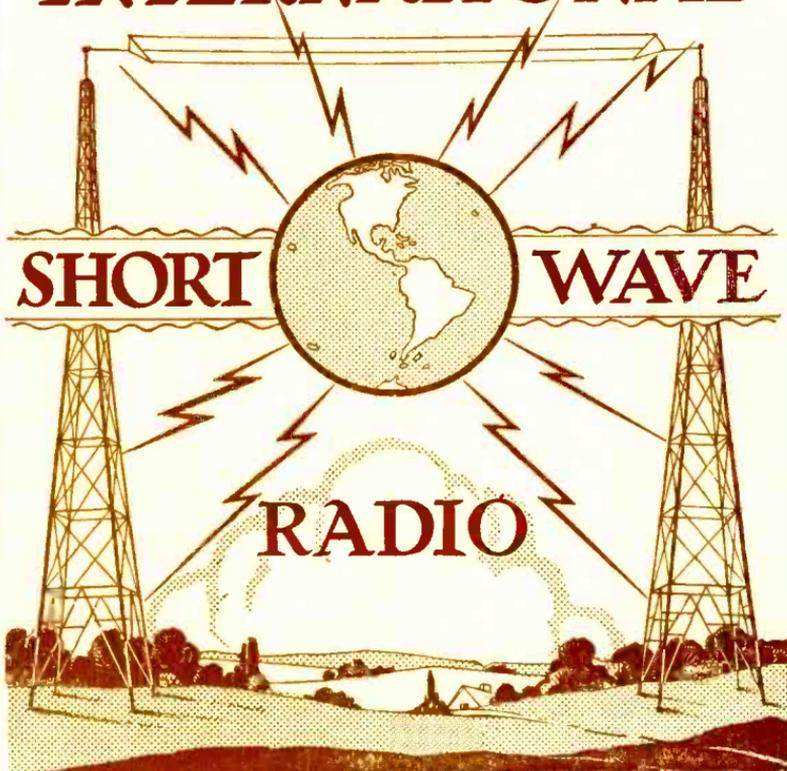


VOL. VIII

JANUARY, 1937

NO. 4

INTERNATIONAL

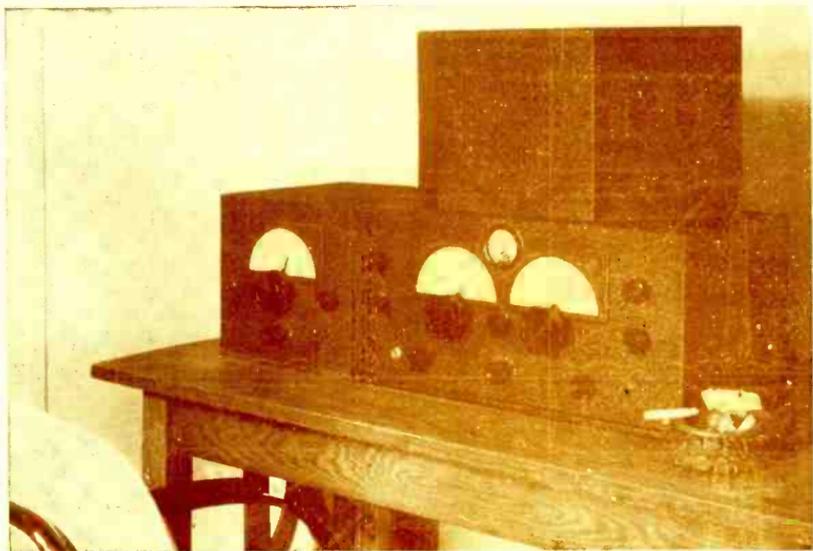


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THIS may truthfully be said of the combination RME-69 Communication Receiver and DB-20 preselector and image rejector—with visual meter tuning, electrical band spread, crystal filter selectivity—why worry about those distant signals which usually are so difficult to locate and many times too weak to listen to.

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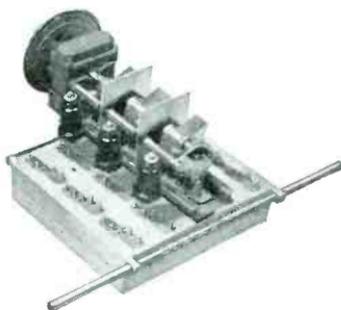
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"Automatic Coil-Shift"

RECEIVER



NEW in every sense of the word, the twelve-tube NC-100 Receiver includes every refinement for difficult short wave work. Unique among its many unusual features is the perfected Tuning Unit with its "Automatic Plug-In Coils," which combines the high electrical efficiency of plug-in coils with the convenience of the coil switch. Tuning from 540 KC. to 30 MC. in five ranges, each of the fifteen coils is shielded in its own compartment of cast aluminum. The turn of a knob on the front panel brings the desired range into position and plugs it in. Idle coils are isolated, leads are short, calibration is exact. There are no "dead spots" with the NC-100. Fully worthy of the advanced performance of the remarkable Tuning Unit are the other details of the superheterodyne circuit. Thorough use of low loss insulation and of air-dielectric condensers, together with carefully designed high-Q coils results in exceptionally high signal-to-noise ratio and high usable sensitivity. Complete panel controls, ranging from the precision Micrometer Dial (direct reading to one part in five hundred) to the tuning dial for the separate CW oscillator, make operation of the NC-100 as pleasant as it is precise. These are but a few of the many outstanding details of this remarkable receiver. Mail the coupon for a completely illustrated folder.

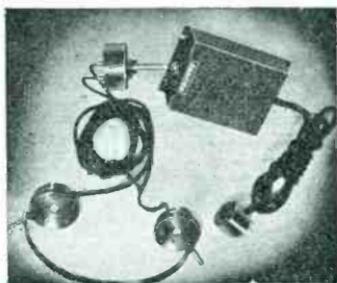


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A TYPE in stock for any make and model of receiver. To install remove the audio power tube(s) and insert the small adapter(s) (illustrated above) into the socket(s) of the tube(s). Now put the tube(s) into the adapter(s) and leave them there. This **COMPLETES INSTALLATION**. Inserting phone plug automatically **SILENCES** speaker and feeds signal to phones. **FULL** amplification of receiver available to phones. **SUFFICIENT** power to operate an **EXTENSION SPEAKER**. List Price \$6.75. Shipping weight, 1 lb.

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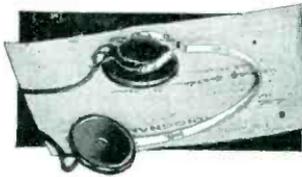
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and

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MODEL 4-T uses four metal tubes. Two wires and an adapter make all the connections necessary. Can be used on all superheterodyne receivers. Shipping weight, 4 lbs. When ordering please give make and model of receiver and include postage. **\$9.75**
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ARTHUR J. GREEN, Editor.

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The base is of walnut, highly finished. The globe itself can be cleaned by merely washing it with a damp cloth. Every short wave fan should have one of these globes for several good reasons. First of all, it marks the location of stations heard. Second, you can measure distances to the stations you hear. Third, it adds charm and beauty to any radio. Fourth, it creates interest in your short wave reception when people see this globe.

Floor model on high pedestal (same globe), each..... **\$3.75**

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Ask your postmaster for the postage rate on 8 pounds from Indianapolis, Indiana.

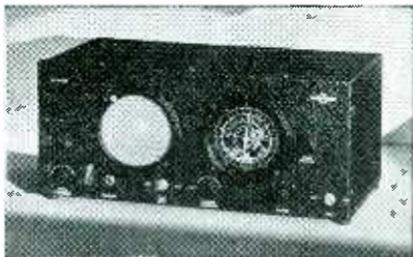
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A REAL communication receiver, with sensational performance characteristics, that's taking the short-wave world by storm. It compares favorably with many receivers at many times its astoundingly low price. Short wave operators everywhere are acclaiming the amazing performance of this new superheterodyne with its 16.5 M.C. to 544 K.C. range, 3 band tuning, Single Iron Core I. F. stage and improved mechanical band spread. Its selectivity and sensitivity are astonishing, as it pulls in stations from all over the globe.

- Combined I.F. and Beat Frequency Oscillator.
- Iron Core I. F. (High gain greater selectivity)
- 5 Tubes do the work of eight.
- Automatic Volume Control.
- Greater Band Spread—36 to 1.
- Bands changed with switch
- Direct-reading calibrated dial.
- Built-in Speaker and Power Pack.

Here's what they say about the Sky Buddy:

"I am well pleased with its ease of reception and marvelous operation—it literally tunes the world for me." —Earle Smith, Elsmere, N.Y.

"I want to congratulate you on the Sky Buddy—we got amateur fone stations all over the U.S., Cuba, Mexico, South America and Hawaii, also London and Berlin broadcast."

—L. C. Mantell, Detroit, Mich.

"I have found your Sky Buddy one of the best little receivers I have ever come in contact with."

—Andrew Conners, Philadelphia, Pa.

"I have purchased Halli-crafter's Sky Buddy and it works wonderfully for DXing and C.W."

—Edgar B. Murphy, Greensboro, N.C.

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SKY RIDER COMMERCIAL

2607 INDIANA AVENUE, CHICAGO, ILL., U. S. A.

THIS IS YOUR CLUB, MAKE IT WHAT YOU WILL



Greetings, friends, on this, the beginning of a new year. May 1937 be the happiest and ripest year of your lives. We wish each and every one of you the best of DX throughout the entire year.

Your magazine may be a little late this month, due to holidays, but such things can not be helped. We strived to make it a bit more helpful to make up for the delay. We have changed a great many stations on our list this month, making the ordinary changes which are due to changes in frequencies and schedules, and at the same time we have moved many stations to frequencies they actually work on from frequencies they claim to be on.

Speaking of frequencies, we believe it would be a good plan if all short wave fans would forget all about measuring stations by meters. It is much easier to think and write in terms of megacycles and it makes it easier to keep an accurate list. A station operates on a band usually .01 mc. wide. That makes it so that you can keep a close record of all stations, as per example, our 25 meter group, wherein you will see stations listed in steps of .01 mc. from 11.71 mc. up to 11.90 mc. From 74 to 75 meters there is a difference of only 4.00mc. to 4.60 mc., and from 13 to 14 meters we have a difference of 23.09 to 21.42 mc. Using .01 mc. each, there would be just six stations between 74 and 75 meters, and 167 stations between 13 and 14 meters and both represent just one meter. About 70 percent of the all-wave sets made today are calibrated in megacycles. Altogether, it means that very soon people will not speak in terms of meters at all. We hope to soon be able to drop meters from our station list and news section altogether.

In the group photo here we see the following members: No. 1—Thadeaus Grabek of Niagara Falls, New York. No. 2—His radio den. No. 3—Fred Atherton of Vermont, whose reports you see every month in this magazine. No. 4—C. A. V. Heathcote of Netherton, Liverpool, England. No. 5—Our foremost feminine reporter, Miss Eileen Hofmaster of Sandusky, Ohio. No. 6—An out-door meeting of some London Chapter members. Standing is W. Ryan, C. W. Chapman and E. S. Dewick. Seated is A. E. Bear, R. Butler and C. Newton. No. 7—Mr. Bear of London, England and D. R. D. Wadia of Bombay, India, upon the occasion of a visit by Mr. Wadia.

The following people would like to exchange letters with other short wave fans:

J. Backhouse, 143 Thornes Lane, Wakefield, Yorks, England.

Thadeaus Grabek, 1912 Welch Ave., Niagara Falls, N. Y. (Foreign).

Mario Bruscia, 1875 West 13th Street, Brooklyn, N. Y. (Foreign and Scott).

Don't forget the membership contest. Believe it or not, we are going to give away a brand new 1937 model Hallicrafter Sky Chief receiver next May. Also a National AC-SW5 receiver, radio globes and many other things. Remember that anyone who sends in five or more memberships will win some prize. This Sky-Chief is a seven-tube receiver, with built-in power-supply, speaker, tubes and believe us when we say it is a real receiver. It goes to the person sending in the most memberships before next May. The closing dates are graduated so that everyone has an equal chance, no matter where they live. Now is the time to get those memberships. All you have to do is show people how they can get more stations

by using this magazine and then have them mention your name when they send in their membership.

We would like to have some members arrange special programs with station owners. Any person who arranges four special programs, dedicated to the I. S. W. C. within the year 1937 will be known thereafter as an official program arranger, and will be given a supply of special stationery. These programs must all be arranged within a period of one year.

CHAPTER NEWS

The London, England, Chapter will move to new club rooms. This chapter, that opened in September, 1932, is now moving into permanent club rooms. The opening will take place January 8th. The new rooms are at 80 Theobalds Road, Holborn, WC 1, and are near all bus and tram routes, as it is near the center of London. There will be a clubroom open at all times where there will be installed a transmitter and a library. Regular meetings will be held every Friday, at which there will be lectures and demonstrations. We congratulate the London Chapter on the progress they are making.

The Brighton Chapter will open the winter season on Saturday, January 23rd, in Brighton Technical College at 7:00 P. M.

The Guernsey Chapter is progressing well and using the call-sign G8DO, the members have been transmitting as well as receiving demonstrations. For details write F. S. LePavoux, 8 Upper Canichers, St. Peters Port.

The New York Chapter meets at Stuyvesant High School, East Fifteenth Street, on the first and third Fridays of the month at 8:00 P. M. This chapter recently visited the radio telephone laboratories, where they saw telephone calls put through to all parts of the world made.

BOOSTERS

The following people have secured new members for us during the past month and deserves the praise of all members of the club.

R. Verbrugge, Jr., Detroit, Mich. G. Len DeCou, Bartlesville, Okla. Wm. H. Price, Pittsburgh, Pa. John M. Brooks, Trenton, N. J. W. C. Gangloff, Cincinnati, Ohio. Philip Cass, Philadelphia, Pa. E. D. Purkey, Los Angeles, Calif. Wilbur Britting, Los Angeles, Calif. L. B. Reeves, Honolulu, Hawaii. Carl Forestieri, New York City. A. W. Billings, Carbondale, Pa. F. L. Pope, Harrow, England. E. Orchard, Weymouth, England. J. Stone, London, England. Ingvar Gullberg, Hedemora, Sweden. R. H. Morrison, St. Anne de Bellevue, Canada. Allen F. Huber, Oak Park, Illinois.

J. A. Hardemann, Tjamhi, Java. Dr. Wolfram, Cincinnati, Ohio. Harry T. Daniels, Wilmington, Del. Clive Peterson, Phillipsburg, St. Martin, W. I. Mario Bruscia, Brooklyn, N. Y. F. P. Carrier, Edgerton, Misc. Robert Emory Base, Baltimore, Md. Jack Auberle, McKeesport, Pa. H. R. Frisbie, LaParte, Ind. F. P. Green, Pittsburgh, Pa. H. Strick, West Lynn, Mass. Arthur Richards, Hagarstown, Md. L. E. Hansen, Durban, Natal, South Africa.

SHORT WAVE NEWS

What many people call "skill" in tuning for short wave stations is nothing more or less than knowing **WHEN** and **WHERE** to tune for stations. Nearly all short wave stations are experimental and change their wave lengths or schedules almost without notice. To know when these changes take place is as important to successful reception as having a good receiver.

The time is given in Eastern Standard. Add five hours for Greenwich Mean Time.

AUSTRALIA

FO8AA, Radio Oceanie, Papeete, Tahiti, is broadcasting on 7.10 mc., Tuesdays and Fridays from 11:00 P.M. to midnight. Veries are signed by Alfred T. Poroi, President of Radio Club Oceanien. They begin the program with "La Marseillaise" and end with "Aloha Oe." The power is 200 watts. (Walcott, Myers, Erwin.)

VPD2, Suva, Fiji Island, is broadcasting on 9.54 mc., weekdays from 5:30 to 7:00 A.M.

VK2ME, Sydney, Australia, on 9.59 mc., broadcasts Sundays 1:00 to 3:00 A.M. and 5:00 to 11:00 A.M. Broadcast abdication 6:00 to 11:00 A.M. on December 10th. (Quijano, Calif.)

VK3LR, Melbourne, on 9.58 mc. has added time to their schedule and now broadcast from 3:30 A.M. up to 9:45 A.M. From 8:45 to 9:45 A.M. the program is intended for European listeners. (Studholme, England) This station is also on the air several mornings each week from 1 A.M. on.

VK3ME on 9.51 mc. broadcasts weekdays 4:00 to 7:00 A.M.

VK6ME is not on the air. That transmitter was sent to Suva, where it is operated under the call VPD2.

VK8CS, Port Hedland, West Australia, veries say they are on 6.96 mc. with 200 watts power. The station is operated by Australian Inland Missions, Aerial Medical Service. It is used to broadcast medical advice and to attend to the affairs of a flying doctor. (Walcott, Calif.) Heard every Sunday between 4:30 and 5:15 A.M. This is a fine tip. (Moots, Mo.) Heard 4:00 to 6:00 A.M. one Sunday. (Karpen, Pa.)

ZMBJ on the Union Line ship "Awatea," is broadcasting on 8.84 mc. quite often between 1:00 and 2:00 A.M. and telephones New Zealand and Australia after that. A verie is signed by L. H. Jones, Operator and says their slogan is "The Ears and Voice of Tasmania." The transmitter has between 300 and 400 watts power. (Hyde, Conn., and Walcott, Calif.) Heard 10:00 to 11:00 P.M. telephoning, sending music between 11:00 and 11:30 P.M. and on 8.90 mc. between 2:30 and 3:15 A.M. (Purkey, Calif.) Another ship, the "Athea," is heard on 8.75. (Purkey)

ZLT, Wellington, New Zealand, is heard phoning Australia between 11:00 P.M. and 6:00 A.M. on 11.05 mc. Australia has telephone stations at Sydney operating on 10.52 mc. and 9.76 mc. They are used to phone Java, New Zealand and England. When testing they use the call VK2ME. When working Java they use VLJ. When working England they use VLK. When working New Zealand the call VLZ is used.

AFRICA

Africa has the following broadcast stations: ZEC on 5.80 mc., VQ7LO on 6.08 mc., ZTJ on 6.09 mc., ZEB on 6.14 mc., EA8AB on 7.01 mc. and CR6AA on 7.17 mc. For schedules turn to these frequencies in our station list.

Station CR7AA, Lourenco Marques, Portuguese Africa, is now supposed to be on 6.137 mc. broadcasting weekdays 12:45 P. M. to 3:15 P. M. and Sundays 8:00 to 10:30 A. M. Does anyone hear this one?

FIQA, Tananarive, Madagascar, relays FIU between 7:00 A.M. and 1:00 P. M. near 6.00 mc., although reports show 5.98 to 6.02 mc. According to a letter they are on 6.00 mc. 3:30 to 4:45 A.M. Heard this month on 6.00 mc., between 11:30 A.M. and 12:30 noon, (Orchard, Eng.)

EAJ43, Tenerife Radio Club, Box 225, Santa Cruz de Tenerife, Canary Islands, is on 28.90 meters or 10.38 mc., daily 2:15 to 3:50 P.M. and 6:00 and 8:00 P.M. according to verifications received. The call EHZ is not mentioned, (Studholme, Kriebel and Stempel). One such letter says EA8AB on 41.90 meters or 7.15 mc. has suspended broadcasting, but it was reported on 7.01 mc. at 3:30 P.M. December 16th by W. D. Flagg. Also phoning amateurs at 9:00 P.M. once, (Kash, N. Y.)

A station EAJ, San Sabastian, Canary Islands, on 41.60 meters or 7.21 mc. is heard daily 5:00 P.M. and 10:00 P.M. and Sundays between 6:00 and 7:00 P.M. broadcasting music and news. Sometimes it calls a station EDA "Radio Porte Nacional en Servica Nancionlista" at Palma de Mallorca, Island of Majorca" after broadcasts and also calls amateurs, (Flagg, Mass.)

African phones. SUX, Cairo, Egypt, on 7.98 mc. phones England around 4:00 to 6:00 P.M. SUV, same city, on 10:05 mc. phones around 1:00 to 5:00 P.M. SUZ, same city, on 13.83 mc. phones around 11:00 A.M. to 1:00 P.M. VQG, Nairibo, Kenya, on 19.63 mc. phones London between 7:00 and 8:30 A.M. daily. Address is Box 777. OPL, Leopoldsville, Belgian Congo, on 20.04 mc. phones Belgium 10:00 A.M. to 3:00 P.M. OPM, same city, on 10.14 mc. phones between midnight and 2:00 A.M. and 2:00 and 3:00 P.M. ZSS, Capetown, on 18.89 mc. phones England between 6:30 A.M. and 1:00 P.M. CNR, Rabat, Morocco, on 12.82 mc. phones Paris between 3:00 and 4:00 P.M. irregularly.

FZE9, Station Intercoloniale de T. S. F., de Djibouti, Cote Francaise des Somalis, French Somaliland, is on 7.567 mc. and FZE8 is on 17.28 mc. according to a verification. They have no schedule, (Studholme, England). ITK, Mogadiscio, Italian Somaliland on 16.385 mc. phones IQA Italy, between 7:00 and 9:00 A.M. (Karpen, Pa.) Verified through Rome and is on 16.385, (Solito, Pa.) Is not on 16.385 but on 16.37, heard 8:30 A.M. (Moots, Mo.) IUG, Addis Ababa, Ethiopia, 15.45 mc. phones IAC, Italy, between 7:00 and 10:30 A.M., (Karpen, Miller, Solito, Moots, Walcott). Heard at 12:15 P.M., (Cooke, India). IUC, Addis Ababa, on 11.95 mc. phones between 11:00 P.M. and 2:00 A.M. next day. IDU, Asmara, on 13.38 mc. usually phones IAC, Italy, around 11:00 A.M. to 1:00 P.M. (Moots, Walcott). Verie came from Radio S. Paolo, Roma, Italy, (Walcott). Radio Algiers, works on 8.96 mc. and 12.12 mc. phoning Paris,

irregularly. The address is 137 Rue de Constantine, Alger, Algeria. EA9AH, Teutan, Morocco, on about 7.00 mc., moving around as far as 7.165 mc. is heard broadcasting war news. Heard 2:45 to 3:00 P.M., (Jeffs, Eng.) 9.30 to 10:00 P.M., (Moots, Mo.) At midnight (Solito, Pa.) Moving around, (Oxrider, Pa.)

ASIA

YAA, Kabul, Afganistan, is on 4.19 mc. and YAH, Herat, is on 5.13 mc. phoning each other according to letters from these stations.

HS8PJ, Bangkok, Siam, broadcasts every Thursday from 8:00 to 10:00 A.M. on 9.35 mc. and every Monday at the same time on 19.02 mc. A card says they are on 19.02 and 15.53 mc. alternating each Monday, but we believe this was written some time ago, (Walcott, Calif.) HSP, Bangkok, is on 17.74 mc. with 20 kw. power and is used to phone Berlin, while HSG2 on 15.53 mc. tests with JVE, Japan, Sundays at 11:00 P.M. and Fridays at 4:00 P.M., according to a letter, (Walcott, Calif.)

VPB, Colombo, Ceylon, is supposed to be on 6.16 mc. from 7:00 A.M. to noon according to a magazine sent us by U. L. M. M. Mohideen of Colombo, but members report it on about 6.08 mc. around 7:00 A.M. It is not reported often.

VUB, Bombay, India, on 9.57 mc. has no regular schedule, but is heard several times a week. (Cooke, India). We understand they broadcast Tuesdays, Thursdays and Fridays, 11:30 A.M. to 12:30 P.M., but Americans can not hear these broadcasts. VWY, Poona, telephoned London 3:45 to 4:15 P.M. (Karpen, Pa.) At 2:30 A.M. (Miller, Ky.) VVS is a new telephone station at Mingaladon, near Rangoon, Burma, on 23.31 meters (12.87 mc.) using inverted speech except at close down. Heard 5:00 to 6:30 A.M. (Keenan, Australia).

A verification from Etablissement Boy-Landry, 211-213 D, Rue Catinat, Saigon, Indo-China, says the transmitter heard on 11.73 mc. is not F31CD, but one made up from old Philco receiver parts. They have no call, and no license as yet. (Walcott, Calif.) This station was heard between 11.71 and 11.73 mc. between 5:30 and 9:30 A.M. for some time. Heard two Fridays last month, (Gallagher).

ZBW, Hong Kong, Asia, sends us a letter saying they are taking the transmitter on 8.75 meters off the air for good and will have the following frequencies, using a new, more powerful transmitter. ZBW2 on 49.26 meters, 6.09 mc. ZBW3 on 31.49 meters, 9.525 mc. ZBW4 on 19.75 meters, 15.19 mc. and ZBW5 on 16.90 mc. and 17.755 mc. The present schedule is as follows: Daily except Saturdays 11:30 P.M. to 1:15 A.M., Saturdays 9:00 P.M. to 1:30 A.M.; Tuesdays, Wednesdays and Fridays 3:00 A.M. to 10:00 A.M.; Mondays and Thursdays 4:00 to 10:00 A.M.; Saturdays 3:00 to 11:00 A.M. and Sundays 3:00 to 9:30 A.M. Stations ZBW2 and ZBW3 will be used in winter and ZBW4 and ZBW5 in summer. ZBW3 is now heard quite often in America between 5:00 and 10:00 A.M., while ZBW2 was reported by one member.

XGOX, Nanking, China, on 6.82 mc. broadcasts weekdays 5:30 to 9:40

A.M. and Sundays 7:00 to 9:00 A.M. according to schedule received, (Dick, N. Y.) Replies are signed by P. F. Woo, Central Broadcasting Administration. The power is 500 watts, (Stark, Mo., Sparks, Calif.)

China has the following telephone stations: XGW on 10.42 mc., XOJ on 15.79 mc., XGN on 17.64 mc., XGU on 9.28 mc. The following are also reported: Hankow is on 9.09 mc. and 5.49 mc. and Shanghai is on 9.29 and 5.425 mc. (Keenan, Australia). Shanghai on 5.74 and Hankow on 5.42 work each other daily at 9:55 A.M. (Sparks, Calif.) XGW has been on 10:42 for a long time, but G. C. Gallagher claims it was on 9.48 mc. and he has a verie to prove it. XGW is still heard daily on 10.42 however. A station XGM on 17.65 mc. phones KMU (15.25 mc.) around 7:00 A.M. (Child, Pa.) A station XQAK or AJ on 9.48 mc. was heard testing with music 1:45 to 2:15 A.M. several times last month, (Gallagher). Shanghai phones California weekdays using XGW on 10.42 mc., XOU on 8.04 mc., XTD on 5.74 mc. working KQWY 9:30 A.M. to 11:00 A.M. or noon, (Walcott, Calif.) XTV, Hankow on 9.50 mc. phones XTD on 5.74 mc. from 7:00 to 10:00 A.M., (Walcott).

Japan is broadcasting every Monday and Thursday from 4:00 to 5:00 P.M. over JZJ on 11.80 mc. and JZI on 9.53 mc. and every Tuesday and Friday from 2:00 to 3:00 P.M. over the same stations, sometimes using JZK on 15.16 mc. These stations may be heard at other times also. Reports should be sent to the Overseas Section, Broadcasting Corp., of Japan, Atagoyama, Shiba-Ku, Tokyo, Japan. These programs were reported by about fifty members, so we must skip names.

JVH, the telephone station on 14.60 mc. continues to broadcast a musical program from midnight to 1:00 A.M. daily. It was heard last month at 6:00 to 10:00 P.M., 6:00 A.M., 2:00 P.M., 5:00 P.M., 8:00 P.M. and 9:00 P.M. JVT on 6.75 mc. was heard 3:00 to 8:15 A.M., sometimes broadcasting music. JVN on 10.66 mc. was heard around midnight to 1:00 A.M. JVM on 10.74 mc. was heard around midnight and 1:00 A.M. phoning America. JVD on 15.86 mc. was heard at 5:00 P.M. JVV on 5.73 mc. was heard at 6:00 to 9:00 A.M. phoning. JVU on 5.79 mc. is heard between 6:00 and 9:30 A.M. JVO on 10.37 mc. was heard 11:00 P.M. to 2:00 A.M. A station JZG on 6.33 mc. was heard broadcasting at 6:00 A.M.. A JZE on 13.00 mc. was heard calling San Francisco at 1:00 A.M. once.

TDE, Shinkio, Manchukuo, on 10.065 mc. was heard phoning Japan between 11:00 P.M. and 2:00 A.M. by many. Also 4:30 to 5:45 A.M., (Solito, Pa.) And 5:00 to 6:30 A.M., (Karpen, Pa.) Station TDD, same place, on 5.83 mc. was heard 11:00 P.M. to 2:00 A.M., (Walcott, Calif.)

JIB, Taiwan, Japan, on 10.53 mc. telephones between 11:00 P.M. and 9:00 A.M. JIC, same place, on 5.89 mc. phones daily now that winter is here, from 6:00 to 9:00 A.M.

Java Stations. YDB on 9.65 mc., PLP on 11.00 mc., PMN on 10.28 mc., and YDC on 15.15 mc. are broadcasting from 5:30 to 10:00 A.M., some days till 11:00 A.M. YDB on 25.29 meters or 11.85 mc. broadcasts 11:30 P.M. to 2:30 A.M. according to Mr. Cooke, of India. PMH on 6.72 broadcasts 5:30 to 9:30 A.M. sometimes to 11:30 A.M., (Walcott, Cooke, Karpen). YDA on 2.04 mc., a Sourabaia station on 4.89 mc. and Batavia on 4.87 mc.

are heard on the west coast between 8:00 and 10:30 A.M., (Walcott, Cal.) PLP was heard broadcasting daily except Saturdays 6:00 to 7:00 P.M. (Miller, Ky).

Java Phones. PMA on 19.35 mc. phones Holland between 5:30 and 11:00 A.M. and sometimes sends music. PLE on 18.83 mc. and phones Holland between 5:30 and 11:00 A.M. and phones the U. S. A. and Japan between 6:50 and 8:00 P.M. PLV on 9.42 mc. is heard between 9:30 and 11:00 A.M. and 6:50 and 11:00 P.M. PMC on 18.135 mc. phones Holland between 5:50 to 6:15 A.M. YBA Menado, Celebes Islands is on 7.68 mc. phones PNI (8.775 mc.) between 5:50 and 6:10 A.M. (Walcott, Calif.) YBG, Sumatra, on 10.40 mc. phones Bandoeng between 4:45 and 6:00 A.M. PMC was heard broadcasting music 9:00 to 10:17 P.M. once, (Child, Pa.) YBA, Menado, Celebes Islands, on 7.66 mc. phones PNI (8.55 mc.) and sent music once 5:00 to 6:00 A.M. (Karpen, Pa.) PLV was heard relaying YDB once 8:00 to 9:30 A.M. (Studholme, England).

RV15, Khabarovsk, Siberia, after going to 5.72 mc. is back on 4.25 mc. again, although they were much better on 5.72 mc. They broadcast 1:00 A.M. to 10:00 A.M. (Balbi, Walcott and Gallagher). RWJ, Alma-ata on 12.18 mc. phones Moscow around 6:00 A.M. RFL Khabarovsk on 13.19 mc. phones around 9:00 A.M. ROU, Omsk on 14.79 mc. is heard around 6:00 A.M. phoning. RRR, Khabarovsk, on 15.95 mc. is heard between 5:00 and 8:00 A.M. phoning. RVU, Vladvostok, on 13.79 mc. phones around 6:00 A.M. RTZ, Irkutsk, on 14.79 mc. heard 11:00 P.M. to 1:00 A.M. and one on 12.88 mc. heard midnight to 2:00 A.M. (Karpen, P.) RVV on 10.35 mc. phoning 9:00 P.M. to 1:00 A.M. (Karpen, Pa.) RTZ is the call-sign used by a station at Naralria, near 7.00 mc. and 8.57 mc., as both were heard using it, one at 3:45 A.M., the other at 7:35 A.M. (Woods, England). John Keenan, Australia, sends us the following news: A station on 6.72 mc. (44.67 meters), one on 8.17 (36.72) and one on 8.28 mc. (36.32), broadcast special programs nearly every week-end from Moscow. One on 12.87 (23.30) relays RNE around 2:20 P.M. often. RAD on 6.83 (43.82) is heard at 8:00 A.M., one on 13.24 (22.66) at 8:00 A.M., one on 12.95 (23.17) at 9:00 A.M. RWG, Moscow, on 14.72 (20.38) and one on 7.36 (40.76) heard mornings.

A letter from the Penang Wireless Society of 40 Park Road, Penang, says ZHJ on 6.08 mc. is on the air daily 12:40 to 14:40 G.M.T., which is 7:40 to 9:40 A. M., E.S.T. (Sparks, Calif.) This station is reported about twice a year.—Ed.

Station KTP, Manila, P. I. on 8.12 mc. phones California daily except Sundays at 10:30 A.M. (Walcott, Sparks). Manila also has KAX on 19.98 mc. and KTO on 16.24 mc. quite active.

THE EUROPEANS

Spain. Since the Spanish rebellion, the air is full of new stations broadcasting war news. Few of these stations can be checked and verified since mail is delayed or has stopped. A Spanish newspaper says there is ECN1, Barcelona, on 6.99 mc. (42.88 meters) broadcasting regularly

noon to 7:00 P.M. using the slogan "C.N.T.F.A.I." Another is PSU1 at Barcelona on 7.128 mc. (42.08) broadcasting from 2:30 to 5:30 P.M. Another is ECP2, "Radio P.O.U.M." on 7.143 (42.00) broadcasting between 1:00 and 3:30 A.M. (Espoy, Calif.) A station called "Radio National Wireless Telegraph Company" heard on 42.50 meters (7.00 mc.) around 10:00 P.M. (Bogthroyd, England.) ECH, Barcelona, on 42.88 (7.00 mc.) from 2:10 to 3:40 P.M. (Jeffs, Eng.) General Union Workers Station EAH at Valleras, near Madrid, is on 31.65 meters, 9.48 mc. broadcasting daily 4:00 to 5:00 P.M. (Flagg, Vandecar, Gilmour.) A Madrid station on about 9.52 was calling Mackey Radio 3:00 to 5:00 P.M. one Sunday. (Brady, N.Y.) This may have been EAH-Ed. EASR1, "Habla Marina," owned by the government fleet off Cartagena, Spain, was broadcasting 3:30 to 5:30 P.M. This C.N.T.F.I.A. was also heard 4:00 to 6:00 P.M. and gave the address as Via Layetant 32 y 34, Barcelona. PSU1, Barcelona, on 7.18 mc. owned by United Socialist Party of Catalonia, Hotel Colon, was heard 3:50 to 4:10 P.M. All this is reported by J. M. R. Studholme of England. Station EHY, Madrid, on 10.07 mc. was sending music 3:00 to 3:45 P.M. once. (Solito, Pa.) EDR4, Palma, Majorca, Balearic Islands, on 6.535 mc. is heard evenings. (Rossi, Pa.) EA1AZ, Coruna, on 7.15 mc. is heard around 3:00 P.M. EA1BT and EA1CH on 7.10 mc. are heard around 7:00 P.M. to midnight with war news. And of course, there is old EAQ, Madrid, on 9.86 mc. broadcasting from 5:00 to 9:30 P.M. daily. Several times they tested with Moscow as early as noon. You may hear them now any time after noon. (Flagg, Hersowitz, Stark.)

OER2, Vienna, Austria, has moved from 6.06 mc. to 25.42 meters, or 11.80 mc. and announce their schedule as weekdays 9:00 A.M. to 5:00 P.M., Saturdays until 6:00 P.M. (Orchard and Field, England.)

PHI on 11.73 mc. broadcasts 8:30 to 10:30 A.M. daily except Tuesdays and Wednesdays. PCJ, Holland, on 15.22 mc. broadcasts Sundays 7:30 to 8:30 A.M., Tuesdays 4:30 to 6:30 A.M. and Wednesdays 8:00 to 11:00 A.M. PCJ on 9.59 mc. broadcasts Sundays 2:00 to 3:00 P.M. and 7:00 to 8:00 P.M., Tuesdays 1:30 to 3:00 P.M. and Wednesdays 7:00 to 10:00 P.M. PCJ was heard once until 11:55 A.M. PCV on 18.07 mc. and PDK on 10.42 mc. were broadcasting once 12:45 to 1:20 P.M. (Child, Pa.)

The programs from England for January are:

21.47 mc.—GSH from 6:00 to 8:45 A.M. and 9:00 A.M. to noon.
 17.79 mc.—GSG from 6:00 to 8:45 and 3:00 to 5:00 A.M.
 15.26 mc.—GSI from 12:15 to 3:45 P.M.
 15.18 mc.—GSO from 3:00 to 5:00 A.M.
 15.14 mc.—GSF from 9:00 A.M. to noon.
 11.75 mc.—GSD from 12:15 to 5:45 P.M.; 6 to 8 P.M.; 9 to 11 P.M.
 9.58 mc.—GSC from 4:00 to 5:45 P.M.; 6:00 to 8:00 P.M.; 9 to 11 P.M.
 9.51 mc.—GSB from 3 to 5 A.M.; 6 A.M. to noon; 12:15 to 5:45 P.M.;
 6:00 to 8:00 P.M.; 9:00 to 11:00 P.M.

The program from Germany for January follows:

17.76 mc.—DJE—12:05 to 5:15 A.M.; 5:55 to 11:00 A.M.
 15.34 mc.—DJR—8:00 to 9:00 A.M.
 15.28 mc.—DJQ— 6:00 to 11:00 A.M. Sundays 11:10 to 12:25 P.M.

15.20 mc.—DJB—12:05 to 5:15 A.M. 5:55 to 11 A.M. Sun. 11:10 to 12:25 P.M.
 15.11 mc.—DJL—12 to 2 A.M.; 8 to 9 A.M.; 11:35 to 4:30 P.M. Sundays
 6:00 to 8:00 A.M.
 11.77 mc.—DJD—11:35 A.M. to 4:30 P.M.; 4:50 to 10:45 P.M.
 9.54 mc.—DJN—12:05 to 5:15 A.M.; 5:55 to 11 A.M.; 4:50 to 10:45 P.M.
 9.56 mc.—DJA—12:05 to 5:15 A.M.; 5:55 to 11:00 A.M.; 4:50 to 10:45 P.M.
 6.02 mc.—DJC—11:35 A.M. to 4:30 P.M.; 4:50 to 10:45 P.M.

Germany also has experimental stations, DZA on 9.675 mc., DZB on 10.04 mc., DZC on 10.29 mc., DZE on 12.13 mc., DZG on 15.36 mc. and DZH on 14.46 mc. which may be used at times. DZC was heard at 5:00 P.M. once last month, (Flagg, Mass.) DJB on 15.20 mc. and DJO on 11.795 mc. sent special programs to U.S.A. last months for re-broadcasting. (Maloney, Wooten, Herzog, Weiss, Gilmour) Although not shown on their schedule last month, nor this one either, station DJP on 11.95 mc. is broadcasting nearly every day from noon till 5:00 P.M. (Flagg, Murphy, Field, Davenport, Pedicora, Herzog, Hersowitz.) DJT on 15.36 mc. was heard once at 11:35 A.M. (Atherton, Vt.) DZH on 14.63 mc., not 14.46 mc. as listed, sent a special program 4:30 to 5:00 P.M. once. (Flagg, Mass.) DZC, DZE and DZH, all heard December 13th from 1:30 to 3:00 P.M. (Flagg.) DZC, DZE, DZB and DZC heard afternoons. (Hersowitz, Atherton, Flagg.) DJO and DJB relayed Finland program December 6th 1:45 P.M. (Herzog.)

Russia. The programs from Russia this month will be on: 9.60 mc. daily 7:00 to 7:30 P.M.; 6.00 mc. from 2:00 to 5:00 daily; and 12.00 mc. Sundays 6:00 to 7:00 A.M., 10:00 to 11:00 A.M. and Wednesdays 6:00 to 7:00 A.M. English will be used Sunday, Monday, Wednesday and Friday 4:00 to 5:00 P.M. and all the other programs shown. (Atherton, Vt.) Stations RAN on 9.60 and RNE on 12.00 mc. both were heard from 8:00 AM to noon once. (Studholme, England.)

Russian Phones. RNE, Moscow, on 12.00 mc. may be heard most any time of the day or night. RKI, Moscow, on 15.04 mc. is heard between 3:00 and 10:00 A.M. We list it on 15.09 mc. but it is on 15.04 mc. (Walcott, Calif.) RIM, Tashkent on 15.25 mc. is heard 5:00 to 9:00 P.M. ROU, Bakou, on 10.17 mc. and RIR, Tiflis on 10.07 may be heard between 10:00 P.M. and 4:00 A.M. RKI on 7.51 mc. also phones daily now at 10:00 A.M. (Walcott, Calif.)

2RO4, Rome, Italy, on 11.81 mc. broadcasts from 6:43 A.M. to 12:30 P.M. and then ERO3 on 9.64 mc. broadcasts from 12:30 to 5:45 P.M. and 6:00 to 7:45 P.M., all except Sundays when they close down at 5:45 P.M.

Italian phones. IAC, Piza, Italy phones on 17.76 mc., 12.795 mc., 12.865 mc. and 6.35 mc. working ships, Addia Ababa and Asmara. Try on 17.76 mc. from 8:00 to 11:00 A.M. and on 12.86 from 11:00 A.M. to around 2:00 P.M. IAC is on 17.70 not 17.76 from 9:00 to 11:00 P.M. and on 12.80 after 11:00 A.M. (Walcott, Calif.) Station IRY on 16.11 mc. sent a special program 8:25 to 9:30 A.M. December 7th. (Child, Pa.) A verification from the ship Conte Verde came from Societa Italiana Radio Marittima, via dei Condatti 11, Rome. (Studholme, England.)

OLR, Podebrady, Czechoslovakia. Podebrady is just outside of Praha, or as the English spell it, Prague. This station has been on the following

waves at different times: 13.99 meters (21.45 mc.); 16.92 meters (17.73 mc.); 19.58 (15.32); 19.70 (15.23); 25.26 (11.87); 25.31 (11.84); 25.51 meters (11.76 mc.); 31.57 (9.50); 49.06 (6.11); 49.75 (6.03) and 49.92 meters (6.01 mc.) No station should be allowed so many frequencies. You can never tell when or where you will hear this station. Last month it was on 11.84 mc. around noon; on 15.32 mc. at 2:00 P.M.; on 6.03 mc. from 2:25 to 4:30 P.M. and on 11.87 mc. Mondays and Thursdays 5:00 to 7:00 P.M. and Mondays and Thursdays 7:00 to 9:00 P.M. at times. They sent us a Christmas program sheet showing the times and the waves to be used, but they certainly did not keep the wavelengths. They are supposed to be on 6.03 mc. daily 2:25 to 4:30 P.M. and on 11.87 or 11.84 mc. Mondays and Thursdays 7:00 to 9:00 P.M. but we can not even guarantee this. We thank the following for reports: Solito, Atherton, Flagg, Stempel, Oxrieder, Gilmour, Walcott, Sparks, Studholme, Neiderle, Field, Moses, Vetrovec and Herzog.

France. The programs from Pontoise for January are:
 15.25 mc.—TPA2—2:00 to 2:55 A.M. and 5:55 to 11:00 A.M.
 11.90 mc.—TPA3—2:00 to 5:00 A.M. and 11:15 to 6:00 P.M.
 11.71 mc.—TPA4—6:15 to 10:15 P.M. and 10:45 P.M. to 1:00 A.M.

French phones. A letter says TY1 is on 19.22 mc.; TY2 is on 13.76 mc., and TY4 is on 7.37 mc. (Beck, Ill.) Another letter says TY12 is on 4.185 mc. and works ships and Algeria Tuesdays and Thursdays 7:00 P.M., 9:00 P.M. and 12:00 P.M. and Wednesdays and Fridays 2:00 A.M. (Bradley, N. Y.) Station TYA on 12.22 mc. worked ships around 2:00 P.M. (Flagg, Mass.) Sent music once at 2:00 A.M. (Miller, Ky., and Child, Pa.) TYA2 on 9.04 mc. worked ships around 3:00 P.M. and called New York around 4:30 P.M. once. (Flagg.) FTH, St. Assise, France, on 10.94 mc. was heard from 11:56 to 12:30 P.M. (Waite, N.Y.) A new 100 kw. broadcast station is supposed to open up first of the year. (Maloney, N.Y.) A station on 6.15 mc. or 49.00 meters is on the air daily around noon to 2:30 P.M. broadcasting and signing off with the French National Anthem. (Neiderle, Czechoslovakia, and Treleven, England.) A French station on 11.00 mc. was relaying the Pontoise program once 2:30 to 2:45 P.M. (Herzog, N. Y.)

ORK, Brussels, Belgium, on 10.33 mc. is being heard in America again between 1:30 and 3:00 P.M. Heard until 4:00 P.M. now. (Flagg, Mass.)

LKJ1, Jeloy, Norway, on 9.53 mc. is reported again. Heard from noon to 1:30 P.M. (Flagg, Mass.) One Sunday at 3:00 P.M. (Stempel, Conn.)

TFJ, Reykjavik, Iceland, on 12.24 mc. broadcasts Sundays 1:40 to 2:00 P.M. in English and 2:00 to 2:30 P.M. in German or Danish. This station also phones England and Denmark irregularly. Calls GBC 9:30 to 10:45 A.M. daily, and calls OXT which is supposed to be on 12.30 mc. at Copenhagen. (Walcott, Calif.) TFK, same city, on 9.06 mc. phoned London one Saturday 6:00 to 7:00 P.M. (Karpen, Pa.)

Switzerland. HBH is on 16.22 meters, 18.48 mc., HBJ is on 20.64 meters, 15.54 mc. HBO is on 26.31 meters, 11.402 mc. HBL is on 31.27 meters, 9.595 mc. HBP is on 38.47 meters, 7.797 mc. HBL and HBP broadcast every Saturday from 5:30 to 6:15 P.M. and the first Monday of each month

from 4:00 to 7:00 P.M. A station HBF is reported on 18.45 mc. A card says HBO is used Mondays 1:30 A.M., HBL and HBP the first Monday from 7:00 to 8:00 P.M., and HBF and HBH are commercial stations. HBL and HBP heard first Monday 8:15 to 8:45 P.M.

LZA, Sophia, Bulgaria, was heard on 14.87 mc. from 1:08 to 3:00 A.M. one Sunday morning, (Eder, Minn.)

YTC, Belgrade, Yugoslavia, on 6.10 mc. sends their winter schedule which is 1:00 to 3:00 A.M., 6:30 to 8:15 A.M. and noon to 5:00 P.M.

SPW, Warsaw, Poland, on 13.63 mc. is supposed to broadcast Mondays, Wednesdays and Fridays, 11:30 A.M. to 12:30 P.M., but they usually come on at 11:00 A.M. according to member Braunhold. Member Heckel of Ohio says he has a card saying they broadcast from 1830 to 1930 MET which is 12:30 to 1:30 P.M. and member Atherton of Vermont reports them at 1:00 P.M.

Portugal. A new station called "Portuguese Catholic Radio Station" is heard now on 50.25 meters or 5.97 mc. afternoons, usually signing off at 4:30 P.M. (Pegge, England). CT1AA, Lisbon, on 9.65 mc. broadcasts Tuesdays, Thursdays and Saturdays 4:00 to 7:00 P.M.

CSW, Lisbon, Portugal, moved from 9.93 mc. to 9.94 mc. last month and tested several days from noon to midnight. At the last of the month they were coming on at 3:00 P.M. and signing off around 8:00 P.M., but said they were still testing. You might hear them now any time from noon to midnight. They are on regularly from 4:00 to 7:00 P.M. daily (Beck, Oxrieder, Hersowitz, Pegge, Stempel, Fuller, Nichols, Niederle, Flagg, Howe and Atherton.)

SOUTH AMERICANS

Colombian broadcasters, in the order of their frequencies are as follows: HJ1ABP on 9.62 mc., HJ2ABC on 9.57, HJ1ABB on 9.56, HJ4ABH on 9.52, HJU on 9.51, HJ1ABE on 9.50, HKE on 7.22, HJ4ABD on 6.14, HJ3ABX on 6.12, HJ1ABB on 6.11, HJ4ABB on 6.11, HJN on 5.95, HJ4ABE on 6.10, HJ5ABD on 6.08 mc., HJ3ABF on 6.07 mc., HJ3ABD on 6.05 mc., HJ1ABG on 6.04 mc., HJ4ABP on 6.03 mc., HJ1ABJ on 6.02 mc., HJ3ABH on 6.01 mc., HJ1ABC on 6.00 mc., and HJA7 on 5.40 mc. Stations HJ2ABA on 6.17 mc., HJ4ABC on 6.45 mc., HJ4ABL on 6.06 mc. are no longer on the air according to Captain Oxrieder. For schedules, turn to the station list. One member claims HJ4ABA on 11.81 mc. is on the air, but it has not been heard for nine months.

The latest news is that HJ1ABB moved from 6.45 mc. to 6.11 mc., HJN moved from 5.97 to 5.95 mc., HJ4ABD moved from 5.94 to 6.14 mc. (Child, Oxrieder, Flagg, Murphy, Arick, Orchard) HJ1ABJ on 6.02 signed off at 10:00 P.M. and said they would be back at 10:30 A.M. when the schedule is supposed to be 6:00 to 11:30 P.M. (Stark, Mo.) HJ1ABG on 6.04 mc. says the schedule now is weekdays 11:00 A.M. to 11:00 P.M. and Sundays 11:00 A.M. to 8:00 P.M. only. (Stark, Mo.) HJ3ABF on 6.07 mc. announces plain "HKF, La Voz del Bogota," not HJ3ABF. (Flagg, Mass.) HJ3ABD on 6.05 mc. was heard until midnight instead of signing off at 11:00 P.M. (Stark, Mo.)

Venezuela. Stations in order of their frequency are YV11RB on 6.54 mc., YV6RV on 6.52 mc., YV9RC on 6.40 mc., YV1RH roaming between 6.39 and 6.37 mc., YV1RG on 6.37 mc., YV12RM on 6.30 mc., YV5RP on 6.27 mc., YV3RC on 6.16 mc., YV7RMO on 6.07 mc., YV15RV on 5.92 mc., YV5RMO on 5.85 mc., YV2RC on 5.80 mc., and YV1ORSC on 5.72 mc. For details and schedules, turn to the station list.

YV4RC, Caracas, is back on the air on 6.37 mc. according to several listeners. If this is true then we have YV1RG and YV4RC both on 6.37 mc., YV1RH roaming from 6.37 to 6.39 mc. and YV9RC on 9.40 mc. (Flagg, Atherton, Solito.) YV1RH uses the slogan "Radio Philco." YV1RG uses "Radio Valera," the address of YV1RH is Box 261, Maracaibo, and that of YV1RG is J. L. Ferbes Jelambi, Valera.

YV9RC was heard on 6.64 mc. according to member Atherton, but all others say it is on 6.40 mc. They are not keeping their announced schedule as it was heard between 5:30 P.M. and 9:30 P.M. (Orchard, Pegge, Flagg.) YV6RV on 6.52 mc. has a new schedule according to member Stark. It is 10:30 A.M. to 1:30 P.M. and 4:30 to 9:30 P.M. Most everyone knows that YV7RMO is back on 6.07 mc. between 6:00 and 11:30 P.M. again. YV11RB on 6.54 mc. is heard 8:00 to 10:00 P.M. instead of 9:00 to 11:00 P.M. as scheduled. (Flagg, Mass.) YV8RV was heard at 5:00 P.M. instead of 6:00 P.M. (Flagg, Mass.) YVQ, the phone on 13.33 mc. relayed a speech by President Roosevelt around 8.15 P.M., December 16th. (Atherton.)

YV5RP, the new station at Caracas uses the slogan "Radio Philco" and give their address as Box 508. It was heard between 6:15 P.M. and 11:45 P.M. by different members. (Will, Murphy, Nichols, Walcott, Pegge, Oxreider, Studholme, Kash.) YV15RV, Valencia, Venezuela, the new station on about 5.91 or 5.92 mc. is still testing. This one has been heard between 5:00 P.M. and 1:00 A.M. testing at different times. (Stark, Nichols, Hersowitz.)

VP3BG, Georgetown, British Guiana, has moved from 41 meters to about 49.89 meters, or 6.14 mc., and broadcasts between 3:40 and 8:40 P.M. (Orchard, Smith, Pegge and Treleven of England and Oxrieder, Pa.) VP3MR, same city, was supposed to move to 6.01 mc. according to the announcement and cards, but they are usually found on about 50.17 meters or 5.98 mc., broadcasting between 4:45 and 8:45 P.M. They move around some. (Oxrieder, Pa.; Kash, N.Y.; Herzog, N.Y.; and Boothroyd, Orchard, Treleven of England and Fuller, Canada.)

OAX5B, Ica, Peru, is on 25.42 meters, or 11.796 mc., relaying station "Radio Universal de Ica" daily 1:00 A.M. to noon and 4:00 to 10:00 P.M. according to member A. G. Neve of Mexico. The address is Estafeta de Correos. Heard 7:00 to 10:00 P.M. (Neve.) OAX4G, Lima, Peru, is actually on 6.26 mc. and broadcasts daily 7:00 to 10 P.M. (Oxrieder, Pa.)

PZH, Paramaribo, Dutch Guiana, on 7.10 mc. broadcasts daily 5:30 to 8:00 P.M. (Solito, Pa.). Heard signing off at 9:42 P.M. (Miller, Ky.) 5 Argentina. With the Peace Conference holding place in Buenos Aires last month, Argentina bloomed out with many stations. First of all, station LSX on 10.35 mc. is broadcasting now every Monday and Friday from 5:00 to 6:00 P.M. and they want reports, (Pegge, Niederle,

Arickx, Flag). Stations LSL on 15.81 mc., LSD on 8.83 mc., LQD on 19.40 mc., LSY on 11.81 mc., LSG on 8.85mc., LSY on 18.12 mc., LSN3 on 9.89 mc., LSL on 10.30 mc., LSK3 on 10.25mc. and LQA on 9.70 were all reported at one time of the day or another by some member, (Gallagher, Atherton, Flag, Stark, Stempel, Child, Cuthberton, Miller, Solito, Moots, Wooten, Herzog, Walcott and Fuller). There is no use mentioning the days and time of day. LRU, on 15.29 mc. must have altered their schedule. They were supposed to broadcast from 7:00 A. M. to 4:50 P.M., but they have been heard as late as 6.55 P.M., and LRX on 9.66 mc. comes on at 7:00 P. M. (Arickx, Belgium; Flag, Mass.; Atherton, Vt., and Murphy, Ill.)

Chile. Station CEC, Santiago, on 10.67 mc. usually is heard from 7:00 to 7:15 P.M., as is also CED, Antogfagasta, on 10.23 mc. Lately, however, they have been reported at 8:00 P.M. and 9:30 P.M. (Miller, Ky., and Sparks, Calif.) CB960 in Santiago, is on 9.60 mc. broadcasting between 8:00 and 11:00 P.M. while CB615 on 6.15 mc. is heard around 4:00 to 8:00 P.M. CB615 has a harmonic around 12.31 mc. heard daily, (Espoy, Calif.)

Radio Electrico de Montevideo, at Montevideo, Uruguay, in a letter to W. H. Chippendale of Asuncion, Paraguay, says they are on 49.98 meters or 6.125 mc. but gives no schedule. The letter was from Director Hector M. Laborde and the address is Mercedes 823. The station is heard around 5:00 P.M. Mr. Hesselman of South Africa, reports this station ever since May between 3:30 and 9:00 P.M. broadcasting.

Brazil. Last month PPQ on 11.67 mc. and PPM on 10.31 mc. and PSH on 10.22 mc. tested with WET, New York, a number of times between 4:00 and 8:00 P.M., (Waite, N. Y.) PPQ was on 11.66 and PPM on 10.32, (Gallagher, Calif.)

Ecuador. The following stations are listed: HCJB on 8.95 mc., HCJ2SB on 7.86 mc., HCK on 7.52 mc., HC2RL on about 6.63 now, PRADO on 6.62 mc. and HC1PM on 5.73 mc. We do not list HC2CW, Guayasuil, as it is roaming between 8.20 and 8.32 mc. (Oxrieder and Flag). Mrs. Beck of Illinois, says HC1PM was heard on 7.07 mc. around midnight. Member Stark says HC2JSB was heard as late as 10:30 P.M.

CENTRAL AMERICANS

Mexico has broken out with a rash of weak stations suddenly. Here are some new ones reported for the first time. An EXCU or EXTU at Guadalajara is on 6.11 or 6.12 mc. and was heard between 10:00 P.M. and 1:00 A.M. (Espoy, Calif.) Location not known, (Oxrieder, Pa.) Is at Mexico City, (Gallagher, Calif.) Next we have XECW, Mexico City, on 6.045 mc heard between 9:00 P.M. and midnight, (Espoy, Oxrieder, Gallagher and Solito of Pa.) Next comes XEBN at Mazatlan, Sinaloa, on 15.44 or 15.42 mc. relaying station XEBL Sundays, noon to 4:30 P.M. (Walcott, Calif.) Heard 8:00 to 9:00 P.M., (Espoy, Calif.) A station XEBQ or DQ, relaying XMQ between 8:00 P.M. and midnight,

SENSATIONAL *New* SCOTT MAGIC LINK CONQUERS "Man-Made" STATIC



23 Tube High Fidelity SCOTT Equipped
with "MAGIC LINK" IN AMAZING DEMONSTRATION
PROVES QUIET FOREIGN RECEPTION
NOW POSSIBLE IN BAD RECEIVING LOCATIONS

On Wednesday, October 7, 1936, at the SCOTT Radio Laboratories, a small group of radio engineers and short wave enthusiasts were shown, for the first time, the latest development of the SCOTT Research Laboratories. They intently watched two radio sets at one end of a room—both connected to the same lead-in with a two-way switch, and both tuned in to DJB, Germany, 15.20 megacycles.

Germany Blotted Out

Suddenly, within three feet of these receivers, a terrific barrage of interference was turned on—from a violet ray machine, vacuum cleaner and automobile ignition coil, buzzing out streams of "man-made" static! What happened? From one receiver came a deafening roar such as you would hear in a boiler factory—and the program from Germany was completely blotted out!

Clear With "Magic Link"

The two-way switch on the antenna was then thrown to the 23-tube SCOTT equipped with

the sensational new "MAGIC LINK", the SCOTT Supershield Antenna Coupling System, and from Germany, over 4,000 miles away, the program came in as crystal clear, strong and enjoyable as a local station—all without the slightest trace of "man-made" static from the violet ray machine, vacuum cleaner and spark coil, each crashing and spluttering only three feet away from the antenna lead-in.

Quiet Foreign Reception Now Possible for First Time in Many Locations

The climax of 8 years of tireless research, this sensational new development means that "man-made" static on the short waves, caused by electrical appliances and picked up on the lead-in has, for the first time, *been conquered without loss of signal strength!* Up to this time foreign reception from England, Germany, France, Italy and many other foreign stations has been spoiled for thousands of residents of apartment build-

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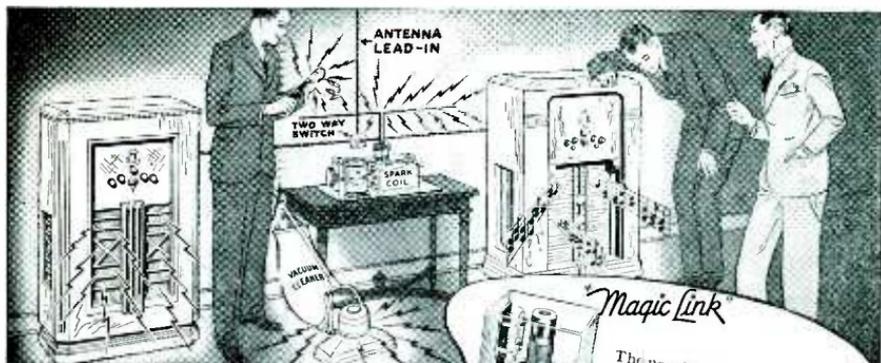
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WHAT SCOTT SUPERSHIELD ANTENNA COUPLING SYSTEM ACCOMPLISHES

1. Doubles sensitivity or distance-getting ability of antenna and receiver combination, as compared with best results with any previous noise-reducing antenna with inefficient shielded coupler.
2. Improves antenna lead-in signal to noise ratio by 100 to 1.
3. Eliminates shielded coupler switch. Switching from broadcast to short wave bands is automatic with SCOTT Supershield Antenna Coupling System.

ings, hotels and homes by the static from electrical appliances picked up on the antenna lead-in. Now these programs can be heard clearly and quietly with the 23-tube SCOTT equipped with the new SCOTT Supershield Antenna Coupling System.

Compare In Your Own Home

We invite you to make a 30-day side-by-side comparison test of the SCOTT against any other receiver, regardless of price. If the SCOTT does not bring in foreign and domestic stations with more volume, greater clarity, and with finer and more natural tone, we will refund your payment price without question.

Magic Link
The new SCOTT Supershield Antenna Coupling System—100 times more effective than any other "noise reducing" system in slashing away from the lead-in "man-made" static so disturbing to enjoyable, dependable foreign reception.

It is impossible to describe the sensational increase in listening pleasure which this new development now makes possible. Only by an actual listening test can you appreciate how much more enjoyably foreign short wave stations can now be received on the 23-tube SCOTT.

Send TODAY for complete proof — and full description of this remarkable new development that now makes possible in conjunction with the 23-tube FULL RANGE HIGH FIDELITY SCOTT Receiver, unparalleled tone, and distance performance in every continent of the globe. Discover this vast new world of radio entertainment you will never hear without a SCOTT. SEND COUPON NOW.



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Send details of unequalled D X Tone of 23-Tube SCOTT with new "Magic Link" Antenna Coupling System.

Name

Address

City State

moving around between 9.50 mc. and 9.59 mc. (Espoy, Calif., Gallagher, Calif., Oxreider, Pa. and Nichols, Pa.) This station is supposed to be at Guadalajara, Jalisco. Next we have XERV at Allente de Bravo on 5.91 mc. heard at 1:00 A.M. (Solito, Pa.) Next we have XECO, Mexico City, on 15.35 mc. Sunday mornings, (Purkey, Calif.) Next, a station on 6.20 mc. heard announcing XEX or XEZH, (Oxreider). Next, XEBR, Hermosillo, on 11.82 mc. relating XEBH at 4:15 P.M., giving address as Apartado 68, (Espoy). This station was heard saying XEMF at 2:00 P.M., (Stark, Mo.)

XEXA moved from 6.18 to 6.16 mc. (Gallagher). XECR on 7.38 mc. was heard one Sunday till 8:30 P.M. although the schedule says 6:00 to 8:00 P.M. (Sparks). XEFT verie says 49.02 meters or 6.12 mc., 11:30 A.M. to 4:00 P.M. and 7:30 P.M. to midnight but they were on 9.50 mc. signing off at 11:30 P.M. one Monday, (Stark, Mo.) The latest schedule sent out by XEWI on 11.90 mc. is Monday, Wednesday and Friday 3:00 to 4:00 P.M. and 9:00 P.M. to midnight, Tuesday and Thursday 7:30 P.M. to midnight, Saturday 9:00 P.M. to midnight, Sunday 12:30 to 2:00 P.M. and the third Sunday of the month at 6:00 P.M. Stark, Mo.) XECR moved to 6.64 mc. (Stark, Mo.) The phone XDC on 9.40 or 9.47 mc. uses the call XDIB according to a letter (Kreibel, Pa.) Heard by Gallagher and Flagg between 6:00 and 8:00 P.M.

TGWA, Guatemala City on 9.45 mc. broadcasts now noon to 2:00 P.M. and 8:00 P.M. to midnight weekdays and Saturdays 8:00 P.M. to 6:00 A.M. Sundays, (Stark, Mo., Erwin, Ill.) Heard 6:00 to 7:00 P.M. one Sunday, (Flagg, Mass.) TG2X on 5.94 mc. sends two different schedules, one is shown on the list. TGS, Guatemala City on 5.74 mc. broadcasts Wednesdays, Thursdays and Sunday 6:00 to 9:00 P.M. according to their own statement. Heard 8:30 to 10:40 P.M. one Wednesday last month, (Beck, Ill.) On 5.76 mc. 6:30 P.M. (Stark, Mo.)

Honduras has HRD on 6.23 mc., HRN on 5.87 mc., HRP1 on 6.34 or 6.35 mc. and station HRY, Tegucigalpa, is reported again after a long silence on 47.24 meters or 6.35 mc. between 6:45 and 7:25 P.M., when they signed off, (Flagg, Mass.) Heard between 8:00 and 9:00 P.M. (Orchard, England).

Costa Rica. Costa Rica has TI4NRH on 9.69 mc., TI8WS on 7.55 mc., TIEP on 6.69 mc., TI2M on 6.70 mc., TIRCC on 6.55 mc., TIPG on 6.41 mc., TIGPH on 5.82 mc., TI5HH on 5.48 mc. A station TI4WX on 7.00 mc. and TIOW, Port Limon, on 6.85 mc. are reported by one member. A station using a slogan "Emisora Costa Rica," on 5.88 mc. was heard at 10:00 P.M. once, (Flagg, Mass.) A station TIMS or N or F, in Puntarenas, was heard on 5.90 mc. (Oxrieder, Pa.) TI4NRH veries say 9.67 but they are on 9.69. TIEP is supposed to be on 6.71 also, but heard on 6.69. This station has not been keeping their schedule. It is heard till 11:30 P.M. many nights, (Atherton, Mori, Stark, Sparks). TI8WS heard on 7.55 mc. now, once 4:30 to 5:00 P.M. and once 7:00 to 7:52 P.M. (Flagg, Mass.)

Panama has HP5J on 9.59 mc., HP5F on 6.08mc., HP5B on 6.03 mc. and HP5K on 6.00 mc. HP5J is heard now as early as 6:30 P.M. and

HP5B is heard between 6:00 P.M. and 10:00 P.M. instead of 7:00 and 10:30 P. M.

Nicaragua. YNOP, Managua, "Radiodifusora Bayer," is on 5.758 mc. and is heard between 8:30 and 10:45 P.M. now, (Beck, Ill.; Flagg, Mass.; Solito, Pa., Kash, N. Y.) YNAN, "La Voz de la Pacifico," is heard on about 7.20 mc. between 7:00 and 10:00 P.M., signing off at different times of the night, (Hersowitz, Md.; Stark, Mo.; Siddle, Ala.) YNLF is on about 7.56 mc. now, but this is the champion station of the world for jumping around. Station YNVA changed their call-sign to YNLG and they relay YNLH 12:00 to 1:30 P.M. and 6:30 to 9:00 P.M. (Stempel Conn.; Siddle, Ala.) Moves between 8.48 and 8.58 mc. (Oxrieder, Pa.) YNLAT, Granada, veries say 7.02 mc., Apartado 17 and their slogan, "La Voz del Mombacho." (Siddle, Ala.) Station YN2LT, Managua is heard on 7.31 mc. (Oxrieder, Pa.) A station YN1GG, "La Voz de Los Lagos," cu 6.57 was heard at 9:25 P.M. signing off with "Blue Danube Waltz" (Stark, Mo.)

WEST INDIES

The Dominican Republic, a small island in the West Indies, with 1,124,-422 inhabitants can boast of twenty broadcast stations on the short waves. We do not know how many long wave stations they have. Here is the list: HI1J on 5.86 mc. HI3U on 6.01 mc. HI9B on 5.88 mc. HIX on 6.34 mc. HI5N on 6.15 mc. HI1A on 6.19 mc. HIN on 6.24 mc. HIG on 6.28 mc. HIZ on 6.31 mc. HI1S on 6.42 mc. HI8A on 6.48 mc. HI4V on 6.48 mc. HIL on 6.50 mc. HI4D on 6.55 mc. HIT on 6.63 mc. HI3C on 6.73 mc. HIH on 6.78 mc. HI7P on 6.80 mc. HIN on 11.28 mc. For the schedule of these stations, please turn to our station list. Below we mention some of the schedules and recent changes made.

HI2D, the new Trujillo station on 6.90 mc. has been heard between 5:30 P.M. and 9:00 P.M., using the slogan "La Voz de la Association Catolica," and signing off with religious songs like "Ava Maria." Their address is Apartado 234 (Curiel, Curacao; Moots, Mo.; Flagg, Mass.) HI9B moved from 6.05 to 5.88 mc. (Oxrieder, Herowitz and Kash). HI3U on 6.01 mc. is heard till 10:30 P.M. instead of just 9:30 P.M. (Orchard, England). HI8A, "La Fadoe en al Aire," is supposed to be on 6.45 mc., but they are heard on 6.48 mc. according to some and 6.60 according to others, although most it is 6.48, (Oxrieder, Flagg, Curiel, Stark, Atherton). The address is Apartado 1312, not 1502. HI1A roams between 6.16 and 6.19 mc. (Oxrieder, Pa.) HIH on 6.78 mc. uses the new slogan "La Voz del Maestro," and "La Voz del la RCA-Victor." Heard signing off 6:50 P.M. (Murphy, Ill.) Heard 5:00 to 6:30 P.M. (Flagg, Mass.) HIN on 6.24 mc. veries say noon to 2:00 P.M. and 7:30 to 9:30 P.M., E.S.T., but we find this is their local time which is twenty minutes ahead of E.S.T. They seldom use their 11.28 mc. wave now. Heard on 6.24 as early as 6:00 P.M. (Stark, Mo. and Pegge, Eng.) HIL on 6.50 mc. was heard as late as 8:45 P.M. instead of just 7:45 P.M. (Moots, Mo.) Station HI8Q and HI4V are announcing together now, and must be just one station. The station is on 6.20 mc. and announces both HI8Q and HI4V, (Flagg, Mass.)

Amateur VP4TC, Port-of-Spain, Trinidad, on about 7.00 mc. relayed a program of the arrival of President Roosevelt to WCG 4:20 to 5:20 P.M. once (Pegge, Eng.)

Cuba has stations COCX on 11.43 mc., COCQ on 9.75 mc., COCH on 9.43 mc., COJQ on 8.66 mc., COHB on 6.28 mc., COKG on 6.20 mc., COCD on 6.13 mc. and COCO on 6.10 mc.

The latest news follows: COCD on 6.13 mc. wants reports on their new 5:00 to 6:00 P.M. programs, (Atherton). Heard at 4:00 P.M. and as late as 1:00 A.M. although the schedule says 5:00 P.M. (Stark and Herzog). COCO on 6.01 is supposed to broadcast 4:00 to 7:00 and 8:00 to 10:00 P.M. but last month they broadcast from 8:00 A.M. up to midnight many times, (Verbrughe and Sparks). The programs of COCQ on 9.75 mc. are also heard on 12.60 mc., and this could not be a harmonic, (Atherton, Vt.) A station CMKW, Santiago, on 6.65 mc. heard relaying CMKM, Box 323, heard one Friday morning at 1:40 A.M. (Stark, Mo.) On 6.84 mc. at 10:50 P.M. once, also (Stark). Last month the telephone stations CLA5 and CMA5 were reported working LSX, Argentina, and WCG, New York, during the Peace Conference. CLA5 was reported on 13.99 mc., 14.75 mc. and 14.72 mc. all around 7:45 to 8:00 P.M. (Beck, Child and Walcott). CMA5 was reported on 11.60 mc., 11.55 mc. and 15.50 mc. at 4:30 P.M. once and 9:30 P.M. once, (Child, Stempel, Teague, Gilmour). The station on 11.55 must have been COCX, put to use as a phone—Ed.

Haiti has station HH3W on 9.64 mc. now, HH3NW on 6.34 mc. and HH2S on 5.91 mc. HH3NW is apparently not used at present. HH3W says they are on 9.59 mc. and HH2S says 6.07 mc., but they are on the frequencies mentioned above. Schedules may be found by looking at the list.

NORTH AMERICA

Direct from the National Broadcasting System and the Columbia System we have received the latest schedules for stations W1XK, W2XE, W2XAD, W2XAF, W3XAU, W3XAL, W4XB, W9XAA and W9XF, and these schedules are all shown in our list. W4XB is off the air, (Chamberlain, England). This is true.—Ed. W2XAD and W2XAF both are on the air on special broadcasts, regardless of the time of day, as well as on the schedules shown in the list. W9XAA, Chicago, has returned to 11.83 mc. again after a long absence and although they are supposed to broadcast from 7:45 A.M. to 3:25 P.M., they have been heard as late as 6:30 P.M. on this frequency, (Child, Van Bergen, Teague, Herzog, Pedicora, Atherton, Hersowitz).

W1XAL, Boston, sends out three or four different schedules and then keeps none of them. Their January schedule is supposed to be as follows: On 19.68 meters or 15.25 mc. Sunday at 11:00 A.M. On 25.45 meters, 11.79 mc. daily 3:00 to 5:00 P.M., Saturday to 5:30 P.M. and Sunday 10:15 A.M. and 1:15 to 2:30 P.M. On 49.67 meters or 6.04 mc. they broadcast Sundays 4:30 to 7:30 P.M. and 9:30 to 11:00 P.M., Mondays, Tuesdays and Fridays 7:30 to 9:30 P.M. (Atherton, Vt.)

During the period of time covering the inauguration of President Roosevelt, from January 18th to the 20th, you will likely hear many United States stations on the air when not scheduled. We understand that W2XAF and W2XAD will start broadcasting January 17th and remain on the air for over sixty hours without a stop. These stations were on the air during the British crisis for many hours when not scheduled and they also did quite a lot of work during the Peace Conference in Argentina. From Thursday, December 31st to midnight Friday, January 1st, these two stations remained on the air, (Atherton, Davenport, Studholme, Wooten).

W1OXDA, which was heard last summer, is sending out veries now. The operator, Clifton Ross, 8214 11th Ave., Brooklyn, N. Y., is not at home, but his wife is sending out the veries, (Brady, N. Y. and Hofmaster, Ohio).

W9XAA is supposed to be on 11.83 mc. Sundays 7:00 A.M. to 3:35 P.M. and other days 7:45 to 3:35 P.M. and on 6.08 mc. daily 5:00 to 11:00 P.M., and daily except Sundays 5:30 to 7:00 A.M. But don't let the schedule fool you, they don't keep it.

Canada has CJRX on 11.72 mc., CJRO on 6.15 mc., VE9HX on 6.13 mc., VE9CA on 6.03 mc., CRCX on 6.09 mc., VE9CS on 6.07 mc. and CFCX on 6.00 mc. VE9CA is supposed to broadcast Sundays 7:00 P.M. to midnight, but was heard at 1:00 A.M. (Stark, Mo.) CFCX is supposed to broadcast 8:00 A.M. to 11:15 P.M. but was heard at 1:00 A.M. (Stark, Ma.) A station VE9BM in Quebec on 6.005 mc. was heard one Saturday at midnight, (Verbrughe, Mich.) This is either the experimental call of CFCX or else it is the bootleg station operated by a Canadian Radio Club, as such a station was used last winter by this club. CFU, Rossland, B. C., was heard on 8.70 mc. calling CZ3X at 9:00 P.M. one Monday, (Walcott, Calif.) A station CGS, General Railway, Quebec, on 6.00 mc. was heard at 5:00 P.M. (Herzog, N. Y.) Probably CFCX—Ed. Station VOWQ, North West River, Laborador, was heard on 8.60 mc. calling a Quebec station between 7:00 and 7:45 P.M. (Will, Ill., and Child, Pa.)

There are about ninety telephone stations in the United States. Some of these are on the air every day at every hour, so we can not mention them. One, KKY, in Dixon, Calif., on 7.66 mc. phones Hawaii weekdays now 9:30 P.M. to midnight, (Walcott, Calif.)

Hawaii has no broadcast stations, but they have these telephone stations. KKH on 7.52 mc., KKP on 16.04 mc., KIO on 11.68 mc., and KEQ on 7.37 mc. There is some argument whether KIO is on 11.68 or 11.71 mc. One of these stations is used every Tuesday at 12:30 A.M. to broadcast a special program and at other times, also.

Alaska. WXA, Juneau, Alaska, on 2.60 mc. phones these stations between 11:00 P.M. and 1:00 A.M. daily. KAKE, Yakutat; KIUZ, Koonah; KAEP, Tanakee; KAED, Angoon; KAEB, Hydragburg; KAEH, Kakemall on voice on 2.61 mc. (Walcott, Calif.)

Ultra-Short Stations. Station W3XEY, Baltimore, is on 31.6 mc., 6:00 P.M. to midnight. W6XKG, Los Angeles, is on 31.6 mc. noon to 4:30 P.M. W3XES, Baltimore, is on 35.6 mc. 5:00 to 11:00 P.M. W9XAS, Milwaukee, moved from 31.6 to 26.4 mc. (Appel, Waite and Thordeson).

AMATEURS

There are thousands of amateurs heard around 14.10 mc. These stations work irregularly, so you can not print a schedule, nor can you list them. Some African amateurs heard between 14.04 and 14.60 mc. are CN8AA, CN8AC, CN8AD, CN8MB, FT1AG, FT1AH, FT4AG, SU1KG, SU1SG; SU1CH, SU1RK, EA8LW, EA8AT, EA8AL, EA8AH, EA8AJ, EA8AO, SU6P, SU1GK, ZS2X. Some Asiatics are VS7RA, VS2AK, VS2AR, KA1DH, KA1ME, KA1KY, PK1MD, PK1MX, PK1GW, PK1PK, PK3ST, PK4AU, VS6AQ, VW2CQ, and VS2AK. We are agents for Radio Amateur Call-Book which lists the names and addresses, as well as call-letters of over 60,000 amateur stations in the world. The cost of this call-book is \$1.25 postpaid.

WITH THE REPORTERS

There is no doubt but what this organization leads the world in reporters. Here is a list of members who sent us information this month on new stations, new schedules and such things.

L. Smith, London, England; Arthur Woods, London; J. M. R. Studholme, London; D. C. Chamberlain, London; G. Treleaven, London; J. Jeffs, Cadishead, England; S. Boothroyd, Uppermill, Olham, England; E. W. Field, Watford, Herts, England; J. R. Garrett Pegge, Chesham, Bucks, England; Reuven Soklovsky, Tele-Aviv, Palestine.

R. E. Cooke, Kolar Goldfields, South India. Rene Arickx, Antwerp, Belgium; J. B. Keenan, Sydney, Australia; Johann P. Curiel, Curacao, D. W. I. Arthur Mori, Honolulu, Hawaii; L. J. Niederle, Praha, Czechoslovakia; Dr. George F. L. Fuller, Cowansville, Quebec; Cyril Gilmour, Kingston, Ont.; L. E. Thoreson, Ponoka, Alberta.

Roy Waite, Balston Spa, N. Y.; W. F. Herzog, Center Moriches, N. Y.; Mills Van Bergen, Syracuse, N. Y.; Dr. R. C. Kash, Staten Island, N. Y.; Charles Pedicora, Brooklyn, N. Y.; James Maloney, Mechanicsville, N. Y.; Captain R. B. Oxrieder, State College, Pa.; Sam Solito, Leetsdale, Pa.; Fred Karpen, Johnstown, Pa.; Joe W. Childs, Philadelphia, Pa.; Thomas Nichols, Philadelphia, Pa.; Norman Kreibel, Ambler, Pa.

John Stamps, McCamey, Texas; J. B. Wooten, Mobile, Ala.; Carl Eder, Willman, Minn.; Wilfred Siddle, Birmingham, Ala.; Charles Miller, Covington, Ky.; Ed. Davenport, Pittsford, Vermont; Jack Hyde, Elmwood, Conn.; Fred Atherton, Rutland, Vt.; Henry C. Howe, Baton Rouge, La.; Kenneth Moots, Kansas City, Mo.; O. E. Stark, Pierce City, Mo.; J. F. Stempel, Bridgeport, Conn.

Grace M. Beck, Chicago, Ill.; Cyrus Will, Glencoe, Ill.; Floyd Murphy, Palestine, Ill.; Tom Erwin, Herrin, Ill.; I. Vetovec, Chicago, Ill.; Bernard Dahl, Chicago, Ill.; Harold Strick, West Lynn, Mass.; W. D. Flagg, Holyoke, Mass.; W. D. Vandecar, Jr., Detroit Mich.; Tian Teague, Millinton, Mich.; Richard Verbrugge, Ja., Detroit, Mich.

Wm. Sparks, San Francisco, Calif.; Henry Espoy, Los Angeles, Calif.; Ashley Walcott, San Francisco, Calif.; G. C. Gallagher, San Francisco, Calif.; Frank Quijano, Glendale, Calif.; E. D. Purkey, Los Angeles, Calif.; Bernard Heckel, Struthers, Ohio; A. C. Broker, Cleveland, Ohio.

REPORTING INFORMATION

We urgently request all readers to confine their reports to printable information, particularly during the winter and spring when reports are so plentiful. Your reports should concern new stations coming on the air, stations changing frequencies and stations changing schedules or heard off schedule. For example, last month we received a sixteen page report from one member that must have covered reception for the past year. After spending an hour and a half checking and rechecking the stations mentioned, we discovered that there was not one single bit of information in the letter, as the stations were all on schedule and frequency. This was just one of many such reports. We certainly do want to learn of new stations, stations off frequency, etc., but we do not want to read pages and pages to find the information.

SEND NEW EQUIPMENT REPORTS

Last month sixty-two people wrote to us for advice on buying new receivers, boosters and aeri-als. Their questions could not be answered by the editor directly, for he had not heard nor even seen many of the receivers and parts in question. However, practically every one of these people received the information they wanted. For we received over seventy reports on new receivers, antennas and similar things from other members. By passing along the letters received from those who had tried the new receiver or part to those who wanted information on these same things, we were able to assist many members of the club in the selection of new equipment.

Therefore, we urgently request every reader of this magazine to write to us and explain what he or she thinks of some new receiver or part that in purchased and tried out. By passing the news along to us we are able to help many others.

RADIO WRINKLES

Although the days of experimental radic is almost past, there are some few readers who may have some ideas on how to improve reception. Perhaps it is some simple gadget that increases selectivity or perhaps volume. Whatever it is, we will be glad to hear from you and if the idea is good, we will publish it, giving credit in full to the sender.

FOR SALE—Twin dial Scott, beautiful walnut console, \$45.00. Five tube tuned frequency Skyrider, \$20.00 Glenn Watt, Chanute, Kansas.

FOR SALE—Lynch doublet cage antenna. Wm. Stein, Poplar Street, Meadville, Pa.

**Why Take
A Chance?**

You are protected when you buy from our advertisers!

Advertising for this magazine is accepted only from firms who, in the opinion of the officers, are of established integrity and whose products have met the approval of officers and members. Play safe and patronize I. S. W. C. advertisers.

SELL THE MAGAZINE

For the past three years a few members have been buying a dozen or so copies of the magazine at a special rate and selling them to neighbors and friends at the full price. Anyone interested in picking up a few pennies this way should drop us a note and we will send them details of the special rate.

PHONETICAL ALPHABET

Most all short wave stations can be identified by the frequency they operate on. But it is nice to be able to understand a few letters and numbers as they are spoken in several languages, is it may come in handy some day. The letter W does not belong to the Spanish, Portuguese or Italian alphabets. It is used only by those people when writing foreign words.

	German	French	Italian	Portuguese	Spanish	Dutch
A	ah	ah	ah	ah	ah	ah
B	bay	bay	bay	bay	bay	bay
C	tsay	say	chay	thay	thay	say
D	day	day	dee	day	day	day
E	ay	ay	ay	ay	ay	ay
F	eff	ef	e aff	effay	effay	ef
G	gay	zay (z as s pleasure)	ge (as in genius) ak-kah	zhay	hay	ghay
H	hah	ash		ah'-tchay	ah'-tchay	hah
I	ee	ee	ee (as i in machine)	ee	ee	ee (as y in pretty) ja (yay)
J	yot(yah)	.zee (z as s pleasure)		zhota	ho'-ta	
K	kah	kah	kappa	kah	kah	kah
L	ell	el	ella	ay'-lay	ay'-lay	el
M	em	em	emma	em'-ay	em'-ay	em
N	en	en	enna	en'-ay	en'-ay	en
O	oh	oh!	o (as in toll)	o (as in for)	o (shorter than o in oh)	oah (as in woah)
P	pay	pay	pay	pay	pay	pay
Q	koo	keeu	koo	keh	koo	keeu
R	err	air (aer)	erra	err (airr)	er'-ay	err
S	ess	ess	essa	es'-ay	es'-ay	es
T	tay	tay	tay	tay	tay	tay
U	oo	eeu	oo	oo	oo	eeu
V	foo (as in found)	vay	vay	vay	vay	vay
W	vay	dooble-vay	doppio-vay	vay-dobrado	doblay-vay	way
X	iks	eeks	iks	sheeze	ay'-kis	iks
Y	ipsilon	ee-grec	e-greco	ipsilon or e-gray-goo	e'-ay	aai
Z	tset	zett	dzay-ta	zay	they-dah	zett

	German	French	Italian	Spanish	Portuguese	Dutch
1	ein (as in wine)	un (uhn)	uno	un	uno	een (ayn)
2	zwei (zwy)	deux (like di in dirt)	due (e as a in ate)	dous	dos	twee (tway)
3	drei (dry)	troix (trwa)	tre (e as a in ate)	trez	tres (trace)	drie (dree)
4	vier (feer)	quatre (katr)	quatro	quatro	cuatro (quatro)	vier (veer)
5	funf (feeunf)	sinq (sank)	cinque	sinco (sinko)	cinco (sinko)	vijf (vaif)
6	sechs (zex)	six (seess)	sei (seh as e in men)	seis (e as in ell)	seis	zes
7	sieben (zeeben)	sept (set)	sette (setteh)	sete (e as in set)	siete (sieteh)	zeven (zaven)
8	acht (ahcht)	huit (weet)	otto (1st o as ought)	oiti (o as in on)	ocho	acht (ahcht)
9	neun (noin)	neuf (nerf)	nove (noveh)	nove (noveh)	nueve (nueveh)	negen (naygen)
10	zehn (tsayn)	dix (dees)	dieci (diechi)	dez (e as in set)	diez (deeis)	tien (teen short e)

TO NEW SHORT WAVE FANS

Do not be satisfied to listen to Germany, France, England and a few high-powered stations. Learn where and when to tune for these flea-powered stations and then send for verifications. When you get a verification to show your friends from some station that they can not get, then you will be a real short wave fan.

WANTED—RME-69 or Hamarlund Puper-Pro receiver. R. K. Champion, 143 Sweetfield Circle, Yonkers, N. Y.

RADIO SUPPLIES

STATIONERY. The club emblem, printed in blue ink, on a good grade of paper, typewriter size. Does not have a lot of names of officers and such things on it to confuse the stations. Many firms offer special discounts to I. S. W. C. members. Many station owners are I. S. W. C. members and will verify faster if this stationery is used. Price 50c per hundred, postpaid.

CLUB SEALS. The club emblem, printed in blue ink. For those members that wish to use their private stationery, but also wish to be known as an I. S. W. C. member. The price is 25c per hundred, postpaid.

GLOBE. A beautiful 12-inch globe showing the location of nearly all the short wave stations. Modern in every detail. Washable, and has a fine walnut stand. We have over 200 unsolicited letters from purchasers who have been delighted with this globe. Some members have ordered as many as six globes for their friends, after they have received their first one. Price \$2.75 F. O. B., Indianapolis. Ask your postmaster for the postage rate on eight pounds from Indianapolis and include the amount with your order.

"ON-THE-AIR"

The time given is Eastern Standard. Add five hours for G. M. T. Mark down the dial reading of the station heard on the margin of the paper and it will guide you to the location of other stations on your dials.

B—Stands for Broadcast Station. These stations broadcast programs, usually relaying some long wave station.

T—Stands for Telephone Stations. These stations are used to relay telephone conversations across oceans and a carrier wave, or "whistle," may be heard for several hours without any voice being heard. Some stations use a "chopper" which distorts the voice and makes it impossible to understand.

E—Stands for Experimental Stations. These stations are never on the air regularly. They are usually telegraph stations which are rented by some chain to relay a broadcast to some foreign country. You never can tell when you will hear them.

Meters	Meg.	STATION	TIME
B-13.92	-21.54	-W8XK, Pittsburgh, Pa., relays KDKA,	7:00 to 9:00 A.M.
B-13.94	-21.52	-W2XE, Wayne, N. J., relays WABC	7:30 A.M. to 1:00 P.M.
B-13.97	-21.47	-GSH, Daventry, England.	6:00 A.M. to 8:45 A.M.; 9:00 A.M. to noon
T-14.01	-21.41	-WKK, Lawrenceville, N. J.	Phones LSN, 8:00 A.M. to 4:00 P.M.
T-14.17	-21.16	-LSL, Buenos Aires, Arg.	8:00 A.M. to 1:00 P.M. GAA and PSF.
T-14.23	-21.08	-PSA, Rio de Janeiro, Brazil.	Phones WKK, WLK, daytime.
T-14.27	-21.03	-LSN, Buenos Aires, Arg.	8:00 A.M. to 4:00 P.M. WKK and WLK.
T-14.72	-20.38	-GAA, Rugby, England.	Phones LSL and PPU near 8:00 A.M.
T-14.97	-20.04	-OPL, Leopoldville, Belgian Congo.	Phones ORG, mornings.
T-14.99	-20.02	-DHO, Nauen, Germany.	Phones PPU and LSM mornings.
T-15.14	-19.18	-WKN, Lawrenceville, N. J.	Phones GAU, daytime.
T-15.24	-19.69	-CEC, Santiago, Chile.	Phones LSR, HJY near 11 A.M. and 4 P.M.
T-15.28	-19.62	-VQG, Nairobi, Kenya, Africa.	Phones London, 7:30 to 8:00 A. M.
T-15.39	-19.50	-LSQ, Buenos Aires, Argentina.	Heard testing near 2:00 P.M.
T-15.50	-19.35	-FTM, Assise, France.	10:00 A.M. to 2:00 P.M. LSG.
T-15.50	-19.35	-PMA, Bandoeng, Java.	Phones Holland, mornings.
T-15.57	-19.27	-PPU, Rio de Janeiro, Brazil.	Phones FTM, 10:30 A.M. to 3:00 P.M.
T-15.58	-19.25	-DFA, Nauen, Germany.	Phones 10:00 A.M. to 2:00 P.M. irregularly.
T-15.62	-19.21	-ORG, Brussels, Belgium.	Phones OPL, mornings.
T-15.68	-19.13	-LSM, Buenos Aires, Argentina.	Phones EAQ, DHO, GAA, mornings.
B-15.77	-19.02	-HS8PJ, Bangkok, Siam.	Mondays 8:00 to 10:00 A.M.
T-15.88	-18.89	-ZSS, Klipkeuval, S. Africa.	Phones GAS, 6:30 to 7; 10 to 10:45 A.M.
T-15.93	-18.83	-PLE, Bandoeng, Java.	Phones Holland 6 to 11 A.M. KWX irregularly.
T-16.06	-18.68	-OCI, Lima, Peru.	Testing with HJY near 2:00 P.M.
T-16.11	-18.62	-GAU, Rugby, England.	Phones New York mornings.
E-16.22	-18.48	-BH, Geneva, Switzerland.	Used for special programs.
T-16.30	-18.40	-PCK, Kootwijk, Holland.	Phones Java near 7:00 A.M.
T-16.35	-18.35	-WLA, Lawrenceville, N. J.	Phones England 8:00 A.M. to 4:00 P.M.
T-16.38	-18.31	-GAS, Rugby, England.	Phones New York mornings.
T-16.39	-18.30	-YVR, Maracay, Venezuela.	Phones Germany, 10:00 A.M.
T-16.44	-18.25	-FTE, St. Assise, France.	Phones LSM, PPU, mornings.
T-16.48	-18.20	-GAW, Rugby, England.	Phones New York mornings.
T-16.50	-18.18	-PMC, Bandoeng, Java.	Phones PCV, 3:10 to 9:20 A.M.
E-16.55	-18.12	-LSY, Buenos Aires, Argentina.	Irregular.
T-16.82	-18.05	-PCV, Kootwijk, Holland.	6:00 to 9:00 A.M. Java.
B-16.86	-17.79	-GSG, Daventry, England.	6:00 to 8:45 A.M.
B-16.87	-17.78	-W3XAL, Bound Brook, N. J.	9:00 A.M. to 5:00 P.M. daily.
T-16.89	-17.76	-IAC, Piza, Italy.	Phones ships early mornings.
B-16.89	-17.76	-DJE, Zeesen, Germany.	12:05 to 11:00 A.M.
B-16.90	-17.75	-ZBW5, Hong Kong,	used irregularly 3:00 to 10:00 A.M.
T-16.85	to 18.27	-17.80	-Ships. Heard in daytime.
B-16.91	-17.74	-HSP, Bangkok, Siam,	phones Japan, Germany and England.
T-17.00	-17.64	-XGN, Shanghai, China,	phones London 7 to 9 A.M., Mon. Wed. Sat.
T-17.12	-17.52	-DFB, Nauen, Germany.	Phones LSM and YVQ near 9:00 A.M.
T-17.16	-17.48	-VWY2, Poona, India,	phones England 7:00 to 10:00 A.M.
T-17.52	-17.12	-WOO, Ocean City, New Jersey.	Phones ships, irregularly.
T-18.31	-16.38	-ITK, Mogadiscio, Italian Somaliland,	phones Italy daytime.

Meters	Meg.	STATION	TIME
T-18.44	16.30	WLK, Lawrenceville, N. J.	Phones England.
T-18.47	16.24	KTO, Manila, P. I.	Phones Japan 5:00 to 9:00 P.M., irregularly.
T-18.51	16.20	FZQ, Saigon, Indo-China.	Phones Paris mornings.
T-18.71	16.04	KKP, Kauhuku, Hawaii.	Phones KWU 1:00 to 7:00 P.M.
T-18.89	15.88	FTK, St. Assise, France.	Phones Saigon 8:30 to 11:00 A.M.
T-18.99	15.80	XOJ, Shanghai, China.	Phones Japan 5:00 P.M. to midnight.
T-18.91	15.86	CEC, Santiago, Chile.	Phones OCJ 11 A.M., 1 and 4:40 P.M. irreg.
T-19.02	15.81	LSL, Buenos Aires, Arg.	Phones GAA 8 A.M. to 1 and FTM 1-2 P.M.
T-19.15	15.66	JVE, Nazaki, Japan.	Phones Java 3:00 to 5:00 A.M.
T-19.20	15.61	JVF, Nazaki, Japan,	phones U.S.A. near 5:00 A.M. and 8:00 P.M.
T-19.42	15.45	IUG, Addis Ababa, Ethiopia,	phones Italy 7:00 to 10:00 A.M.
T-19.47	15.41	KWO, Dixon, California.	Phones Hawaii in place of KWU.
B-19.52	15.37	HAS-3, Budapest, Hungary.	Sundays 9:00 to 10:00 A.M.
T-19.54	15.35	KWU, Dixon, California.	Phones Hawaii, 2:00 to 7:00 P.M.
B-19.56	15.34	DJR, Zeesen, Germany,	8:00 to 10:00 A.M.
B-19.56	15.33	W2XAD, Schenectady, N. Y.,	10:00 A.M. to 3:45 P.M. daily.
B-19.58	15.32	OLR, Podebrady, Czechoslovakia.	See news section.
B-19.62	15.29	LRU, Buenos Aires, Argentina.	7:00 A.M. to 5:00 P.M., irreg.
B-19.63	15.28	DJQ, Zeesen, Germany.	6:00 to 11:00 A.M. Sun. 11:10 to 13:20 P.M.
B-19.64	15.27	W2XE, Wayne, N. J.	1:00 to 5:00 P.M.
B-19.66	15.26	GSI, Daventry, England.	12:15 to 3:40 P.M.
T-19.68	15.25	RIM, Tashkent, U.S.S.R.	Phones RKI near 7:00 A.M.
B-19.68	15.25	W1XAL, Boston, Mass.	Sundays 11:00 A.M.
B-19.68	15.25	TPAZ, Pontoise, France.	2:00 to 2:55 A.M. 5:55 to 11:00 A.M.
B-19.69	15.23	OLR, Podebrady, Czechoslovakia.	See News Section.
B-19.71	15.22	PCJ, Eindhoven, Holland	Sun. 7-8 A.M., Tues. 4:30-6 A.M., Wed. 8-10 A.M.
B-19.71	15.21	W8XK, Pittsburgh, Pa.	Relays KDKA 9:00 A.M. to 7:00 P.M.
B-19.74	15.20	DJB, Zeesen, Germany.	12:05 to 11:00 A.M., Sun. 11:10 to 12:25 P.M.
B-19.76	15.18	GSO, Daventry, England.	3:00 A.M. to 5:00 A.M.
B-19.76	15.18	RV96, Moscow, U. S. S. R.,	Sundays 1:30 to 2:30 P.M.
B-19.75	15.19	BZB4, Hong Kong.	Heard irregularly 3:00 to 10:00 A.M.
B-19.79	15.16	JZK, Nazaki (Tokyo), Japan.	Mon., Thur. 4-5; Tues., Fri. 2-3 P.M.
B-19.80	15.15	YDC, Bandoeng, Java,	heard 5:30 to 10:30 A.M. irregularly.
B-19.82	15.14	GSF, Daventry, England.	9:00 A.M. to noon.
B-19.84	15.12	HVJ, Vatican City.	10:30 A.M. to 10:45 A.M.
B-19.85	15.11	DJL, Zeesen, Germany,	12:00 to 2:00; 8:00 to 10:00 A.M.; 11:35 to 4:30 P.M. (Sunday 6:00 to 8:00 A.M.)
B-19.89	15.08	RKI, Moscow, U.S.S.R.,	Sundays 10-11 A.M.; phones 10 P.M.-10 A.M.
T-19.92	15.06	WNC, Hialeah, Florida,	phones many stations in daytime.
T-20.03	14.98	KAY, Manila, P. I.	Phones DFS 5 to 7 A.M.; U.S.A., 7 to 8 P.M.
T-20.08	14.94	HJB, Bogota, Colombia,	phones WNC daytime.
T-20.08	14.94	HII, Trujillo, Dominican Republic,	phones WNC daytime.
T-20.08	14.94	HJA3, Barranquilla, Colombia,	phones WNC. Florida.
B-20.20	14.85	LZA, Sofia, Bulgaria,	weekdays 5:00 to 7:00 A.M. and 1:00 to 3:00 P.M.; Sundays 12:30 A.M. to 8:00 A.M.; 10:00 A.M. to 4:30 P.M.
E-20.27	14.80	WQV, Rocky Point, N. Y.,	heard irregularly.
T-20.29	14.79	ROU, Omsk, Siberia,	phones Moscow 7:00 to 9:00 A.M. irregularly.
T-20.37	14.73	IQA, Rome, Italy,	phones 8:00 to 11:00 A.M. irregularly.
T-20.45	14.67	GBI, Rugby, England.	Phones JVH 1:00 to 7:00 A.M.
B-20.55	14.60	JVH, Nazaki, Japan,	12:00 to 1:00 A.M.; 4:00 to 7:40 A.M. daily. Mon. and Thurs. 4:00 to 5:00 P.M.; Tues. and Fri. 2 to 3 P.M.
T-20.56	14.59	WMN, Lawrenceville, N. J.	Phones England daylight.
T-20.64	14.54	HBJ, Geneva, Switzerland.	Used irregularly.
T-20.65	14.53	LSN, Buenos Aires, Argentina.	Phones New York daytime.
T-20.71	14.48	YSJ, San Salvador, Salvador.	Phones WNC afternoons.
T-20.71	14.48	HRL5, Nacaome, Honduras,	testing with WNC daytime.
T-20.71	14.48	TIU, Cartago, Costa Rica,	phones WNC daytime.
T-20.71	14.48	YNA, Managua, Nicaragua,	phones WNC daytime.
T-20.71	14.48	HPF, Panama, Panama,	phones WNC daytime.
T-20.71	14.48	HRE, Tegucigalpa, Honduras,	phones WNC daytime.
T-20.71	14.48	TGF, Guatemala City,	phones WNC daytime.

Meters	Meg.	STATION	TIME
T-20.73	-14.47	WMF, Lawrenceville, N. J.	Phones England daylight.
T-20.75	-14.46	GBW, Rugby, England.	Phones WNC 6:00 A.M. to 6:00 P.M.
B-20.75	-14.46	DZH, Zeesen, Germany.	4:00 to 7:00 P.M.
E-20.97	to 21.26	-14.30 to 14.11	Amateur phones heard in daytime.
B-21.46	-13.98	PZIAA, Paramaribo, Dutch Guiana,	in the evenings.
E-21.58	-13.90	WQP, Rocky Point, N. Y.	Testing with RNE irregularly, mornings.
T-21.70	-13.83	SUZ, Cairo, Egypt.	Phones GAA 7:00 A.M. to 3:30 P.M.
E-21.91	-13.69	KKZ, Bolinas, California.	Used irregularly.
T-21.98	-13.65	HJY, Bogota, Colombia.	Phones irregularly.
B-22.00	-13.63	SPW, Warsaw, Poland.	Mon., Wed. and Fri., 11:30 A.M. to 12:30 noon.
T-22.09	-13.58	GBB, Rugby, England.	Phones Canada and Egypt, daytime.
T-22.37	-13.41	YSJ, Salvador, San Salvador,	phones WNC daytime.
T-22.40	-13.38	IDU, Asmara, Eritrea,	phones Italy 8:00 A.M. to 3:30 P.M. irregularly.
T-22.40	-13.39	WMA, Lawrenceville, N. J.	Phones England, daytime.
T-22.48	-13.35	YVQ, Maracay, Venezuela.	Phones Florida, daytime.
T-22.50	to 24.3	-13.34 to 12.35	Ships. Heard in daytime.
T-22.58	-13.28	CGA3, Drummondville, Canada.	Phones ships and England daytime.
T-22.70	-13.22	IRJ, Rome, Italy,	phones Japan irregularly 5:00 to 8:00 A.M.
T-23.36	-12.84	WOO, Ocean Gate, N. J.	Phones ships irregularly.
T-23.38	-12.83	CNR, Rabat, Morocco.	Phones St. Assise 5:00 to 8:00 A.M.
T-23.45	-12.80	IAC, Piza, Italy.	Works ships mornings.
T-23.47	-12.78	GBC, Rugby, England.	Phones ships irregularly.
T-24.20	-12.40	DAF, Norden, Germany.	Phones ships irregularly, mornings.
T-24.40	-12.30	PLM, Bandoeng, Java.	Phones VK2ME near 6:30 A.M.
T-24.41	-12.29	GBU, Rugby, England.	Phones America, evenings.
B-24.52	-12.24	TFJ, Reykjavik, Iceland,	Sundays 1:40 to 2:30 P.M.
T-24.56	-12.22	TYA, Pontoise, France.	Phones the Normandie, irregularly.
T-24.69	-12.15	GBS, Rugby, England.	Phones New York.
E-24.73	-12.13	DZE, Zeesen, Germany.	7:00-9:00 A.M., 5:00-9:00 P.M., irreg.
T-24.75	-12.12	Alger, Algeria,	phones Paris midnight to 8:00 A.M. irregularly.
B-25.00	-12.00	RNE, Moscow, U.S.S.R.,	daily 2:00 to 5:00 P.M.; Wed. 6:00 to 7:00 A.M.; Sundays, 6:00 to 7:00 A.M. and 10:00 to 11:00 A.M.
T-25.02	-11.99	FZS, Saigon, Indo-China.	Phones Paris mornings.
B-25.09	-11.95	IUC, Addis Ababa, Ethiopia.	Phones Rome around noon and midnight.
E-25.11	-11.97	KKQ, Bolinas, California.	Heard irregularly, evenings.
T-25.12	-11.95	FTA, St. Assise, France.	Phones CNR 4 to 7 A.M., LSM 10 to 12 P.M.
B-25.21	-11.90	XEWI, Mexico City.	See news section for schedule.
B-25.23	-11.89	TPA3, Pontoise, France.	2:00 to 5:00 A.M., 12:15 to 6:00 P.M.
B-25.26	-11.87	OLR, Podebrady, Czechoslovakia.	See News Section.
B-25.27	-11.87	W8XK, Pittsburgh, Pa.	Relays KDKA, 7:00 to 10:00 P.M.
B-25.32	-11.84	OLR, Podebrady, Czechoslovakia.	See news section.
B-25.36	-11.83	W9XAA, Chicago, Illinois.	7:00 A.M. to 3:35 P.M.
B-25.36	-11.83	W2XE, Wayne, N. J.	5:00 to 10:00 P.M.
B-25.40	-11.81	2RO4, Rome, Italy.	6:43 to 10:30 A.M. daily.
B-25.42	-11.80	IJZ, Nakazi, Japan.	Mon. and Thur., 4-5 P.M., Tue. and Fri. 2-3 P.M.
B-25.45	-11.79	W1XAL, Boston, Mass.	Weekdays 3-5 P.M., Sun. 1:15 to 2:30 P.M.
B-25.49	-11.77	DJD, Zeesen, Germany,	11:35 to 4:30 and 4:50 to 10:45 P.M.
B-25.53	-11.75	GSD, Daventry, England.	12:15 to 5:45 P.M., 6 to 8 P.M., 9 to 11 P.M.
B-25.57	-11.73	PHI, Huizen, Holland.	Daily exc. Tue. and Wed., 8:30 to 10:30 A.M.
B-25.58	-11.73	Saigon, Indo-China,	5:30 to 9:30 A.M. often.
B-25.60	-11.72	CJRX, Winnipeg, Canada,	6:00 P.M. to Midnight.
B-25.63	-11.71	TPA4, Pontoise, France.	6:15 to 10:15 P.M., 10:45 P.M. to 1:00 A.M.
B-25.63	-11.71	SM5SX, Stockholm, Sweden,	Wednesdays 5:00 to 6:00 P.M.
E-25.63	-11.71	KIO, Kauhuku, Hawaii.	Heard in the evenings testing.
E-25.87	-11.59	VR4, Stony Hill, Jamaica.	Testing with WNC in daytime.
B-26.09	-11.50	PMK, Bandoeng, Java,	heard 4:00 to 9:30 A.M. irregularly.
E-26.09	-11.50	XAM, Merida, Yucatan.	Irregularly 1:00, 6:00 and 7:00 P.M.
B-26.10	-11.43	COCX, Havana, Cuba.	Weekdays 8:00 A.M. to 1:00 A.M., Sun. 8:00 to 2:00 P.M. and 6:00 to 9:00 P.M.
B-26.31	-11.40	HBO, Geneva, Switzerland.	Used irregularly.
B-26.60	-11.28	H1S, Trujillo, D. R.	Irregular.
T-27.15	-11.05	ZLT, Wellington, New Zealand.	Phones VLK 1:00 to 7:00 A.M.

Meters	Meg.	STATION	TIME
B-27.25	11.00	PLP, Bandoeng, Java, daily	4:00 to 10:00 A.M.
T-27.35	10.97	OCI, Lima, Peru. Phones	HJY, evenings.
T-27.67	10.84	KWV, Dixon, California. Phones	Hawaii, daytime.
E-27.65	10.85	DFL, Nauen, Germany. Irregular.	
T-27.86	10.77	GBP, Rugby, England. Phones	VLK 11:00 P.M. to 8:00 A.M.
E-27.93	10.74	JVM, Nazaki, Japan, Tues., Fri.	2 to 3 P.M. Phone 1:30 to 7:40 A.M.
T-28.09	10.68	WNB, Lawrenceville, N. J. Phones	Bermuda. daytime.
B-28.12	10.67	CEC, Santiago, Chile, daily	7 to 8 P.M., Thurs., Sun., 8:30 to 9 P.M.
T-28.14	10.66	JVN, Nazaki, Japan. Bcnds. Tues. & Fri.	2-3 P.M., Mon. & Thur. 4-5 P.M.
E-28.28	10.61	WEA, Rocky Point, N. J. Tests	irregularly with Europe.
T-28.44	10.55	WOK, Lawrenceville, N. J. Phones	Brazil and Argentina, irregularly.
T-28.49	10.53	JIB, Taiwan, Japan, phones	1:00 to 10:00 A.M.
T-28.51	10.52	VK2ME-VLK, Sydney, Australia.	1:00 to 8:00 A.M. GBP.
T-28.79	10.42	XGW, Shanghai, China, phones	Japan Midnight to 3:00 A.M.
T-28.80	10.42	PDK, Koetwijk, Holland. Phones	Java, 7:30 to 9:40 A.M.
T-28.80	10.40	YBG, Medan, Sumatra. 5:30-6:30,	12:30-1:30 A.M., 7:30-8:30 P.M.
E-28.85	10.40	KEZ, Bolinas, California. Used	irregularly.
E-28.91	10.38	WCG, Rocky Point, N. Y. Tests	irregularly.
B-28.93	10.37	EJAJ43, Santa Cruz de Tenerife,	Canary Isl. 2:15 to 3:50 P.M., 6:00 to 8:00 P. M.
B-29.04	10.33	ORK, Brussels, Belgium. 1:30 to	3:00 P.M., daily.
E-29.13	10.30	LSQ, Buenos Aires, Argentina. Used	for special tests.
E-29.15	10.29	DZC, Zeesen, Germany. 3:00 to	9:00 P.M., Irregular.
B-29.25	10.26	PMN, Bandoeng, Java, 5:30 to	10:30 A.M.
E-29.27	10.25	LSL, Buenos Aires, Argentina, testing	5:30 to 7:00 P.M.
E-29.33	10.23	CED, Antofagastan, Chile, heard	7:00 to 9:30 P.M. irregularly.
T-29.45	10.22	PSH, Rio de Janeiro, Brazil. Sending	music, evenings.
T-29.50	10.17	RIO, Baku, U. S. S. R., phones	10:00 P.M. to 10:00 A.M. irregularly.
T-29.58	10.14	OPM, Leopoldville, Belgian Congo. Phones	ORK 9-11 A.M., 3-6 P.M.
T-29.76	10.08	RIR, Tifis, U. S. S. R. Phones	10:00 P.M. to 10:00 A.M., irregularly.
T-29.79	10.07	EHY, Madrid, Spain. Phones	YVR near 4:00 P.M., irregularly.
T-29.80	10.66	TDE, Shinkio, Manchukuo, phones	Japan 1:00 to 9:00 A.M. irregularly.
T-29.83	10.05	ZFB, Hamilton, Bermuda. Phones	U.S.A. and ships, daytime.
T-29.83	10.05	SUV, Cairo, Egypt. Phones	GAA after 3:30 P.M.
E-29.88	10.04	DZB, Zeesen, Germany. 7:00 to	9:00 P.M.
T-30.09	9.97	KAZ, Manila, P. I. Phones	PLV near 2:00 A.M.
T-30.15	9.95	GCU, Rugby, England. Phones	New York evenings.
B-30.18	9.94	CSW, Lisbon, Portugal. Testing	noon to 1:00 A.M., daily 4 to 7 P.M.
T-30.21	9.93	HKB, Bogota, Colombia. Phones	PSK irregularly, evenings.
T-30.30	9.90	LSN, Buenos Aires, Argentina. 6:00	P.M. to 6:00 A.M. WLO.
T-30.40	9.87	WON, Lawrenceville, N. J. Phones	England evenings.
E-30.40	9.87	JYS, Kemikawa-Cho, Japan. Relays	JOAK Irreg., mornings.
B-30.43	9.86	EAQ, Madrid, Spain. 5:15 P.M. to	9:30 P.M. daily. Sat. 1-3 P.M.
T-30.52	9.83	IRM, Rome, Italy. Phones	Egypt afternoons.
T-30.60	9.80	GCW, Rugby, England. Phones	America, evenings.
E-30.61	9.80	LSI, Buenos Aires, Argentina. Used	irregularly, evenings.
T-30.75	9.76	VK2ME-VLK, Sydney, Australia. Phones	Java 4:00 to 8:00 A.M.
T-30.77	9.75	WOF, Lawrence, N. J. Phones	England, evenings.
B-30.77	9.75	COCQ, Havana, Cuba, 7:00 A.M. to	1:00 A.M. next day.
T-30.90	9.71	GCA, Rugby, England. Phones	Argentina around 6:00 P.M.
B-30.96	9.69	T14NRH, Heredia, Costa Rica. 9-10	P.M., 11:30 to midnight.
B-31.00	9.67	DZA, Zeesen, Germany, 5:00 to	7:00 P.M.
B-31.06	9.66	LRX, Buenos Aires, Arg. 5:00	P.M. to 11:00 P.M.
T-31.08	9.65	DGU, Nauen, Germany. Phones	Egypt in daytime.
B-31.09	9.65	CTIAA, Lisbon, Portugal, Tues.,	Thurs. and Sat. 4:30 to 7:00 P.M.
B-31.10	9.65	YDB, Soerabaya, Java, daily	4:30 to 10:00 A.M.; Sat. until 11:00.
B-31.13	9.64	HH3W, Port-Au-Prince, Haiti. 1:00	to 2:00 P.M., 7:00 to 8:00 P. M.
B-31.13	9.64	2RO3, Rome, Italy. 11:30 A.M. to	5:45 P.M., 6:00 to 7:45 P.M.
B-31.17	9.63	HJ2ABD, Bucaramanga, Colombia,	7:30 to 10:00 P.M. irregularly.
B-31.20	9.62	HJ1ABP, Cartagena, Col. 7:00	A.M. to 1:00 P.M., 5:00 to 11:00 P.M.
B-31.22	9.61	HPSJ, Panama City. 11:45 A.M. to	1:00 P.M., 6:30 to 11:00 P.M.
B-31.25	9.60	RAN, Moscow, U.S.S.R. Daily	7:00 to 7:30 P.M.
B-31.27	9.59	HBL, Geneva, Switzerland. 5:30	to 6:15 P.M., Saturday.
B-31.28	9.59	W3XAU, Philadelphia, Pa. Noon to	8:00 P.M., Sun. till 7:00 P.M.

Meters	Meg.	STATION	TIME
B-31.28	9.59	VK2ME, Sydney, Australia.	Sunday 1 to 3; 5 to 11 A.M.
B-31.28	9.59	PCJ, Eindhoven, Holland.	Tuesday 2:00 to 3:00 and 7:00 to 8:00 P.M. Tuesday 1:30 to 3:00 P.M., Wednesday 7:00 to 10:00 P.M.
B-31.32	9.58	VK3LR, Melbourne, Australia.	3:30 A.M. to 9:45 A.M. daily.
B-31.32	9.58	GSC, Daventry, England.	4 to 8 and 9 to 11 P.M.
B-31.35	9.57	HJ2ABC, Cucuta, Colombia.	11:00 A.M. to noon; 6:00 to 9:30 P.M.
B-31.35	9.57	QON, Macao Port, China.	Monday and Friday 7:00 to 8:30 A.M.
B-31.36	9.57	W1XK, Boston, Mass.	6:30 A.M. to 1:00 A.M. next day.
B-31.36	9.57	VUB, Bombay, India.	Wed., Thurs., and Sat. 11:00 A.M. to 12:30 P.M.
B-31.38	9.56	DJA, Zeesen, Germany.	12:05 to 11:00 A.M. 4:50 to 10:45 P.M.
B-31.38	9.56	HJ1ABB, Barranquilla, Colombia.	heard Noon to 6:00 P.M. testing.
B-31.45	9.54	DJN, Zeesen, Germany.	12:05 to 11:00 A.M., 4:50 to 10:45 P.M.
B-31.45	9.54	VPD2, Suva, Fiji Islands.	Weekdays 5:30 to 7:00 A.M.
B-31.48	9.53	JZI, Nazaki, Japan.	Mon., Thurs. 4 to 5 P.M.; Tues, Fri. 2 to 3 P.M.
B-31.48	9.53	LKJ1, Jeloy, Norway.	5:00-8:00 A.M., 11:00 A.M. to 6:00 P.M.
B-31.48	9.53	W2XAF, Schenectady, N. Y.	daily 4:00 P.M. to Midnight.
B-31.49	9.53	ZBW3, Hong Kong.	used 3:00 to 10:00 A.M. irregularly.
B-31.50	9.52	HJ4ABH, Armenia, Colombia.	7:00 to 11:30 P.M.
B-31.55	9.51	HJ3ME, Melbourne, Australia.	Week-days 4:00 to 7:00 A.M.
B-31.55	9.51	HJU, Buenaventura, Colombia.	12-2 P.M., 8-11 P.M., Mon., Wed., Fri.
B-31.55	9.51	GSB, Daventry, England.	3:00-5:00 A.M., 6:00 A.M. to Noon, 12:15 to 8:00 P.M., 9:00 to 11:00 P.M.
B-31.56	9.50	PRF5, Rio de Janeiro, Brazil.	Daily 4:45 to 5:45 P.M., also irreg.
B-31.58	9.50	HJ1ABE, Cartagena, Colombia.	7:30 to 9:30 daily; Mon. 10:30 P.M.
B-31.65	9.48	EAH, Madrid, Spain.	Broadcasts news 4:00 to 5:00 P.M.
T-31.71	9.46	Tripoli, Africa.	Phones IAC, Italy, 6:00 A.M. to 1:00 P.M., irreg.
B-31.75	9.45	PLWA, Guatemala City.	8:00 P.M. to midnight daily. Sun. to 6 A.M.
B-31.82	9.43	COV, Havana, Cuba.	7:00 A.M. to 1:00 A.M. next day.
T-31.86	9.42	PLV, Bandoeng, Java.	Broadcasts Tues. and Thurs. 10:00-10:30 A.M.
B-32.09	9.35	HS8PJ, Bangkok, Siam.	Thursdays 7:30 to 10:00 A.M.
T-32.15	9.33	CGA4, Drummondville, Canada.	Phones ships and England, irregularly.
B-32.26	9.30	YNGU, Managua, Nicaragua.	1:25:55; 6-7 P.M. daily; Sun. 12-1 P.M.
T-32.33	9.28	GCB, Rugby, England.	Phones CGA and SUV afternoons.
T-32.72	9.17	WNA, Lawrenceville, N. J.	Phones England evenings.
T-32.83	9.14	YVR, Maracay, Venezuela.	Phones Europe afternoons.
B-32.88	9.12	HAT-4, Budapest, Hungary.	Sundays 6:00 to 7:00 P.M.
T-33.26	9.02	GCS, Rugby, England.	Phones New York evenings.
E-33.29	9.01	KEJ, Bolinas, California.	Tests irregular.
T-33.41	8.98	VWY, Poona, India.	Phones England near 8:30 A.M.
B-33.50	8.95	HCJB, Quito, Ecuador.	daily except Mon. 7:30 to 9:30 P.M.
E-33.52	8.95	WEL-W2XBJ, Rocky Point, N. Y.	Testing irregularly, evenings.
T-33.93 to	36.58-8.84 to 8.20	Ships.	Heard irregularly.
E-34.10	8.79	HKV, Bogota, Colombia.	Testing, 5:30 to 11:00 P.M., irregularly.
T-34.19	8.77	PNI, Makasser, D. E. I.	Phones Java near 4:00 to 5:00 A.M.
T-34.56	8.68	GBC, Rugby, England.	Phones ships irregularly.
B-34.62	8.66	CO9JQ, Camaguey, Cuba.	5:30 to 6:30 P.M.; 8:00 to 9:00 P.M.
E-34.68	8.65	WVD, Seattle, Wash.	Testing irregularly.
T-35.02	8.57	WOO, Ocean Gate, N. J.	Phones ships irregularly.
B-35.09	8.55	YNLG, Managua, Nicaragua.	12 to 1:30 P.M., 6:30 to 9:00 P.M.
T-35.42	8.47	DAF, Norden, Germany.	Phones ships irregularly.
T-35.80	8.38	IAC, Piza, Italy.	Works ships, irregularly.
B-36.36	8.25	HC2CW, Guayaquil, Ecuador.	8:00 to 11:30 P.M.
B-36.63	8.19	XEME, Merida, Yuc., Mexico.	10:30 to 3:00 P.M.; 6:30 to 11:00 P.M.
T-36.65	8.19	PSK, Rio de Janeiro, Brazil.	Sending music 6:00 to 7:30 P.M.
B-36.95	8.12	KTP, Manila, P. I.	Phones KWX 10:30 to 11:00 A.M.
T-38.06	7.86	SUX, Cairo, Egypt.	Phones Rome and London afternoons.
B-38.08	7.85	HC2JSB, Guayaquil, Ecuador.	12:00 to 2:00; 4:00 to 11:00 P.M.
B-38.47	7.80	HBP, Geneva, Switzerland.	5:30 to 6:15 P.M. Saturdays.
E-38.50	7.78	PSZ, Rio de Janeiro, Brazil.	Heard between 6:00 and 11:00 P.M., irreg.
T-39.34	7.63	RIM, Russia.	Phones RKI 6:00 to 8:15 A.M.
T-39.42	7.61	KWX, Dixon, California.	Phones Hawaii nights.
B-39.68	7.56	KWY, Dixon, Calif.	Phones weekdays 9:30 P.M. to midnight.
B-39.74	7.55	TI8WS, Puntarenas, C. R.	Heard 7:00 to 11:00 P.M., irregularly.

Meters	Meg.	STATION	TIME
B-39.89	7.52	HCK, Quito, Ecuador, heard 7:00 to 8:30 P.M.	
T-39.89	7.52	KKH, Kauhuku, Hawaii. Phones KWO evenings.	
T-39.97	7.50	RKI, Russia. Phones RIM 6:00 to 8:15 A.M.	
T-40.60	7.39	ZLT2, Wellington, New Zealand, phones Sydney 3:00 to 7:00 A.M. irreg.	
B-40.65	7.38	KECR, Mexico City, broadcasts Sundays 6:00 to 8:00 P.M.	
T-40.71	7.37	KEQ, Kauhuku, Hawaii. Phones Dixon nights.	
B-41.55	7.22	HKE, Bogota, Colombia. Mon. 6 to 7 P.M.; Tues., Fri., 8 to 9 P.M.	
B-41.67	7.20	YNAM, Managua, Nicaragua. Heard 8:00 to 11:30 P.M., irreg.	
B-41.80	7.17	CR6AA, Lobito, Angola, Africa, Wed., and Sat., 2:30 to 4:30 P.M.	
B-42.25	7.10	FO8AA, Papeete, Tahiti. Tuesdays and Fridays 11:00 P.M. to midnight.	
B-42.35	7.08	PIIJ, Dordrecht, Holland, Saturdays 10:10 to 11:10 A.M.	
B-42.78	7.01	EASAB, Teneriffe, Canary Is.; Mon., Wed., Fri., Sat., 3:15-4:15 P.M.	
B-42.88	7.00	PZH, Paramaribo, Dutch Guiana, 2:40 to 9:40 P.M. irregularly.	
E-43.00	6.98	XBA, Tacubaya, Mexico, 9:30 A.M. to 1:00; 7:00 to 8:30 P.M.	
T-43.45	6.90	GDS, Rugby, England. Phones New York nights.	
B-43.48	6.90	HI2D, Trujillo, D. R., heard 7:00 to 10:00 P.M. irregularly.	
B-43.99	6.82	XGOX, Nanking, China, daily 5:30 to 9:40 A.M.; Sun. 7 to 9 A.M.	
B-44.12	6.80	HI7P, Trujillo, D. R. Heard 7:30 to 9:00 P.M.	
B-44.25	6.78	HIH, San Pedro de Macoris, D. R. 5:00 to 9:00 P.M., irreg.	
T-44.41	6.75	WOA, Lawrenceville, N. J. Phones England nights.	
T-44.44	6.75	JVT, Nazaki, Japan. 1:30 to 8:00 A.M., oftimes with music.	
B-44.58	6.73	HI3C, La Romana, D. R. 12:10 to 2:10 P.M., 6:10 to 7:40 P.M.	
B-44.60	6.72	PMH, Java, 5:30 to 10:30 A.M.	
B-44.84	6.69	TIEP, San Jose, C. R. 5:00 to 11:00 P.M., irreg.	
E-44.96	6.67	YVQ, Maracay, Venezuela, broadcasts 7:00 to 8:30 P.M. Saturdays.	
T-45.10	6.65	IAC, Piza, Italy. Phones ships evenings.	
B-45.18	6.64	HC2RL, Guayaquil, Ecuador. Sun. 5:45-7:45 PM., Tues. 9:15-11:15 PM.	
B-45.31	6.62	PRADO, Riobamba, Ecuador. Thursdays 9:00 to 11:30 P.M.	
B-45.25	6.63	HIT, Trujillo, D. R., 12:10 to 1:40; 5:40 to 8:40 P.M. weekdays.	
E-45.80	6.55	XBC, Vera Cruz, Mexico, 8:15; 9:00; 11:00 A.M.; 6:00; 8:00 P.M.	
B-45.81	6.55	TRCC, San Jose, Costa Rica, daily 6 to 7; Thurs., Sun., 6 to 11 P.M.	
B-45.81	6.55	HI4D, Trujillo, D. R. 11:55 to 1:40 P.M., 4:40 to 7:40 P.M.	
B-45.85	6.54	YV11RB, Bolivar, Venezuela, testing between 9:00 and 11:00 P.M.	
B-46.01	6.52	YV6RV, Velencia, Venezuela. 12:00-2:00 P.M. and 6:00-10:00 P.M.	
B-46.13	6.50	HIL, Trujillo, D. R., 11:40 to 1:40; 5:40 to 7:40 P.M. daily.	
B-46.30	6.48	HI4V, San Francisco de Macoris, D. R., 5 to 10 P.M. irregularly.	
B-46.30	6.48	HI8A, Trujillo, D. R. Daily 8:40 to 10:40 A.M. 2:40 to 4:40 P.M. Sat. 9:40 to 10:40 P.M., Sun. 2:40 to 4:40 P.M.	
B-46.51	6.45	HJ4ABC, Ibague, Colombia, 11:00 A.M. to Noon; 8 to 11 P.M. daily.	
B-46.73	6.42	HIIS, Puerto Plata, D. R., 11:40-1:40; 5:40-7:40; 9:40 to 11:40 P.M.	
E-46.73	6.42	W9XBS, Chicago, Illinois. Heard irregularly broadcasting.	
E-46.77	6.41	HJA3, Barranquilla, Colombia. Phones HJA2, irregular.	
B-46.80	6.41	TIPG, San Jose, Costa Rica, 12:00 to 2:00 P.M.; 6:00 to 11:30 P.M.	
B-46.88	6.40	YV9RC, Caracas, Ven., 7:00 to 10:00 P.M. irregularly.	
B-46.95	6.39	YVIRH, Maracaibo, Ven., 6:30 P.M. to 1:00 A.M. irregularly.	
B-47.10	6.37	YVIRG, Valera, Venezuela. 5:30 to 8:40 P.M.	
B-47.24	6.36	HRP1, San Pedro Sula, Honduras, 1 to 3 P.M.; 8:45 to 11:00 P.M.	
B-47.24	6.35	HH3NW, Port-Au-Prince, Haiti, 7:00 to 8:00 P.M., irregularly.	
B-47.24	6.35	HRY, Tegucigalpa, Honduras, heard testing 6:45 to 9:30 P.M.	
B-47.32	6.34	HH3NW, Port Au Prince, Haiti, 1:00 to 2:00; 7:00 to 8:00 P.M.	
B-47.32	6.34	HIX, Trujillo, D. R. Daily 4:40 to 5:40 P.M. Tuesday and Friday 8:10 to 10:00 P.M. Sundays 7:40 to 10:40 A.M.	
E-47.39	6.35	JZG, heard relaying JVT, JOAK from 5:00 to 7:30 A.M., irregularly.	
B-47.50	6.31	HIZ, Trujillo, D. R., 11:30 to 2:45; 5:30 to 9 P.M. daily; Sat. 10 P.M.	
B-47.51	6.30	YV12RM, Maracay, Venezuela, 8:00-10:30 daily; 4:30-11:00 P.M. irreg.	
B-47.77	6.28	COHB, Sancti Spiritus, Cuba, 9 to 10 A.M.; 12-1; 4-6; 9-11 P.M.	
B-47.77	6.28	HIG, Trujillo, D. R. 7:10-8:40 A.M., 12:40-2:10 P.M., 8:10-9:40 P.M.	
B-47.85	6.27	YV5RP, Caracas, Venezuela. Testing 8:00 P.M. to midnight.	
B-47.92	6.26	OAX4G, Lima, Peru. Daily 7:00 to 10:30 P.M., Wed. at 6:00 P.M.	
B-48.08	6.24	HIN, Trujillo, D. R., 11:40 to 4:10 P.M.; 7:10 to 9:10 P.M.	
B-48.08	6.24	HI8Q, Trujillo, D. R., 10:40 A.M. to 1:40 P.M.; 4:40 to 7:40 P.M.	
B-48.11	6.23	HRD, La Ceiba, Honduras, Sunday 4 to 6 P.M.; weekdays 8 to 11 P.M.	
B-48.39	6.20	COKG, Santiago, Cuba, 8:30 A.M. to 11:00 P.M.	
B-48.50	6.19	HI1A, Santiago de los Cabaleros, D. R., 11:40 to 1:40; 7:40-9:40 P.M.	

Meters	Meg.	STATION	TIME
B-48.55	6.18	XEXA, Mexico City, 6-9 A.M.; 1:00-2:45; 5-9 P.M.	
B-48.60	6.17	HJ2ABA, Tunja, Colombia. 1:00-2:00 P.M. and 7:00 to 10:00 P.M.	
B-48.70	6.16	YV3RC, Caracas, Ven., 10 A.M. to 1:00 P.M.; 3:00 to 9:30 P.M.	
B-48.78	6.15	HJ4ABU, Pereira, Colombia, 9 A.M. to noon; 6 to 10 P.M.	
B-48.80	6.15	H15N, Trujillo, D. R., 6:40 to 9:10 P.M.	
B-48.80	6.15	CJRO, Winnipeg, Canada, 6:00 P.M. to Midnight.	
B-48.80	6.14	ZEB, Bulawayo, Rhodesia, Sun. 3-5 A.M.; Tues. and Fri. 1:15-3:15 P.M.	
B-48.86	6.14	W8XK, Pittsburgh, Pa. Relays KDKA 10:00 PM. to 1:00 or 2:00 AM.	
B-48.86	6.14	HJ4ABD, Medellin, Colombia. 8:00 to 11:30 P.M.	
B-48.92	6.13	ZGE, Kuala Lumpur, S. S. Sun., Tues. and Fri., 6:40 to 8:40 A.M.	
B-48.92	6.13	VE9HX, Halifax, Canada. 9:30-1:30 P.M., 5:00 to 11:00 P.M.	
B-48.92	6.13	VP3BG, Georgetown, British Guiana. Between 3:00 and 8:45 P.M.	
B-48.92	6.13	COCB, Havana, Cuba. Heard 5:00 P.M. to 1:00 A.M., irregularly.	
B-48.98	6.13	Montevideo, Uruguay, 3:30 to 9:00 P.M.	
B-49.00	6.12	HJ3ABX, Bogota, Colombia, 10:30 to 2:00; 5:30 to 11:30 P.M.	
B-49.02	6.12	XEFT, Vera Cruz, Mexico. 11:30 to 4:00 P.M., 7:30 P.M. to 12 M.	
B-49.02	6.12	W2XE, Wayne, N. J. Relays WABC 10:00 to 11:00 P.M. daily.	
B-49.10	6.11	HJ1ABB, Barranquilla, Colombia. 4:30 to 10:00 P.M.	
B-49.10	6.11	VUC, Calcutta, India. 9:30 A.M. to Noon, Sat. 11:45 P.M. to 3 A.M.	
B-49.05	6.11	OLR, Podebrady, Czechoslovakia. See News Section.	
B-49.10	6.11	GSL, Daventry, England, 6:00 to 8:00 P.M.	
B-49.18	6.10	Belgrade, Yugoslavakia, 1 to 3; 6:30 to 8:15 A.M.; noon to 5:00 P.M.	
B-49.18	6.10	W9XF, Chicago, Ill. Daily exc. Sat. 11:00 P.M. to 2:00 A.M.	
B-49.18	6.10	W3XAL, Bound Brook, N. J. 6:00 to 11:00 P. M., daily.	
B-49.18	6.10	HJ4ABE, Medellin, Col. 11:00 A.M. to noon, 6:00 to 11:30 P.M.	
B-49.20	6.09	ZTJ, Johannesburg, Africa. 3:30 o 7:00 A.M.; 9:00 A.M. to 4:00 P.M.	
B-49.22	6.09	CRCX, Bowmanville, Canada. Daily 5:30 to 11:30 P.M.	
B-49.26	6.09	ZBW2, Hong Kong, used irregularly 3:00 to 10:00 A.M.	
B-49.30	6.08	HJ5ABD, Cali, Colombia, 7:00 to 10:00 P.M.	
B-49.31	6.08	VQ7LO, Nariobi, Africa. 11:00 A.M. to 3:30 P.M., 5:45 to 6:15 A.M.	
B-49.34	6.08	W9XAA, Chicago, Illinois. No apparent regular schedule.	
B-49.34	6.08	HP5F, Colon, Panama, 11:45 to 1:15 and 7:45 to 10:00 P. M.	
B-49.34	6.08	ZHJ, Penang, S. S. Daily 6:40 to 8:40 A.M.	
B-49.40	6.07	VE9CS, Vancouver, B. C. Daily 6-7 P.M., Sun. 1:45 P.M. to 1:00 A.M.	
B-49.42	6.07	YV7RMO, Maracaibo, Ven., heard 7:00 P.M. to midnight irregularly.	
B-49.42	6.07	HJ3ABF, Bogota, Colombia. 7:00 P.M. to 11:15 P.M., irreg.	
B-49.45	6.06	HJ4ABL, Manizales, Col., 11-Noon, 5:30-7:30 daily, Sat. 10:30 P.M.	
B-49.50	6.06	OXY, Skamlebaek, Denmark. Daily 1:00 to 6:00 P.M.	
B-49.50	6.06	W8XAL, Cincinnati, Ohio. 6:30 A.M. to 8:00 P.M., 11 P.M. to 2 A.M.	
B-49.50	6.06	W3XAU, Philadelphia, Pa. 8:00 to 11:00 P.M.	
B-49.55	6.05	HJ3ABD, Bogota, Colombia. 7:30 to 11:00 P. M.	
B-49.65	6.04	HJ1ABG, Barranquilla, Colombia, 11:00 A.M. to 11:00 P. M.	
B-49.67	6.04	XECW, Mexico City. 9:00 P.M. to midnight, irregular.	
B-49.67	6.04	W1XAL, Boston, Mass. Mon., Tues. and Fri. 7:30 to 9:30 P.M.. Sun. 4:30 to 7:30 P.M. and 9:30 to 11:00 P.M.	
B-49.75	6.03	VE9CA, Calgary, Canada, 6 A.M. to noon; 7:00 P.M. to midnite Sun.	
B-49.75	6.03	HJ4ABP, Medellin, Colombia, 6:00 to 11:00 P.M.	
B-49.75	6.03	HP5B, Panama City, 12 Noon to 1 P.M.; 7:00 to 10:30 P.M.	
B-49.80	6.02	HJ1ABJ, Santa Marta, Colombia, 6:00 to 11:30 P.M. irregularly.	
B-49.83	6.02	XEUW, Vera Cruz, Mexico, 8:00 P.M. to 12:30 A.M. irregularly.	
B-49.83	6.02	PRAB, Pernambuco, Brazil. 3:00 to 8:00 P.M., irreg.	
B-49.83	6.02	H13U, Santiago, D. R. Weekdays 7:30 to 9:00 A.M., noon to 2:00 P. 2:00 PM., 5 to 7 P.M., 7 to 10:30 P.M., Sun. 12:30 to 2, 5 to 6 P.M.	
B-49.83	6.02	DJC, Zeesen, Germany. 11:35 A.M. to 4:30 P.M., 4:50 to 10:45 P. M.	
B-49.85	6.01	HJ3ABH, Bogota, Colombia. 11:30 to 2, 6 to 11 P.M. Sun. 4-11 P.M.	
B-49.90	6.01	COCO, Havana, Cuba. 8:00 A.M. to 11:00 P.M.	
B-49.92	6.01	OLR, Podebrady, Czechoslovakia. See News Section.	
B-49.92	6.01	ZHI, Singapore. Mon., Wed., Thurs., 5:40-8:10; Sat. 10:40-1:10 A.M.	
B-49.96	6.00	CFCX, Montreal, Canada, 8:00 A.M. to 11:15 P.M.	
B-49.96	6.00	HP5K, Colon, Panama. 7:30 to 9:00 A.M., 12-1 P.M., 6:00-9:00 P.M.	
B-50.00	6.00	RW59, Moscow, U.S.S.R., 2:30 to 5:00 or 6:00 P.M. daily.	
B-50.00	6.00	XEBT, Mexico City, 6:00 P.M. to 1:00 A.M. irregularly.	
B-50.17	5.98	VP3MR, Georgetown, B. G. 4:45 to 8:45 P.M. daily, 7:45 to 10:15 A. M. Sunday.	

Meters	Meg.	STATION	TIME
B-50.26	5.97	HVJ, Vatican City.	Daily, 2:00 to 2:15 P.M., Sun. 5:00 to 5:30 A.M.
B-50.42	5.95	HJN, Bogota, Colombia.	6:00 to 11:00 P.M., irreg.
B-50.51	5.94	TG2X, Guatemala City,	Monday, Thursday and Saturday 4 to 6 P.M. and 10:00 to 12:00 P.M.; Sundays 1:00 to 2:00 P.M.
B-50.68	5.92	YV15RV, Valencia, Venezuela.	testing, 5:00 P.M. to 2:00 A.M. irreg.
B-50.85	5.91	HH2S, Port-Au-Prince, Haiti,	7:30 to 9:40 P.M. irregularly.
B-50.90	5.90	YV8RB, Baraquisimeto, Venezuela.	Noon to 1:00 P.M., 6 to 10 P.M.
B-50.90	5.90	TIMS, Puntarenas, Costa Rica.	6:00 to 11:00 P.M., irreg.
B-50.93	5.89	JIC, Tawian, Japan,	phones JVV 6:00 to 8:00 A.M.
B-51.02	5.88	HI9B, Santiago City, D. R.	Heard 6:00 P.M. to 11:00 P.M., irreg.
B-51.11	5.87	HRN, Tegucigalpa, Honduras.	1:15 to 2:15 P.M., 7:30 to 10:00 P.M. week-days. Sundays 3:30 to 5:30 P.M. and 8:30 to 9:30 P.M.
B-51.15	5.86	HI1J, San Pedro de Macoris, D.R.	11:40 to 1:40 P.M., 5:40 to 9:40 P.M.
T-51.26	5.85	WOB, Lawrenceville, N. J.	Phones Bermuda nights.
B-51.28	5.85	YV5RMO, Maracaibo, V.,	8:45-9:45 A.M.; 11:15-12:45; 4:45-9:45 P.M.
B-51.50	5.82	TIGPH, San Jose, Costa Rica.	Noon-2:00 P.M., 7:00 11:00 P.M.
T-51.50	5.82	HJA2, Bogota, Colombia.	Phones HJA3 afternoons and evenings.
B-51.72	5.80	YV2RC, Caracas, Venezuela,	11:00 A.M. to 2:30; 5:00 to 10:30 P.M.
B-51.72	5.80	ZEC, Salisbury, Rhodesia,	Sun. 3-5 A.M.; Tues. & Fri. 1:15-3:15 P.M.
B-51.90	5.78	OAX4D, Lima, Peru.	Wed. and Sat. from 8:00 to 11:30 P.M.
B-52.08	5.76	YNOP, Managua, Nicaragua.	8:00 to 10:30 P.M., irreg.
B-52.26	5.74	TGS, Guatemala City, Wed., Thurs., and Sun.	6:00 to 9:00 P.M.
B-52.36	5.73	HCI1PM, Quito, Ecuador,	heard 10:00 P.M. to 1:00 A.M. irregularly.
B-52.45	5.72	YV1ORS, San Cristobal, Venezuela,	7:00 to 11:30 P.M. irregularly.
E-52.97	5.66	CFU, Rossland, Canada.	Works CFO and CFN near 10 P.M., irreg.
B-54.74	5.48	TISHH, San Roman, Costa Rica,	3:30 to 4:00; 8:00 to 11:30 P.M.
E-55.56	5.40	HJA-7, Cucuta, Colombia.	Mondays 4:30 to 7:30 P.M., irregularly.
B-58.30	5.15	PMY, Bandoeng, Java.	6:00 A.M. to Noon.
T-59.08	5.08	WCN, Lawrenceville, N. J.	Phones England evenings.
T-59.76	5.02	ZFA, Hamilton, Bermuda.	Phones U.S.A. and ships at night.
T-60.26	4.98	GBC, Rugby, England.	Phones to ships, irregularly.
T-61.15	4.90	CGA8, Drummondville, Canada.	Phones ships irregularly.
T-61.98	4.84	GDW, Rugby, England,	phones U.S.A. nights.
B-62.63	4.79	VE9BK, Vancouver, B. C.	2:00-4:00 P.M., 7-9 P.M., 11 P.M.-1:00 A.M.
T-63.13	4.75	WOO, Ocean Gate, N. J.	Phones ships irregularly.
B-65.22	4.60	HCE2ET, Guayaquil, Ecuador.	Wed. and Sat. 9:00 to 11:00 P.M.
T-66.50	4.51	ZFS, Nassau, Bahamas.	Works WND evenings.
T-67.87	4.42	4.42 to 4.10—Ships.	Heard irregularly.
B-70.65	4.25	RV15, Khabarovsk, U.S.S.R.,	1:00 to 10:00 A.M.
T-73.21	4.10	WND, Hialeah, Florida.	Phones irregularly with VPN.
E-75	4.00	to 3.96—Amateurs on voice.	

SHIP STATIONS

These stations are telephone stations but are sometimes rented to broadcast a special program from a ship. They operate on four bands: 16.85 to 18.27 meters, 22.50 to 24.3 meters, 33.93 to 36.58 meters and 67.87 to 73.17 meters. In megacycles this is 17.80 to 16.42, 13.34 to 12.35, 8.84 to 8.20 and 4.42 to 4.10.

VQJM, Monarch of Bermuda; GLSQ, Olympic; GFJY, Caledonia; GBTT, Queen Mary, Normandie; GMBJ, Empress of Britain; DOAH, Bremen, DOAI, Europa; DHEY, Deutschland; DHJZ, Hamburg; DOAX, Columbus; DHAO, Hansa; DHRL, New York; ICEJ, Rex; IBLI, Conte de Savonia; GBZW, Berengaria; DHDL, Cap Arcona.

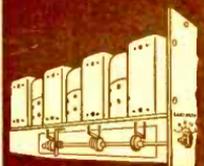
FOR SALE—PR16 Receiver with matched speaker—near condition—set purchased three months ago. Have verification cards from all continents through this set. Price \$50.00 F. O. B. LaGrange, Georgia. Wm. J. Wood, Box 458.

FOR SALE—PR-16 Receiver, Rola Speaker, crystal, like new, \$65.00. Master Teleplex complete \$25.00. J. I. Mulford, 220 South Commonwealth, Los Angeles, Calif.

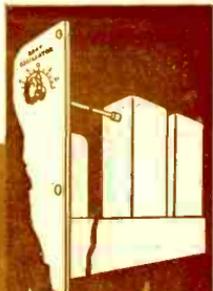
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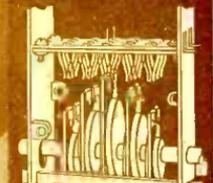
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