N. J. Calls England, daytime		15660 kc. JVE -C- 19.16 meters NAZAKI, JAPAN Phones Java 3-5 a.m.		15210 kc. *W8XK -B- 19.72 meters WESTINGHOUSE ELECTRIC & MFG. CO. PITTSBURGH, PA. 9 a.m. - 7 p.m. Relays KDKA	55 CIA
18270 kc. ETA -C- 16.42 meters CHIEF ENGINEER P. O. Box 283, ADDIS ABABA, ETHIOPIA Irregularly		15620 kc. JVF -C- 19.2 meters NAZAKI, JAPAN Phones U. S., 5 a.m. & 4 p.m.		15200 kc. DJB -B- 19.74 meters BROADCASTING HOUSE BERLIN, GERMANY 3:45-11:30 a.m.	
17810 kc. PCV -C- 16.84 meters KOOTWIJK, HOLLAND Calls Java, 6-9 a.m.		15415 kc. KWQ -C- 19.46 meters DIXON, CAL. Phones Hawaii 2-7 p.m.			
17790 kc. GSG -B- 16.86 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 6-8:45 a.m.		15370 kc. *HAS3 -B- 19.52 meters BUDAPEST, HUNGARY Broadcasts Sundays, 9-10 a.m.			
		15355 kc. KWU -C- 19.53 meters DIXON, CAL. Phones Pacific Isles and Japan			

Station	Dial	Station	Dial	Station	Dial
15180 kc. GSO -B- 19.76 meters DAVENTRY B.B.C., BROADCASTING HOUSE LONDON, ENGLAND Irregular	55 1C JA	13585 kc. GBB -C- 22.00 meters RUGBY, ENGLAND Calls Egypt & Canada, afternoons		11830 kc W2XE -B- 25.36 meters ATLANTIC BROADCASTING CORP. 485 MADISON AVE., N. Y. C. Relays WABC 6-8 p.m.	
15140 kc. *GSF -B- 19.82 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 6-8:45, 9 a.m.-12 n.		13075 kc. VPD -X- 22.94 meters SUVA, FIJI ISLANDS Daily exc. Sun. 12:30-1:30 a.m.		11810 kc. *2RO -B- 25.4 meters E.I.A.R. Via Montefiore 5 ROME, ITALY 8:15-9 a.m., 9:15-11 a.m., 11:30 a.m.-12:15 p.m.	
15120 kc. *HVJ -B- 19.83 meters VATICAN CITY ROME, ITALY 10:30 to 10:45 a.m., except Sunday Sat. 10-10:45 a.m.		12840 kc. WOO -C- 23.36 meters OCEAN GATE, N. J. Calls ships		11810 kc. *HJ4ABA -B- 25.4 meters P. O. BOX 50, MEDELLIN, COLOMBIA 11:30 a.m.-1 p.m., 6:30-10:30 p.m.	
15090 kc. RKI -C- 19.88 meters MOSCOW, U.S.S.R. Phones Tashkent near 7 a.m. and relays RNE on Sundays irregularly		12825 kc. CNR -B, C- 23.39 meters DIRECTOR GENERAL Telegraph and Telephone Stations, Rabat, Morocco Broadcasts, Sunday, 7:30-9 a.m.		11800 kc. CO9WR -X- 25.42 meters P. O. Box 85 SANCTI SPIRITUS, CUBA 9 a.m.-12 n., 4-6, 9-11 p.m.	
15070 kc. PSD -C- 19.91 meters RIO DE JANEIRO, BRAZIL Calls N.Y., Buenos Aires and Europe, daytime		12800 kc. IAC -C- 23.45 meters PISA, ITALY Calls Italian ships, mornings		11790 kc. W1XAL -B- 25.45 meters BOSTON, MASS. Sun. 5-7 p.m.	
15055 kc. WNC -C- 19.92 meters HIALEAH, FLORIDA Calls Central America, daytime		12235 kc. TFJ -C- 24.52 meters REYKJAVIK, ICELAND Phones England mornings, Broadcasts Sun. 12.40-1 p.m.		11770 kc. DJD -B- 25.49 meters BROADCASTING HOUSE, BERLIN, GERMANY 12 n. - 4.30 p.m.	57 30 41 21 57 30 37 C1
14980 kc. KAY -C- 20.03 meters MANILA, P. I. Phones Pacific Isles		12150 kc. GBS -C- 24.69 meters RUGBY, ENGLAND Calls N.Y.C., afternoon		11750 kc. *GSD -B- 25.53 meters BRITISH BROAD. CORP. DAVENTRY, ENGLAND 12:15-4 p.m.	
14950 kc. HJB -C- 20.07 meters BOGOTA, COL. Calls WNC, daytime		11991 kc. FZS2 -C- 25.02 meters SAIGON, INDO-CHINA Phones Paris, morning		11730 kc. PHI -B- 25.57 meters HUIZEN, HOLLAND Daily exc. Tues. and Wed. 8-10 a.m., Sat., Sun. 8-11 a.m.	
14600 kc. JVH -B,C- 20.55 meters NAZAKI, JAPAN Broadcast Daily 12 m-1 a.m. Phones Europe 4-8 a.m.		11955 kc. ETB -C- 25.09 meters ADDIS ABABA, ETHIOPIA See 18270 kc.		11720 kc. *CJRX -B- 25.6 meters WINNIPEG, CANADA Daily, 8 p.m.-12 m.	
14590 kc. WMN -C- 20.56 meters LAWRENCEVILLE, N. J. Phones England morning and afternoon		11950 kc. KKQ -X- 25.10 meters BOLINAS, CALIF. Tests, irregularly, evenings	57 30 78 C1	11715 kc. -B- 25.61 meters "RADIO COLONIAL" PARIS, FRANCE 6:15-9 p.m. 11 p.m.-1 a.m.	
14530 kc. LSN -C- 20.65 meters HURLINGHAM, ARGENTINA Calls N.Y.C. afternoons		11940 kc. FTA -C- 25.13 meters STE. ASSISE, FRANCE Phones CNR morning Hurlingham, Arge., nights		11680 kc. KIO -X- 25.68 meters KAHUKU, HAWAII Tests in the evening	
14485 kc. TIR -C- 20.71 meters CARTAGO, COSTA RICA Phones Cen. Amer. & U.S.A. Daytime		11880 kc. -B- 25.23 meters "RADIO COLONIAL" PARIS, FRANCE 4-5 a.m., 11:15 a.m.-6:05 p.m.		11560 kc. VIZ3 -X- 25.95 meters AMALGAMATED WIRELESS OF AUSTRALASIA MELBOURNE, AUSTRALIA Calls Canada evening and early a.m.	
14485 kc. HPF -C- 20.71 meters PANAMA CITY, PAN. Phones WNC daytime		11870 kc. *W8XK -B- 25.26 meters WESTINGHOUSE ELECTRIC & MFG. CO. PITTSBURGH, PA. 5-9 p.m. Fri. till 12 m. Relays KDKA	57 30 57 C1	11200 kc. XDJQ -B- 26.79 meters BOX 2825, MEXICO CITY, MEX. Daily 5:30-6:30 p.m., 10 p.m.- 12 m. Relays XEW	
14485 kc. TGF -C- 20.71 meters GUATEMALA CITY, GUAT. Phones WNC daytime		11860 kc. GSE -B- 25.29 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 10:30 a.m. - 12 n.		11050 kc. ZLT4 -C- 27.15 meters WELLINGTON, N. ZEALAND Phones Australia and England early a.m. Also broadcasts ir- regularly on Sunday.	
14485 kc. YNA -C- 20.71 meters MANAGUA, NICARAGUA Phones WNC daytime					

Station	Dial	Station	Dial	Station	Dial
11000 kc. PLP -B-C- 27.27 meters BANDOENG, JAVA Relays NIROM programs 5:30-10 a.m. irregular on Sundays		10055 kc. ZFB -C- 29.84 meters HAMILTON, BERMUDA Phones N. Y. C. daytime		9590 kc. W3XAU -B- 31.28 meters NEWTOWN SQUARE, PA. Relays WCAU 12 n. - 7:50 p.m.	C1 96 0 70
10740 kc. *JVM -C- 27.93 meters NAZAKI, JAPAN Daily 4-8 a.m. Tues. and Fri. 2-3 p.m. Mon. and Thurs. 4-5 p.m.		10042 kc. DZB -C- 29.87 meters ZEESEN, GERMANY Works with Central America and broadcasts irregularly 2-4 p.m.		9580 kc. *GSC -B- 31.32 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 4:15-5:45, 6-8, 10-11 p.m.	
10675 kc. WNB -C- 28.1 meters LAWRENCEVILLE, N. J. Calls Bermuda, daytime		9860 kc. *EAQ -B- 30.43 meters P. O. Box 951 MADRID, SPAIN Daily 5:15-9:30 p.m.; Saturday also 12 n.-2 p.m.	90 20 90 21	9580 kc. *VK3LR -B- 31.32 meters Research Section Postmaster Gen'l's. Dept. 61 Little Collins St., MELBOURNE, AUSTRALIA 3-7:30 a.m., except Sun. Also Fri., 10:30 p.m.-2 a.m.	
10670 kc. *CEC -C- 28.12 meters SANTIAGO, CHILE Broadcast Daily 7-7:15 p.m., Thur., Sun. 8:30-9 p.m.		9800 kc. LSE -C- 30.61 meters MONTE GRANDE, ARGENTINA Tests irregularly		9570 kc. *W1XK -B- 31.35 meters WESTINGHOUSE ELECTRIC & MFG. CO., SPRINGFIELD, MASS. Relays WBZ , 7 a.m.-1 a.m. Sun. 8 a.m.-1 a.m.	
10660 kc. JVN -B-C- 28.14 meters NAZAKI, JAPAN Phones Europe 3-8 a.m. Broadcasts Daily 12 m.-1 a.m., Mon. and Thurs. 4-5 p.m.		9790 kc. GCW -C- 30.64 meters RUGBY, ENGLAND Calls N.Y.C., evening		9565 kc. VUB -B- 31.36 meters BOMBAY, INDIA 11 a.m.-12:30 p.m., Wed., Thurs., Sat.	
10520 kc. VLK -C- 28.51 meters SYDNEY, AUSTRALIA Calls Rugby, early a.m.		9760 kc. VLJ-VLZZ -C- 30.74 meters AMALGAMATED WIRELESS OF AUSTRALIA SYDNEY, AUSTRALIA Phones Java and N. Zealand early a.m.		9560 kc. *DJA -B- 31.38 meters BROADCASTING HOUSE, BERLIN 4:55-9:30 p.m. 12:30-2 a.m. 8-11:30 a.m.	
10430 kc. YBG -C- 28.76 meters MEDAN, SUMATRA 5:30-6:30 a.m., 7:30-8:30 p.m.		9750 kc. WOF -C- 30.77 meters LAWRENCEVILLE, N. J. Phones England, evening		9540 kc. *DJN -B- 31.45 meters BROADCASTING HOUSE BERLIN, GERMANY 12:30-2 a.m. 8-11:30 a.m. 4:55-10:45 p.m.	
10410 kc. PKD -C- 28.80 meters KOOTWIJK, HOLLAND Calls Java 7:30-9:40 a.m.		9675 kc. DZA -C- 31.01 meters ZEESEN, GERMANY Works with Africa and broadcasts irregularly 5-7 p.m.		9530 kc. *W2XAF -B- 31.48 meters GENERAL ELECTRIC CO. SCHENECTADY, N. Y. Relays WGY 4 p.m.-12 m. Sun. 4:15 p.m. - 12 m.	96 59 C1
10410 kc. KES -X- 28.80 meters BOLINAS, CALIF. Tests evenings		9635 kc. *2RO -B- 31.13 meters E.I.A.R., ROME, ITALY M., W., F. 6-7:30 p.m. Tues, Thurs., Sat. 6-7:45 p.m. Daily 1:30-5 p.m.		9525 kc. LKJ1 -B- 31.5 meters JELOY, NORWAY 5-8 a.m., 11 a.m.-6 p.m.	
10350 kc. LSX -C- 28.98 meters MONTE GRANDE, ARGENTINA Tests irregularly 8 p.m.-12 mid-night		9625 kc. *CT1AA -B- 31.17 meters LISBON, PORTUGAL Tues., Thurs., Sat. 4:30-7 p.m.		9518 kc. *VK3ME -B- 31.54 meters AMALGAMATED WIRELESS, Ltd. G. P. O. Box 1272L, MELBOURNE, AUSTRALIA Daily exc. Sun. 4:00-7:00 a.m.	16 0 46 21
10330 kc. *ORK -B, C- 29.04 meters RUYSELEDE, BELGIUM Broadcasts 2:30-4 p.m.		9620 kc. YDB -B- 31.19 meters N.I.R.O.M., SOERABAJA, JAVA 5:30-11 a.m.		9510 kc. *GSB -B- 31.55 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 9 a.m.-12 n. 12:15-4, 4:15-5:45 p.m., 6-8 p.m.	
10290 kc. DIQ -X- 29.16 meters KONIGSWUSTERHAUSEN, GERMANY Broadcasts irregularly		9595 kc. *HBL -B- 31.27 meters LEAGUE OF NATIONS GENEVA, SWITZERLAND Saturdays, 5:30-6:15 p.m. Mon. at 1:45 a.m.		9501 kc. *PRF5 -B- 31.58 meters RIO DE JANEIRO, BRAZIL Irregularly 4:45-5:45 p.m.	
10260 kc. PMN -C- 29.24 meters BANDOENG, JAVA Calls Australia 5 a.m. Broadcast 5:30-10 a.m., Sun.		9590 kc. *VK2ME -B- 31.28 meters AMALGAMATED WIRELESS LTD., 47 YORK ST. SYDNEY, AUSTRALIA Sun. 1-3, 5-9, 9:30-11:30 a.m.	96 80 70 C1		
10250 kc. LSK3 -C- 29.27 meters HURLINGHAM, ARGENTINA Calls Europe and U. S., afternoon and evening		9590 kc. HP5J -B- 31.28 meters Apartado 867 PANAMA CITY, PANAMA 11:45 a.m.-1 p.m., 7:30-10 p.m.			
10140 kc. OPM -C- 29.59 meters LEOPOLDVILLE, BELGIAN CONGO Phones around 3 a.m.					

Station	Dial	Station	Dial	Station	Dial
9428 kc. *COCH -B- 31.8 meters 2 B ST., VEDADO, HAVANA, CUBA 10 a.m.-12 n., 4-6:30, 8-10 p.m. also 11 a.m.-12 n. Thurs.	96 31 C1	7854 kc. HC2JSB -B- 38.2 meters GUAYAQUIL, ECUADOR 8:15 p.m.-11:15 p.m.		6976 kc. HCETC -B- 43 meters TEATRO BOLIVAR QUITO, ECUADOR Thurs. till 9:30 p.m.	
9415 kc. *PLV -C- 31.87 meters BANDOENG, JAVA Phones Holland around 9:45 a.m. Broadcasts Tues. and Thurs., Sat. 10-10:30 a.m., Irregular		7799 kc. *HBP -B- 38.47 meters LEAGUE OF NATIONS, GENEVA, SWITZERLAND 5:30-6:15 p.m., Saturday		5905 kc. GDS -C- 43.45 meters RUGBY, ENGLAND Calls N.Y.C. evening	
9125 kc. HAT4 -B- 32.88 meters "RADIOLABOR" GYALI-U.T, 22 BUDAPEST, HUNGARY Sunday 6-7 p.m.		7715 kc. ZHJ -C- 38.89 meters BOLINAS, CAL. Relays NBC & CBS Programs in evening irregularly		6850 kc. T160W -B- 43.8 meters PUERTO LIMON, COSTA RICA Sun. 10:30-11:30 p.m. Mon., Tues., Fri., Sat. at p.m.	
9060 kc. TFK -C- 33.11 meters REYJAVIK, ICELAND Phones London afternoons. Broadcasts irregularly.		7630 kc. ZHJ -B- 39.32 meters PENANG, MALAYA Daily 7-9 a.m. also Sat. 11 p.m.-1 a.m. (Sun.)		5814 kc. -B- 44.03 meters SAN PEDRO DE MACORIS DOMINICAN REP. 12:10-1:40 p.m., 7:40-9 p.m., Sun. 3-4 a.m., 4:15-6 p.m.	
9010 kc. KEJ -C- 33.3 meters BOLINAS, CAL. Relays NBC & CBS Programs in evening irregularly		7620 kc. ETD -C- 39.37 meters ADDIS ABABA, ETHIOPIA See 18270 kc.		6750 kc. *JVT -X- 44.44 meters NAZAKI, JAPAN KOKUSAI-DENWA KAISHA, LTD., TOKIO Broadcasts 4-7:45 a.m.	
8795 kc. HKV -B- 34.09 meters BOGOTA, COLOMBIA Irregular; 6:30 p.m.-12 m		7510 kc. JVP -C- 39.95 meters NAZAKI, JAPAN Tues., Fri., 2-3 p.m.		6710 kc. *TIEP -B- 44.71 meters LA-VOZ DEL TROPICO SAN JOSE, COSTA RICA APARTADO 257, Daily 7-10 p.m.	
8750 kc. ZBW -B- 34.29 meters HONGKONG, CHINA Relays ZEK Daily 11:30 p.m.-1:15 a.m. Mon. and Thurs. 3-7 a.m. Tues., Wed., Fri. 6-10 a.m. Sat. 6-11 a.m.		7400 kc. HJ3ABD -B- 40.54 meters P. O. Box 509 BOGOTA, COLOMBIA Daily 12-2 p. m.; 7-11 p.m. Sunday, 5-9 p.m.		6672 kc. YVQ -C- 44.95 meters MARACAY, VENEZUELA Broadcasts Sat. 8-9 p.m.	
8665 kc. CO9JQ -X- 34.62 meters CAMAGUEY, CUBA 5:30-6:30, 8-9 p.m. daily except Sat. and Sun.		7380 kc. XECR -B- 40.65 meters FOREIGN OFFICE, MEXICO CITY, MEX. Sun. 6-7 p.m.		5660 kc. *HC2RL -B- 45.05 meters P. O. BOX 759, GUAYAQUIL, ECUADOR, S. A. Sunday, 5:45-7:45 p. m. Tues., 9:15-11:15 p. m.	
8590 kc. YNVA -B- 34.92 meters MANAGUA, NICARAGUA 8-10:30 p.m.		7281 kc. HJ1ABD -B- 41.04 meters CARTAGENA, COLO. Irregularly, evenings		6620 kc. *PRADO -B- 45.30 meters RIOBAMBA, ECUADOR Thurs. 9-11:45 p.m.	
8400 kc. HC2AT -B- 35.71 meters CASSILLA 877 GUAYAQUIL, ECUADOR 8-11 p.m.		7100 kc. HKE -B- 42.25 meters BOGOTA, COL. S. A. Tue. and Sat. 8-9 p.m.; Mon. & Thurs. 6:30-7 p.m.		6611 kc. RV72 -B- 45.38 meters MOSCOW, U. S. S. R. 1-6 p. m.	
8220 kc. ZP1C -B- 36.4 meters ASUNCION, PARAGUAY 7-9 p.m.		7080 kc. VP3MR -B- 42.68 meters GEORGETOWN, BRI. GUI- ANA, S.A. Sun. 7:45-10:15 a.m. Mon. 3:45-4:45. Tues. 4:45-6:45 p.m. Wed. 4:45-7:45 p.m. Thur. 5-6:45 p.m. Sat. 4:45-7:45 p.m.		6550 kc. TIRCC -B- 45.77 meters RADIOEMISORA CATOLICA COSTARRICENSE SAN JOSE, COSTA RICA Sun. 12:45-2:30, 6-7, 8-9 p.m.	
8214 kc. HCJB -B- 36.5 meters QUITO, ECUADOR 7-11 p.m., except Monday Sun. 11 a.m.-12 n.; 4-10 p.m.		7030 kc. HRP1 -B- 42.67 meters SAN PEDRO SULA, HONDURAS Reported on this and other waves irregular in evening		6528 kc. HIL -B- 45.95 meters SANTO DOMINGO, D. R. Sat., 8-10 p.m.	
8185 kc. PSK -C- 36.65 meters RIO DE JANEIRO, BRAZIL Irregularly		7000 kc. HJ1ABK -B- 42 meters CALLE, BOLIVIA, PROGRESO-IGUALDAD BARRANQUILLA, COLOMBIA Sun. 3-6 p.m.		6520 kc. *YV6RV -B- 46.01 meters VALENCIA, VENEZUELA 12 n.-1 p.m., 6-10 p.m.	
8036 kc. CNR -B- 37.33 meters RABAT, MOROCCO Sunday, 2:30-5 p.m.		5996 kc. PZH -B- 42.88 meters P. O. BOX 18, PARAMIRABO, DUTCH GUIANA Sun. 9:36-11:36 a.m. Mon. and Fri. 5:36-9:36 p.m. Tues. and Thur. 8:36-10:36 a.m., 2:36-4:36 p.m. Wed. 3:36-4:36, 5:36-9:35 p.m. Sat. 2:36-4:36 p.m.		6500 kc. HJ5ABD -B- 46.15 meters MANIZALES, COL. 12-1:30 p.m., 7-10 p.m.	
7975 kc. HC2TC -B- 37.62 meters QUITO, ECUADOR Thurs., Sun. at 8 p.m.				6482-kc. H14D -B- 46.28 meters CIUDAD TRAJILLO, DOMINI- CAN REPUBLIC Except Sun. 11:55 a.m.-1:40 p.m.; 4:40-7:40 p.m.	

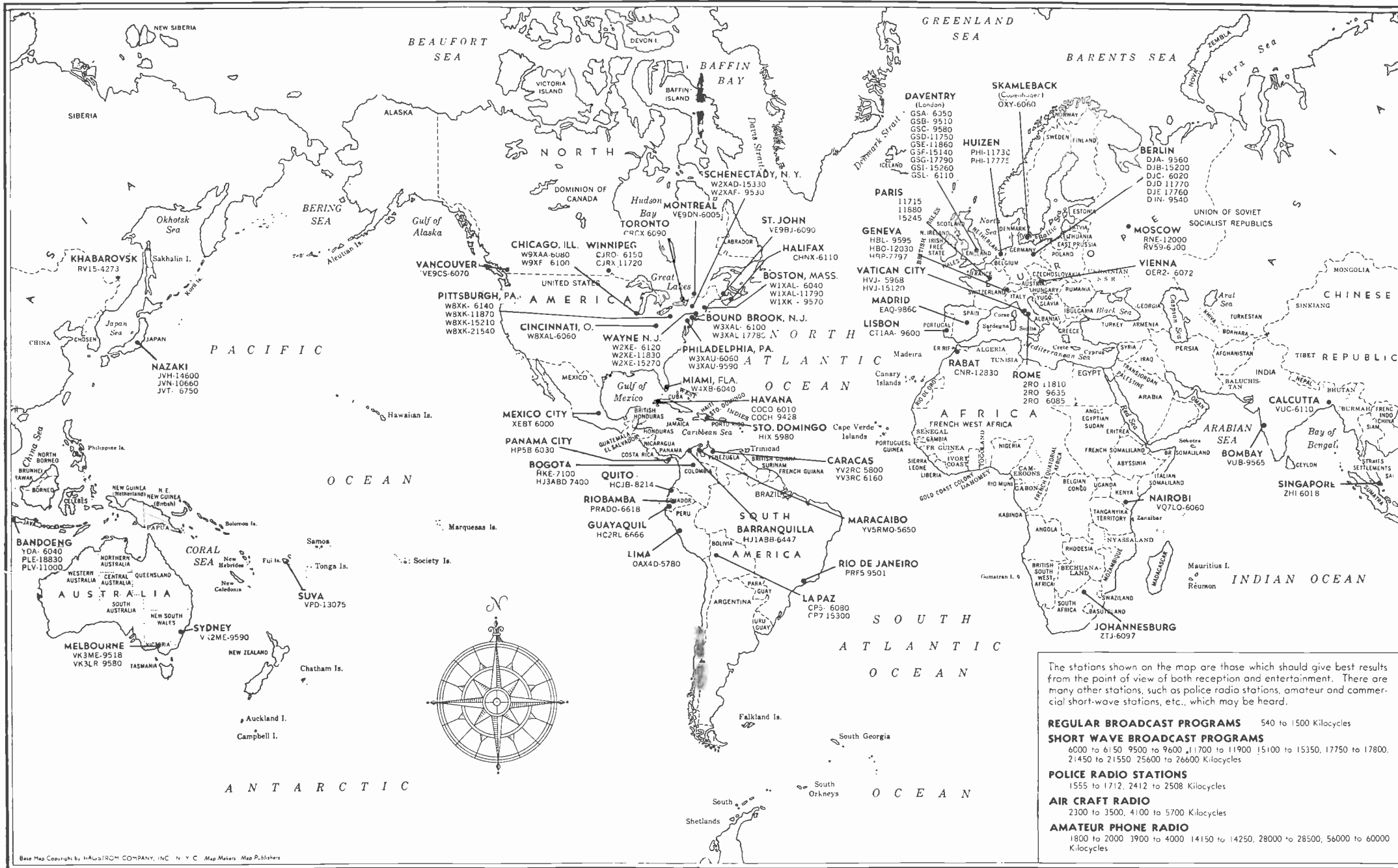
Station	Dial	Station	Dial	Station	Dial
6480 kc. H14B -B- 46.3 meters "LA VOZ DE LA MARINA" CIUDAD TRAJILLO, D. R. Irregular		6150 kc. HJ5ABC -B- 48.78 meters CALLI, COLOMBIA Daily 11 a.m.-12 n., Sun. 12 n.-2 p.m., Daily except Sat. and Sun. 7-10 p.m.		6100 kc. *W9XF -B- 49.18 meters DOWNERS GROVE, ILL. Relays WENR, Chicago	
6450 kc. HJ4ABC -B- 46.51 meters "LA VOZ DE CAMBEBE," IBAQUE, COLOMBIA 7:30-11 p.m.		6140 kc. *W8XK -B- 48.86 meters WESTINGHOUSE ELECTRIC & MFG. CO. PITTSBURGH, PA. Relays KDKA 9 p.m.-1 a.m.		6097 kc. ZTJ -B- 49.2 meters AFRICAN BROADCASTING CO. JOHANNESBURG, SOUTH AFRICA Sun.-Fri. 11:45 p.m.-12:30 a.m. (next day) Mon.-Sat. 3:30-7 a.m. 9 a.m.-4 p.m. Sun. 8-10:15 a.m.; 12:30-3 p.m.	
6447 kc. HJ1ABB -B- 46.53 meters BARRANQUILLA, COL., S. A. P. O. BOX 715, 11:30 a.m.-1 p.m.; 5-10 p.m.		6130 kc. COCD -B- 48.92 meters "La Voz del Aire" CALLE G y 25, VEDADO, HAVANA, CUBA 11 a.m.-12 n., 7-10 p.m.,		6090 kc. CRCX -B- 49.26 meters TORONTO, ONTARIO CANADA Daily 5:30-11 p.m. Sunday, 11:45 a.m.-11:30 p.m.	
6425 kc. W9XBS -X- 46.7 meters NATL. BROAD. CO. CHICAGO, ILL. Relays WMAQ. Irregular		6130 kc. ZGE -B- 48.92 meters KUALA LUMPUR, FED. MALAY STATES Sun., Tue., and Fri., 6:40-8:40 a.m.		6090 kc. VE9BJ -B- 49.26 meters SAINT JOHN, N. B., CAN. 7-8:30 p.m.	
6410 kc. TIPG -B- 46.8 meters APARTADO 225, SAN JOSE, COSTA RICA 12 n.-2 p.m., 6-10 p.m.		6120 kc. *W2XE -B- 49.02 meters ATLANTIC BROADCASTING CORP. 485 MADISON AVE., N. Y. C. Relays WABC, 5-10 p.m.		6085 kc. 2RO -B- 49.3 meters E.I.A.R. ROME, ITALY Irregular 5:15-5:45 p.m.	
6375 kc. YV4RC -B- 47.06 meters CARACAS, VENEZUELA 4:30-10:30 p.m.		6120 kc. XEFT -B- 49.02 meters VERA CRUZ, MEX. 11 a.m.-4 p.m., 7:30 p.m.-12 m. Sat. also 6:30-7:30 p.m., Sun. 11 a.m.-4 p.m., 9 p.m.-12 m. Relays XETP		6083 kc. VQ7LO -B- 49.31 meters NAIROBI, KENYA, AFRICA Mon.-Fri. 5:45-6:15 a.m., 11:30 a.m.-2:30 p.m. Also 8:30-9:30 a.m. on Tues. and Thurs. Sat. 11:30 a.m.-3:30 pm. Sun. 11 a.m.-2 p.m.	
6316 kc. HIZ -B- 47.5 meters CIUDAD TRAJILLO, DOMINICAN REPUBLIC Daily except Sat. and Sun. 4:40-5:40 p.m.; Sat., 9:40- 11:40 p.m.; Sun., 11:40 a.m.- 1:40 p.m.		6115 kc. HJ1ABE -B- 49.05 meters CARTAGENA, COL. P. O. Box 31 Mon., 10 p.m.-12 m. Daily 7:30-9 p.m.		6080 kc. CP5 -B- 49.34 meters LAPAZ, BOLIVIA 7-10:30 p.m.	
6230 kc. OAX4G -B- 48 meters Apartado 1242 LIMA, PERU Wed. 6-11:30 p.m. Daily 7-10:30 p.m.		6110 kc. *CHNX -B- 49.1 meters P.O. BOX 998 HALIFAX, N.S., CANADA Daily 9 a.m.-12:30 p.m., 4-10 p.m. Relays CHNS		6080 kc. W9XAA -B- 49.34 meters CHICAGO FEDERATION OF LABOR CHICAGO, ILL. Relays WCFL Sunday 11:30 a.m.-9 p.m. and Tues., Thurs., Sat., 4 p.m.-12 m.	
6185 kc. H11A -B- 48.5 meters P. O. BOX 423, SANTIAGO, DOMINICAN REP. 11:40 a.m.-1:40 p.m. 7:40-9:40 p.m.		6110 kc. VUC -B- 49.1 meters CALCUTTA, INDIA Daily except Sat., 3-5:30 a.m., 9:30 a.m.-noon; Sat. 11:45 a.m.-3 p.m.		6080 kc. HP5F -B- 49.34 meters Carlton Hotel COLON, PANAMA 11:45 a.m.-1:15 p.m., 7:45-10 p.m.	
6175 kc. HJ2ABA -B- 48.58 meters TUNJA, COLOMBIA 1-2; 7:30-9:30 p.m.		6105 kc. HJ4ABB -B- 49.14 meters MANIZALES, COL., S. A. P. O. Box 175 Mon. to Fri. 12:15-1 p.m.; Tues. & Fri. 7:30-10 p.m.; Sun. 2:30-5 p.m.		6079 kc. DJM -X- 49.34 meters BROADCASTING HOUSE BERLIN Tests 3-5 p.m.	
6170 kc. HJ3ABF -B- 48.62 meters BOGOTA, COLOMBIA 6-11 p.m.		6100 kc. *W3XAL -B- 49.18 meters NATIONAL BROADCASTING CO. BOUND BROOK, N. J. Relays WJZ Monday, Wednesday, Saturday, 5-6 p.m., Sun. 12 m.-1 a.m.		6072 kc. OER2 -B- 49.41 meters VIENNA, AUSTRIA 9 a.m.-5 p.m.	
6160 kc. *YV3RC -B- 48.7 meters CARACAS, VENEZUELA 11 a.m.-2 p.m., 4-10:30 p.m.				6070 kc. HJ4ABC -B- 49.42 meters PERIERA, COL. 9:30-11:30 a.m., 7-8 or 9 p.m.	
6155 kc. CO9GC -B- 48.74 meters BOX 137, SANTIAGO, CUBA 9-10 a.m., 11:30 a.m.-1:30 p.m., 3-4:30 p.m. and 10-11 p.m., 12 m. - 2 a.m.				6070 kc. VE9CS -B- 49.42 meters VANCOUVER, B. C., CANADA Sun. 1:45-9 p.m., 10:30 p.m.- 1 a.m.; Tues. 6-7:30 p.m., 11:30 p.m.-1:30 a.m. Daily 6-7:30 p.m.	
6150 kc. CSL -B- 48.78 meters LISBON, PORTUGAL 7-8:30 a.m., 2-7 p.m.					
6150 kc. *CJRO -B- 48.78 meters WINNIPEG, MAN., CANADA 8 p.m.-12 m. Sun. 3-10:30 p.m.					

Station	Dial	Station	Dial	Station	Dial
6065 kc. HJ4ABL -B- 49.46 meters MANIZALES, COL. Daily 11 a.m.-12 n., 5:30-7:30 p.m., Sat. 5:30-10:30 p.m.		6020 kc. *DJC -B- 49.83 meters BROADCASTING HOUSE, BERLIN 12 n.-4:30 p.m., 4:55-10:45 p.m.		5968kc. HVJ -B- 50.27 meters VATICAN CITY (ROME) 2-2:15 p.m., daily, Sun. 5-5:30 a.m.	
6060 kc. OXY -B- 49.50 meters SKAMLEBOAEK, DENMARK Daily 1-6:30 p.m.		6020 kc. HJ3ABH -B- 49.83 meters BOGOTA, COLO APARTADO 565 7-11 p.m.		5950 kc. HJ4ABE -B- 50.42 meters MEDELLIN, COLO. Daily 11 a.m.-12 n., 6-10:30 p.m.	
6060 kc. *W8XAL -B- 49.50 meters CROSLEY RADIO CORP. CINCINNATI, OHIO 6:30 a.m.-8 p.m., 11 p.m.-1 a.m. Relays WLW		6020 kc. XEUW -B- 49.82 meters AV. INDEPENDENCIA, 98, VERA CRUZ, MEX. 8 p.m.-12:30 a.m.		5940 kc. TG2X -B- 50.5 meters GUATEMALA CITY, GUAT. 4-6, 9-11 p.m.	
6060 kc. W3XAU -B- 49.50 meters NEWTON SQUARE, PA. Relays WCAU, Philadelphia 8 p.m.-11 p.m.		6018 kc. ZHI -B- 49.9 meters RADIO SERVICE CO., 20 ORCHARD RD., SINGAPORE, MALAYA Mon., Wed. and Thurs. 5:40-8:10 a.m. Sat. 10:40 p.m.-1:10 a.m. (Sun.) Every other Sunday 5:10-6:40 a.m.		5885 kc. HCK -B- 50.98 meters QUITO, ECUADOR, S. A. 8-11 p.m.	
6050 kc. *GSA -B- 49.59 meters DAVENTRY, B.B.C., BROADCASTING HOUSE, LONDON, ENGLAND 6-8 p.m.		6010 kc. *COCO -B- 49.92 meters P.O. BOX 98 HAVANA, CUBA Daily 9:30 a.m., 1 p.m., 4-7 p.m. Sun. 8-10 p.m. Sat. also 11 p.m.-12 m.		5880 kc. YV8RB -B- 51.02 meters "LA VOZ DE LARA" BARQUISIMETO, VENEZUELA 6-10 p.m.	
6045 kc. HJ3ABI -B- 49.63 meters BOGOTA, COLO. Irregular in evening		6005 kc. HJ1ABJ -B- 49.96 meters SANTA MARTA, COLO 6-11 p.m. except Wed.		5875 kc. HRN -B- 51.06 meters TEGUCIGALPA, HONDURAS 7-9 p.m.	
6042 kc. HJ1ABG -B- 49.65 meters BARRANQUILLA, COLO. 12 n.-1 p.m., 6-10 p.m. Sun. 1-6 p.m.		6005 kc. VE9DN -B- 49.96 meters CANADIAN MARCONI CO., MONTREAL, QUE., CANADA Saturdays at 11:30 p.m.		5860 kc. HI1J -B- 51.19 meters SAN PEDRO DE MACORIS, DOM. REP. 6-8:40 p.m.	
6040 kc. W4XB -B- 49.67 meters MIAMI, FLORIDA Relays WIOD 12 n.-2 p.m., 5:30 p.m.-12 m.		6000 kc. TGWA -B- 50 meters GUATEMALA CITY, GUAT. 12 n.-1 p.m., 6:30-7:30 p.m. Also Sat. from 12 m.-6 a.m. (Sun.)		5850 kc. *YV5RMO -B- 51.28 meters CALLE REGISTRO, LAS DE- LICIAS APARTADO DE COR- RES 214 MARACAIBO, VENEZUELA 11 a.m.-1 p.m., 5:30-10 p.m.	
6040 kc. PRA8 -B- 49.67 meters RADIO CLUB OF PERNAMBUCO 1-3, 4-7:30 p.m.		6000 kc. RV59 -B- 50 meters MOSCOW, U. S. S. R. Daily 12:30-6 p.m.		5825 kc. TIGPH -B- 51.5 meters SAN JOSE, COSTA RICA 6:15-11 p.m.	
6040 kc. *W1XAL -B- 49.67 meters BOSTON, MASS. Tues., Thurs. 7:15-9:15 p.m.		5990 kc. *XEBT -B- 50.08 meters MEXICO CITY, MEX. P. O. Box 79-44 8 a.m.-1 a.m.		5800 kc. *YV2RC -B- 51.72 meters BROADCASTING CARACAS CARACAS, VENEZUELA Sun. 8:30 a.m.-10:30 p.m. Daily 11 a.m.-1:30 p.m., 4-9:30 p.m.	
6040 kc. YDA -B- 49.67 meters N.I.R.O.M. TANDJONGPRIOK, JAVA 5:45-6:45 p.m., 10:30 p.m.- 1:30 a.m.		5985 kc. HJ2ABC -B- 50.13 meters CUCUTA, COLOMBIA 6-9:30 p.m.		5790 kc. JVU -C- 51.81 meters NAZAKI, JAPAN Broadcasts 2-7:45 a.m.	
6030 kc. *HP5B -B- 49.75 meters P. O. BOX 910 PANAMA CITY, PAN. 12 N.-1 p.m., 7-10:30 p.m.		5980 kc. XEVI -B- 50.17 meters MEXICO CITY, MEX. Mon., Wed., Fri., 2-3 p.m., Tues. 7-8, Thurs. 7-9, Sat. 8-9 p.m., Sun. 12 m-1 p.m.		5780 kc. OAX4D -B- 51.9 meters P.O. Box 853 LIMA, PERU Mon., Wed. & Sat. 9-11:30 a.m.	
6030 kc. VE9CA -B- 49.75 meters CALGARY, ALBERTA, CAN. Thurs. 9 a.m.-2 a.m. (Fri.) Sun. 12 n.-12 m. Irregularly on other days from 9 a.m.-12 m.		5980 kc. HIX -B- 50.17 meters CIUDAD TRAJILLO, DOMINI- CAN REP. Sun. 7:10 a.m.; Tues. and Fri. 11:10 a.m., 4:40 and 8:10 p.m.; Mon., Wed., Thurs. and Sat. 11:10 a.m. and 4:40 p.m.		5720 kc. YV1ORSC -B- 52.45 meters "LA VOZ DE TACHIRA" SAN CRISTOBAL, COLOMBIA 6-11:30 p.m.	
6020 kc. CQN -B- 49.83 meters MACAO, CHINA Mon. and Fri. 3-5 a.m.		5970 kc. HJN -B- 50.26 meters BOGOTA, COL. 6-11 p.m.		5713 kc. TGS -B- 52.51 meters GAUTEMALA CITY, GUAT. Tues., Thurs., and Sun. 6-8 p.m.	
				5500 kc. TI5HH -B- 54.55 meters SAN RAMON, COSTA RICA 3:30-4, 8-11:30 p.m.	

Police Radio Alarm Stations

CGZ	Vancouver, B.C.	2342 kc.	KNFR	} Mobile in State of Wash.	2490 kc.
CJW	St. Johns N.B.	2390 kc.	KNFS		
CJZ	Verdean, Que.	2390 kc.	KNFT		
KGHA	Portable-Mobile		KNFU		
KGHB	In State of Wash.	2490 kc.	KNFV		
KGHC			KNFW		
KGHG	Las Vegas, Nev.	2474 kc.	KNFX	Alpowa Camp, Wash.	2490 kc.
KGHH	Palo Alto, Cal.	1674 kc.	KNFY	Iiwaco, Wash.	2490 kc.
KGHM	Reno, Nev.	2474 kc.	KNFZ	Hells Crossing Camp, Wash.	2490 kc.
KGHN	Hutchinson, Kans.	2450 kc.	KNGA	Satus Pass Camp, Wash.	2490 kc.
KGHO	Des Moines, Iowa	1682 kc.	KNGB	Yakima, Wash.	2490 kc.
KGHP	Lawton, Okla.	2466 kc.	KNGC	Vancouver, Wash.	2490 kc.
KGHQ	Chinook Pass, W.	2490 kc.	KNGD	Walla Walla, Wash.	2490 kc.
KGHR	(Mobile) in Wash.	2490 kc.	KNGE	Cleburne, Tex.	1712 kc.
KGHS	Spokane, Wash.	2414 kc.	KNGF	Sacramento, Cal.	2422 kc.
KGHT	Brownsville, Tex.	2382 kc.	KNGH	Dodge City, Kans.	2474 kc.
KGHU	Austin, Tex.	2442 kc.	KNGI	El Centro, Cal.	2490 kc.
KGHV	Corpus Christi, Tex.	2382 kc.	KNGK	Duncan, Okla.	2450 kc.
KGHW	Centralia, Wash.	2414 kc.	KNGM	Rapid City, S. Dak.	2450 kc.
KGHX	Santa Ana, Cal.	2490 kc.	KNGN	Norfolk, Nebr.	2490 kc.
KGHY	Whittier, Cal.	1712 kc.	KNGO	Portable, Okla.	2450 kc.
KGHZ	Little Rock, Ark.	2406 kc.	KNGP	Shreveport, Pa.	2430 kc.
KGJX	Pasadena, Cal.	1712 kc.	KNGQ	Wenatchee, Wash.	2490 kc.
KGLX	Albuquerque, N. M.	2414 kc.	KNGR	Spokane, Wash.	2490 kc.
KGOZ	Cedar Rapids, Iowa	2466 kc.	KNGT	Muskogee, Okla.	2450 kc.
KGPA	Seattle, Wash.	2414 kc.	KNGU	Yakima, Wash.	2414 kc.
KGPB	Minneapolis, Minn.	2430 kc.	KNGV	Salina, Kans.	2422 kc.
KGPC	St. Louis, Mo.	1706 kc.	KNGW	Brownwood, Tex.	2458 kc.
KGPD	San Francisco, Cal.	2466 kc.	KNGX	Portable, Los Angeles	1712 kc.
KGPE	Kansas City, Mo.	2422 kc.	KNGY	Lodi, Calif.	2414 kc.
KGPF	Santa Fe, N. Mex.	2414 kc.	KNGZ	Ephrata, Wash.	2490 kc.
KGPG	Vallejo, Cal.	2422 kc.	KNHA	Mobile, Wash.	2490 kc.
KGPH	Oklahoma City, Okla.	2450 kc.	KNHB	Green Bay, Wis.	2382 kc.
KGPI	Omaha, Neb.	2466 kc.	KNHC	Ada, Okla.	2450 kc.
KGPI	Beaumont, Tex.	1712 kc.	KNHD	Redwood Falls, Minn.	1658 kc.
KGPK	Sioux City, Iowa	2466 kc.	KNHE	Fort Smith, Ark.	2406 kc.
KGPL	Los Angeles, Cal.	1712 kc.	KNHF	Denton, Tex.	1712 kc.
KGPM	San Jose, Cal.	2466 kc.	KNHG	Prescott, Ark.	2430 kc.
KGPN	Davenport, Iowa	2466 kc.	KNHM	Fargo, N. Dak.	2442 kc.
KGPO	Tulsa, Okla.	2450 kc.	KRPW	Galveston, Tex.	1712 kc.
KGPP	Portland, Ore.	2442 kc.	KSW	Bekeley, Cal.	1658 kc.
KGPP	Honolulu, T.H.	1712 kc.	KVP	Dallas, Tex.	1712 kc.
KGPR	Minneapolis, Minn.	2430 kc.	VDM	Halifax, N.S.	1690 kc.
KGPS	Bakersfield, Cal.	2414 kc.	VYR	Montreal, Can.	1706 kc.
KGPW	Salt Lake City, Utah	2406 kc.	VYW	Winnipeg, Man.	2396 kc.
KGPX	Denver, Colo.	2442 kc.	WCK	Belle Island, Mich.	2414 kc.
KGPY	Wichita, Kans.	2450 kc.	WEY	Boston, Mass.	1630 kc.
KGZA	Fresno, Cal.	2414 kc.	WKDT	Detroit, Mich.	1630 kc.
KGZB	Houston, Tex.	1712 kc.	WKDU	Cincinnati, Ohio	1706 kc.
KGZC	Topeka, Kans.	2422 kc.	WMDZ	Indianapolis, Ind.	2442 kc.
KGZD	San Diego, Cal.	2490 kc.	WMJ	Buffalo, N. Y.	2422 kc.
KGZE	San Antonio, Tex.	2482 kc.	WMO	Highland Park, Mich.	2414 kc.
KGZF	Chanute, Kans.	2450 kc.	WMP	Framingham, Mass.	1666 kc.
KGZG	Des Moines, Iowa	2466 kc.	WNFP	Niagara Falls, N. Y.	2422 kc.
KGZH	Klamath Falls, Ore.	2422 kc.	WPDA	Tulare, Cal.	2414 kc.
KGZI	Wichita Falls, Tex.	2458 kc.	WPDB	Chicago, Ill.	1712 kc.
KGZJ	Phoenix, Ariz.	2430 kc.	WPDC	Chicago, Ill.	1712 kc.
KGZM	El Paso, Tex.	2414 kc.	WPDD	Chicago, Ill.	1712 kc.
KGZN	Tacoma, Wash.	2414 kc.	WPDE	Louisville, Ky.	2442 kc.
KGZO	Santa Barbara, Cal.	2414 kc.	WPDF	Flint, Mich.	2466 kc.
KGZP	Coffeyville, Kans.	2450 kc.	WPDG	Youngstown, Ohio	2458 kc.
KGZQ	Waco, Tex.	1712 kc.	WPDH	Richmond, Ind.	2442 kc.
KGZR	Salem, Ore.	2442 kc.	WPDI	Columbus, Ohio	2430 kc.
KGZT	Santa Cruz, Cal.	1674 kc.	WPDK	Milwaukee, Wis.	2450 kc.
KGZU	Lincoln, Neb.	2490 kc.	WPDL	Lansing, Mich.	2442 kc.
KGZV	Aberdeen, Wash.	2414 kc.	WPDM	Dayton, Ohio	2430 kc.
KGZW	Lubbock, Tex.	2458 kc.	WPDN	Auburn, N. Y.	2382 kc.
KGZX	Albuquerque, N. Mex.	2414 kc.	WPDO	Akron, Ohio	2458 kc.
KGZY	San Bernardino, Cal.	1712 kc.	WPDP	Philadelphia, Pa.	2474 kc.
KIUK	Jefferson City, Mo.	1674 kc.	WPDR	Rochester, N. Y.	2422 kc.
KNFA	Clovis, N. Mex.	2414 kc.	WPDS	St. Paul, Minn.	2430 kc.
KNFB	Idaho Falls, Idaho	2458 kc.	WPDT	Kokomo, Ind.	2490 kc.
KNFC	SS Gov. Stevens, (Wash.)	2490 kc.	WPDU	Pittsburgh, Pa.	1712 kc.
KNFD	SS Gov. J. Rogers, (Wash.)	2490 kc.	WPDV	Charlotte, N.C.	2458 kc.
KNFE	Duluth, Minn.	2382 kc.	WPDW	Washington, D.C.	2422 kc.
KNFF	Leavenworth, Kans.	2422 kc.	WPDY	Detroit, Mich.	2414 kc.
KNFG	Olympia, Wash.	2490 kc.	WPDZ	Atlanta, Ga.	2414 kc.
KNFH	Garden City, Kans.	2474 kc.	WPEA	Fort Wayne, Ind.	2490 kc.
KNFI	Mt. Vernon, Wash.	2414 kc.	WPEB	Syracuse, N.Y.	2382 kc.
KNFJ	Pomona, Cal.	1712 kc.	WPEC	Grand Rapids, Mich.	2442 kc.
KNFK	Bellingham, Wash.	2490 kc.	WPED	Memphis, Tenn.	2466 kc.
KNFL	Shuksan, Wash.	2490 kc.	WPEE	Arlington, Mass.	1712 kc.
KNFM	Compton, Cal.	2490 kc.	WPEF	New York, N.Y.	2450 kc.
KNFN	Waterloo, Iowa	1682 kc.	WPEG	New York, N.Y.	2450 kc.
KNFO	Storm Lake, Iowa	1682 kc.	WPEH	New York, N.Y.	2450 kc.
KNFP	Everett, Wash.	2414 kc.	WPEI	Somerville, Mass.	1712 kc.
KNFQ	Skykomish, Wash.	2490 kc.	WPEK	E. Providence, R.I.	1712 kc.
				New Orleans, La.	2430 kc.

Short-Wave Station Map of the World



The stations shown on the map are those which should give best results from the point of view of both reception and entertainment. There are many other stations, such as police radio stations, amateur and commercial short-wave stations, etc., which may be heard.

REGULAR BROADCAST PROGRAMS 540 to 1500 Kilocycles

SHORT WAVE BROADCAST PROGRAMS
6000 to 6150 9500 to 9600 11700 to 11900 15100 to 15350, 17750 to 17800, 21450 to 21550 25600 to 26600 Kilocycles

POLICE RADIO STATIONS
1555 to 1712, 2412 to 2508 Kilocycles

AIR CRAFT RADIO
2300 to 3500, 4100 to 5700 Kilocycles

AMATEUR PHONE RADIO
1800 to 2000 3900 to 4000 14150 to 14250, 28000 to 28500, 56000 to 60000 Kilocycles

The map reproduced above, has been brought up-to-date and shows the location, call letters and frequencies of the leading short-wave transmitting stations of the world. This map, in conjunction with the time-zone map published in the last number, will provide a very good guide as to the location of the principal short-wave broadcasting stations in various countries, and the time differences between the cities in which they are located. Listeners residing in the

United States, are particularly interested usually in the time difference existing between American cities and stations located in Europe. The time is five hours later in London than it is in New York, and six hours later in Berlin than in New York. By adding the time difference between New York and western cities in the United States, the time difference between these western cities and European points can quickly be calculated.

Grand Short-Wave Station List

● This Grand List of Short-Wave Stations of the World is a carefully edited one, and especially compiled by the editors. A special "Quick Reference" list appears elsewhere in the magazine, giving the "Star" short-wave broadcasting stations, while another specially edited list contains the "Television" and "Police" station call letters. The editors will be glad at all times to receive corrections from our readers, and particularly any additional information on

new stations not found in this list. In giving this information, please write such data on a separate sheet if the letter contains references to any other subject, so that these corrections can be handed directly to the editor of this department. A postcard will frequently serve the purpose for sending us such information.

(Project) means station is under construction.

Short Wave Phone Stations By Order of Frequency in Megacycles

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
199 TO 180 METERS			
1.510	VAF Alert Bay, Can.	1.580	CJM Borden, P.E.I., Canada
1.510	CJD Campbell River, B.C., Can.	1.585	YDD3 Batavia, Netherland India (B)
1.510	VAC Cape Lazo, Can.	1.585	PCC Noordhinder Lightship, Neth.
1.510	CJN Cardero Channel, B.C., Can.	1.585	PID Vlissingen Canal Watch, Neth.
1.510	CJE Cepeecece, B.C., Can.	1.595	OZP Lyngby, Denmark (B)
1.510	CJK Knight Inlet, B.C., Can.	1.595	YDB5 Solo, Netherland India (B)
1.510	VCU Merry Island, Can.	---	Experimental, USA
1.510	CFV Namu, B.C., Can.	1.596	CFC Cub Lake, Sask., Canada
1.510	CKQ Powell River, B.C., Can.	1.596	CGV Emma Lake, Sask., Canada
1.510	YLZ Riga, Latvia (X)	1.596	CZJ Ile-la-Crosse, Sask., Canada
1.510	CJT Theodosia Arm, B.C., Can.	1.596	CGQ Lac la Ronge, Sask., Canada
1.510	CYG Thurston Bay, B.C., Can.	1.596	CJC Thunder Mountain, Sask., Can.
1.510	VAI Vancouver, B.C., Can.	1.596	TFZ Isafjordur, Iceland
1.510	CJH Viner Sound, B.C., Can.	1.596	TFA Reykjavik, Iceland
1.510	CJR Wakeman Sound, B.C., Can.	1.596	TFX Siglufjordur, Iceland
1.510	YDA Tandjongpriok, Java, N.I. (B)	1.600	TFV Vestmannaeyjar, Iceland
1.520	VIA Adelaide, Australia	1.600	PIE Hoek van Holland, Netherlands
1.520	VKO Sydney, Australia	1.600	PCB Maas Lightship, Netherlands
1.523	GUF Alderney, United Kingdom	1.600	PIC Scheveningen Lighthouse Dep. Netherlands
1.523	GUG Guernsey, United Kingdom	1.615	PIB Brandaris Lighthouse, Neth.
1.523	GUB Locboisdalc, United Kingdom	1.615	PCD Haaks Lightship, Netherlands
1.523	GUA Tobermory, United Kingdom	1.615	PIA Kykduin Semaphore, Neth.
1.530	W9XBY Kansas City, Missouri, USA (BX)	1.615	PCE Terschellingerbank Lightship, Netherlands
1.530	W1XBS Prospect Twp., Conn., USA (BX)	1.615	YDB4 Tjepoe, Netherland India (B)
1.530	YDB7 Soerabaja, Java, N.I. (B)	1.620	CZB Bellevue, P.Q., Canada
1.530	SCJ Karlskrona, Sweden (B)	1.620	CFC Cub Lake, Sask., Canada
1.532	CFC Gul Lake, Sask., Can.	1.620	CGV Emma Lake, Sask., Canada
1.532	CGV Emma Lake, Sask., Can.	1.620	CZJ Ile-a-la-Crosse, Sask., Canada
1.532	CZJ Ile-a-la-Crosse, Sask., Can.	1.620	CFD Kenora, Ont., Canada
1.532	CGQ Lac la Ronge, Sask., Can.	1.620	CGQ Lac la Ronge, Sask., Canada
1.532	CJC Thunder Mountain, Sask., Can.	1.620	CMF Manicouagan River, P.Q., Can.
1.538	OSW Antwerp, Belgium	1.620	CZY Riviere du Chef, P.Q., Canada
1.538	OYM Christianso, Denmark	1.620	CZZ St. Felicien, P. Q., Canada
1.538	OXJ Thorshavn, Denmark	1.620	CFL Tabouret, P. Q., Canada
1.538	OZK Thorshavn, Denmark	1.620	CJC Thunder Mt., Sask., Canada
1.538	TFO Malmey, Iceland	1.620	Experimental, Canada
1.538	TFS Stykkisholmur, Iceland	1.622	VKA Bogolara, Australia
1.540	VBY Lunenburg, N.S., Can.	1.622	VJE Burrinjuck, Australia
1.540	VK3EJ Melbourne, Australia (Fire)	1.622	VJF Cootamundra, Australia
1.540	CJD Campbell River, B.C., Can.	1.622	VJH Gundagai, Australia
1.540	CJD Thurston Bay, B.C., Can.	1.622	VJO Koorawatha, Australia
1.550	W6XAI Bakersfield, Calif. (BX)	1.622	VKJ Lithgow, Australia
1.550	W2XR Long Island City, N.Y., USA (BX)	1.622	VJG Murrumburrah, Australia
1.550	YDA4 Soekaboemi, Neth. India (B)	1.622	VKB Yass, Australia
1.550	--- Naval stations, United Kingdom	1.622	--- Portable, Burrinjuck, Australia
1.560	CZA Drummondville, P.Q., Can.	1.622	--- Portable, Lithgow, Australia
1.560	VBB Halifax, N.S., Can.	1.622	OXB Blaavand, Denmark, 2B
1.570	YDB6 Malang, Netherland India (B)	1.629	OUY Vyl Lightship, Denmark
1.579	VLA Cape Bruny, Australia	1.630	ESS Osmussaar, Estonia
1.579	VLB Maatsuyker Isl., Australia	1.640	YDD2 Bandoeng, Netherl. India (B)
1.579	VLC Tasman Isl., Australia	1.648	YDA3 Buitenzorg, Netherl. India (B)
1.579	DCA Adlergrund Lightship, Germany	1.648	TFA Reykjavik, Iceland
1.579	DCV Bremen Lightship, Germany	1.648	TFX Siglufjordur, Iceland
1.579	DCK Elbe Lightship No. 2, Germany	1.648	TFV Vestmannaeyjar, Iceland
1.579	DCG Elbe Lightship No. 3, Germany	1.660	YDB3 Djokjakarta Netherl. Ind., (B)
1.579	DCI Elbe Lightship No. 4, Germany		
1.579	DCU Robbenplate Lighthouse, Germ.		
1.579	--- Ship Stations, Germany		
1.579	OYG Jakobshavn, Greenland	1.690	--- Burnham, United Kingdom
		1.712	CZG Prince Rupert, B. C., Canada
		1.712	CZF Vancouver, B. C., Canada
		1.712	CZE Victoria, B. C., Canada

B=Broadcasting; X=Experimental.

WPEL	W. Bridgewater, Mass.	1666 kc.	WPGZ	Johnson City, Tenn.	2474 kc.
WPEM	Woonsocket, R.I.	2466 kc.	WPHA	Fitchburg, Mass.	2466 kc.
WPEP	Kenosha, Wis.	2450 kc.	WPHB	Nashua, N.H.	2422 kc.
WPES	Saginaw, Mich.	2442 kc.	WPHC	Massillon, Ohio	1596 kc.
WPET	Lexington, Ky.	1706 kc.	WPHD	Stuebenville, Ohio	2458 kc.
WPEV	Portable (in Mass.)	1666 kc.	WPHE	Culver, Ind.	1634 kc.
WPEW	Northampton, Mass.	1666 kc.	WPHF	Richmond, Va.	2450 kc.
WFFA	Newton, Mass.	1712 kc.	WPHG	Medford, Mass.	1712 kc.
WFFC	Muskegon, Mich.	2442 kc.	WPHI	Charleston, W. Va.	2490 kc.
WFFE	Reading, Pa.	2442 kc.	WPHJ	Fairmont, W. Va.	2490 kc.
WFFG	Jacksonville, Fla.	2442 kc.	WPHK	Wilmington, Ohio	1596 kc.
WFFH	Baltimore, Md.	2414 kc.	WPHL	Portabe in Ohio	1682 kc.
WFFI	Columbus, Ga.	2414 kc.	WPHM	Orlando, Fla.	2442 kc.
WFFJ	Hammond, Ind.	1712 kc.	WPHN	Tampa, Fla.	2466 kc.
WFFK	Hackensack, N. J.	2430 kc.	WPHO	Zanesville, Ol	2430 kc.
WFFL	Gary, Ind.	2470 kc.	WPHP	Jackson, Mich.	2466 kc.
WFFM	Birmingham, Ala.	2382 kc.	WPHQ	Parkersburg, W. Va.	2490 kc.
WFFN	New Bedford, Mass.	1712 kc.	WPHS	Culver, Ind.	1634 kc.
WFFO	Knoxville, Tenn.	2474 kc.	WPHT	Cambridge, Ohio	1596 kc.
WFFP	Clarksburg, W. Va.	2490 kc.	WPHU	Jasker, Ind.	1634 kc.
WFFQ	Swarthmore, Pa.	2474 kc.	WPHV	Bristol, Va.	2450 kc.
WFFR	Johnson City, Tenn.	2470 kc.	WPHY	Elizabethton, Tenn.	2474 kc.
WFFS	Asheville, N.C.	2474 kc.	WPHZ	Oil City, Pa.	2482 kc.
WFFT	Lakeland, Fla.	2442 kc.	WPSP	Harrisburg, Pa.	1674 kc.
WFFU	Portland, Me.	2422 kc.	WQFA	New Haven, Conn.	2466 kc.
WFFV	Pawtucket, R.I.	2466 kc.	WQFB	Gaion, Ga.	2414 kc.
WFFW	Bridgeport, Conn.	2466 kc.	WQFC	Columbus, Fla.	2466 kc.
WFFX	Palm Beach, Fla.	2442 kc.	WQFD	Columbus City, Ind.	1534 kc.
WFFY	Yonkers, N.Y.	2442 kc.	WQFE	Seymour, Ind.	1634 kc.
WFFZ	Miami, Fla.	2442 kc.	WQFF	Monessen, Pa.	2482 kc.
WPGA	Bay City, Mich.	2466 kc.	WQFG	Ranoke, Va.	2450 kc.
WPGB	Port Huron, Mich.	2466 kc.	WQFH	Lynchburg, V.	2450 kc.
WPGC	S. Schenectady, N.Y.	1658 kc.	WQFI	Petersburg, Va.	2450 kc.
WPGD	Rockford, Ill.	2458 kc.	WQFJ	Clearwater, Fla.	2414 kc.
WPGF	Providence, R.I.	1712 kc.	WQFK	Wilkes-Barre, Pa.	2442 kc.
WPGG	Findlay, Ohio	1596 kc.	WQFM	Winter Haven, Fla.	2442 kc.
WPGH	Albany, N.Y.	2414 kc.	WQFN	Lancaster, Ohio	2430 kc.
WPGI	Portsmouth, Ohio	2430 kc.	WQFO	Springfield, Ill.	1610 kc.
WPGJ	Utica, N.Y.	2414 kc.	WQFP	Lafayette, Ind.	2442 kc.
WPGK	Cranston, R.I.	2466 kc.	WQFQ	Portable, N.Y.	1658 kc.
WPLG	Binghamton, N.Y.	2442 kc.	WQFR	Hibbing, Minn.	2382 kc.
WPGN	South Bend, Ind.	2480 kc.	WQFS	Portable, Ohio	1596 kc.
WPGO	Huntington, N.Y.	2480 kc.	WQFT	Sharon, Pa.	2482 kc.
WPGP	Muncie, Ind.	2442 kc.	WQFV	Augusta, Ga.	2414 kc.
WPGQ	Columbus, Ohio	1596 kc.	WRB	Cleveland, Ohio	2458 kc.
WPGS	Mincola, N.Y.	2480 kc.	WRDQ	Toledo, Ohio	2474 kc.
WPGT	New Castle, Pa.	2482 kc.	WRDR	Grosse Pt. Village, Mich.	2414 kc.
WPGU	Cohasset, Mass.	1712 kc.	WRDS	E. Lansing, Mich.	1642 kc.
WPGV	Boston, Mass.	1712 kc.	WIXAO	Boston, Mass.	1712 kc.
WPGW	Mobile, Ala.	2382 kc.			
WPGX	Worcester, Mass.	2466 kc.			

Photo Contest

\$10.00 PRIZE CONTEST FOR BEST "CHILD-RADIO" PHOTO

● OUR front cover illustration this month shows a new type of child portrait photograph and the editors believe that this photograph marks a new departure. Beginning with the next number and providing, of course, the editors receive some really good photos of this type, we will award a prize of \$10.00 to the best one submitted by March 15, and it is our endeavor to use the photos selected for either a front cover feature or for a frontispiece.

A few simple rules: The child photographed should be six years or under in age. Most important of all—the child should be photographed with a short wave or all-wave receiver, and the picture should be posed in such a way as to give the impression that the child has tuned in and is actually listening to a short-wave station, similar to the picture which appears on the present cover. The photograph on the cover shows the editor's young daughter "listening in."

In order to qualify for publication as a cover feature or as a frontispiece, the photo will, of course, have to be a very

excellent one and it will probably be best to have a regular portrait photographer take the photo. Many novel poses will undoubtedly suggest themselves to our readers and this factor will be taken into consideration by the judges, who will be the editors of the *Short Wave Listener*. The opinion of the judges will be final.

For entry in the April-May number of the *Short Wave Listener*, all photos must be in the editor's hand by March 15 and earlier if possible. In the event of a tie an equal prize will be awarded to both of the entrants so tying. Be sure to pack the photograph carefully with a piece of stiff corrugated or other cardboard, so as to prevent injury in shipment.

The photo may be of either a boy or girl.

Be sure to write child's full name on back of photograph.

The photographs entered in this contest can not be returned by us.

Address all entries to Editor, Photo-Contest, Short Wave Listener, 99 Hudson St., N. Y. City.

Freq. Mc.	CALL and LOCATION
1.714	ESG Tallinn-Ulemiste, Estonia
1.715	---- Amateurs, Argentina
1.715	---- Amateurs, Canada
1.715	---- Amateurs, Ecuador
1.715	---- Amateurs, Estonia
1.715	---- Amateurs, Union of So. Africa
1.716	---- Amateurs, USA
to	
2.000	
1.720	DAL Bremerhaven Lloydhalle, Ger.
1.730	YLY Liepaja, Latvia, (X)
1.735	RFAU Bykovo (Moskow Obl.) Russia
1.754	OYE Ronne, Denmark
1.760	GMH Main Head, Irish Free State
1.760	GCK Valentia Irish Free State
1.760	---- Burnham, United Kingdom
1.760	---- Cullercoats, United Kingdom
1.760	---- Fishguard, United Kingdom
1.760	---- Humber, United Kingdom
1.760	---- Lands End, United Kingdom
1.760	---- Niton, United Kingdom
1.760	---- North Foreland, United King.
1.760	---- Portpatrick, United Kingdom
1.760	---- Seaforth, United Kingdom
1.760	---- Wick, United Kingdom
1.764	EAI Teneriffe, Canary Islands
1.764	DCS Tonning, Germany
1.765	TFF Flatey a Skjalfanda, Iceland
1.775	RHBD Leningrad, Russia
1.775	ESR Ruhnau, Estonia
1.775	---- Ship Stations, Germany
1.818	OUY Vyl Lightship, Denmark
1.818	PDN Scheveningen, Netherlands
1.818	RHBD Leningrad, Russia
1.819	OXC Ringsted, Denmark
1.840	YDJ4 Cheribon, Netherl. Indie. (B)
1.850	YDU5 Padang, Sumatra, N.I. (B)
1.860	YDK6 Semarang, Netherl. India. (B)
160 TO 120 METERS	
1.875	EAU San Lorenzo, Canary Islands
1.875	DCA Adlergrund Lightship, Germany
1.875	DCV Bremen Lightship, Germany
1.875	DCK Elbe Lightship No. 2, Germany
1.875	DCG Elbe Lightship No. 3, Germany
1.875	DCI Elbe Lightship No. 4, Germany
1.875	DAC Elbe-Weser, Germany
1.875	DCU Robbinplate Lighthouse, Ger.
1.875	DAS Rugen, Germany
1.875	---- Naval Stations, Germany
1.875	TFH Husavik, Iceland
1.875	RFAW Moscow, Russia
1.875	RLXS Saratov, Russia
1.880	YD09 Soerabaja, Netherl. India. (B)
1.898	ESP Parnu, Estonia
1.900	YDG6 Batavia, Netherl. India. (B)
1.900	RW69 Odessa, Russia, (T)
1.910	---- Ship Stations, Germany
1.920	YDH9 Buitenzorg, Netherl. India. (B)
1.940	OHN Hango, Finland
1.940	YDN2 Kediri, Netherland India. (B)
1.960	YDH8 Bandoeng, Java, N.I. (B)
1.960	---- Ship Stations, Germany
1.980	YD08 Soerabaja, Java, N.I. (B)
2.000	OXK Tveraa, Denmark
2.000	TFG Grimsey, Iceland
2.020	RIAD Nijni-Chkaf, Russia
2.020	---- Portable, Australia
2.050	VJI Cloncurry, Australia
2.070	YD07 Soerabaja, Java, N.I. (B)
2.090	YDG5 Batavia, Java, N.I. (B)
2.090	DAS Rugen, Germany
2.098	---- Kronborg Light, Denmark
2.110	---- Ship-to-Shore radiophone, USA
2.110	YD12 Soekaboemi, Netherl. India. (B)
2.126	---- Ship-to-Shore, USA
2.140	DAC Elbe-Weser, Germany
2.140	VHO Melbourne, Australia
2.174	---- Ship-to-Shore, USA
2.198	---- Ship-to-Shore, USA
2.206	VYV Port Menier, P. Q., Canada
2.212	VYZ High Falls, P. Q., Canada
2.230	RT7 Azov-on-le-Don, Russia
2.252	KIUG Portable, USA
2.252	KIUF Portable, USA
2.252	KIUE Portable, USA
2.252	KIUD Portable, USA

Freq. Mc.	CALL and LOCATION
2.252	KIUC Portable, USA
2.252	KIUB Portable, USA
2.255	DAC Elbe-Weser, Germany
2.284	CKO Crane Island, P. Q., Canada
2.284	CFI Flagg's Cove, N. B., Canada
2.284	CFT Leamington, Ont., Canada
2.284	CKP Montmagny, P. Q., Canada
2.284	CFX Pelee Island, Ont., Canada
2.284	CKB Pictou, N. S., Canada
2.284	CKU Pictou Island, P. Q., Canada
2.284	CFZ Welchpool, N. B., Canada
2.290	CFW Bones Bay, B. C., Canada
2.290	CJE Ceepeeere, B. C., Canada
2.290	VFJ Homalko, B. C., Canada
2.290	CZL Humpback Bay, B. C., Canada
2.290	CJY Jackson Bay, B. C., Canada
2.290	CFV Namu, B. C., Canada
2.290	CJL Selwyn Inlet, B. C., Canada
2.290	CJR Wakeman Sound, B. C., Canada
2.300	RHHA Armavir, Russia
2.300	RKPU Loubny, Russia
2.343	RFCQ Moscow, Russia
2.350	YDE5 Djokja, Java, N.I. (B)
2.350	VBQ Halifax, N. S., Canada
2.355	---- Burnham, United Kingdom
2.355	---- Cullercoats, United Kingdom
2.355	---- Fishguard, United Kingdom
2.355	---- Humber, United Kingdom
2.355	---- Lands End, United Kingdom
2.355	---- Malin Head, United Kingdom
2.355	---- Niton Radio, United Kingdom
2.355	---- North Foreland, United King.
2.355	---- Portpatrick, United Kingdom
2.355	---- Seaforth, United Kingdom
2.355	---- Valentia, United Kingdom
2.355	---- Wick, United Kingdom
2.357	EDP Palma de Mallorca, Spain
2.357	EDR4 Palma de Mallorca, Spain
2.366	---- Naval Stations, United King.
2.385	YDA2 Batavia, Netherl India. (B)
2.398	---- Experimental, USA
2.400	EST Tallinn-Sadam, Estonia
2.400	DAF Norddeich, Germany
2.400	OYR Egdesminde, Greenland
2.415	YDE4 Soerabaja, Netherl. India. (B)
2.416	CZG Prince Rupert, B. C., Canada
2.416	CJW St. John, N. B., Canada
2.416	CZF Vancouver, B. C., Canada
2.416	CZE Victoria, B. C., Canada
2.416	VYW Winnipeg, Man., Canada
2.450	YDB2 Semarang, Netherl. India. (B)
2.452	CQZ Vancouver, B. C., Canada
2.452	CJZ Verdun, P. Q., Canada
120 TO 100 METERS	
2.500	YDA5 Bandoeng, Java, N.I. (B)
2.500	DAS Rugen, Germany
2.500	TFQ Djopivogur, Iceland
2.517	EDO Madrid, Spain
2.517	EDR2 Madrid, Spain
2.517	EDS Madrid, Spain
2.550	RHJS Oust-Labinskaia, Russia
2.604	WZAS Gasconade, Mo., USA
2.604	WXA Juneau, Alaska
2.604	WXH Ketchikan, Alaska
2.604	WYBF Napoleon, Mo., USA
2.604	WXY Nome, Alaska
2.604	---- Transports, USA
2.610	RELB Boukhta Bertys, Russia
2.610	RELD Boukhta Bertys, Russia
2.610	RELO Boukhta Bertys, Russia
2.610	RELZ Spasskyi Zavod, Russia
2.640	---- Airways, USA
2.644	---- Airways, USA
2.670	NOX Biloxi, Miss., USA
2.670	NOB Buffalo, N. Y., USA
2.670	NOV Cape May, N. J., USA
2.670	NMD Cleveland, Ohio, USA
2.670	NOL Ft. Lauderdale, Fla., USA
2.670	NOY Galveston, Texas, USA
2.670	NMW Grays Harbor, Wash., USA
2.670	NMV Jacksonville, Fla., USA
2.670	NOM Miami, Fla., USA
2.670	NMG Mobile, Ala., USA
2.670	NOU New London, Conn., USA
2.670	NMC Point Bonita, Calif., USA
2.670	NOJ Point Vicente, Calif., USA

H=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
2.670	NOW Port Angeles, Wash., USA	3.105	---- Airplanes, USA
2.670	NOZ Port Townsend, Wash., USA	3.125	RPF Moscow, Russia
2.670	NMN Princess Anne, Va., USA	3.130	YDH6 Bandoeng, Netherl. India, (B)
2.670	NMY Rockaway Point, N. Y., USA	3.135	RKOP Kiev, Russia
2.670	NOF St. Petersburg, Fla., USA	3.140	RMDU Ourouлга, Russia
2.670	NOS Salem, Mass., USA	3.150	YDG3 Batavia, Netherl. India, (B)
2.670	NMP Wilmette, Ill., USA	3.150	REDX Akmolinsk, Russia
2.670	NMF Winthrop, Mass., USA	3.150	RLEE Bouchoulei, Russia
2.672	EDO Madrid, Spain	3.150	RMDK Kscnievskaja, Russia
2.672	EDR2 Madrid, Spain	3.152	CGM Montreal, P. Q., Canada
2.673	EDS Madrid, Spain	3.152	CGY Yamachichi P. Q., Canada
2.698	NOX Biloxi, Miss., USA	3.155	W7XAQ Portable station, USA
2.698	NOB Buffalo, N. Y., USA	3.158	OYN Upernivik Greenland
2.698	NMD Cleveland, Ohio, USA	3.160	CGM Montreal, P. Q., Canada
2.698	NOW Port Angeles, Wash., USA	3.160	CGY Yamachichi P. Q., Canada
2.698	NOS Salem, Mass., USA	3.160	RLEZ Zilovo, Russia
2.698	NMP Wilmette, Ill., USA	3.170	YDO4 Soerabaja, Netherl. India, (B)
2.710	YDK5 Semarang, Netherl. India, (B)	3.170	RLEC Tehita, Russia
2.730	YDO6 Soerabaja, Java, N.I. (B)	3.180	RMDG Bolehoi Nevcr, Russia
2.730	KZGF Manila, Philippine Islands	3.180	RHJD Chakhty, Russia
2.730	---- North Foreland, United Kingdom	3.180	RLED Chulka, Russia
2.738	WKDX New York, N. Y., USA	3.180	RMWA Tashkent, Russia
2.740	CFD Kenora, Ont., Canada	3.180	RMDF Zeia, Russia
2.740	---- Experimental, Canada	3.190	YDK2 Semarang, Netherl. India, (B)
2.750	---- Experimental, tel. USA, (T)	3.190	RMDQ Amazar, Russia
2.750	---- Experimental, tel. Can., (T)	3.190	RENI Tehimkent, Russia
2.750	YDL6 Djokjakarta, Nethrl. India, (B)	3.195	W7XAQ Portable, USA
2.758	---- Experimental, Can.	3.200	RMDM Mogotcha, Russia
2.760	YZGH Iloilo, Philippine Islands	3.210	YDL5 Djokjakarta, Nethrl. India, (B)
2.770	VK3XX Lyndhurst, Vic., Australia	3.230	YDQ4 Malang, Netherland India, (B)
2.790	YDJ3 Tegal, Java, N.I. (B)	3.235	W7XAQ Portable, USA
2.800	---- Aeronautical, Europe	3.240	RMAY Troitse Zarubino, Russia
2.810	YDQ6 Malang, Netherland India (B)	3.240	EDP Palma de Mallorca, Spain
2.810	RHBD Leningrad, Russia	3.240	EDO Madrid, Spain
2.815	---- Aeronautical, Europe	3.240	EDR2 Madrid, Spain
2.820	VK3XX Lyndhurst, Vic., Australia	3.250	YDH5 Garoet, Netherland India, (B)
2.820	RIAD Jini-Chkaf, Russia	3.256	---- Experimental, Canada
2.830	KZGG Cebu, Philippine Islands	3.265	W7XAQ Portable, USA
2.830	YDU4 Medan, Netherland Indies (B)	3.270	YDA7 Pekalongan, Java, N.I. (B)
2.830	---- Aeronautical, Europe	3.275	RMAS Tafouin, Russia
2.835	---- Rome, Italy	3.290	YDO3 Soerabaja, Java, N.I. (B)
2.845	OHG Helsingfors, Finland	3.295	W7XAQ Portable, USA
2.845	VLT Bulolo, New Guinea	3.300	YDG7 Batavia, Java, N.I. (B)
2.850	YDG4 Batavia, Java, N.I. (B)	3.310	YDH4 Bandoeng, Netherl. India, (B)
2.870	YDJ5 Cheribon, Java, N.I. (B)	3.310	RIAC Penza, Russia
2.870	YDA6 Cherbon, Java, N.I. (B)	3.330	LPG General Pacheco, Argentina
2.870	RFCG Moscow, Russia	3.330	YDR2 Bandjermasin, Neth. India, (B)
2.875	EDR4 Palma de Mallorca, Spain	3.330	RRRR Tashkent, Russia
2.890	YDJ2 Pekalongan, Netherl. India (B)	3.332	CFD Kenora, Ont., Canada
2.890	YDK4 Megalang, Java, N.I. (B)	3.333	OGH Elmholm, Finland
2.910	YDK3 Semarang, Java, N.I. (B)	3.333	OGF Fagerholm, Finland
2.910	YDE3 Semarang, Netherl. India, (B)	3.333	OFL Haapasaari, Finland
2.920	REKD Alma-Ata, Russia	3.333	OHN Hango, Finland
2.930	YDO5 Soerabaja, Netherl. India, (B)	3.333	OGE Helsingfors, Finland
2.950	YDQ5 Malang, Netherland India, (B)	3.333	OHG Helsingfors, Finland
2.980	CZA Drummondville, P. Q., Canada	3.333	OHH Koivisto Finland
	100 TO 85 METERS	3.333	OFM Kotka, Finland
2.990	RHBB Novorjcv, Russia	3.333	OFQ Lavansaari, Finland
3.000	SQB Bialystok, Poland	3.333	OFY Mariehamn, Finland
3.000	SQA Lwow, Poland	3.333	OFW Pirttisaari, Finland
3.000	SWZ Warsaw, Poland	3.333	OFX Porkkala, Kallbada, Finland
3.040	YDA Tandjongpriok, Neth. Ind. (B)	3.333	OFV Porkkala, Ronnskar, Finland
3.040	CGE Calgary, Alta., Canada	3.333	OGI Saggio, Finland
3.040	CKS Calgary, Alta., Canada	3.333	OF5 Seiskari, Finland
3.040	RKDM Medveja Gora, Russia	3.333	OFN Suursaari, Finland
3.040	RKOO Odessa, Russia	3.333	OFI Tanimio, Finland
3.040	RKDO Parandovo, Russia	3.333	OFO Tytarsaari, Finland
3.048	KIOG Portable, USA	3.333	OHT Uto, Finland
3.048	KIUF Portable, USA	3.333	OHJ Vaasa, Finland
3.048	KIUE Portable, USA	3.333	OFU Vatskar, Finland
3.048	KIUD Portable, USA	3.333	OHF Viipuri, Finland
3.048	KIUC Portable, USA	3.340	CGD Drummondville, P. Q., Canada
3.048	KIUB Portable, USA	3.340	CGM Montreal, P. Q., Canada
3.050	RUF Moscow, Russia	3.345	W7XA Portable, USA
3.050	---- Portable, Wyndham Meatsworks, Australia	3.350	---- Naval Stations, Germany
3.058	VVY Masson, P. Q., Canada	3.350	YDQ3 Malang, Netherland India, (B)
3.060	RKNK Kharkov, Russia	3.370	RIAY Tchernoretchenskoe, Russia
3.060	RUF Moscow, Russia	3.380	RGJV Iochkar-Ola, Russia
3.080	PVV5 Tarauaca, Brazil	3.380	RENJ Karsakpai, Russia
3.080	RHIK Rostov on Don, Russia	3.385	KIUU Marshall, Alaska
3.080	REBB Vladimir, Russia	3.385	W7XAP Portable, USA
3.088	---- Airplanes, USA	3.390	RENG Atehi-Sai, Russia
3.090	RBX Moscow, Russia	3.390	YDQ2 Djember, Netherland India, (B)
3.095	W7XA Portable, USA	3.410	WWG Cheboygan Range Light Station, Mich., USA
3.095	W7XAQ Portable, USA	3.410	WWEC Delaware Breakwater Light, Del., USA

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
3.410	WWR Detroit, L.H. Depot, Mich., USA	3.640	RKOV Grichino, Russia
3.410	WWN Detroit River Light Station, Mich., USA	3.640	RKME Kharkov, Russia
3.410	WST Dry Tortugas Lgt. Sta., USA	3.640	RCTS Mamadych, Russia
3.410	WWDI Edgemoor Depot, Del.	3.640	RIBC Penza, Russia
3.410	WWDW Fourteen Foot Bank Light, Del., USA	3.650	RENT Gouriev, Russia
3.410	WWZ Key West L.H. Dep. Fla., USA	3.650	RKPA Nikolaev, Russia
3.410	WWAJ Manitou Lgt. Sta., Mich., USA	3.650	RMWA Tashkent, Russia
3.410	WWM Marquette Lgt. Sta., Wis., USA	3.658	RFAJ Moscow, Russia
3.410	WWAL Passage Isl. Lgt. Sta., USA	3.660	RKOB Bobrinskaja, Russia
3.410	WRL Poe Reef Lgt. Sta., Mich., USA	3.660	---- Konigs Wusterhausen, Ger.
3.410	WWAM Rock of Ages Lgt., Mich., USA	3.670	RKNK Kharkov, Russia
3.410	WWH Standard Rock Lgt., Mich., USA	3.670	RHIY Tatsinskaja, Russia
3.410	YDL4 Djokjakarta, Netherl. India, (B)	3.680	RJAJ Moscow, Russia
3.410	RGAZ Kotelnitch, Russia	3.685	RAJ Sovgavan, Russia
3.410	RJBD Soerdiovak, Russia	3.690	REAS Chouia, Russia
3.420	RFAU Bykovo, Russia	3.690	RKNC Kharkov, Russia
3.435	OEH1 Vienna, Austria	3.690	RCRJ Lenkoran, Russia
3.430	YDO2 Socrabaja, Netherl. India, (B)	3.700	VK3XX Lyndhurst, Victoria, Australia,
3.440	RFAX Moscow, Russia	3.700	JPY Tobata, Japan
3.440	RKF Moscow, Russia	3.710	RIBB Abdoulinkoe, Russia
3.445	W7XAO Portable, USA	3.710	RIAZ Andreoskoe, Russia
3.450	YDL2 Solo, Netherland India, (B)	3.710	RGAG Ijevsk, Russia
3.450	RKNZ Kharkov, Russia	3.710	RFCJ Kachira, Russia
3.450	RFAG Moscow, Russia	3.710	RKND Kharkov, Russia
3.450	RFBL Moscow, Russia	3.720	RCNQ Novosokolniki, Russia
3.460	CFD Kenora, Ont., Canada	3.720	RHJS Orist Labinskaja, Russia
3.460	CZG Prince Rupert, B. C., Canada	3.720	RIBE Samara, Russia
3.460	CZF Vancouver, B. C., Canada	3.730	RKNB Kharkov, Russia
3.460	CZE Victoria, B. C., Canada	3.730	RCQA Kontais, Russia
3.470	RFAJ Moscow, Russia	3.740	RKOU Kharkov, Russia
3.470	YDG2 Batavia, Java, N.I. (B)	3.740	RJEJ Sverdlovsk, Russia
3.480	VLT Bulolo, New Guinea		80 TO 70 METERS
3.485	SQB Bialystok, Poland	3.750	F8KR Constantine, Algeria, (B)
3.490	YDH3 Bandoeng, Java, (B)	3.750	VK3XX Lyndhurst, Victoria, Australia
3.490	HAP Budapest, Hungary	3.750	2RO Rome, Italy, (B)
3.490	SQZ Warsaw, Poland	3.750	RENY Dozov, Russia
	85 TO 80 METERS	3.750	REJG Ganiouchkino, Russia
3.495	SQA Lwow, Poland	3.750	REBO Iavnovo, Russia
3.495	---- Airway Stations Russia	3.750	RFCV Kalinin, Russia
3.495	RLXS Saratov, Russia	3.750	CTICT Lisbon, Portugal, (B)
3.500	----	3.760	RENU Aktinbinsk, Russia
	to Amateurs,	3.760	---- Konigs Wusterhausen, Germany
4.000		3.760	RMWP Samarkand, Russia
3.505	RHCU Leningrad, Russia	3.760	RKOH Znamenka, Russia
3.510	RKNX Debal'tsevo, Russia	3.769	ZEZ Broken Hill, Northern Rhodesia
3.510	RKLA Kramatorsk, Russia	3.769	ZDH Samson, Northern Rhodesia
3.515	RTU Dolgoproudnaja, Russia	3.769	ZDA Livingston, Northern Rhodesia
3.520	RFAO Moscow, Russia	3.769	ZDI Mongu-Lealui, North Rhodesia
3.520	SQZ Warsaw, Poland	3.769	ZFF Mpika, Northern Rhodesia
3.530	TFR Flatoy a Breidafirdi, Iceland	3.770	RRR Briansk, Russia
3.530	TFP Papey, Iceland	3.780	RLW Artemovsk, Russia
3.540	---- Airways Stations, Russia	3.780	RLX Artemovsk, Russia
3.543	CR7AA Lourenco Marques, Mozambique, (B)	3.780	RELO Boukhta Bertys, Russia
3.550	REIB Alma-Ata, Russia	3.790	RPNA Kharkov, Russia
3.550	RFAW Moscow, Russia	3.800	RKOL Krementchoug, Russia
3.550	REJB Sergiopol, Russia	3.800	RMPH Stalinated, Russia
3.550	REJA Taldy-Kourgon, Russia	3.810	RKPP Ouman, Russia
3.555	RRT Vitebsk, Russia	3.820	RMSE Karabougaz, Russia
3.560	RPOK Korosten, Russia	3.830	---- Bykovo, Russia
3.565	RRT Vitebsk, Russia	3.830	RHAB Leningrad, Russia
3.570	RGAP Gorki, Russia	3.830	RIAL Syzran, Russia
3.570	RGLG Mezen, Russia	3.830	RCQY Tiflis, Russia
3.570	RCRI Nakhitchevan, Russia	3.840	RKOD Kazatin, Russia
3.570	RRT Vitebsk, Russia	3.850	RKMC Odessa, Russia
3.580	RLW Artemovsk, Russia	3.850	RGLC Syktykvar, Russia
3.580	RMPB Madrouckent, Russia	3.860	RKLO Sorokino, Russia
3.580	RIU Verkhoiansk, Russia	3.860	RKPO Vorochilovsk, Russia
3.585	RHCC Khibinigorok, Russia	3.870	RW77 Moscow, Russia
3.590	REX Indigo-Boukhta, Russia	3.880	RIBA Bouzoulouk, Russia
3.590	RUY Pervomaik, Russia	3.880	RKLQ Dnepropetrovsk, Russia
3.600	RPM2 Groumont Siti, Russia	3.880	RCBA Jlobin, Russia
3.600	RKNE Kharkov, Russia	3.885	RENV Karaton, Russia
3.600	RCND Neval, Russia	3.885	RCRH Batoum, Russia
3.600	RJCZ Soerdlovsk, Russia	3.890	RLY Kharkov, Russia
3.610	RJRJ Kozlov, Russia	3.900	RFAX Moscow, Russia
3.610	RKLW Kramatorsk, Russia	3.910	RLEG Tchita, Russia
3.620	DOA Doeberitz, Germany	3.910	RLEV Verkhne Oudinsk, Russia
3.620	RCAD Minsk, Russia	3.910	RMCC Roukhlovo, Russia
3.620	RGX Minsk, Russia	3.920	RKLA Kramatorsk, Russia
3.620	RIAU Samara, Russia	3.920	RFAO Moscow, Russia
3.630	RFF Kharkov, Russia	3.950	RHAX Leningrad, Russia
3.630	RENC Temir, Russia	3.998	HCJB Quito, Ecuador, (B)
3.630	RGFW Viatka, Russia	4.000	ZGE Kuala Lumpur, Federated Malay States, (B)
		4.000	REJM Karaganda, Russia
		4.002	CT2AJ Ponta Delgada, Sao Miguel,

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
4.010	RFAU Azores, (B)	4.430	RMDI Svobodnyi, Russia
4.030	RFAW Bykovo, Russia	4.430	RMDJ Tynda, Russia
4.050	DAS Moscow, Russia	4.430	RLEZ Zilovo, Russia
4.054	CNW Rugen, Germany	4.430	GBC Rugby, United Kingdom
4.060	CNW Tangier, Morocco	4.440	RBX Moscow, Russia
4.060	RGKX Archangel, Russia	4.440	RMXC Tchimon, Russia
4.080	RFAO Moscow, Russia	4.445	WUM Tucson, Ariz., USA
4.097	WND Hialeah, Fla., USA	4.450	RFY Moscow, Russia
4.100	LCL Jeloy, Norway, (X)	4.450	RKOS Rouchenkov, Russia
4.110	HCJB Quito, Ecuador, (B)	4.455	RRY Moscow, Russia
4.110	RELO Boukhta, Bertys, Russia	4.460	RKOT Dnepropetrovsk, Russia
4.110	RENA Bourondal, Russia	4.460	RKOW Kharkov, Russia
4.110	RKNX Debatsevo, Russia	4.460	RKOI Kiev, Russia
4.110	RISQ Novosibirsk, Russia	4.460	RKOE Odessa, Russia
4.130	RTU Dolgoproudnaia, Russia	4.460	RKOJ Stalino, Russia
4.130	DAF Norddeich, Germany	4.460	RHIZ Taganrog, Russia
4.135	WTXAQ Portable, USA	4.460	CKAC Vinnitsa, Russia
4.140	RELW Karalinsk, Russia	4.465	RG04 Drummondville, P. Q., Canada
4.140	RELJ Djarkent, Russia	4.470	YID Baghdad, Iraq, (B)
4.140	RJCU Magnetigorsk, Russia	4.470	YDB Soerabaya, Netherl. India, (B)
4.150	SGZ Warsaw, Poland	4.470	RBT Samarov, Russia
4.150	REIB Alma Ata, Russia	4.475	RRKKNK Kharkov, Russia
4.150	RLEN Nijne Oudinsk, Russia	4.477	RMGI Khabarovsk, Russia
4.150	RMCC Roukhlovo, Russia	4.480	RKMB Gorlovka, Russia
4.150	REJB Sergiopol, Russia	4.490	RMXA Kim, Russia
4.150	REJA Tandy-Kourgan, Russia	4.490	RLBY Kirensk, Russia
4.150	RLEV Tchita, Russia	4.490	RKOR Krasnyi Loutch, Russia
4.150	RLEV Verkneoudinsk, Russia	4.490	RENC Tenir, Russia
4.160	SGB Bialystok, Poland	4.500	RELB Boukhta Bertys, Russia
4.165	LOB Puerto Aguirre, Argentine	4.500	RELO Boukhta Bertys, Russia
4.165	SGZ Warsaw, Poland	4.500	---- Naval Stations, Germany
4.170	SGA Lwow, Poland	4.505	CZP Claydon Bay, B. C., Canada
4.174	---- British ships	4.505	CGO Ocean Falls, B. C., Canada
4.177	---- Ship telephone	4.505	CZO Prince George, B. C., Canada
4.190	RJXC Makhatch-Kala, Russia	4.510	VPN Nassau, Bahamas
4.190	RMAT Vladivostok, Russia	4.510	RKOA Berditchev, Russia
4.272	WOY Lawrenceville, N. J., USA	4.512	ZFS Nassau, Bahamas
4.272	WOO Ocean Gate, N. J., USA	4.520	RCNO Briansk, Russia
4.273	RV15 Khabarovsk, Russia, (B)	4.535	WDG Rocky Point, N. Y., USA
4.280	RFAK Koutchino, Russia	4.540	WIR Rocky Point, N. Y., USA
	70 TO 60 METERS	4.540	RMXB Kokand, Russia
4.283	---- Ship telephone	4.545	RFAJ Moscow, Russia
4.286	RKMF Jitomir, Russia	4.545	WDW New Brunswick, N. J., USA
4.286	RKPL Jitomir, Russia	4.550	KIKC Bolinas, Calif., USA
4.286	RCNF Smolensk, Russia	4.550	WAD Rocky Point, N. Y., USA
4.286	WTDW St. Croix, Virgin Islands	4.555	WDN Rocky Point, N. Y., USA
4.295	WTDJ St. John, Virgin Islands	4.570	RIBJ Kachirinsk, Russia
4.295	WTDV St. Thomas, Virgin Islands	4.570	RKQK Kadrevka, Russia
4.300	---- Aeronautical, Europe	4.600	HC2ET Apartado 249, Guayaquil, Ecuador, (B)
4.300	RPKE Liman, Russia	4.600	RKON Gorlovka, Russia
4.300	RKDM Medveja Gora, Russia	4.615	RLXI Stalingrad, Russia
4.300	RKDO Paradoyo, Russia	4.615	RJRS Voronei, Russia
4.300	RHIK Rostov on Don, Russia	4.625	ZGF Kuantan, Federtd. Malay States
4.305	RGFK Kanavino, Russia	4.670	RIBK Rouzaevka, Russia
4.305	RKOG Vapniarka, Russia	4.687	RFCC Moscow, Russia
4.310	RMDP Erofei Pavlovitch, Russia	4.700	RCRB Erivan, Russia
4.310	RMDT Staibo, Russia	4.710	RIAL Syzran, Russia
4.310	RLEC Tshita, Russia	4.710	RENI Tchmekent, Russia
4.315	RGFK Kanavino, Russia	4.710	RKLM Zaporojie, Russia
4.315	RKOG Vapniarka, Russia	4.715	EDP Palma de Mallorca, Spain
4.320	G6RX Hillmorton, United King., (X)	4.720	RFAJ Moscow, Russia
4.320	GDB Rugby, United Kingdom, (B)	4.730	RKMD Chepetovka, Russia
4.330	RKLP Rovenki, Russia	4.740	RCNP Smolensk, Russia
4.355	IAC Coltano, Italy, (X)	4.740	RIBF Syzran, Russia
4.350	RKOP Kiev, Russia	4.750	RLGL Kabansk, Russia
4.350	PROF Proskurov, Russia	4.753	WOY Lawrenceville, N. J., USA
4.350	RIMK Topki, Russia	4.753	WOO Ocean Gate, N. J., USA
4.360	RMDV Ekimitchan, Russia	4.761	RMFN Grodekovo, Russia
4.360	RMDU Ouroulga, Russia	4.775	CFD Kenora, Ont., Canada
4.375	RUF Moscow, Russia	4.785	CZA Drummondville, P. Q., Canada
4.380	RMDW Dambouki, Russia	4.790	RKMI Krivoi Rog, Russia
4.380	RUF Moscow, Russia	4.795	VE9BY London, Ont., Canada (X)
4.385		4.795	VE9BK Vancouver, B. C. (X)
4.390	RENG Atchi Sai, Russia	4.800	RKMH Khrstinovka, Russia
4.400	RMDX Komsomolsk, Russia	4.800	RCNQ Novosokolniki, Russia
4.400	DAF Norddeich, Germany	4.810	CGP Prince Rupert, B. C., Canada
4.410	RFAY Moscow, Russia	4.810	YDE2 Solo, Netherland India, (B)
4.410	REIK Petro-avlovsk, Russia	4.810	YDL2 Soerakata, Java, N.I. (B)
4.412	ZGC Kuala Lumpur, Federated Malay States	4.810	RKMG Vinnitsa, Russia
4.412	CNR Rabat, Morocco	4.820	PRO Olinda, Brazil
4.412	RFAJ Moscow, Russia	4.820	REJK Karsakpai, Russia
4.420	RKLS Tchistiakovo, Russia	4.820	GDW Rugby, United Kingdom
4.430	RLED Chilka, Russia	4.838	RJRV Kozlov, Russia
4.430	DOA Doeberitz, Germany	4.839	RNZ Petropavlovsk, Russia
4.430	RMDH Ouroucha, Russia	4.840	GDW Rugby, United Kingdom
		4.850	RELO Boukhta Bertys, Russia

R=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION
4.850	RKMF Jitomir, Russia
4.860	CGT Campbell River, B. C., Canada
4.860	RKMM Konstantinovka, Russia
4.860	RKF Moscow, Russia
4.860	RJCZ Sevdlosk, Russia
4.875	RKF Moscow, Russia
4.880	RKME Kharkov, Russia
4.895	CEC La Granja, Chile
4.900	RKMN Sorokino, Russia
4.910	RENJ Korsakpai, Russia
4.920	LCL Jeloy, Norway, (X)
4.930	RFAJ Moscow, Russia
4.930	RIBE Samara, Russia
4.930	RKMK Zouevka, Russia
4.940	REIL Kounrad, Russia
4.950	RKMJ Zaporojie, Russia
4.960	RHIE Elizavetopolskaia, Russia
4.960	RCND Nevel, Russia
4.970	RLY Kharkov, Russia
4.975	GBC Rugby, United Kingdom
4.980	RMWP Samarkand, Russia
4.988	---- Airplanes, USA
60 TO 50 METERS	
5.000	FY3 Lyon, T.S.F., France
5.000	FHH3 Pointe-Noire, French Equatorial Africa
5.000	RCRI Nakhitchevan, Arakse, Russia
5.000	RLXI Stalingrad, Russia
5.000	RCNA Vinzma, Russia
5.000	RJRS Voronej, Russia
5.000	TFL Reykjavik, Iceland
5.015	KUF Manila, Philippine Is.
5.023	ICQ Naples, Italy
5.025	ZFA Hamilton, Bermuda
5.030	REJJ Koustanaï, Russia
5.040	RIR Tiflis, Russia
5.050	VRT Hamilton, Bermuda
5.050	RMLD Mouinak, Russia
5.058	TFI Reykjavik, Iceland
5.060	EDO Madrid, Spain
5.060	EDR2 Madrid, Spain
5.060	EDS Madrid, Spain
5.070	RMLC Tourtkoul, Russia
5.077	WCN Lawrenceville, N. J., USA
5.085	RIO Bakou, Russia
5.085	RMBK Oust Bolcheretsk, Russia
5.090	REJV Semipalatinsk, Russia
5.100	RCTQ Kazan, Russia
5.105	KEC Bolinas, Calif., USA
5.120	REIQ Pribalkhachstroï, Russia
5.130	ZGD Kuantan, Federatd. Malay States
5.140	EDR3 El Tabiero, Canary Is.
5.140	PMY Bandoeng, Netherl. India, (B)
5.140	PJEJ Sevdlosk, Russia
5.145	OKIMP Prague, Czechoslovakia, (X)
5.200	RKLW Kramatorsk, Russia
5.210	REIP Vozrojdenic Ostrov, Russia
5.215	RCTP Tehistopol, Russia
5.220	ZFC Hamilton, Bermuda
5.220	RELO Boukhita Bertys, Russia
5.222	ZEZ Broken Hill, Northern Rhodesia
5.222	ZDH Fort Jameson, Northn. Rhodesia
5.222	ZDA Livingstone, Northern Rhodesia
5.222	ZDI Mongu-Lealui, Northn. Rhodesia
5.222	ZFF Mpika, Northern Rhodesia
5.250	RIBC Penza, Russia
5.260	WQN Rocky Point, N. Y., USA
5.263	RMFN Grodekovo, Russia
5.265	CEC La Granja, Chile
5.265	YDU3 Medan, Sumatra, N.I. (B)
5.280	PWO Nietheroy, Armacao, Brazil
5.280	RGAP Gorkyi, Russia
5.290	RUY Pervomaïsk, Russia
5.300	ZFO Cat Cay, Bahamas
5.310	RIAC Penza, Russia
5.345	EDR4 Palma de Mallorca, Spain
5.350	RELT Bouli-Tiube, Russia
5.350	RKOK Korosten, Russia
5.357	ZGF Kuantan, Federatd. Malay States
5.357	RMPB Mद्रouchkent, Russia
5.357	RMPH Stalinabad, Russia
5.370	RLW Artemovsk, Russia
5.370	RLX Artemovsk, Russia
5.375	RSB Stalinsk, Russia
5.380	LPG2 General Pacheco, Argentina
5.390	RKOU Kharkov, Russia

Freq. Mc.	CALL and LOCATION
5.400	HAT Szekesfehervar, Hungary
5.400	RFAG Moscow, Russia
5.405	CGT Campbell River, B. C., Canada
5.410	ZBW Hongkong, China (B)
5.410	RKLO Sorokino, Russia
5.415	IAF Fiumicino, Italy
5.420	CGE Calgary, Alta., Canada
5.420	JPY Tobata, Japan
5.440	RSN Sevdlovsk, Russia
5.450	ZGC Kuala Lumpur, Federated Malay States
5.450	RKLG Dnepropetrovsk, Russia
5.454	RHJD Chakhty, Russia
5.455	VQR Nairobi, Kenya
5.455	RLXI Stalingrad, Russia
5.460	VIX Wyndham Meatworks, Australia
5.460	RKPL Jitomir, Russia
5.460	RCNF Smolensk, Russia
5.460	ZFU Arua, Uganda
5.470	RKOV Grichino, Russia
5.490	RPOB Bobrinskaia, Russia
5.490	ROI Sevdlovsk, Russia
5.495	ZGD Kuantan, Fed. Malay States
5.500	T15HH San Ramon, Costa Rica (B)
5.505	RKNK Kharkov, Russia
5.510	---- Airplanes, USA
5.515	SPV Warsaw, Poland
5.520	PRP Olinda, Brazil
5.520	RMAT Vladivostok, Russia
5.530	RINA Novosibirsk, Russia
5.540	CFD Kenora, Ont., Canada
5.542	RUU Detskoe Selo, Russia
5.547	RUU Detskoe Selo, Russia
5.552	RUU Detskoe Selo, Russia
5.555	RUU Detskoe Selo, Russia
5.555	LPD General Pacheco, Argentina
5.555	LPG3 General Pacheco, Argentina
5.555	2RO Rome, Italy, (B)
5.556	OXM Scoresbysund, Greenland
5.556	OYI Scoresbysund, Greenland
5.560	RKOH Znamenka, Russia
5.570	---- Airplanes, USA
5.570	OQP Astrida, Belgian Congo
5.580	RKOL Krementchoug, Russia
5.600	---- Aeronautical, Europe
5.603	---- Airplanes, USA
5.610	FFK St. Nazaire, France
5.610	2RO Rome, Italy
5.610	RELO Boukhita Bertys, Russia
5.615	OQY Niangara, Belgian Congo
5.620	RKOD Kazatin, Russia
5.630	RGFW Viatka, Russia
5.635	DAS Rügen, Germany
5.640	RGFK Kanavino, Russia
5.640	RKOG Vapniarka, Russia
5.650	OQM Lusambo, Belgian Congo
5.653	WNEY Baltimore, Md., USA
5.660	---- Airplanes, USA
5.660	CFD Kenora, Ont., Canada
5.660	XQAJ Shanghai, China
5.660	OZZ Thule, Greenland
5.660	2RO Rome, Italy
5.660	VQR Nairobi, Kenya
5.660	RKLP Rovenki, Russia
5.670	RKON Gorlovka, Russia
5.680	RKOF Proskourov, Russia
5.692	FIGA Tananarive, Madagascar
5.700	OSG Luluabourg, Belgian Congo
5.700	RKLR Lisitchansk, Russia
5.705	ZC2PC Haifa, Palestine
5.705	ZC3PC Mafrak, Transj., Palestine
5.705	ZC4PC Pump Station H4, Transj., Pal.
5.710	JDZ Dairen, Manchuria
5.713	TGS Guatemala City, Guat. (B)
5.714	ZGA Kuala Lumpur, Fed. Malay States
5.715	GIR Dollis Hill, United Kingdom
5.720	YV1ORSC San Cristobal, Ven. (B)
5.725	OXL Skamlebak, Denmark
5.725	2RO Rome, Italy, (B)
5.730	JVV Tokyo, Japan
5.740	RKLS Tchistiakovo, Russia
5.750	RGAQ Ijevsk, Russia
5.750	EDR2 Madrid, Spain
5.750	EDS Madrid, Spain
5.760	RLX Artemovsk, Russia
5.760	OQG Libenge, Belgian Congo

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION
5.766	CFU Rossland, B. C., Canada
5.766	XAM Merida, Yucatan, Mexico
5.769	RELB Boukhta Bertys, Russia
5.769	RELD Boukhta Bertys, Russia
5.769	RMSX Merv, Russia
5.769	RELZ Spasskiy Zavod, Russia
5.780	OAX4D P.O. Box 853, Lima, Peru, (B)
5.780	RKOS Routhchenkovo, Russia
5.790	JVU Tokyo, Japan
5.800	YV2RC Caracas, Venezuela (B)
5.800	YK3XX Lyndhurst, Vic., Australia
5.800	RKMK Zouevka, Russia
5.805	OSE Kanda Kanda, Belgian Congo
5.805	CSN Rossland, B. C., Canada
5.810	RKOR Krasnyi-Loutch, Russia
5.810	CGI Isle Maligne, P. Q., Canada
5.810	RFAN Moscow, Russia
5.810	CGR Quebec, P. Q., Canada
5.813	FZN6 Noumea, New Caledonia
5.820	CEC La Granja, Chile
5.820	RKML Krinditchovka, Russia
5.825	TIGPH San Jose, Costa Rica, (B)
5.830	JMP Shinkyo, Japan
5.830	RPG Borensburg, Russia
5.830	CWD Cerrito, Uruguay
5.840	REKD Alma-Ata, Russia
5.840	RKMM Konstantinovka, Russia
5.840	RHIF Grozni, Russia
5.840	RHII Novo Kresitanovskoe, Russia
5.840	RHIIH Sterkertitchka, Russia
5.842	FZP4 Papeete, Tahiti
5.845	KRO Kahuku, Hawaii
5.850	YV5RMO Maracaibo, Ven. (B)
5.850	YK3LR Lyndhurst, Vic., Australia, (B)
5.850	RKQO Kadievka, Russia
5.850	RFAL Moscow. Koutchينو, Russia
5.853	WOB Lawrenceville, N. J.
5.855	OGZ Kamina, Belgian Congo
5.855	EDR3 El Tablero, Teneriffe, Canary Island
5.860	H11J San Pedro de Macoris, D.R.
5.860	XDA Chapultepec, Mexico
5.860	RPMM Sorokini, Russia
5.870	RKMB Gorlovka, Russia
5.870	RRRR Tashkent, Russia
5.875	HRN Tegucigalpa, Honduras (B)
5.880	YV8RB Barquisemeto, Ven. (B)
5.880	REKD Alma-Ata, Russia
5.880	RKNY Kharkov, Russia
5.880	RKMO Verkhne, Oudinsk, Russia
5.885	HCK Quito, Ecuador (B)
5.890	JIC Taihoku, Tauvan, Japan
5.890	RIKW Osmk, Russia
5.890	RRRZ Sverdlovsk, Russia
5.892	
5.895	
5.900	OGX Kabinda, Belgian Congo
5.900	RMWA Tashkent, Russia
5.915	VRR Stony Hill, Jamaica
5.940	---- Airplanes, USA
5.940	TG2X Guatemala City, Guat. (B)
5.950	OSI Gule, Belgian Congo
5.950	HJ4ABE Medellin, Colombia
5.952	FZF6 Fort de France Martinique
5.955	RRRZ Sverdlovsk, Russia
5.969	HVJ Vatican City, (B)
5.970	HJ3ABH Bogota, Colo., AparTado 565, (B)
5.970	HJN Bogota, Col. (B)
5.980	HIX Santo Domingo, Dominican Rep. (B)
5.980	XEVI Mexico City, Mex.. (B)
5.985	HJ2ABC Cucuta, Col. (B)
5.990	FZK6 Dakar, Senegal
5.990	XEBT Mexico City, Mex.. P. O. Box 79-44. (B)
50 TO 45 METERS	
5.995	WXE Anchorage, Alaska
5.995	WXH Ketchikan, Alaska
5.995	RPT Tashkent, Russia
6.000	OSF Panu, Belgian Congo
6.000	XGOX Nanking, China
6.000	VSZAB Kuala Lumpur, Fed. Malay States
6.000	Tananarive, Madagascar
6.000	TGW Guatemala City, Guat. (B)

Freq. Mc.	CALL and LOCATION
6.000	---- St. Denis, Reunion
6.000	---- Buchorest, Rumania
6.000	RPDM Medveja Gora, Russia
6.000	RV59 Moscow, Russia
6.000	RKDO Parandovo, Russia
6.000	RKDN Segja, Russia
6.000	EAJ25 Barcelona, Spain
6.005	VE9DN Drummondville, P. Q., Canada
6.005	VE9DR Drummondville, P. Q., Canada
6.006	HJ1ABJ Santa Marta, Colombia
6.010	COCO Habana, Cuba, (B)
6.010	---- Cairo, Egypt, (B)
6.018	ZHI Singapore, Straits Settlements, (B)
6.020	XEUW Vera Cruz, Mex. (B)
6.020	HJ3ABH Bogota, Col. (B)
6.020	CGN Macao, China
6.020	DJC Zeesen, Germany, (B)
6.020	PGD Kootwijk, Netherlands, (B)
6.020	PGD Kootwijk, Netherlands, (B)
6.025	HVJ Vatican City (B) (Project)
6.030	VE9CA Calgary, Alta., Canada, (B)
6.030	OQT Buta, Belgian Congo. (B)
6.030	PGD Kootwijk, Netherlands, (B)
6.030	HP5B Panama, Panama
6.035	YNA Managua, Nicaragua, (B)
6.040	YDA Tandjongpriok, Java (B)
6.040	W1XAL Boston, Mass., USA, (B)
6.040	W4XB Miami Beach, Fla., USA, (B)
6.040	PX8B Pernambuco, Brazil (B)
6.040	RILD Omsk, Russia
6.040	RLEC Tchita, Russia
6.042	HJ1ABG Barranquilla, Colombia, (B)
6.045	HJ3ABI Bogota, Colo., (B)
6.045	EAG Aranjuez, Spain, (B)
6.050	VE9CF Halifax, N. S., Canada, (B)
6.050	RIMK Topki, Russia
6.050	GSA Daventry, United Kingdom, (B)
6.055	Prague, Czecho. (B) (Project)
6.060	W8XAL Mason, Ohio, USA, (B)
6.060	W3XAU Newton Sq., Pa., USA, (B)
6.060	OSC Bocnde, Belgian Congo
6.060	OXY Skamlebak, Denmark, (B)
6.065	2RO Rome, Italy, (B)
6.060	RLEE Bouchoulei, Russia
6.065	HJ4ABL Manizales, Colombia, (B)
6.070	VE9CS Vancouver, B. C., Canada, (B)
6.070	HJ4ABC Periera, Col. (B)
6.070	OXY Skamlebak, Denmark, (B)
6.070	RGFN Charia, Russia
6.070	EAG Aranjuez, Spain, (B)
6.072	OER2 Vienna, Austria, (B)
6.074	HJ1ABF Barranquilla, Colombia, (X)
6.078	DJM Zeesen, Germany, (B)
6.080	W9XAA Chicago, Ill., USA
6.080	CP5 LaPaz, Bolivia, (B)
6.080	TIRA Cartago, Costa Rica, (B)
6.080	VE9EH Charlottetown, P.E.I., (B)
6.080	RFCK Moscow, Russia
6.080	HPSF Colon, Panama (B)
6.083	VG7LO Nairobi, Kenya, Africa (B)
6.085	2RO Rome, Italy, (B)
6.090	VE9BJ St. John, N.B., Canada, (B)
6.095	CRCX Bowmanville, Ont., Canada, (B)
6.097	ZTJ Johannesburg, Un. of S. A., (B)
6.098	HJ1ABD Cartagena, Colombia, (B)
6.100	W3XAL Bound Brook, N. J., USA, (B)
6.100	W9XF Downers Grove, Ill., USA, (B)
6.100	RMDQ Amazar, Russia
6.100	RMDK Ksenievskaja, Russia
6.100	RFCI Riazan, Russia
6.105	HJ4ABB Manizales, Colombia, (B)
6.110	VE9CG Calgary, Alta., Canada
6.110	GSL Daventry, England, B. B. C., Broadcast. Hse., Lon., E., (B)
6.110	CHNX Halifax, N. S., Canada, (B)
6.110	VUC Calcutta, India, (B)
6.110	EAG Aranjuez, Spain, (B)
6.115	---- Warsaw, Poland, (B)
6.115	HJ1ABE Cartagena, Col. (B)
6.115	Prague, Czecho. (B) (Project)
6.120	W2XE New York City, USA, (B)
6.120	OGU Basankusu, Belgian Congo, (B)
6.120	XEFT Vera Cruz, Mex. (B)
6.120	RKOM Dnepropetrovsk, Russia
6.128	YV11RMO Maracaibo, Venezuela.

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
6.128	LKJ1 Jeloy, Norway, (B)	6.520	YV6RV Valencia, Venezuela, (B)
6.130	COCD Havana, Cuba (B)	6.528	HIL Santo Domingo, D.R., (B)
6.135	ZGE Kuala Lumpur, Fed. Malay Sts., (B)	6.535	OSB Kikwit, Belgian Congo
6.135	YID Baghdad, Iraq, (B)	6.550	TIRCC San Jose, Costa Rica (B)
6.135	RKK Moscow, Russia	6.550	RKLM Zaporojie, Russia
6.140	W8XK Saxonburg, Pa., USA, (B)	6.570	QGV Albertville, Belgian Congo
6.140	3LR Lyndhurst, Vic., Australia, (B)	6.590	VGR Nairobi, Kenya
6.145	--- Pontoise, France	6.593	ZDG Mpika, Northern Rhodesia
6.150	CJRO Winnipeg, Manitoba, Can., (B)	6.593	ZEB Bulawayo, Southern Rhodesia
6.150	HJ5ABC Cali, Colombia, (B)	6.593	ZEA Salisbury, Southern Rhodesia
6.150	RKOO Odessa, Russia	6.593	ZTG Germiston, Union of S. A.
6.150	CSL Lisbon, Portugal, (B)	6.600	RJTL Dmitriev-Igovsky, Russia
6.150	YV3RC Caracas, Venezuela	6.600	RKXL Odessa, Russia
6.155	C09GC Santiago, Cuba, (B)	6.600	YV5AM San Juan, Ven. (B)
6.160	2RO Rome, Italy	6.605	OQW Banningville, Belgian Congo
6.170	CFD Kenora, Ont., Canada	6.610	VR72 Moscow, Russia, (B)
6.170	CFG Pickle Lake, Ont., Canada	6.610	CWE Cerrito, Montevideo, Uruguay
6.170	CFJ Red Lake, Ont., Canada	6.618	PRADO Riobamba, Ecuador, (B)
6.170	CFB Sioux Lookout, Ont., Canada	6.630	--- Moscow, Russia, (B)
6.170	HJ3ABF Bogota, Colombia, (B)	6.635	OTC Coquilhatville, Belgian Congo
6.175	OND Banana, Belgian Congo	6.650	IAC Pisa, Italy, (X)
6.175	FTX St. Assise, France	6.650	--- Naval Stations, Japan
6.175	HJ2ABA Tunja, Colombia, (B)	6.650	XFD Mexico City, Mexico, (B)
6.180	RKOP Kiev, Russia	6.660	HC2RL P.O. Box 759, Guayaquil, Ecuador, S.A., (B)
6.180	REIK Petropavlovsk, Russia	45 TO 40 METERS	
6.185	H11A P.O. Box 423, Santiago, Dominican Rep., (B)	6.665	LPG4 General Pacheco, Argentina
6.190	RIPV Barnaul, Russia	6.672	YVQ Maracay, Venezuela
6.190	RRRR Tashkent, Russia	6.674	IRT Rome, Italy
6.198	CT1GO Portuguese Radio Club, Parede, Portugal, (B)	6.675	HBQ Prangins, Switzerland
6.200	RMDP Erofei Pavlovitch, Russia	6.677	FZ14 Brazzaville, Fr. Equa., Africa
6.200	RMDM Mogotcha, Russia	6.680	DGP Nauen, Germany, (X)
6.200	RMWW Tashkent, Russia	6.685	OZS Skamlebak, Denmark
6.230	OAX4G Apartado 1242, Lima, Peru, (B)	6.685	ZGA Kuala Lumpur, Fed. Malay States
6.235	OCN Lima, Peru, (B)	6.685	YNLF Managua, Nicaragua, (B)
6.240	RMAS Tafouin, Russia	6.690	CFA Drummondville, P. Q., Canada
6.240	RMAY Troitse Zarubino, Russia	6.690	VGR Nairobi, Kenya
6.245	OQE Costermansville Belgian Congo	6.690	ZDB Broken Hill, Northern Rhodesia
6.250	--- Airways, Germany	6.690	ZDG Mpika, Northern Rhodesia
6.250	OCI Lima, Peru	6.690	ZEB Bulawayo, Southern Rhodesia
6.250	REIX Akmolinsk, Russia	6.690	ZEA Salisbury, Southern Rhodesia
6.250	RGAZ Kotelnich, Russia	6.690	ZTG Germiston, Union of So. Africa
6.250	RFAQ Moscow, Russia	6.690	ZTF Maitland Cape, Un. of S. Africa
6.250	REIA Onialy, Russia	6.695	OQI Lisala, Belgian Congo
6.250	REIM Ouzoumkair, Russia	6.700	RIBF Syzran, Russia
6.260	PBB Den Helder, Netherlands	6.703	TIK Cartago, Costa Rica
6.285	CZA Drummondville, P. Q., Canada	6.710	TIEP La-Voz Del Tropico, San Jose, Costa Rica, (B)
6.300	RCE Leningrad, Russia	6.718	WDB Rocky Point, N. Y., USA
6.300	RMBA Preobrajenta, Russia	6.718	KBK Manila, P. I.
6.316	HIZ Santo Domingo, Dominican Rep., (B)	6.733	WDA Rocky Point, N. Y., USA
6.320	CFD Kenora, Ont., Canada	6.745	OQB Bumba, Belgian Congo
6.320	OQA Kigoma, Tanganyika	6.750	JVT Tokyo, Japan
6.330	--- Tokyo, Japan	6.750	RMSE Karabougaz, Russia
6.335	VE9AP Drummondville, P. Q., Canada, (B)	6.755	WOA Lawrenceville, N. J., USA
6.345	OSD Kigali, Belgian Congo, (B)	6.755	KZGF Manila, Philippine Islands
6.375	YV4RC Caracas, Venezuela	6.760	CFA2 Drummondville, P. Q., Canada
6.375	OQR Usumbura, Belgian Congo	6.760	RENJ Karsakpai, Russia
6.380	HC1DR Quito, Ecuador, (B)	6.770	KZGF Manila, Philippine Islands
6.383	RNZ Petropavlovsk, Russia	6.775	OQK Aketi, Belgian Congo
6.385	YN1GG Managua, Nicaragua	6.780	RENT Gouriev, Russia
6.405	OQJ Inongo, Belgian Congo	6.780	EAH Madrid, Spain
6.410	TIPG San Jose, Costa Rica, (B)	6.785	OQD Kindu, Belgian Congo
6.420	RGX Minsk, Russia	6.790	SQB Bialystok, Poland
6.425	VE9AS Fredericton, N. B., Canada, (X)	6.790	RIBO Kvarkeno, Russia
6.425	W3XL Bound Brook, N. J., USA, (B)	6.792	HAP3 Budapest, Hungary
6.425	CZE Victoria, B. C., Canada	6.792	SQZ Warsaw, Poland
6.425	CZF Vancouver, B. C., Canada	6.795	--- Rugby, United Kingdom
6.425	CZG Prince Rupert, B. C., Canada	6.800	EDR3 Tablero, Canary Islands
6.425	VE9BY London, Ont., Canada, (B)	6.800	SQA Lwow, Poland
6.430	OQF Port Franqui, Belgian Congo	6.810	OSK Kitega, Belgian Congo
6.440	RTA Novosibirsk, Russia	6.810	RENG Atch-Sai, Russia
6.447	HJ1ABB Barranquilla, Col. (B)	6.814	HIH San Pedro de Macoris, Dominican Rep., (B)
6.450	HJ4ABC Ibaque, Col. (B)	6.818	RELZ Spassky Zavod, Russia
6.450	OTO Leopoldville, Belgian Congo	6.840	OGG Kongolo, Belgian Congo
6.460	RHCC Khibinogorsk, Russia	6.840	CFA Drummondville, P. Q., Canada
6.465	OQO Basoko, Belgian Congo	6.840	HAS Szekesvehvar, Hungary,
6.470	RCAD Minsk, Russia	6.840	RKNP Kharkov, Russia
6.480	EDR4 Palma de Mallorca	6.850	LPG5 General Pacheco, Argentina
6.482	HI4D Santo Domingo, Dominican Rep., (B)	6.850	VPE Labasa, Fiji Islands, (X)
6.495	OTH Elizabethville, Belgian Congo	6.850	VQL Savu-Savu, Fiji Islands, (X)
6.500	HJ5ABD Manizales, Col., (B)	6.850	VRO Suva, Fiji Islands, (X)
6.520	RELT Bourli-Tiube, Russia	6.850	VVF Taveuni, Fiji Islands, (X)
		6.850	RKF Moscow, Russia

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
6.860	KEL Bolinas, Calif., (X)	7.380	XECR Foreign Office, Mexico City, Mex., (B)
6.860	OTL Leopoldville, Belgian Congo	7.390	JVR Tokyo, Japan
6.870	EAK San Lorenzo, Canary Islands	7.390	ZLT Wellington, N. Z.
6.870	RFK Moscow, Russia	7.390	RKNE Kharkov, Russia
6.880	OQN Irumu, Belgian Congo	7.400	WEM Rocky Point, N. Y., USA
6.880	CFA4 Drummondville, P. Q., Canada	7.400	HJ3ABD Bogota, Colombia, (B)
6.880	RKF Moscow, Russia	7.400	RRRH Khabarovsk, Russia
6.880	RINY Oirat-Toura, Russia	7.407	WEN New Brunswick, N. J., USA
6.890	RLGL Kabansk, Russia	7.408	RFAJ Moscow, Russia
6.895	EDK San Lorenzo, Canary Islands	7.410	XGV Shanghai, China
6.895	EDT San Lorenzo, Canary Islands	7.410	VGR Nairobi, Kenya
6.905	GDS Rugby, United Kingdom	7.415	WEG Rocky Point, N. Y., USA
6.910	ZEZ Broken Hill, Northern Rhodesia	7.430	RKMJ Zaporozje, Russia
6.910	ZDH Fort Jameson, Northern Rhodesia	7.440	RKMJ Khristinovka, Russia
6.910	ZDA Livingstone, Northern Rhodesia	7.444	HBQ Prangins, Switzerland
6.910	ZDI Mongu-Lealui, Northern Rhodesia	7.450	RUK Stalinabad, Russia
6.910	ZFF Mpika, Northern Rhodesia	7.460	CZG Prince Rupert, B. C., Canada
6.910	RJBD Sverdlovsk, Russia	7.460	CZF Vancouver, B. C., Canada
6.915	ZCI Cape D'Aguiar, Hong Kong	7.460	CZM Victoria, B. C., Canada
6.920	RFX Moscow, Russia	7.460	RKMF Jitomir, Russia
6.930	REAU Aktubinsk, Russia	7.470	JVQ Tokyo, Japan
6.930	RGKX Archangel, Russia	7.470	RKME Kharkov, Russia
6.930	RLEV Verkhne-Oudinsk, Russia		
6.940	RFAU Bykovo, Russia		
6.950	RLXS Saratov, Russia		
6.958	WEO New Brunswick, N. J., USA		
6.960	OTS Stanleyville, Belgian Congo	7.500	LPG6 General Pacheco, Argentina
6.965	KZGG Cebu, Philippine Islands	7.500	ZGB Kuala Lumpur, Fed. Malay States
6.966	EDO Madrid, Spain	7.500	JVP Tokyo, Japan
6.970	EDR2 Madrid, Spain	7.500	RKI Moscow, Russia
6.976	HCETC Quito, Ecuador	7.510	JVP Nazaki, Japan
6.977	---- Aeronautical, Europe	7.510	REJK Kursapka, Russia
6.977	RNZ Petropavlovsk, Russia	7.510	RKND Kharkov, Russia
6.980	2RO Rome, Italy	7.518	IRV Rome, Italy
6.980	VQR Nairobi, Kenya	7.520	KKH Kahuku, Hawaii
6.980	KZGH Iloilo, Philippine Islands	7.520	RKI Moscow, Russia
6.980	RKNZ Kharkov, Russia	7.545	RKI Moscow, Russia
6.980	RFAO Moscow, Russia	7.550	TIBWS Punta Arenas, Costa Rica (B)
6.980	EAR110 Madrid, Spain, (B)	7.565	KWY Dixon, Calif., USA
6.990	JVS Tokyo, Japan	7.580	RKNC Kharkov, Russia
6.990	LCL Jeloy, Norway	7.610	KWX Dixon, Calif., USA
6.996	PZH Paramirab, Dutch Guiana (B)	7.620	ETD Addis Ababa, Ethiopia
7.000	to Amateurs,	7.620	RKPO Vorochilovsk, Russia
7.300		7.626	RIM Irkutsk, Russia
7.010	RHCU Leningrad, Russia	7.626	RIM Tashkent, Russia
7.020	RFBL Moscow, Russia	7.630	ZHJ Penang, Malaya (B)
7.020	EAR125 Madrid, Spain, (B)	7.632	OEJ Vienna, Austria
7.030	HRP1 San Pedro Sula, Honduras, (B)	7.650	REAJ Moscow, Russia
7.050	---- Experimental Sta., Japan (X)	7.660	FTL Ste. Assise, France
7.050	RGFO Arzamas, Russia	7.660	---- Taihoku, Japan
7.050	RFBO Mojaisk, Russia	7.685	TIO Cartago, Costa Rica
7.060	RENB Boukhta Bertys, Russia	7.688	TYC3 Paris, France
7.060	RENA Bouroundal, Russia	7.700	ONE Banana, Belgian Congo
7.070	RHAX Leningrad, Russia	7.700	TYC2 Paris, France
7.074	HJ1ABK Barranquilla, Col. (B)	7.700	RKNB Kharkov, Russia
7.080	VP3MR Georgetown, Bri. Guiana (B)	7.715	KKE Bolinas, Calif., (X)
7.080	RTU Dolgoproudnaia, Russia	7.725	---- Radom, Poland
7.100	HKE Bogota, Colombia, (B)	7.730	WEV New Brunswick, N. J., USA
7.100	---- Experimental and Amateurs, Japan, (X)	7.730	PDL Kootwijk, Netherlands
7.170	RELD Boukhta Bertys, Russia	7.735	
7.170	REAO Boukhta Bertys, Russia	7.740	CEC La Granja, Chile
7.177	CR6AA Lobito, Angola, (B)	7.755	OQA1 Kigoma, Tanganyika
7.211	EASAB Teneriffe, Canary Islands, (B)	7.760	PCK Kootwijk, Netherlands
7.220	---- Experimental, Japan, (X)	7.760	PDM Kootwijk, Netherlands
7.225	RPK Moscow, Russia	7.765	PDM Kootwijk, Netherlands
7.230	DOA Doberitz, Germany	7.770	FTF Ste. Assise, France
7.250	---- Rome, Italy	7.770	PDM Kootwijk, Netherlands
7.260	RFF Kharkov, Russia	7.780	PSZ Sepetiba, Brazil
7.275	RTZ Irkutsk, Russia	7.785	TIR Cartago, Costa Rica
7.281	HJ1ABD Cartagena, Colo., (B)	7.790	HBP Prangins, Switzerland, (B)
7.300	---- Rome, Italy	7.795	LPZ Buenos Aires, Argentina
7.310	RFBY Moscow, Russia	7.800	RKNA Kharkov, Russia
7.310	RMWP Samarkand, Russia	7.805	KZGF Manila, Philippine Islands
7.320	ZTU Johannesburg, Un. of S. Africa	7.810	VRR Stony Hill, Jamaica
7.330	RKMI Krivoi Rog, Russia	7.813	DFT Nauen, Germany
7.333	DFH Nauen, Germany	7.815	LPZ Buenos Aires, Argentina
7.340	RGLC Syktyvkar, Russia	7.820	OCO Lima, Peru
7.345	GDL Rugby, United Kingdom	7.830	PGA Kootwijk, Netherlands
7.360	ZEZ Broken Hill, Northern Rhodesia	7.830	PZGG Cebu, Philippine Islands
7.360	ZDH Ft. Jameson, Northern Rhodesia	7.835	PDV Kootwijk, Netherlands
7.360	ZDA Livingstone, Northern Rhodesia	7.835	LCN Jeloy, Norway
7.360	ZFF Mpika, Northern Rhodesia	7.840	PGA Kootwijk, Netherlands
7.360	ZDI Mongu-Lealui, Northern Rhodesia	7.851	SUX Abou Zabal, Egypt
7.370	RFBX Moscow, Russia	7.853	
7.370	RKLX Odessa, Russia	7.854	HC2JSB Guayaquil, Ecuador, (B)
		7.855	KZGH Iloilo, Philippine Islands
		7.860	SUX Abou Zabal, Egypt

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
7.867		8.540	RLEC Tchita, Russia
7.869		8.550	HSG Bangkok, Siam
7.870	RXC Panama City, Panama	8.555	OQK1 Aketi, Belgian Congo
7.877	SUX Abou Zabal, Egypt	8.560	WOY Lawrenceville, N. J., USA
7.880	JYR Chiba, Japan, (X)	8.560	WOO Ocean Gate, N. J., USA
7.890	VPD Suva, Fiji Islands	8.565	HAT3 Szekefhevar, Hungary
7.895	RM/GI Khabarovsk, Russia	8.566	---- Ship Telephone
7.901	LSL Hurlingham, Argentina, (X)	8.570	RRRQ Novosibirsk, Russia
7.905	OSKI Kitega, Belgian Congo		35 TO 30 METERS
7.910	REJV Semipalatinsk, Russia	8.580	RKOM Dnepropetrovsk, Russia
7.920	RCKJ Lenkoran, Russia	8.585	OQX1 Kabinda, Belgian Congo
7.920	GCP Rugby, United Kingdom	8.590	YNVA Managua, Nicaragua (B)
7.930	DOA Doberitz, Germany	8.595	OXU Skamlebak, Denmark
7.935	PSL Marapic, Brazil	8.600	---- Aeronautical, Europe
7.935	KZGF Manila, Philippine Islands	8.600	RIPV Barnaul, Russia
7.945	VK2ME Sydney, Australia	8.610	TYD2 Paris, T.S.F., France
7.960	VLZ Sydney, Australia	8.630	VJI Cloncurry, Australia
7.965	OGP1 Astrida, Belgian Congo	8.630	PBB Den Helder, Netherlands
7.968	HSP Bangkok, Siam	8.635	OX1 Poenda, Belgian Congo
7.975	HC2TC Quito, Ecuador (B)	8.650	VE9BY London, Ontario, Canada, (X)
7.980	VLJ Sydney, Australia	8.650	HAS Szekesfehervar, Hungary
7.980	VLZ4 Sydney, Australia	8.665	CO9JQ Camaguey, Cuba (B)
7.980	HSJ Bangkok, Siam	8.680	GBC Rugby, United Kingdom
7.990	OQM1 Lusambo, Belgian Congo	8.691	VWZ Kirkee, India
8.020	HSJ Bangkok, Siam	8.693	
8.035	OQB1 Bumba, Belgian Congo	8.700	VWZ Kirkee, India
8.036	CNR Rabat, Morocco, (B)	8.700	RKLX Odessa, Russia
8.050	RCNV Smolensk, Russia	8.707	VWZ Kirkee, India
8.055	OQW1 Banningville, Belgian Congo	8.709	
8.065	LPZ Buenos Aires, Argentina	8.710	CEC La Granja, Chile
8.068	---- Konigs Wusterhausen, Germany	8.715	OSD1 Kigali, Belgian Congo
8.075	WEZ Rocky Point, N. Y., USA	8.730	GC1 Rugby, United Kingdom
8.075	TYB2 Paris, T.S.F., France	8.750	ZEK Hongkong, China, (B)
8.085	OQS Stanleyville, Belgian Congo	8.760	GCQ Rugby, United Kingdom
8.095	VLK3 Sydney, Australia	8.765	---- Naval Stations, Germany
8.100	EATH Vienna, Austria	8.770	RSZ Irkutsk, Russia
8.110	RELB Boukhta Bertys, Russia	8.775	PNI Makassar, Netherland Indies
8.110	RELO Boukhta Bertys, Russia	8.790	OQG1 Libenge, Belgian Congo
8.120	KAZ Manila Philippine Islands	8.790	TIN Cartago, Costa Rica
8.120	KTP Manila Philippine Islands	8.790	TIR Cartago, Costa Rica
8.130	OSF1 Panu, Belgian Congo	8.793	CNP Casablanca, Morocco
8.135	VIG Baghdad, Iraq	8.795	HKV Bogota, Colombia, (X)
8.140	FRS9 Saigon, Indo China	8.830	---- Portable-Interior Commission, Australia
8.155	PGB Kootwijk, Netherlands	8.830	---- Ship Telephone
8.160	OSE1 Kanda-Kanda, Belgian Congo	8.850	OQO1 Basoko, Belgian Congo
8.170	RV50 Moscow, Russia, (B)	8.870	NPO Cavite, P. I., (Time)
8.185	PSK Rio de Janeiro, Brazil	8.875	CWK Cerrito, Montevideo, Uruguay
8.195	OQL Leopoldville, Belgian Congo	8.880	---- Naval Stations, Japan
8.200	LPG7 General Pacheco, Argentina	8.890	WYL Barksdale Field, La., USA
8.205	EDR2 Madrid, Spain	8.890	WUK Chapman Field, Fla., USA
8.205	EDS Madrid, Spain	8.890	WYS Clark Field, Philippine Isl.
8.214	HCSJ Quito, Ecuador, (B)	8.890	WYY Dryden, Tex., USA
8.220	ZP10 Asuncion, Paraguay (B)	8.890	WZO Ft. Bliss, Tex., USA
8.220	ZSV Walvis Bay, Un. of So. Africa	8.890	WZG Ft. Bragg, N. C., USA
8.225	RRD Moscow, Russia	8.890	WZB Ft. Clark, Tex., USA
8.230	EAP S. Lorenzo, Canary Islands	8.890	WVR Ft. McPherson, Ga., USA
8.235	OOC Coquilhatville, Belgian Congo	8.890	WZI Ft. Ringgold, Tex., USA
8.250	RKNK Kharkov, Russia	8.890	WVB Ft. Sam Houston, Tex., USA
8.270	OQD1 Kindu, Belgian Congo	8.890	WYN Hatbox Field, Okla., USA
8.290	RIKW Omsk, Russia	8.890	WYO Hensley Field, Tex., USA
8.305	OQEI Costermansville, Belgian Congo	8.890	WXA Juneau, Alaska
8.328	---- Ship telephone	8.890	WYG Kelly Field, Tex., USA
8.333	YQI Constanta, Rumania	8.890	WYR Kingley Field, Philippine Is.
8.333	LPD General Pacheco, Argentina	8.890	WYZ Lordsburg, New Mexico, USA
8.333	LOB Puerto Aguirre, Argentina	8.890	WUG Marfa, Texas, USA
8.333	OXM Scoresbysund, Greenland	8.890	WYT Nichols Field, Philippine Is.
8.333	RMAT Vladivostok, U.S.S.R.	8.890	WUM Tucson, Ariz., USA
8.340	OQF1 Port-Francqui, Belgian Congo	8.900	ZLS Wellington, New Zealand
8.345	FFK St. Nazaire, France	8.900	ZLT Wellington, New Zealand
8.380	IAC Piza, Italy, (X)	8.902	RKN Moscow, Russia
8.380	RJXC Makhatch Kala, Russia	8.920	GCX Rugby, United Kingdom
8.396	HSP Bangkok, Siam	8.925	OQH Elisabethville, Belgian Congo
8.400	---- Aeronautical, Europe	8.940	KZGG Cebu, Philippine Islands
8.400	HC2AT Guayaquil, Ecuador (B)	8.955	ZGB Kuala Lumpur, Fed. Malay St.
8.420	EAK San Lorenzo, Canary Islands	8.960	---- Algiers-Eucalyptus, Algeria
8.430	EAK San Lorenzo, Canary Islands	8.965	OQC Coquilhatville, Belgian Congo
8.440	SPU Warsaw, Poland	8.975	VWY Kirkee, India
8.445	OSB1 Kikwit, Belgian Congo	9.005	OQN1 Irumu, Belgian Congo
8.455	WWF Cerrito, Montevideo, Uruguay	9.010	KEJ Bolinas, Calif., USA
8.460	FFK St. Nazaire, France	9.020	GCS Rugby, United Kingdom
8.470	DAF Nordderch, Germany	9.037	TYA2 Paris, T.S.F., France
8.485	OQI1 Lisala, Belgian Congo	9.050	OQR1 Usumbura, Belgian Congo
8.510	RILD Omsk, Russia	9.060	TFK Reykjavik, Iceland
8.515	CAZ Drummondville, P. Q., Canada	9.091	XDA Chapultepec, Mexico
8.525	OQJ1 Inongo, Belgian Congo	9.091	XFD Mexico Citv, Mexico
8.540	EAK San Lorenzo, Canary Islands		
8.540	DAS Rugen, Germany		

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
9.104	LST Olivos, Argentina	9.655	OQY1 Niangara, Belgian Congo
9.110	KUW Manila, Philippine Islands	9.660	PSJ Marapicu, Brazil
9.110	EAH Madrid, Spain	9.675	DZA Zeesen, Germany
9.120	CP5 La Paz, Bolivia, (B)	9.700	LQA Buenos Aires, Argentina
9.125	OS11 Gule, Belgian Congo	9.710	GCA Rugby, United Kingdom
9.125	HAT4 Szekesfehervar, Hungary	9.750	WOF Lawrenceville, N. J., USA
9.150	YVR Maracay, Venezuela	9.750	RFK Moscow, Russia
9.170	WNA Lawrenceville, N. J., USA	9.760	VK2ME Sydney, Australia
9.170	KZGF Manila, Philippine Islands	9.760	VJ Sydney, Australia
9.180	ZSR Klipheuveel, Un. of So. Africa	9.760	VL22 Sydney, Australia
9.195	OQZ1 Kamina, Belgian Congo	9.772	EAM Madrid, Spain
9.200	GBS Rugby, United Kingdom	9.780	2RO Rome, Italy
9.230	FLJ Paris, France	9.790	GBW Rugby, United Kingdom
9.235	PDP Kootwijk, Netherlands	9.800	LSE Monte Grande, Argentina
9.240	PDP Kootwijk, Netherlands	9.800	GCW Rugby, United Kingdom
9.275	GCS Ongar, Unit d Kingdom	9.820	EAK San Lorenzo, Canary Islands
9.280	GCB Rugby, United Kingdom	9.824	LSI Buenos Aires, Argentina
9.300	CNR Rabat, Morocco, (B)	9.830	IRF Rome, Italy
9.310	GBC Rugby, United Kingdom	9.830	IRM Rome, Italy
9.315	OQT1 Buta, Belgian Congo	9.830	IRU Rome, Italy
9.330	VLJ4 Sydney, Australia	9.840	FTI St. Assise, France
9.332	CJA2 Drummondville, P. Q., Canada	9.840	FYC2 Paris, France
9.350	CEC La Granja, Chile	9.840	JVS Chiba, Japan, (X)
9.355	OQU1 Basankusu, Belgian Congo	9.860	EAQ Madrid, Spain (B)
9.370	VGR Nairobi, Kenya	9.870	WON Lawrenceville, N. J., USA
9.370	PGC Kootwijk, Netherlands	9.875	LPZ Buenos Aires, Argentina
9.375	XDA Chapultepec, Mexico	9.890	LSA Buenos Aires, Argentina
9.375	PGC Kootwijk, Netherlands	9.890	LSN Hurlingham, Argentina
9.375	RFCQ Moscow, Russia	9.895	FZV2 Tananarive, Madagascar
9.380	----- Aeronautical, Japan	9.900	LSN Buenos Aires, Argentina
9.400	XDC Mexico City, Mexico, (X)	9.905	CGA5 Drummondville, P. Q., Canada
9.415	PLV Bandoeng, Java	9.925	JDY Dairen, Manchuria
9.428	COCH Habana, Cuba, (B)	9.928	RRLY Moscow, Russia
9.435	LPZ Buenos Aires, Argentina	9.950	GCU Rugby, United Kingdom
9.445	OQV1 Albertville, Belgian Congo	9.964	LSL Buenos Aires, Argentina
9.450	WES Rocky Point, N. Y., USA	9.966	IRS Rome, Italy
9.470	WET Rocky Point, N. Y., USA	9.990	LSN Buenos Aires, Argentina
9.470	RRRN Irkutsk, Russia	9.990	KAZ Manila, Philippine Islands
9.480	KET Bolinas, Calif., USA		
9.480	LPR5 General Pacheco, Argentina	10.042	DZB Zeesen, Germany
9.480	EAH Madrid-Vallecas, Spain	10.055	ZFB Hamilton, Bermuda
9.490	KEI Bolinas, Calif., USA	10.055	SUV Abou Zaabal, Egypt
9.490	KZGH Iloilo, Philippine Islands	10.065	JMP2 Shinkyo, Japan
9.500	XGX Nanking, China	10.070	EDM Madrid, Spain
9.500	RFAJ Moscow, Russia	10.070	EDR2 Madrid, Spain
9.500	HSP2 Bangkok, Siam	10.070	EDS Madrid, Spain
9.501	PRF5 Rio de Janeiro, Brazil (B)	10.070	EHY Madrid, Spain
9.504	----- Prague, Czecho. (B) (Project)	10.090	EDR3 Tablero, Teneriffe, Canary Is.
9.510	GSB Daventry, United Kingdom, (B)	10.100	EHY Madrid, Spain
9.518	VK3ME Melbourne, Australia, (B)	10.105	REX Indigo Boukhta, Russia
9.520	OXY Skamlebak, Denmark, (B)	10.120	PSI Marapicu, Brazil
9.525	LKJ1 Jeloy, Norway (B)	10.140	OPM Leopoldville, Belgian Congo
9.525	OSG1 Luluabourg, Belgian Congo	10.163	----- Ship telephone
9.530	W2XAF Schenectady, N. Y., USA, (B)	10.169	HSJ Bangkok, Siam
9.530	YNA Managua, Nicaragua	10.220	PSH Marapicu, Brazil
9.540	DJN Zeesen, Germany, (B)	10.230	CEC Santiago, Chile
9.545	EAQ Aranjucz, Spain, (B)	10.250	LSK3 Hurlingham, Argentina
9.550	HVJ Vatican City (B) (Project)	10.260	PMN Bandoeng, Netherland Indies
9.560	DJA Zeesen, Germany, (B)	10.260	RRRO Irkutsk, Russia
9.560	----- Japan, (B)	10.290	DIQ Nauen, Germany
9.565	VUB Bombay, India, (B)	10.290	HPC Panama City, Panama
9.570	W1XX Westinghouse Elec. & Mfg. Co., Springfield, Mass., (B)	10.300	LSL2 Hurlingham, Argentina
9.570	SUV Abou Zaabal, Egypt, (B)	10.330	ORK Ruyselede, Belgium, (B)
9.570	KZRM Manila, Philippine Islands, (B)	10.335	ZFD Hamilton, Bermuda
9.575	VUC Calcutta, India, (B)	10.350	LSX Monte Grande, Argentina
9.579	XGBD Shanghai, China, (B)	10.370	EDR3 El Tablero, Canary Islands
9.580	3LR Lindhurst, Vic., Australia, (B)	10.370	EDR2 El Tablero, Canary Islands
9.580	VE9DR Drummondville, P.Q., Can., (B)	10.375	JVO Tokyo, Japan
9.580	HLB Prangins, Switzerland, (B)	10.380	WCG Rocky Point, N. Y., USA
9.580	GSC Daventry, United Kingdom, (B)	10.390	KER Bolinas, Calif., USA
9.585	----- Paris, France, (B)	10.390	GBX Rugby, United Kingdom
9.590	W3XAU Newton Square, Pa., USA, (B)	10.400	KEZ Bolinas, Calif., USA
9.590	VK2ME Sydney, Australia, (B)	10.410	KES Bolinas, Calif., USA
9.590	HP5J Panama City, Panama, (B)	10.410	PDK Kootwijk, Netherlands
9.590	TIRA Cartago, Costa Rica, (B)	10.410	LSY Monte Grande, Argentina
9.590	PCJ Eindhoven, Netherlands, (B)	10.415	PDK Kootwijk, Netherlands
9.595	HLB Prangins, Switzerland, (B)	10.420	XGW Shanghai, China
9.600	2RO Rome, Italy, (B)	10.420	PDK Kootwijk, Netherlands
9.600	XEFT Vera Cruz, Mex. (B)	10.430	YBG Medan, Sumatra
9.600	LGN Bergen, Norway	10.440	DGH Nauen, Germany
9.600	CT1AA Lisbon, Portugal, (B)	10.515	FZT2 Tananarive, Madagascar
9.616	VQ7LO Nairobi, Kenya, (B)	10.520	CJA4 Drummondville, P. Q., Canada
9.620	FZR2 Saigon, French Indo-China	10.520	VLK Sydney, Australia
9.620	DGU Nauen, Germany, (X)	10.526	FZT2 Tananarive, Madagascar
9.620	YDB Soerabaja, Java, N.I. (B)	10.530	GBX Rugby, United Kingdom
9.635	2RO Rome, Italy, (B)	10.535	JIB Taihoko, Taiwan, Japan
9.640	HSP2 Bangkok, Siam	10.550	WOK Lawrenceville, N. J., USA
		10.578	FYB Paris, France

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION
10.610	WEA Rocky Point, N. Y., USA
10.620	WEF Rocky Point, N. Y., USA
10.620	EDN Madrid, Spain
10.620	EDS Madrid, Spain
10.620	EDR2 Madrid, Spain
10.620	EHX Madrid, Spain
10.630	WED Rocky Point, N. Y., USA
10.640	QWV Rocky Point, N. Y., USA
10.640	OZT Skamlebak, Denmark
10.660	JVN Tokyo, Japan
10.670	CEC Santiago, Chile
10.675	WNB Lawrenceville, N. J., USA
10.714	RNZ Petropavlovsk, Russia
10.740	JVM Tokyo, Japan
10.760	PSG Marapeu, Brazil
10.770	GBP Rugby, United Kingdom
10.840	KWV Dixon, Calif., USA
10.850	DFL Nauen, Germany
10.860	RQT Irkutsk, Russia
10.870	GIG Dollis Hill, United Kingdom
10.910	KTR Manila, Philippine Islands
10.940	FTH St. Assise, France
10.950	VLK4 Sydney, Australia
10.975	OCI Lima, Peru
10.975	GCL Rugby, United Kingdom
10.990	ZLT Wellington, N. Z.
11.000	PLP Bandoeng, Java
11.110	RUU Detskoe Selo, Russia
11.110	LPD General Pacheco, Argentina
11.110	----- Aronautical, Japan
11.111	XFD Mexico City, Mexico
11.140	XGB Shanghai, China
11.140	----- Naval Stations, Germany
11.187	XAM Merida, Yuc., Mexico
11.200	XBJQ Mexico City, Mexico, (B)
11.200	----- Aronautical, Europe
11.210	SPT Warsaw, Poland
11.260	----- Aronautical, Europe
11.340	DAN Norden, Germany
11.370	CWG Cerrito, Montevideo, Uruguay
11.425	QK2 Aketi, Belgian Congo
11.435	DHC Nauen, Germany
11.465	QV2 Albertville, Belgian Congo
11.490	EAH Madrid, Spain
11.500	VIZ3 Melbourne, Australia
11.500	VQR Nairobi, Kenya
11.500	RPT Tashkent, Russia
11.505	OSH Elisabethville, Belgian Congo
11.530	LSN Buenos Aires, Argentina
11.530	CGA Drummondville, P. Q.
11.538	----- Rome, Italy
11.540	XGR Shanghai, China
11.565	OQP2 Astrida, Belgian Congo
11.570	GNS Onear, United Kingdom
11.620	EAH Madrid, Spain
11.660	PPQ Sepetiba, Brazil, (X)
11.660	----- Aronautical, Europe
11.660	JVL Tokyo, Japan
11.660	RPQ Barentsburg, Russia
11.670	----- Rome, Italy
11.675	OQM2 Lusambo, Belgian Congo
11.680	LPG8 General Pacheco, Argentina
11.680	KIO Kahuku, Hawaii
11.695	YV2RC Caracas, Venezuela
11.710	QW2 Banningville, Belgian Congo
11.715	----- Paris, France, (B)
11.720	CJRX Winnipeg, Man., Canada, (B)
11.730	PHI Huizen, Netherlands, (B)
11.740	RFK Moscow, Russia
11.740	RRRR Tashkent, Russia
11.740	HVJ Vatican City (B) (Project)
11.745	Prague, Czecho. (B) (Project)
11.750	GSD Daventry, United King., (B)
11.760	Prague, Czecho. (B) (Project)
11.760	XDA Chapultepec, Mexico, (B)
11.770	DJD Zeesen, Germany, (B)
11.780	VE9DN Drummondville, P. Q., Can., (B)
11.780	VE9DR Drummondville, P. Q., Can., (B)
11.780	----- Cairo, Egypt
11.790	W1XAL Boston, Mass., USA, (B)
11.790	T1TR San Jose, Costa Rica, (B)
11.795	DJO Zeesen, Germany, (B)
11.800	----- Japan, (B)
11.800	CO9WR P. O. Box 85, Sancti Spiritu Cuba, (X)
11.801	OER3 Vienna, Austria, (B)
11.801	XGBC Shanghai, China, (B)
11.810	HJ4ABAP P. O. Box 50, Medellin, Colombia, (B)

Freq. Mc.	CALL and LOCATION
11.810	CRCX Bowmanville, Ont., Can., (B)
11.810	2RO Rome, Italy, (B)
11.810	EAQ Aranjuez, Spain, (B)
11.820	GSN Daventry, United Kingdom (B)
11.830	W9XAA Chicago, Ill., USA
11.830	W2XE New York City, USA, (B)
11.835	CHNX Halifax, N. S., Canada, (B)
11.840	KZRM Manila, Philippine Islands
11.845	----- Paris, France, (B)
11.855	DJP Zeesen, Germany
11.860	VE9CA Calgary, Alta., Canada, (B)
11.860	GSE Daventry, United Kingdom, (B)
11.870	W8XK Saxonburg, Pa., USA, (B)
11.870	VUC Calcutta, India, (B)
11.875	Prague, Czecho. (B) (Project)
11.880	"Radio Colonial," Paris, France, (B)
11.880	3LR Lyndhurst, Vic., Australia
11.880	RSN Everdlovsk, Russia
11.890	YNA Managua, Nicaragua, (B)
11.895	OSL Leopoldville, Belgian Congo
11.910	RRRZ Sverdlovsk, Russia
11.920	RRRQ Novosibirsk, Russia
11.940	FTA St. Assise, France
11.950	FTA St. Assise, France
11.950	KKQ Bolinas, Calif., (X)
11.955	ETB Addis Ababa, Ethiopia
11.960	OQU2 Basankusu, Belgian Congo
11.970	HSJ Bangkok, Siam
11.980	FZS Saigon, French Indo-China
11.985	OQO2 Basoko, Belgian Congo
11.991	FZS2 Saigon, French Indo-China
25 TO 20 METERS	
12.000	FZG Saigon, French Indo-China
12.000	VQR Nairobi, Kenya
12.000	RNE Moscow, Russia, (B)
12.015	OSC2 Boende, Belgian Congo
12.028	CT1CT Lisbon, Portugal, (B)
12.030	HBO Prangins, Switzerland, (B)
12.035	DJK Nauen, Germany
12.050	VRR Stony Hill, Jamaica
12.050	PDV Kootwijk, Netherlands
12.055	
12.060	PDV Kootwijk, Netherlands
12.082	CT1CT Lisbon, Portugal, (B)
12.085	OQB2 Bumba, Belgian Congo
12.100	CJA6 Drummondville, P. Q., Canada
12.100	TIR6 Cartago, Costa Rica
12.120	----- Algiers, Algeria
12.130	DJS Zeesen, Germany
12.145	OQN2 Urumu, Belgian Congo
12.150	FQO-
12.150	FQE St. Assise, France
12.150	GBS Rugby, United Kingdom
12.180	OQT2 Buta, Belgian Congo
12.185	FRSS Saigon, French Indo-China
12.185	----- Radom, Poland
12.215	TYA Paris, T.S.F., France
12.229	CT1CT Lisbon, Portugal, (B)
12.235	TFJ Reykjavik, Iceland
12.240	OQE2 Costermansville, Belgian, Congo
12.244	LPD General Pacheco, Argentina
12.250	FTN St. Assise, France
12.250	TYB Paris, France
12.250	RFBY Moscow, Russia
12.250	GBS Rugby, United Kingdom
12.260	FTN St. Assise, France
12.270	RKK Moscow, Russia
12.275	FZT3 Tananarive, Madagascar
12.280	KUV Manila, Philippine Islands
12.290	GBU Rugby, United Kingdom
12.295	ZLT Wellington, New Zealand
12.295	ZLU Wellington, New Zealand
12.300	ONC Coquilhatville, Belgian Congo
12.300	ZLW Wellington, New Zealand
12.325	DAF Norddeich, Germany
12.360	OSF2 Panu, Belgian Congo
12.394	DAF Norddeich, Germany
12.396	CT1GO Paredo, Portugal, (B)
12.425	OS12 Gule, Belgian, Congo
12.450	RLGL Kabansk, Russia
12.470	OQJ2 Inongo, Belgian Congo
12.485	CNP Casablanca, Morocco
12.500	PBB Den elder, Netherlands
12.500	SPN Warsaw, Poland
12.500	YGI Constanta, Rumania
12.500	RKF Moscow, Russia

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
12.500	ZSV Walvis Bay, Uu. of So. Africa	14.005	to
12.550	--- Aeronautical, Europe	14.395	Amateurs, Siam
12.565	OGX2 Kabinda, Belgian Congo	14.151	HSJ Bangkok, Siam
12.570	FFK St. Nazaire, France	14.250	RPK Moscow, Russia
12.640	OGZ2 Kanuna Belgian Congo	14.285	LPR2 General Pacheco, Argentina
12.660	CZA Drummondville, P. Q., Canada	14.286	RMNK Kharkov, Russia
12.705	FFK St. Nazaire, France	14.286	RKV Moscow, Russia
12.740	OSE2 Kanda-Kanda, Belgian Congo	14.410	DIP Zeesen, Germany
12.745	DAF Norddeich, Germany	14.420	VPD Suva, Fiji
12.750	--- Aeronautical, Europe	14.435	LSJ2 Hurlingham, Argentina
12.780	GBC Rugby, United Kingdom	14.440	GBW Rugby, United Kingdom
12.800	IAC Pisa, Italy	14.450	RPK Moscow, Russia
12.800	OSD2 Kigali, Belgian Congo	14.460	DZH Zeesen, Germany
12.825	CNR Rabat, Morocco, (B)	14.470	WMF Lawrenceville, N. J., USA
12.840	WOY Lawrenceville, N. J., USA	14.479	HSJ Bangkok, Siam
12.840	WOO Ocean Gate, N. J., USA	14.480	LSN Buenos Aires, Argentina
12.860	OQD2 Kindu, Belgian Congo	14.480	GBW Rugby, United Kingdom
12.865	IAC Coltauo, Italy, (X)	14.485	TGF Guatemala City, Guat.
12.910	OSK2 Kitega, Belgian Congo	14.485	HPF Panama, Panama
12.910	OXR Skamlbak, Denmark	14.485	YNA Managua, Nicaragua
12.980	OQG2 Kongolo, Belgian Congo	14.485	TIR Cartago, Costa Rica
13.000	TYC Paris T.S.F., France	14.500	LSM2 Hurlingham, Argentina
13.025	OQQ2 Libenge, Belgian Congo	14.500	RRRF Moscow, Russia
13.040	--- Ship Telephone	14.510	RRRF Moscow, Russia
13.074	JYK Tokyo, Japan	14.515	14.515
13.075	VPD Suva, Fiji Islands, (X)	14.525	XDA Chapultepec, Mexico
13.085	OQI2 Lisala, Belgian Congo	14.530	LSA Buenos Aires, Argentina
13.100	--- Naval Stations, Germany	14.530	LSN Buenos Aires, Argentina
13.105	IRJ Rome, Italy	14.535	HBJ Prangins, Switzerland
13.140	CWH Cerrito, Montevideo, Uruguay	14.540	--- Tokyo, Japan
13.150	OSG2 Luluabuorg, Belgian Congo	14.545	RTZ Irkutsk, Russia
13.180	DGG Naenen, Germany	14.550	RTZ Irkutsk, Russia
13.200	--- Ship Telephone	14.550	HBJ Prangins, Switzerland
13.205	ONF Banana, Belgian Congo	14.560	RTZ Irkutsk, Russia
13.215	--- Ship Telephone	14.570	RTZ Irkutsk, Russia
13.220	--- Ship Telephone	14.590	WMN Lawrenceville, N. J., USA
13.240	KBJ Manila, Philippine Islands	14.600	JVH Tokyo, Japan
13.245	OSV Stanleyville, Belgian Congo	14.605	DGZ Naenen, Germany
13.260	IRR Rome, Italy	14.620	XDA Chapultepec, Mexico
13.285	CJA7 Drummondville, P. Q., Canada	14.620	EDM Madrid, Spain
13.300	--- Aeronautical, Europe	14.620	EDN Madrid, Spain
13.300	--- Naval Stations, Japan	14.620	EDR2 Madrid, Spain
13.315	OQY2 Niagara, Belgian Congo	14.620	EDS Madrid, Spain
13.335	WYS Clark Field, Philippine Isl.	14.620	EHY Madrid, Spain
13.335	WYY Orдын, Texas, USA	14.635	RELB Boukhta Bertys, Russia
13.335	WYM Ft. Leavenworth, Kans., USA	14.635	RELO Boukhta Bertys, Russia
13.335	WYN Hatbox Field, Okla., USA	14.653	GBL Rugby, United Kingdom
13.335	WYO Hensley Field, Texas, USA	14.665	DFD Naenen, Germany
13.335	WYG Kelly Field, Texas, USA	14.690	PSS Rio de Janeiro, Brazil
13.335	WYR Kindley Field, Philippine Isl.	14.705	OZW Skamlbak, Denmark
13.335	WUG Marfa, Texas, USA	14.710	VLZ5 Sydney, Australia
13.335	WYT Nichols Field, Philippine Isl.	14.750	FZV Tananarive, Madagascar
13.335	WUM Tucson, Ariz., USA	14.770	WEB Rocky Point, N. Y., USA
13.340	VLJ2 Sydney, Australia	14.800	WQV Rocky Point, N. Y., USA
13.340	VLZ3 Sydney, Australia	14.815	WQL New Brunswick, N. J., USA
13.340	CGA Drummondville, P. Q., Canada	14.820	EAK San Lorenzo, Canary Islands
13.345	YVQ Maracay, Venezuela	14.830	WKU Rocky Point, N. Y., USA
13.360	OQF2 Port-Franqui, Belgian Congo	14.830	RRRW Moscow, Russia
13.390	WMA Lawrenceville, N. J., USA	14.840	RRRW Moscow, Russia
13.405	GBJ Bodmin, United Kingdom	14.910	JVG Tokyo, Japan
13.410	YID Baghdad, Iraq	14.920	KQH Kahuku, Hawaii
13.415	OQR2 Usumbura, Belgian Congo	14.935	PSE Marapic, Brazil
13.415	GCJ Rugby, United Kingdom	14.940	EAK San Lorenzo, Canary Islands
13.460	LPR6 General Pacheco, Argentina	14.950	HJB Bogota, Col.
13.510	OSB2 Kikwit, Belgian Congo	14.965	EAK San Lorenzo, Canary Islands
13.540	GMS Ongar, United Kingdom	14.980	KAY Manila, Philippine Islands
13.560	JVI Tokyo, Japan	14.985	EFR2 Madrid, Spain
13.585	GBB Rugby, United Kingdom	14.985	EDS Madrid, Spain
13.591	GBC Rugby, United Kingdom		
13.605	OQA2 Kigoma, Belgian Congo		
13.610	JYK Tokyo, Japan		
13.635	SPW Warsaw, Poland	15.040	WQG Rocky Point, N. Y., USA
13.685	HAT Szekefehervar, Hungary	15.040	RKI Moscow, Russia
13.740	CGA Drummondville, P. Q., Canada	15.055	WNC Hialeah, Fla., USA
13.790	EAK San Lorenzo, Canary Islands	15.065	EAK San Lorenzo, Canary Islands
13.800	VLK5 Sydney, Australia	15.070	PSD Marapic, Brazil
13.811	SUZ Abou Zaabal, Egypt	15.090	RKI Moscow, Russia
13.827	SUZ Abou Zaabal, Egypt	15.104	RAU Tashkent, Russia
13.880	RELO Boukhta Bertys, Russia	15.110	DJL Zeesen, Germany, (B)
13.885	WQT Rocky Point, N. Y., USA	15.120	HJV Vatican City, (B)
13.890	LPG9 General Pacheco Argentina	15.130	VE9DN Drummondville, P.Q., Can., (B)
13.950	--- Aeronautical, Europe		
13.950	YO1 Bucharest, Rumania	15.140	GSF Daventry, United Kingdom, (B)
13.965	TFL Reykjavik, Iceland	15.180	GSO Daventry, United Kingdom (B)
13.980	LCO Jeloy, Norway	15.190	VE9BA Montreal, P. Q., Canada, (X)
13.990	GBA Rugby, England	15.200	DJB Zeesen, Germany, (B)
14.000	RFBD Mojaisk, Russia	15.210	WBXK Saxonburg, Pa., USA, (B)
14.000	HJSABE Cali, Colombia		

Freq. Mc.	CALL and LOCATION
15.220	PCJ Eindhoven Netherlands, (B)
15.230	3LR Lyndhurst, Vic., Aus., (B)
15.230	2RO Rome, Italy (B)
15.230	Prague, Czecho. (B) (Project)
15.243	Paris, France, (B)
15.250	W1XAL Boston, Mass., USA, (B)
15.252	RIM Rakhkent, Russia
15.260	GSJ Daventry, United Kingdom, (B)
15.265	EAG Aranjuez, Spain, (B)
15.270	W2XE New York City, USA, (B)
15.275	---- Warsaw, Poland, (B)
15.280	DJQ Zeesen, Germany, (B)
15.290	2RO Rome, Italy (B)
15.295	CP5 La Paz, Bolivia, (B)
15.295	Paris, France, (B)
15.300	OXY Skamlebak, Denmark, (B)
15.310	GSP Daventry, United Kingdom (B)
15.320	Prague, Czecho. (B) (Project)
15.320	---- Taihoku, Japan
15.330	W2XAD Schenectady N. Y., USA, (B)
15.340	DJR Zeesen, Germany, (B)
15.350	CT1AA Lisbon, Portugal, (BX)
15.355	KWU Dixon, Calif., USA
15.360	DJT Zeesen, Germany
15.370	TIR Cartago, Costa Rica
15.370	HAS3 Szekesfehervar, Hungary, (B)
15.410	PRADO Riobamba, Ecuador, (B)
15.415	KWO Dixon, Calif., USA
15.430	KWE Bolinas, Calif., USA
15.445	WGZ San Juan, Puerto Rico
15.460	KRR Bolinas, Calif., USA
15.475	KKL Bolinas, Calif., USA
15.490	KEM Bolinas, Calif., USA
15.510	JDX Dairen, Manchuria
15.530	HSG Bangkok, Siam
15.560	PYR Scpetiba, Brazil
15.620	JVF Tokyo, Japan
15.625	OCJ Lima, Peru
15.660	JVE Tokyo, Japan
15.670	LCG Jelow, Norway
15.680	JZA Shinkyu, Japan
15.740	TFM Reykjavik, Iceland
15.740	JIA Taihoku, Taiwan, Japan
15.760	JYT Tokyo (Kemikawa) Jap., (X)
15.810	LSL Hurlingham, Argentina
15.860	FTK St. Assise, France
15.860	JVD Tokyo, Japan
15.865	CEC La Granja, Chile
15.880	FTK St. Assise, France
15.930	FCY Paris, France
15.935	
15.970	RRR1 Khabarovsk, Russia
15.985	WAZ New Brunswick, N. J., USA
16.000	WKQ Rocky Point N. Y., USA
16.000	RF4J Moscow, Russia
16.015	WQR New Brunswick, N. J., USA
16.030	KKP Kahuku, Hawaii
16.050	JVC Tokyo, Japan
16.070	RRR1 Khabarovsk, Russia
16.090	EDR2 Madrid, Spain
16.090	EDS Madrid, Spain
16.120	IRY Rome, Italy
16.140	---- Rugby, United Kingdom
16.150	Rugby, United Kingdom
16.162	PSA Maripicu, Brazil
16.200	FZR Saigon, French Indo-China
16.214	FZR3 Saigon, French Indo-China
16.233	FZR3 Saigon, French Indo-China
16.240	KTO Manila, Philippine Islands
16.270	WLK Lawrenceville, N. J., USA
16.270	WOG Ocean Gate, N. J., USA
16.300	EDR3 El Tablero, Canary Islands
16.305	PCL Kootwijk, Netherlands
16.330	VLJ3 Sydney, Australia
16.330	VLK Sydney, Australia
16.330	VLZ Sydney, Australia
16.430	---- Naval Stations, Germany
16.440	---- Aeronautical, Europe
16.665	LPD General Pacheco, Argentina
16.665	DAN Norden, Germany
16.666	LOB Puerto Aguirre, Argentina
16.800	---- Aeronautical, Europe
16.854	ZSV Walvis Bay, Un. of So. Africa
16.870	FFK St. Nazaire, France
17.080	GBC Rugby, United Kingdom

Freq. Mc.	CALL and LOCATION
17.120	WOY Lawrenceville, N. J., USA
17.120	WOO Ocean Gate, N. J., USA
17.130	HAS5 Szekesfehervar, Hungary
17.143	---- Shanghai, China
17.150	OPC Coquilhatville, Belgian Congo
17.190	OXV Skamlebak, Denmark
17.200	---- Aeronautical, Europe
17.200	CW1 Cerrito, Montevideo, Uruguay
17.260	DAF Norddeitch, Germany
17.260	PBB Den Helder, Netherlands
17.300	VE9BY London, Ont., Canada
17.310	W3XL Bound Brook, N. J., USA, (X)
17.310	CZA Drummondville, P. Q., Canada
17.341	DIM Nauen, Germany
17.430	CWM Cerrito, Montevideo, Uruguay
17.470	TYD Paris, T.S.F., France
17.480	VWY Kirkee, India
17.510	VWY2 Kirkee, India
17.512	DFB Nauen, Germany
17.520	DEB Nauen, Germany
17.600	---- Ship Telephone
17.600	GBC Rugby, United Kingdom
17.620	---- Ship Telephone
17.630	VLJ5 Sydney, Australia
17.630	RRR1 Khabarovsk, Russia
17.640	RRR1 Khabarovsk, Russia
17.640	---- Ship Telephone
17 TO 15 METERS	
17.650	XGM Shanghai, China
17.650	RRR1 Khabarovsk, Russia
17.660	RRR1 Khabarovsk, Russia
17.670	RRR1 Khabarovsk, Russia
17.680	RRR1 Khabarovsk, Russia
17.690	LQB2 Monte Grande, Argentina
17.700	---- Naval Stations, Japan
17.710	CJA9 Drummondville, P. Q., Canada
17.710	RRR1 Khabarovsk, Russia
17.719	HSP Bangkok, Siam
17.720	RRR1 Khabarovsk, Russia
17.725	CNP Casablanca, Morocco
17.730	RRR1 Khabarovsk, Russia
17.735	
17.740	HSP Bangkok, Siam
17.750	IAC Pisa, Italy
17.760	DJE Zeesen, Germany, (B)
17.760	W2XE New York City, USA, (B)
17.765	Paris, France, (B)
17.770	2RO Rome, Italy (B)
17.775	PHI Huizen, Netherland, (B)
17.780	W3XAL Bound Br., N. J., USA, (B)
17.780	W9XAA Chicago, Ill., USA, (B)
17.780	W9XF Daxner's Grove, Ill., USA, (B)
17.780	W8XK Saxonburg, Pa., (B)
17.780	---- Warsaw, Poland, (B)
17.790	RRR1 Khabarovsk, Russia
17.790	GSG Daventry, United Kingdom (B)
17.794	XGBB Shanghai, China (B)
17.795	PCV Kootwijk, Netherlands
17.800	XGOX Nanking, China
17.800	PCV Kootwijk, Netherlands
17.800	RRR1 Khabarovsk, Russia
17.800	HSC Bangkok, Siam
17.805	PCV Kootwijk, Netherlands
17.810	RRR1 Khabarovsk, Russia
17.820	RRR1 Khabarovsk, Russia
17.830	PCV Kootwijk, Netherlands
17.830	RRR1 Khabarovsk, Russia
17.850	LSN Buenos Aires, Argentina,
17.850	RRR1 Khabarovsk, Russia
17.860	WQC Rocky Point, N. Y., USA
17.860	RRR1 Khabarovsk, Russia
17.870	RRR1 Khabarovsk, Russia
17.880	WQI New Brunswick, N. J., USA
17.890	TFN Reykjavik, Iceland
17.890	FZT Tananarive, Madagascar
17.900	WLL Rocky Point, N. Y., USA
17.900	FZT Tananarive, Madagascar
17.910	CWO Cerrito, Montevideo, Uruguay
17.910	RRR1 Khabarovsk, Russia
17.920	WQF Rocky Point, N. Y., USA
17.920	RRR1 Khabarovsk, Russia
17.930	RRH Tashkent, Russia
17.940	WQB Rocky Point, N. Y., USA
17.980	KGZ Bolinas, Calif., USA

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
18.030	RRI Novosibirsk, Russia	19.530	EDS Madrid, Spain
18.040	GAB Rugby, United Kingdom	19.600	LSF Monte Grande, Argentina
18.050	RRRX Khabarovsk, Russia	19.650	LSN5 Hurlingham, Argentina
18.060	KUN Bolinas, Calif., USA	19.656	IRL Rome, Italy
18.060	RRRX Khabarovsk, Russia	19.680	CEC La Granja, Chile
18.070	RRRX Khabarovsk, Russia	19.700	DFJ Nauen, Germany
18.080	---- Camaguey, Cuba	19.720	EAQ Aranjuez, Spain
18.080	RRRX Khabarovsk, Russia	19.800	---- Tokyo, Japan
18.100	RRRX Khabarovsk, Russia	19.820	WKN Lawrenceville, N. J., USA
18.110	RRRX Khabarovsk, Russia	19.840	FTD St. Assise, France
18.115	LSY3 Monte Grande, Argentina	19.900	LSG Monte Grande, Argentina
18.120	RRRX Khabarovsk, Russia	19.920	HSJ Bangkok, Siam
18.135	PMC Bandoeng, Java	19.947	DIH Nauen, Germany
18.150	---- Camaguey, Cuba	19.980	KAX Manila, Philippine Islands
18.150	RRRX Khabarovsk, Russia		
18.160	RRRX Khabarovsk, Russia		
18.170	CGA Drummondville, P. Q., Canada		
18.170	RRRX Khabarovsk, Russia		
18.190	JVB Tokyo, Japan		
18.200	GAW Rugby, United Kingdom		
18.220	KUS Manila, Philippine Islands		
18.230	EAH Madrid, Spain		
18.240	FRE St. Assise, France		
18.240	JVB Tokyo, Japan		
18.250	FTO St. Assise, France		
18.270	ETA Addis Ababa, Ethiopia		
18.295	YVR Maracay, Venezuela		
18.310	FZS Saigon, Indo-China		
18.310	GBS Rugby, United Kingdom		
18.340	WLA Lawrenceville, N. J., USA		
18.340	ZLW Wellington, N. Z.		
18.345	FZS3 Saigon, French Indo-China		
18.390	---- Warsaw, Poland		
18.400	PCK Kootwijk, Netherlands		
18.410	PCK Kootwijk, Netherlands		
18.411	VWZ Kirkee, India		
18.420	VWZ Kirkee, India		
18.480	HBH Prangins, Switzerland		
18.535	PCM Kootwijk, Netherlands		
18.535	---- Warsaw, Poland		
18.540	PCM Kootwijk, Netherlands		
18.545	PCM Kootwijk, Netherlands		
18.595	GLS Ongar, United Kingdom		
18.600	PDM Kootwijk, Netherlands		
18.610	RRK Tiflis, Russia		
18.620	GBJ Bodmin, United Kingdom		
18.620	GAU Rugby, United Kingdom		
18.630	IRZ Rome, Italy		
18.640	PSC Marapicu, Brazil		
18.680	OCI Lima, Peru		
18.680	GAX Rugby, United Kingdom		
18.700	DFQ Nauen, Germany		
18.770	TYD3 Paris, T.S.F., France		
18.830	PLE Bandoeng, Java		
18.860	WKM Rocky Point, N. Y., USA		
18.890	ZSS Klipheuv. Un. of So. Africa		
18.910	JVA Tokyo, Japan		
18.950	HBF Prangins, Switzerland		
18.960	LSR Buenos Aires, Argentina		
18.960	EAH Madrid, Spain		
18.970	GAG Rugby, United Kingdom		
18.980	WFX Rocky Point, N. Y. USA		
19.000	HSJ Bangkok, Siam		
19.010	PSB Marapicu, Brazil		
19.030	EDM Madrid, Spain		
19.030	EDR2 Madrid, Spain		
19.030	EDS Madrid, Spain		
19.030	EHY Madrid, Spain		
19.160	GAP Rugby, United Kingdom		
19.200	ORG Ruysselede, Belgium		
19.220	WKF Lawrenceville, N. J. USA		
19.240	DFA Nauen, Germany		
19.250	FZV3 Tananarive, Madagascar		
19.260	PPU Sepetiba, Brazil		
19.300	VLK2 Sydney, Australia		
19.345	PMA Bandoeng, Java		
19.355	FTM St. Assise, France		
19.380	WOP Ocean Gate, N. J., USA		
19.400	LQD Monte Grande, Argentina		
19.400	FRE St. Assise France		
19.430	ORH Elisabethville, Belgian Congo		
19.435	EDR2 Madrid, Spain		
19.435	EDS Madrid, Spain		
19.460	DFM Nauen, Germany		
19.500	LSQ Buenos Aires, Argentina,		
19.520	IRW Rome, Italy		
19.530	EDR2 Madrid, Spain		
20.020	DHO Nauen, Germany		
20.040	OPL Leopoldville, Belgian Congo		
20.140	DGW Nauen, Germany		
20.140	DWG Nauen, Germany		
20.165	---- Warsaw, Poland		
20.180	WQX Rocky Point, N. Y., USA		
20.260	WQJ Rocky Point, N. Y., USA		
20.310	RFAJ Moscow, Russia		
20.360	EAH Madrid, Spain		
20.380	GAA Rugby, United Kingdom		
20.400	VLK7 Sydney, Australia		
20.430	IRK Rome, Italy		
20.500	DGQ Nauen, Germany		
20.570	EDR2 Madrid, Spain		
20.570	EDS Madrid, Spain		
20.570	ETHX Madrid, Spain		
20.585	ORS Stanleyville, Belgian Congo		
20.595	ORL Leopoldville, Belgian Congo		
20.610	EAH Madrid, Spain		
20.620	CEC La Granja, Chile		
20.640	FSR Paris France		
20.670	EHX Madrid, Spain		
20.680	LSN Buenos Aires, Argentina,		
20.680	LSX Monte Grande, Argentina,		
20.730	LSY Monte Grande, Argentina,		
20.740	DGP Nauen, Germany		
20.780	KMM Bolinas, Calif., USA		
20.820	KSS Bolinas, Calif., USA		
20.825	PFF Kootwijk, Netherlands		
20.830	PFF Kootwijk, Netherlands		
20.860	EDM Madrid, Spain		
20.860	EDR2 Madrid, Spain		
20.860	EDS Madrid, Spain		
20.860	EHY Madrid, Spain		
20.960	EAH Madrid, Spain		
21.000	OKI Podebrady, Czechoslovakia		
21.020	LSN Buenos Aires, Argentina,		
21.060	KWN Dixon, Calif., USA		
21.060	WKA Lawrenceville, N. J., USA		
21.080	PSA Marapicu, Brazil		
21.110	CEC La Granja, Chile		
21.130	LSM Buenos Aires, Argentina		
21.140	KBI Manila, Philippine Islands		
21.150	HAS4 Szekesfehervar, Hungary		
21.160	LSL Buenos Aires, Argentina		
21.180	DGN Nauen, Germany		
21.220	WQA Rocky Point, N. Y., USA		
21.240	WQJ Rocky Point, N. Y., USA		
21.260	WBU Rocky Point, N. Y., USA		
21.340	DGM Nauen, Germany		
21.420	WKK Lawrenceville, N. J. USA		
21.450	Prague, Caecho. (B) (Project)		
21.460	W1XAL Boston, Mass., USA, (B)		
21.470	GSH Daventry, United Kingdom, (B)		
21.480	---- Warsaw, Poland, (B)		
21.480	HVJ Vatican City (B) (Project)		
21.490	Paris, France, (B)		
21.510	Rome, Italy (B)		
21.520	2RO New York City, USA, (B)		
21.530	W2XE Daventry, United Kingdom, (B)		
21.540	GSJ Pittsburgh, Pa., USA, (B)		
21.540	W8XK Lyndhurst, Vic., Aus., (B)		
21.550	3LR Shanghai, China, (B)		
21.600	XGBA Drummondville, P. Q., Canada		
22.300	GBU Rugby, United Kingdom		
22.460	EDS Madrid, Spain		
22.520	DGE Nauen, Germany		
22.600	DGF Nauen, Germany		
22.760	EDR2 Madrid Spain		
22.820	CEC La Granja, Chile		
23.240	HSJ Bangkok, Siam		

B=Broadcasting; X=Experimental.

Freq. Mc.	CALL and LOCATION	Freq. Mc.	CALL and LOCATION
25.650	2RO Rome, Italy (B)	41.040	LQL Monte Grande, Argentina
26.100	GSK Daventry, United Kingdom (B)	41.400	LQK Monte Grande, Argentina
28.000	Amateurs,	41.500	Alexandra Palace, London,
to			United Kingdom (B) (Project)
30.000		46.200	KGXO Kalepa, Hawaii
29.817	IAF Fiumicino, Italy	47.300	KGXB Manawahua, Hawaii
30.604	IAG Golfo Aranci, Italy	48.400	KGXH Ulupalakua, Hawaii
36.144	TYZ Calenzana, France	49.500	KGXK Waikiki, Hawaii
36.300	KGXM Waikiki, Hawaii	56.000	Amateurs, USA
36.800	---- Amateur and Experimental, Japan	to	
37.400	KGXC Manawahua, Hawaii	60.000	
39.473	TY4 La Turbie, France	400.000	Amateurs, USA
39.600	KGXA Manawahua, Hawaii	to	
40.700	KGXJ Ulupalakua, Hawaii	401.000	

B=Broadcasting; X=Experimental.

Time when S-W Stations Transmit

TIME				STATIONS ON THE AIR	
PST	MST	CST	EST		
9	10	11	Midn.	DJA, DJN, JVT, VPD, VK2ME, W8XAL, W8XK	
10	11	Midn.	1 a.m.	DJA, DJN, VPD, W8XAL, VK2ME	
11	Midn.	1 a.m.	2		
Midn.	1 a.m.	2	3	GSB, GSD, DJB, DJN, VK3LR	
1 a.m.	2	3	4	GSD, GSF, DJB, NJN, VK3LR, JVT, JVU	
2	3	4	5	GSD, GSF, DJB, DJN, VK3LR, JVT, JVU, VK3ME, VK2ME	
3	4	5	6	GSF, GSE, DJB, DJN, VK3LR, JVT, JVU, VK3ME, VK2ME	
4	5	6	7	GSF, GSE, DJB, DJN, VK3LR, JVT, JVU, VK2ME, Pontoise, W1XX, W8XAL, W8XK	
5	6	7	8	GSF, GSE, DJB, DJN, DJA, DJE, VK2ME, Pont., PHI, W1XX, W8XAL, W8XK, 2RO	
6	7	8	9	GSE, GSB, DJB, DJN, DJA, DJE, Pont., PHI, W1XX, W8XAL, W8XK, W3XAL, 2RO	
7	8	9	10	GSE, GSB, GSA, DJN, DJB, DJA, DJE, Pont., HVJ, PLV, PMA, W1XX, W8XK, W3XAL, W8XAL, 2RO	
8	9	10	11	GSB, GSA, DJB, DJN, DJA, DJE, W2XE, W1XX, W8XK, W3XAL, W8XAL	
9	10	11	Noon	GSB, GSD, GSI, DJD, DJC, 2RO, Pont., W2XE, W1XX, W8XK, W3XAL, W8XAL	
10	11	Noon	1 p.m.	GSB, GSD, GSI, DJD, DJC, 2RO, Pont., W2XE, W1XX, W8XK, W8XAL	
11	Noon	1 p.m.	2	GSB, GSD, GSI, GSI, DJD, DJC, 2RO, Pont., W2XE, W1XX, W8XK, W8XAL, ORK	
Noon	1 p.m.	2	3	GSB, GSD, GSI, DJD, DJC, 2RO, ORK, W2XE, W1XX, W8XK, W8XAL	
1 p.m.	2	3	4	GSB, GSA, DJD, DJC, 2RO, CT1AA, Pont., JVM, JVP, W1XX, W8XK, W2XE, W8XAL	
2	3	4	5	GSB, GSA, DJC, DJA, DJN, CT1AA, Pont., PRF5, RV59, EAQ, YV2RC	
3	4	5	6	2RO, GSC, GSA, DJC, DJA, DJN, CT1AA, EAQ, YV2RC, YV3RC, COCO, COCD, W1XX, W8XK	
4	5	6	7	2RO, GSC, GSA, DJC, DJA, DJN, EAQ, YV2RC, COCO, COCD, CRCX, HJ1ABB, XEBT	
5	6	7	8	2RO, DJC, DJA, DJN, EAQ, YV2RC, YV3RC, COCO, COCD, CRCX, HP5B, W3XAU	
6	7	8	9	DJC, DJN, EAQ, YV2RC, YV3RC, COCD, CRCX, HP5B, CJRO, W3XAU, W2XE	
7	8	9	10	GSC, GSI, DJC, DJN, PRADO, OAX4D, CRCX, CJRO, W2XE, W2XAF	
8	9	10	11	PRADO, CRCX, CJRO, W2XAF, W1XX, W3XAL, COCD	

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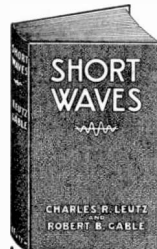
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103 HUDSON ST., Dept. SWL-1, NEW YORK, N.Y.

Sixth Trophy To Frank Petch

(Continued from page 295)

For all-around reception, the last named aerial is by far the best.

FRANK PETCH, (B. Com.)
S. W. Editor of Canadian
DX Relay.

Anent 49 Meter Interference

Editor, SHORT WAVE LISTENER:

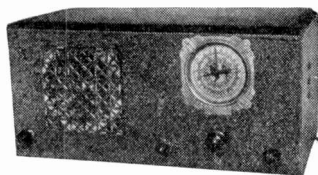
We are obliged for your letter of Oct. 24, calling our attention to the way the broadcasts on DJC have been disturbed by Station HJ3ABH at Bogota.

We may say in reply that quite a number of listeners have written us about this and similar interference from Latin-American Stations, and of course you may be sure that we on our part have done our best, thru the channels open to us, to remedy this regrettable situation.

On the other hand, we on our part would suggest that it might be well for listeners who are being troubled by the straying of these Stations about the ether to write to them direct, pointing out that they are not only spoiling the reception of DJC (or Daventry, as the case may be), Stations whose wavelengths have been allotted by international convention and cannot be changed, but they act to their own detriment, since when there is such clashing they too cannot be heard with any enjoyment.

Very truly yours,
Reichsrundfunk-Gesellschaft M. B. H.

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A POWERFUL, efficient, and well designed short wave receiver that WILL produce the RESULTS. Uses 6D6-6D6-76-42-5Z4 tubes in special circuit as TUNED RF amplifier, tuned S-G regenerative detector, powerful 2 stage audio amplifier, rectifier and built-in power supply. Built-in dynamic speaker. Entirely self-contained. Nothing else required. Operates entirely from 105-130 volt AC house current.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF MARCH 3, 1933

Of Official Short-Wave Listener, published bi-monthly at New York, N. Y. for Oct. 1, 1935.

State of New York ss.
 County of New York

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Hugo Gernsback, who, having been duly sworn according to law, deposes and says that he is the Editor of the Official Short-Wave Listener and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
 Publisher, Popular Book Corp., 99-101 Hudson St., New York City.

Editor, Hugo Gernsback, 99-101 Hudson St., New York City.

Managing Editor, H. Winfield Secor, 99-101 Hudson St., New York City.

Business Managers, None.

2. That the owner is: Popular Book Corp., 99-101 Hudson St., New York City. D. Gernsback, 99-101 Hudson St., New York City. H. Winfield Secor, 99-101 Hudson St., New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: none.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

H. GERNSBACK,
 (Signature of publisher)

Sworn to and subscribed before me this 3rd day of October, 1935.

(SEAL) MAURICE COYNE
 (My commission expires May 30, 1936.)

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Official **SHORT WAVE LISTENER** Magazine
 99-101 HUDSON STREET, NEW YORK, N. Y.

1936

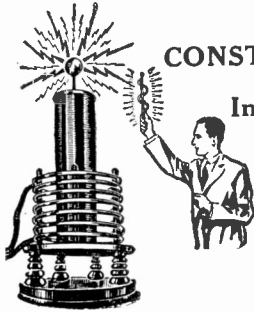
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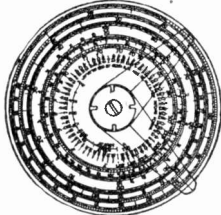
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You Need
To Build
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Apparatus



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Dataprint containing data for construction this 3 ft. spark Oudin-Tesla coil. Requires 1 K W 20,000 volt transformer as "exciter"; see list below. Includes condenser data. **\$.75**
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The DATAPRINT COMPANY

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RAMSEY, N. J.

How to Select an All-Wave Receiver

(Continued from page 297)

solute reason why it will give superior performance on short waves.

A well-designed super-het for combined short and broadcast reception today should have at least one stage of tuned radio frequency, or "pre-selection", as it is also called, ahead of the first detector. This important stage helps to amplify the weak signals, and also helps to eliminate "images" or the reception of a certain station at two points on the dial.

The tone control is very important on the average all-wave receiver unless other means have been provided in the design, as it enables you to cut out a lot of the hiss which frequently becomes very annoying in short-wave reception. The receiver should also have provision or terminals arranged for the use of a doublet antenna.

Reverting once more to the question of how many tubes the set contains, inquiry should be made as to what the various tubes are used for. In some sets, tubes are sprinkled liberally all over the chassis, apparently for no particular purpose except to give the maker a chance to shout about the great number of tubes in that particular set. If, for example, the writer was offered a set containing 16 tubes, with half of them being used in push-pull parallel stages in the audio amplifier, just to amplify from the detector to the loudspeaker, then he would rather have an 8 or 9-tube receiver in which a couple of the tubes were utilized, for example, in preselection or T. R. F. stages ahead of the first detector. This would insure stronger signals from those distant stations, and there would be less chance of "image".

Automatic volume control, or A.V.C. as it is commonly called, is built into practically all the modern dual-wave receivers, and it is a great help in preserving the steady strength of signal from short-wave stations when the signal is fading. Of course, an excessive fading cannot be held in line or smoothed out even by the best A.V.C., but a well designed A.V.C. helps markedly in most cases.

Some receivers are fitted with a built-in "beat oscillator", and where this feature is provided, it is, of course, a welcome one as it enables the operator to locate those distant stations much more easily. A switch is provided to put the best oscillator into and out of operation in the receiving circuit, and as soon as the station has been located, the B. O. is switched off.

The average dual-wave receiver tunes from 550 meters, the upper end of the American broadcast band, down to about 12 or 15 meters in the short-wave band. There are sets on the market which tune up

to 2,000 or 2,500 meters, but the average person will probably make but little use of the band above 600 meters; some weather reports and other signals may be heard around 1200 meters, and there are European stations broadcasting on all the various wavelengths clear up to 1,800 meters, but very few have ever been heard in this country, even though some of them have very powerful stations. Some of the new receivers tune down to the 5-meter band, and on 5 meters you may hear amateur or "Ham" stations talking, while in the 7, 9 and 10 meter region, police calls can be heard, etc. Amateurs are also active with phone stations on the 10 meter band, while regular S-W broadcast from across the ocean cannot be heard on anything much below 15 meters.

A number of the dual-wave receivers offered on the market today, provide two or three-band reception, etc. A two-band receiver, for example, may give you the regular broadcast reception on 200 to 550 meters, and also short-wave reception on a band extending from 15 or 18 to 55 meters. For the average short wave enthusiast this will probably cover his requirements, unless he cares to listen in on the so-called "secret" police bands in the 120 and 180 meter regions.

SUN-SPOTS

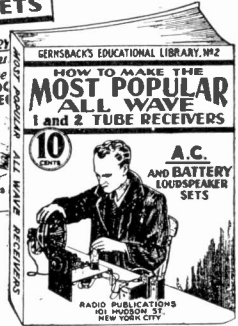
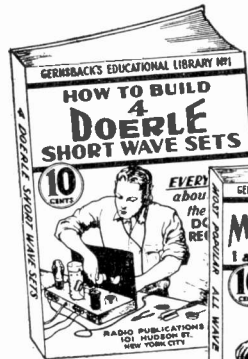
(Continued from page 296)

same way as "static" in a radio receiving set but the signal strength falls off and on long-distance radio circuits, such as those extending between America and Europe, the signal intensity weakens so markedly that transmission becomes impossible.

These magnetic storms recur about every twenty-seven days or so, if there are any noticeable spots on the sun, twenty-seven days being approximately the period of the sun's rotation. The sun-spots move across the surface of the sun as it rotates, and the stream of electrified particles shot out from the sun sweeps across the earth in a similar fashion to the streams of water whirled out from a lawn sprinkler. The average length of the sun-spot cycle, that is between periods of high activity, is 11.3 years. Over a long period, the number of spots visible is fairly regular—the maximum number to be seen varying from 25 to 50 a day. Sometimes the spot itself may not be seen, due to the fact that it is hidden by hot gaseous clouds, but the magnetic disturbance caused by the spot is recorded and its effect noticed on the earth.

A period of severe magnetic disturbance caused by high sun-spot activity occurred on August 20th, and the height of

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And believe it or not, each book contains 32 pages and over 15,000 words of new legible type. Each book is thoroughly modern and up-to-date. They are well illustrated. They are not just a reprint of what was printed before. All the latest improvements have been incorporated into the sets. Remember, these books sell at the extraordinary low price of ten cents each; you can not possibly go wrong in buying them. Despite its low cost, our usual guarantee goes with these books as well—money refunded if not satisfied.

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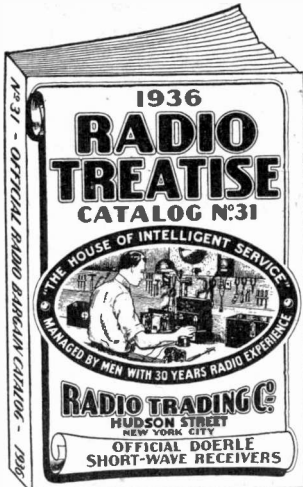
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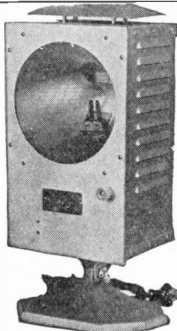
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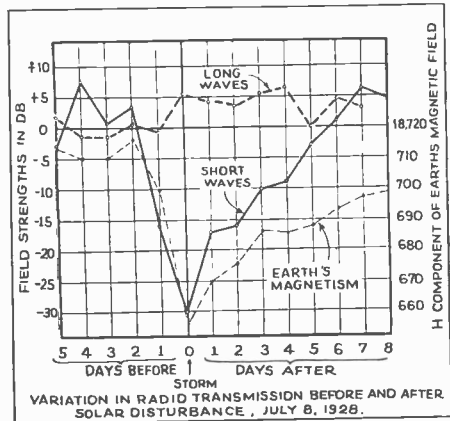
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the disturbance occurred between 8:00 and 9:00 P. M. Engineers of the A. T. & T. Company, who are particularly interested in constantly making a special study of sun-spot activity mentioned that this magnetic disturbance or storm of August 20th was not as severe as that experienced in the month of July. At any rate, hundreds of short wave amateur transmitting stations found that their range was decidedly reduced during these "magnetic disturbance" periods, and those of us who wished to talk by short-wave phone to ships at sea or across the ocean, had our voice carried on waves in the 5,000 meter channel, instead of the 18 to 24 meter waves commonly used.

In the early part of September a number of important Trans-Atlantic short-wave transmissions were severely interfered with by sun-spot activity. One of these transmissions was that broadcasted by the Queen of Ethiopia, which came through so poorly that after five minutes on the air, the National Broadcasting Company took it off and substituted another feature.

Still another example of the marked effect of a magnetic storm caused by high sun-spot activity occurred on September 11, when a special message was broadcast to America from the League of Nations station at Geneva. This message was re-broadcast over a National broadcast network but the noise accompanying it was terrific as many will remember. A check was made on this particular case with Joseph L. Richey, chief technical operator of the A. T. & T. Company trans-oceanic and ship-to-shore short-wave system, and he stated that we were at that time passing through a severe magnetic storm, caused by high sun-spot activity.

Mr. Richey has made a special study of these sun spots in their relation to radio



transmission and a very interesting article on their relation to radio appears in the *Amateur Astronomer magazine*, volume 6, number 3.

The Listener Asks

(Continued from page 301)

order to obtain a verification card from a station which at the most costs 3c? As I see it, we listeners are doing the station a favor by informing them how their broadcasts are being received and under what conditions.

(A) We wonder who is doing the favor, the listeners by reporting the station heard, or the broadcaster providing the entertainment to the short-wave fan. Personally, the broadcaster spent hundreds of thousands of dollars, while the listeners only spends a hundred dollars or so, and many times less than a hundred for his receiver.

Latin-American Station News

(Continued from page 293)

HJ4ABC first to "La Voz de Pereira" (6080 kc.) in Pereira, and now, to "Ecos del Combeima," the new station operated by Lamus and Rivera in the city of Ibaque. QSL cards inform us that the latter is situated in the "Conservatorio del Tolima" and works on "6451" kc. We have previously pointed out that the Ibaque works in actuality, near 6465 kc.

* * *

There are a few minor points relative to Venezuelan stations that might well be mentioned. YV8RB (5880 kc.) of Barquisimeto sends out cards giving their operating schedule as from noon to 1 p.m., and from 6-10 p.m., although it is not specified as to whether this is local or EST. YV1ORSC, "La Voz del Tachira" (state of Tachira), San Cristobal has now begun regular operation, following several weeks of irregular tests on 5720 kc. (52.45 m.). This station has also begun issuing verification cards.

A new Venezuelan, located in Maracay, and using the call YV-12RM is at present testing on about 6310 kc., at varying periods during the evenings; excellent reception is to be had from this new one!

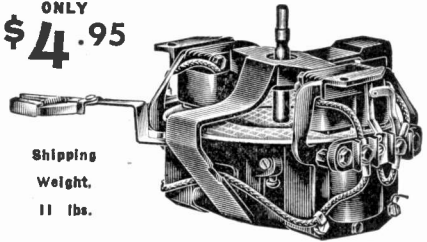
* * *

In conclusion we shall list a few brief notations, relative to actual operating frequencies that have been found to differ from the official listed assignments:

HJ2ABC "La Voz de Cucuta" remains very close to 5970 kc.; the change of HJ4ABD, "La Voz Catia," Medellin from 6060 kc., to 5760 kc., does not seem to have been permanent, for they are frequently heard transmitting in the 49 m. band again, on their former wave. Our last item concerns HP5F, "La Voz de Colon" the new broadcaster in Panama; advance notices stated that this station was to work on 6040 kc., but HP5F has been "logged" consistently near 6070 kc.

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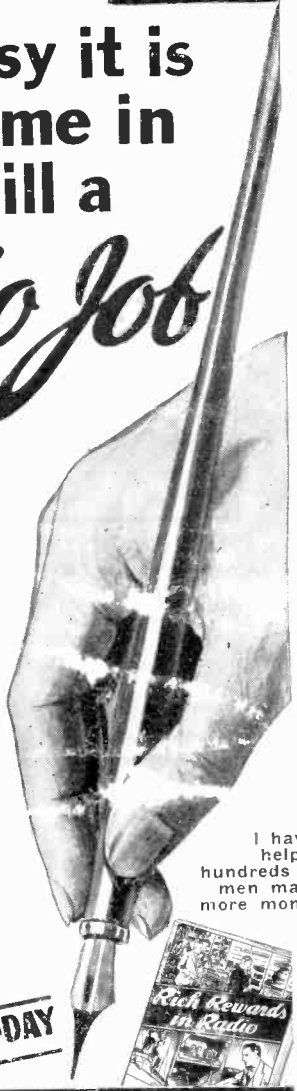
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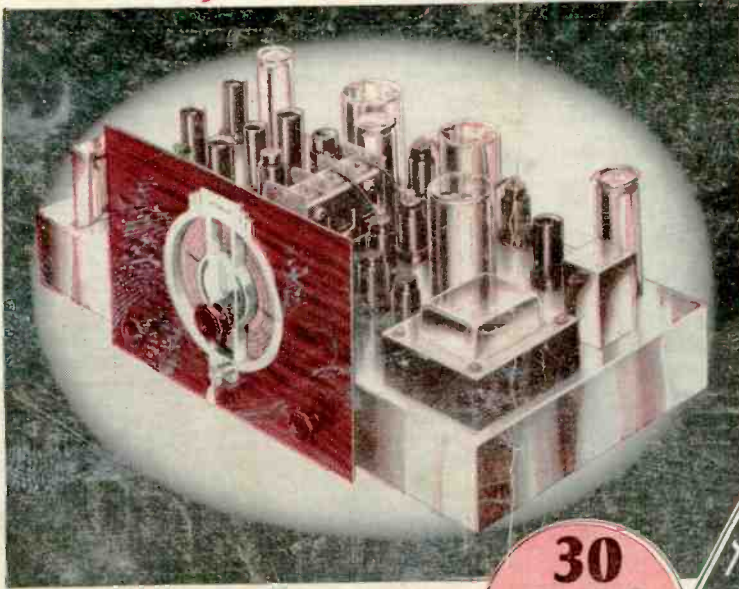
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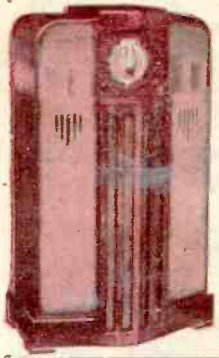
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