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INTERNATIONAL



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THE VOICE OF THE
INTERNATIONAL SHORT WAVE CLUB

EAST LIVERPOOL, OHIO, U. S. A.

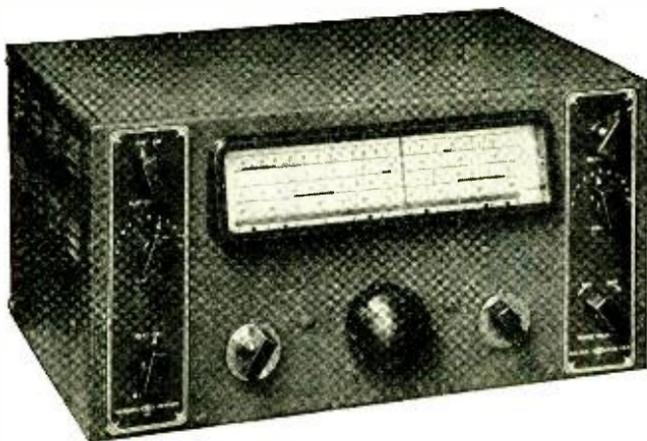


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Note:—Readers who may find it more convenient may send 5 shillings to Arthur Bear, 100 Adams Gardens Estate, London, SE16, England.

Readers are asked to be careful not to mistake this organization for others which may have a similar name. This is the original International Short Wave Club and all mail should be addressed to International Short Wave Club, East Liverpool, Ohio.

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ARTHUR J. GREEN, Editor.

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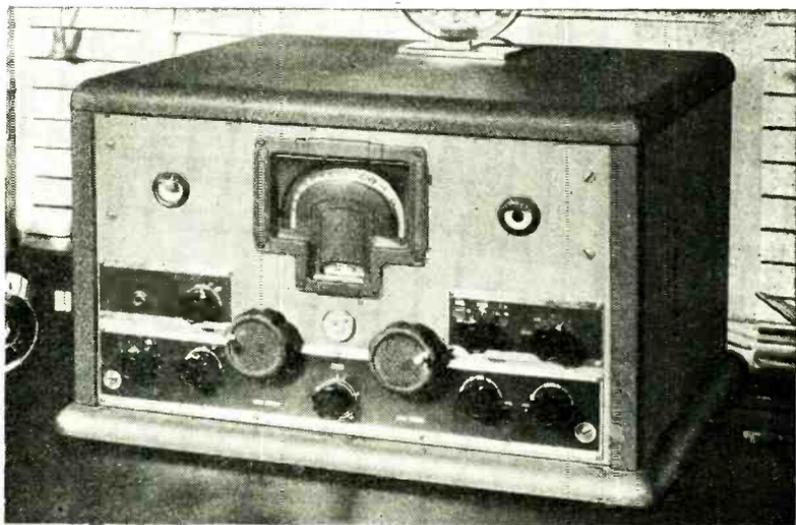
QSL CARDS

We are now prepared to offer members special QSL cards in many different styles. We have arranged to offer "stock" model cards, showing name, address and associated club emblems in one, two or three color jobs, special jobs showing a picture of the owner and his den, or comic "cartoon" cards, each made up to suit the individual style of the customer. We guarantee to meet and beat the price of any other publisher or printer. All you have to do is drop us a note with a three cent stamp for samples, and tell us what sort of card you are interested in. No job too large. We have the equipment to take care of any QSL job.

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INTERNATIONAL SHORT WAVE CLUB
EAST LIVERPOOL, OHIO



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Otto Janson, Heppenheim, Germany

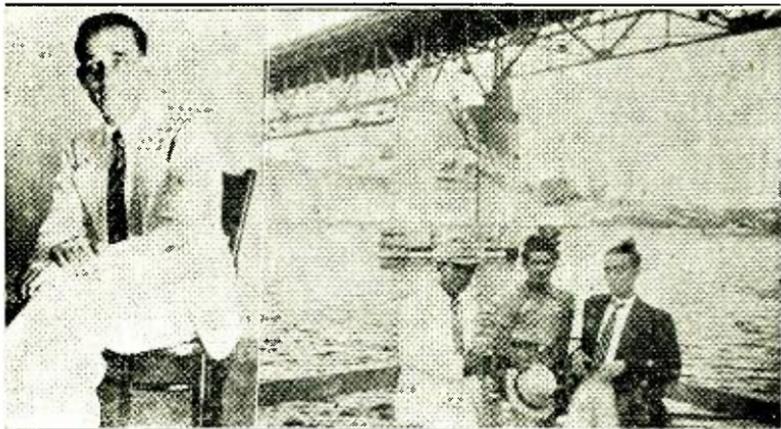
Here is that well-known German short wave fan, Otto Janson of friedrichstr 33, Heppenheim adb, Germany. In this picture, on the left side is an all-wave receiver, in the middle a phone station, in front of Mr. Janson an ultra-short wave receiver. The I. S. W. C. magazine is in front of Mr. Janson, where, he says, it is always handy.

FROM THE EDITOR TO YOU

Greetings, members and friends: With this issue of International Short Wave Radio we enter into another year in the history of our organization. Nine years ago this month we published the first issue of this little magazine. At that time there was but a few stations on the air and but a very few listeners. There was no magazine giving short wave fans information on short wave stations. Thus it is that today we celebrate the birthday of the world's oldest and largest short wave listeners club.

It has been customary in past years to celebrate this occasion with special programs from radio stations. We have discovered, however, that due to the earliness of the radio season, only a small portion of the listeners are dialing for these programs. We are, this year, setting the celebration programs back a few months so that they will come at a time when more people will be listening.

We, the officers of this organization, are proud of the fact that our's is the oldest short wave club and that we have been able to progress



Tomas Casals Pastoriza and Friends

On the left is a close-up picture of member Tomas Casals Pastoriza, of 12 San Luis Street, Santiago, Dominican Republic. On the right is a picture taken on the Ozaina River, at Trujillo City. Left to right are members Miquel Jacobs, Victor Rivera and Mr. Casals. The picture was taken when Mr. Casals visited his friends in Trujillo City last summer.

throughout these years while many other similiar organizations have failed.

What the next year will bring us depends, as before, on the members of the organization. It is more than just subscribing for the magazine that counts. The reports of members, their cooperation in securing new members for the club and in boosting the club to radio stations, short wave listeners, the stores where they buy equipment and such things that makes the club grow. With the continued friendship of our present friends and with the addition of a few more, the club will celebrate the fifty-ninth anniversary fifty years from this day.

And so, with thankfulness in our hearts, the officers of this organization say "Thanks for making our ninth anniversary possible."

ARTHUR J. GREEN, President.

Club member Frank Grey, of Lyons, Illinois, is recuperating from a very serious illness. We also understand that member John H. Wangerman, Jr., of Pittsburgh, Pa., has been seriously ill for four months. John Bennett, who organized our Brighton, England, Chapter is still ill and unable to attend to his duties as head of the chapter. We know that every member of the I. S. W. C. is pulling for these men.

AERIAL TIME

This time of year is the time to put up a new aerial. It will not be long now until the cold winter snows cover your roofs and makes putting up an aerial hazardous work. And, too, the radio season is just starting, which makes today the logical time to put up a new aerial.

In choosing an aerial, a person should consider more than just price. It is possible to buy wire for an aerial for fifty cents. But, no receiver is better than the aerial it uses and no receiver can give you a program unless the aerial first picks up the signal. Many a man with a three hundred dollar radio has attached it to a cheap aerial and blamed his poor results on the receiver, while the aerial is not picking up the signal for the receiver.

The most popular aerial for short wave reception is the doublet, in one of its many forms. This type of aerial is really two aerials in one, one side of it going to the aerial post of the receiver and the other to the ground post. By neutralizing the two, a goodly portion of the ordinary noises picked up by an aerial is removed or reduced. There are several types of doublet antennas, most of which are peaked at one of the popular bands. By this we mean that signals on a certain wave-band are received much better than it is possible to get them by any other method. One such aerial (RCA Spiderweb) has all of the popular bands "peaked." This means that stations on the 16, 19, 25, 31 and 49 meter bands each have a separate aerial which is made intentionally to increase the signal strength of these stations.

In putting up an aerial remember these rules. Never run an aerial over or near a high-powered electric line. Many people have met their death by saying they could do it safely. Never run the aerial parallel with street-car lines, flasher signs, high-tension wires or any other noise-making apparatus. Always run it at right-angles to the source of the noise. Keep the aerial as far away from noise-making things as possible. Never put the aerial near a moving object, like a tree. Keep the aerial as far away from the tin-work of your home as possible. Do not run the lead-in wires into the house at the nearest opening and then make it pass through several rooms in the house. Plan to bring the lead-in wire into the house near the radio set.

SEÑOR CESPEDES IN UNITED STATES

Amando Cespedes Marin, the genial and well-known owner of station TI4NRH, the historic little station in Heredia, Costa Rica, is visiting the United States. At the time of this writing, this gentleman had visited club-members Rubio, of Havana, Cuba; Sessions, of Bristol, Conn., and Dean, of Hartford, Conn. Just where he intends to visit is not known to us, but we know he will receive a hearty welcome everywhere.

SPECIAL PROGRAM

The National Radio Club of Erie, Penna., announces that TI4NRH, Heredia, Costa Rica, on 9.67 mc. will broadcast a special program for them from 9:00 to 10:00 P. M., November 24th.

CHAPTER NEWS

The London Chapter meets at 80 Theobalds Road, WC1, every Friday. Last month they gave actual television demonstrations and also demonstrated many new model receivers. The transmitter is almost completed, a multi-tube receiver and other apparatus is available for members' use. On September 10th members visited Corydon airport and many went for a flight over London. Remember the meeting day, Friday, and we mean every Friday.

The Guernsey Chapter meets at 5 Well Road, St. Peters, every Tuesday. Many special features are in readiness for the fall season.

The Brighton Chapter is meeting now at St. Martin's Men's Club, Wellington Road, Brighton 7, every Wednesday evening. This chapter sorely misses the services of John Bennett, who organized it. Mr. Bennett has been seriously ill for some time. Every I. S. W. C. member is pulling for him we know.

The New York Chapter has not yet decided on their meeting place and date. Every person interested in this chapter should immediately drop a card to the secretary and ask him to notify you by mail when and where the chapter will meet. His name and address are: Jacob Kleimans, care Meyer Koulisch Company, 64 Fulton Street, New York City.

OLYMPIA RADIO DISPLAY

The International Short Wave Club has been given a booth at the Fair and Exhibition to be held between November 2nd and 26th at Olympia in London. The London Chapter's transmitter will be on display, besides various short wave receivers, verification displays, and such things. A powerful receiving station will be set up and all stations received will get a special QSL from the Fair, besides being given publicity in daily papers. The receiver will be in operation daily 2:00 to 5:00 P.M. and Saturdays 10:00 A.M. to 5:00 P.M. American amateurs on 20 and 10 meters are asked to call the ISWC receiving station during the period of time stated.

All short wave fans, particularly ISWC members are requested to register at the ISWC booth during the Fair. The show is open from 10:00 A.M. to 10:00 P.M., G.M.T.

PEN-PALS

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

William Gillman, 717 Melvin Ave., Cuyaboga Falls, Ohio.
Alfred L. Wright, 30 Conrad Drive, Worcester Park, Surrey, England.
Carl Forestieri, 2224 Adam Place, Bronx, New York (overseas).
B. L. Button, 518 No. Grant Avenue, Kittanning, Pa. (overseas).
A. M. Pleyte, Rt. 1, Umatilla, Lake County, Florida (overseas).
Harry Honda, 429 No. Fremont Avenue, Los Angeles, Calif.

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.

FREQUENCY CHANGES

HP5G, Panama City, has moved from 11.78 mc. to 11.895 mc. and announces this as a temporary change. Operated now by the Panama Light & Power Company, with studios in the exposition grounds, Panama City (Flagg, Wooten, Stockbridge, Casals, Gallagher and Schriefer). Lisbon, Portugal, is on 9.67 mc., not 9.65 according to member Dement. HI9B, Hotel Mercedes, Santiago, Dominican Republic, moved from 5.88 mc. to 6.67 mc. (Casals, Dom. Rep.) LRA, Buenos Aires, Argentina, on 9.69 mc. usually, was heard on 6.16 mc. between 8:00 and 9:00 P. M. interfering with YV5RD. Said they were on from 10:00 A. M. to 9:00 P. M. (Casals, Dom. Rep.) This station is still on 9.69 mc., so this must have been an experimental broadcast.—Editor. HH2S, Port-Au-Prince, Haiti, is on 5.93 mc. not 5.92 and heard till 9:30 P.M. (Gallagher, Calif.) Schedule is 7:00 to 9:00 P.M. (Schrieffer, La.)

NEW STATIONS

A contract has been given to a German radio firm to build two new 20 kw. transmitters for the Iranian government at Teheran, to operate on 9.68 and 6.15 mc. The National Radio Club gives the calls as EQB and EQC.

India. Here is a list of Indian stations, along with schedules: W. G. Tomlinson of Madras, India, and D. R. D. Wadia of Bombay, send us this information.

VUD2, Delhi, 9.59 mc., 8:30 P.M. to 10:30 P.M. and 1:30 to 3:30 A.M.

VUD2, Delhi, 4.99 mc., 7:30 A.M. to 12:30 noon.

VUD3, Delhi, 15.16 mc., Sundays, Tuesdays, Thursdays and Saturdays,

8:30 P.M. to 10:30 P.M. and 1:30 to 3:30 A.M.

VUD3, Delhi, 9.59 mc., 7:30 A.M. to 12:30 noon.

VUB2, Bombay, 9.55 mc., 9:30 to 10:30 P.M. and 1:00 to 3:30 A.M.

VUB2, Bombay, 4.90 mc., 7:30 A.M. to 12:30 noon.

VUM2, Madras, 4.95 mc., 7:00 A.M. to noon.

VUC2, Calcutta, 4.88 mc., 7:06 A.M. to 12:06 noon.

VUC2, Calcutta, 9.53 mc., 2:06 A. M. to 4:06 A. M.

Germany is putting a lot of new stations on the air now, they say. These are DJY on 6.07 mc., DJI on 7.29 mc., DJW on 9.65 mc., DJX on 9.675 mc., DJF on 11.745 mc., DJZ on 11.80 mc., DJG on 16.81 mc., DJH on 17.81 mc., DJJ on 21.565 mc. and DJK on 21.64 mc. With these ad-

ditional frequencies, Germany will probably blanket the world with short wave radio.

Two new stations will open soon in Cuba. One is at Santa Clara and is owned by Manuel Alvarez of Caibarien, Cuba. The second is at Holguin and has been heard testing around 7.20 mc. (Casals, Dom. Rep.)

Poland. No one attempted to solve the mystery regarding the two new Polish stations now on the air from 6:00 to 9:00 P.M. nightly relaying SPW and SPD. Most members say SP19 is on 15.126 mc. or 19.84 meters. But SP25 is reported on 11.74 mc. and 11.69 mc. by member Aikins, on 11.83 mc. by member Traister, on 11.775 mc. by Lendzioszek, on 11.69 by member Stempel and 11.875 mc. by member Flagg. Come on fellows, let's settle this thing.

Turkey. Two new stations at Ankara, Turkey, was scheduled to open up on July 22nd, one on 9.565 mc. and the other 15.195 mc. Member Bigbee of Georgia, reports hearing Turkey on 9.465 mc. not 9.565, between 7:30 and 8:00 A.M. now.

The NIROM has placed a new 500 watt relay station using the call YDX at Medan, Island of Sumatra, (D. E. I.), which picks up and relays NIROM programs of YDC, PMN and PLP, daily. It is on 5.17 mc. (57.97 meters) at night and on 8.09 mc. (37.08 meters) daytime. This is just the opposite in North America, of course, as it is night in Sumatra while it is daytime in America. Heard on 5.17 mc. 8:30 to 10:30 A.M. (Harde-
mann, Java).

Nicaragua. Amateur station YN3DG, "Estacion Gilfillan," at Leon, Nicaragua, heard on 7.13 mc. testing between 9:15 and 9:30 P.M. (Rubio, Cuba).

Guatemala. The station TGWB, Guatemala, was supposed to go on the air several months ago on 6.04 mc. However, it is now being heard on 6.49 mc. by member Gallagher of California, in the evenings between 10:00 and 11:30 P.M. So, it is not on 6.04 after all.

Papua. A station at Port Moresby, Papua, Pacific Islands, on 7.31 mc. is relaying long wave station 4:00 P.M. daily 3.00 to 5.00 A.M., mornings (Kendell, New Zealand).

Paraguay. A station ZP-8, using the slogan "Radio Nacional," at Asuncion, Paraguay, heard on 9.26 mc. daily 5:00 to 8:30 P.M. (Casals, Dom. Rep.) Heard on 9.275 mc. testing 8:00 to 8:30 P.M., said to send reports to Colonel Martinez, 274, Asuncion, (Rubio, Cuba).

Ethiopia. A station at Addis Ababa is on 9.52 mc. broadcasting daily 1:00 to 3:00 P.M. (Skog, Sweden).

China. A new station at Chungking, China, is heard telephoning Hankow around 9:30 P.M. (Honda, Calif.)

China. XTJ, a phone station at Hankow on 11.69 or 11.70 mc. is broadcasting from 7:00 to 7:30 A.M. daily and telephoning afterward up until 10:00 A.M. (Gallagher, Calif.; Walcott, Calif.; Bigbee, Ga.; Legge, N.Y.) Announced another program at midnight also (Walcott). XTS, Swatow, on 11.44 mc. works phone with them (Legge).

Ethiopia. A station at Addis Ababa, Ethiopia, heard on 11.97 mc. at 3:00 P.M. with programs. Has 10 kw. power. (Janson, Germany).

Argentina. A station LQH at Buenos Aires, Argentina, heard sending program to France one Sunday until 7:18 P.M. (Honda, Calif.)

Somaliland, Africa. A station using slogan "Radio Mogadiscio" is on 17.32 mc. at 7:25 A.M. (Legge, Pa.) Would indicate Mogadiscio, Italian Somaliland.

SCHEDULE NEWS

4:00 to 5:00 Mc Band

VUD2, Delhi, India, heard on 3.75 mc. from 9:30 to 11:00 P.M., while list shows them in 4.99, Janson, Germany). VUC2, Calcutta, India, on 4.88 mc. heard around 7:00 A.M. (Gallagher, Calif.)

5.00 to 6.00 Mc. Band

OK1MPT, Praha, Czechoslovakia, is on 5.15 mc. from 4:45 to 5:15 P.M. Fridays and 5:15 to 5:30 P.M. Saturdays. TIGPH, San Jose, Costa Rica, on 5:82 mc. is heard daily now 7:00 to 9:00 A.M., an addition to their schedule, (Casals, Dom. Rep.) YV5RR, Caracas, Venezuela, on 5.83 mc. heard coming on at 4:30 P.M. saying "Estudios Universos" and giving address as El Paraiso Frente de Hipodromo" (Casals, Dom. Rep.) Heard 6:00 to 10:00 P.M. (Oxrieder, Pa.) Verie says P. O. Box 185 and shows views of studio, (Legge, Pa.)

HRN, Tegucigalpa, Honduras, on 5.87 mc. heard signing off at 10:00 P.M. and said would be back at 12 noon next day, which is not as schedule shows, (Stockbridge, Mass.)

6.00 to 7.00 Mc. Band

HP5K, Colon, Panama, on 6.00 mc. sends this as their latest schedule, Week-days 7:00 to 9:00 A.M., 11:00 A.M. to 1:00 P.M. and 4:00 P.M. to 11:00 P.M., Sundays 10:00 A.M. to noon and 5:00 P.M. to 11:00 P.M. (Quayle, Canal Zone). ZHO, Singapore, S. S., Asia, on 6.01 mc. heard at 9:00 A.M. broadcasting, (Gallagher, Calif.) HVJ, Vatican City on 6.03 mc. broadcasts daily 2:00 to 2:15 P.M. (Janson, Germany). Also heard at 10:00 A.M. (Field, England). W4XB, Miami, Florida, is still on 6.04 mc. broadcasting from 1:00 to 3:00 P.M. and 9:00 P.M. to midnight week-days and 4:00 to 6:00 P.M. and 9:00 to midnight Sundays. (Field and Hyde).

WIXAL, Boston, Mass., on 6:04 mc. will broadcast daily 7:00 to 9:00 P.M. until October 10th. Beyond that we have no schedule. W3XAU, Philadelphia, Pa., on 6:06 mc. now broadcasts Tuesdays, Fridays and Sundays noon till 11:00 P.M., and Wednesdays noon to 9:00 P.M. ZHJ, Penang, S. S., Asia, on 6.06 mc. heard broadcasting at 7:00 A.M., after months of silence, (Gallagher, Calif.)

SBO, Sweden, on 6.06 mc. broadcasts daily 4:15 P.M. to 5:00 P.M. but each Wednesday and Saturday either this station or SBP on 11.70 mc. broadcasts from 7:00 to 9:00 P.M. Mark down these times for this is a rare opportunity to catch this one, (Skog, Stockbridge.) Heard 3:00 to 4:30 P.M. (Janson, Germany).

A veri from FK8AA, New Caledonia, Pacific Islands, says they are on 6.12 mc. every Wednesday and Saturday 1830 to 1930 G.M.T. (1:30 to 2:30 P.M., E.S.T.) with 20 watts power. The slogan used is "Radio Noumea" and the address is Charles Graveau, 44 Rue del Alma, Noumea, New Cal-

edonia, (Worcester, Hawaii). This schedule is evidently a mistake. The station has been heard between 2:30 and 4:00 A.M. in the mornings, not afternoons.

VPB, Colombo, Ceylon, on 6.15 mc. heard at 9:00 P.M. for the first time in many months, (Gallagher, Calif.) CJRO, Winnipeg, Canada, on 6.15 mc. sends bad news. They have cut their operating schedule to Saturdays 10:00 P.M. till 3:00 A.M. Sundays. Radio Boy Landry, Saigon, Indo-China, on 6.21 mc. heard at 9:00 A.M. (Gallagher, Calif.) ZGE, Kuala Lumpur, Asia, heard on 6.24 mc. again after a long silence, (Gallagher, Calif.)

COHB, Sancti Spiritus, Cuba, on 6.28 mc. broadcasts 9:00 to 10:00 A.M., 12:30 to 1:30 P.M. 4:00 to 7:00 P.M. and 9:00 to 11:00 P.M. according to member Rubio of Cuba, but what we want to know is whether anyone is actually hearing it now. HIG, Trujillo, Dom. Rep., on 6.29 mc. and 9.29 mc. both, broadcasts 6:45 to 9:00 A.M. and 10:45 A.M. to 10:10 P.M. now, while our list showed 7:30 to 9:00 A.M., 11:45 to 2:15 P.M. and 4:00 to 9:00 P.M. (Casals, Dom. Rep.) ICC, Rome, Italy on 6.35 mc. is relaying 2RO programs 3:00 to 3:30 P.M., according to their program sheet. Heard by Janson, Germany.

VP2LO, St. Kitts, B.W.I., on 6.38 mc. verified and said all programs are on this wave. They are heard 4:00 to 4:30 P.M. (Robinson, Iowa) HI4V, San Francisco de Macoris, Dominican Republic on 6.45 mc. broadcasts weekdays 7:30 or 8:00 P.M. until 10:00 or 11:00 P.M. only. (McDermott, N.Y.) YV6RB, Bolivar, Venezuela, on 6.54 mc. broadcasts only on Saturdays and from 8:00 to 9:00 P.M. (McDermott, N.Y.) A station in Mysore Palace, India, on 6.59 mc. heard broadcasting at 8:30 A.M. (Tomlinson, India) HIT, Trujillo, Dom. Rep., on 6.63 mc. broadcasts 5:45 to 10:00 P.M., not just 9:00 P.M. (Casals, Dom. Rep.) XBA, Tacubaya, Mexico, sends word they have 300 watts power and give weather reports on 6.977 mc. at 11:00 A.M., 1:00 P.M., 2:00 P.M., 3:00 P.M. and 9:30 P.M. (Legge, N.Y.)

7:00 to 8:00 Mc. Band

A letter says EA9AI, Melilla, Spanish Morocco, Africa, says they are either on 7.15 mc. or 7.186 mc. with 200 watts power every Friday and Saturday 10:00 to 11:00 P.M., E.S.T. (Sat. and Sun. 0300 to 0400 G.M.T.) Address is Dr. Angel Mora, Canalejas 1, Melilla, Spanish Morocco, Africa, (Legge, N. Y.) Radio Raquette de Guipozcoa, San Sebastian, Spain, is on 7.20 mc. relaying Radio Nacional de Espana, 4:00 to 5:30 P.M. (Janson, Germany).

Station F08AA, Papeete, Tahiti, Pacific Island, on 7.10 mc. heard again at 11:30 P.M. for the first time in many months. (Gallagher, Calif.) Some unidentified station heard on 7.32 mc. between 3:45 and 4:00 A.M. (Honda, Calif.) This might be 4PM, Papua.—Editor. One rumor is that the station is on 6.54 mc. and 7.08 mc. between 5:30 and 6:30 A.M., but no one has reported reception except on 7.31 mc. between 3:00 and 5:00 A.M.

Some station, probably Russian, heard broadcasting on 7.34 mc. between 1:00 and 4:00 A.M. (Gallagher, Calif.) JVP, a Japanese tele-

phone station on 7.51 mc. is broadcasting the overseas daily 8:00 to 9:30 A.M. (Honda, Calif.) Said would be used on some overseas program soon. (Gallagher, Calif.)

8:00 to 9:00 Mc. Band

Every Sunday from 8:30 to 9:30 A.M. a station announcing "Radio Mogadisjoe" in Italian Somaliland, Africa, is heard on 8.87 mc. broadcasting. (Hardemann, Java).

9.00 to 10.00 Mc. Band

A letter from T. Y. Woo, Director Central Broadcasting Administration at Chungking, China (new capital) says XGX is a 150 watt short wave station relaying XGOW, Hankow. The assigned frequency is 9.20 mc., but they purposely roam between 9.10 and 9.30 mc. They Broadcast almost daily 5:00 to 9:00 or 11:00 A.M. And a new 35 kw. station is under construction. (Walcott, Calif.) Heard between 9.10 and 9.30, (Gallagher, Calif.)

COBX, Havana, Cuba, on 9.20 mc. broadcasts 8.00 A.M. to 11:30 P.M. daily, not 11:00 A.M. to 12:30 A.M. as listed, (Rubio, Cuba). COCH, Havana, on 9.43 mc. broadcasts 8:00 A.M. to midnight, not 7:00 A.M. to 1:00 A.M. as listed, (Rubio, Cuba).

A letter from station says OFD is on 9.50 mc. from 12:15 to 5:00 P.M. Daily. The address is Oy Yleisradio ab, Lahden Yleisradiowasema, Lahti, Finland, (Stempel, Gallagher and Field). XEWW, Mexico City, on 9:50 mc. may be on the air between 6:00 A.M. and 1:00 A.M. next day or may be on 15.16 mc. any part of the schedule.

Radio Hanoi, operated by Radio Club Hanoi, French Indo-China, is on 9.51 and 11.90 mc. now, having moved from 7.44 mc. (Hardemann, Java). The schedule is supposed to be daily midnight to 2:00 A.M. and 6:00 to 10:00 A.M.—Editor. FIQA, Tananarive, Madagascar, Africa, on 9.51 mc. heard signing off at 10:00 A.M., list shows them on 9.50 and off at 11:00 A.M. (Gallagher, Calif.)

OZF, Denmark, on 9.52 mc. was heard broadcasting between 7:00 P.M. and midnight for awhile, announcing in English and broadcasting Chimes at 11:00 P.M. It was usually heard between 9:00 and 11:00 P.M. It was reported by members Hyde, Nichols, Brewer, Herzog, Janson and Eder. Now member Rowell says it is on 9.20 mc. between 10:00 and 11:30 P.M., not 9.52 mc.

LKC, Jeloy, Norway, on 9.53 mc. broadcasts week-days 4:30 to 5:30 A.M., 7:00 to 9:00 A.M. and 10:30 A.M. to 5:00 P.M., Sundays 2:30 to 7:00 A.M. and 10:00 A.M. to 5:00 P.M. A letter from OAX4T, Lima, Peru, says they are on 9.56 mc., 8:00 to 9:00 A.M., 11:30 to 1:30 P.M. (Quayle, Canal Zone).

From India comes this list of stations and schedules: VUC2 is on 9.53 mc. 2:06 to 4:06 A.M.; VUB2, Bombay, is on 9.55 mc. 9:30 to 10:30 P.M. and 1:00 to 3:30 A.M.; VUD2, Delhi, is on 9.59 mc. 8:30 to 10:30 P.M. and 1:30 to 3:30 A.M.; VUD3, Delhi, is on 9.59 mc. also from 7:30 A.M. to 12:30 noon; VUD3 heard 7:00 to about 9:30 A.M. (Gallagher, Calif.) Heard 7:30 A.M. to noon. (Skog, Sweden.)

W3XAU, Philadelphia, on 9.59 mc. broadcasts Tuesdays, Fridays and Sundays 11:00 P.M. to midnight; Mondays, Thursdays and Saturdays noon to midnight and Wednesdays 9:00 P.M. to midnight. RAN, Moscow, U.S.S.R., on 9.60 mc. is now broadcasting a program in Spanish from 5:00 to 7:00 P.M. before the English program 7:00 to 9:15 P.M. (Schrieffer, La.)

CS2WA, Lisbon, Portugal, on 9.65 mc. heard 8:00 to 9:15 P.M. when list showed 4:00 to 7:00 P.M. (Dement, Pa., and Janson, Germany). 2RO, Rome, Italy is scheduled to be on 11.80 mc. from 5:00 A.M. to 9:00 P.M. daily, but we expect to find them on 9.64 mc. from 6:00 till 9:00 P.M. almost any time now. Member Janson of Germany says he heard LRA, Buenos Aires, Argentina, on 9.63 mc. instead of 9.69 mc. between 4:00 and 5:30 P.M. one Tuesday, but this must have been some other station as the schedule and wavelength are both wrong.

A station heard saying "Columbia Broadcasting" has been reported on wavelengths between 9.68 and 9.70 mc. between 8:00 and 11:00 P.M. by members Adler, Casals and Atherton. Sorry, fellows, but this is the first harmonic of station HJ3ABD, Bogota, on 4.84 mc. which falls on 9.68 mc. TGWA, Guatemala City, on 9.68 mc. broadcasts weekdays 10:00 to 11:30 P.M. and Sundays 7:00 to 10:30 P.M. they say.

ZHP, Singapore, S. S. Asia, on 9.69 mc. heard broadcasting 6:30 to 9:45 A.M. (Tomlinson, India.) Heard 5:30 to 6:30 A.M. (Legge, N.Y.) Heard on 9.68 mc. 8:00 to 9:45 A.M. (Gallagher, Calif.) Radio Martinique Fort de France, Martinique on 9.70 mc. broadcasts now from about 6:00 to 9:30 or 10:00 P.M., sending their own program from 6:00 to 8:00 P.M., then picking up a program from TPA, Paris, France. (Gallagher, Calif.; Herzog, N.Y. and Schrieffer, La.) Heard on the air 11:15 A.M. to 12:15 A.M. noon daily and 11:30 to 3:30 P.M. Sundays. (Murray, V.I.) Said every Sunday 3:00 to 5:00 P.M. they would be on. (Dement, Pa.)

T14NR11, Heredia, Costa Rica, on 9.70 mc. (they announce 9.67) is still on the air on Tuesdays and Thursdays 9:00 to 10:00 or 10:30 P.M. and Sundays 7:00 to 8:00 A.M. Amando Cespedes Marin, the genial owner is visiting the U.S.A., but his son is operating the station during his absence. Radio Boy-Landry, Saigon, Indo-China, on 9.72 mc. heard around 7:30 A.M., also on 6.21 mc. and 11.71 mc. (Gallagher, Calif.)

IRF, Rome, Italy, on 9.83 mc. broadcasts 12:10 to 1:00 P.M.; 3:00 to 3:30 P.M. and 6:00 to 9:00 P.M. now. EAQ, Madrid, Spain, on 9.86 mc. heard announcing schedule for news broadcasts as 3:45 P.M., 4:40 P.M., 7:30 P.M. and 8:30 P.M. (Schrieffer, La.) New verification shows tanks on battlefield and gives address as Box 782, Madrid. (Legge, N.Y.)

10.00 to 11.00 Mc. Band

TIEM, San Jose, Costa Rica, on 10.05 mc. is broadcasting between 11:00 A.M. and 2:00 P.M. and 4:00 to 10:00 P.M. using the slogan "Radio El Mundo." They send a gold, black and white verification giving this frequency and address as apartado 1949, (Stockbridge, Mass. and Quayle, Canal Zone). Some Mexican station is heard on 10.07 mc. leaving the air at 10:30 P.M. (Casals, Dom. Rep.)

Radio Liberte, in France, is still on 10.07 mc. at 5:00 P.M. in French

and on 10.70 mc. at 5:45 P.M. in Italian. JZO, Japanese station on 10.27 mc. or 29.20 meters and JZB on 10.96 mc. are broadcasting 8:00 to 9:30 A.M. relaying JZJ according to member Honda of California. At 8:55 JZO gives news in French while JZJ uses Dutch. EAJ43, Santa Cruz de Teneriffe, Canary Islands, still broadcasts on 10.37 mc. from about 6:00 to 10:00 P.M., relaying "Radio Nacional de Espana" at times.

JIB, Taihoku, Taiwan, Japan, on 10.53 mc. is reported relaying the programs of JFAK (on 9.62 mc.) around 9:00 and 10:00 A.M., and phoning between 4:00 and 10:00 A.M. (Gallagher, Stempel and Honda.) A verification says ZIK2, Belize, Honduras, is on 10.60 mc. from 8:40 to 9:00 P.M. and 1:30 to 2:00 P.M. on Tuesdays, Thursdays and Saturdays. (Coleman, N.Y.) JVN, Japanese phone station on 10.66 mc. heard relaying JZJ programs a few mornings around 8:00 to 9:30 A.M. (Honda, Calif.)

11.00 to 12.00 Mc. Band

PLP, Bandoeng, Java, on 11.00 mc. broadcasts 6:00 to 10:00 P.M.; 10:30 P.M. to 2:00 A.M. and 4:30 to 10:30 A.M. HBO, Geneva, Switzerland, on 11.40 mc. may be heard almost any time now during these war scare days relaying special programs. It is supposed to broadcast regularly Sundays 7:00 to 7:45 P.M. and Mondays 2:00 to 2:15 A.M. for Australia. Heard one Friday at 7:50 P.M. (Husley, Miss.) TG5, Guatemala, on 5.71 mc. has a harmonic on 11.45 mc. heard at midnight once. (Gallagher, Cal.)

JVL, a Japanese telephone station on 11.66 mc. heard sending overseas program at 12:30 midnight. (Gallagher, Calif.) IQY, Rome, Italy, on 11.676 mc. is relaying 2RO, Rome, daily 1:37 to 2:40 P.M., 3:00 to 3:30 P.M. and 6:00 to 9:00 P.M. now. Americans hear it from 6:00 to 9:00 P.M. (Stockbridge, Murray, Aikin, Stark, Nichols, Gallagher, Walter, Hagenbush, Field and Janson.) Radio Boy-Landry, Saigon, Indo-China, on 11.70 mc. heard at 7:00 A.M. broadcasting. (Gallagher, Calif.)

CJRX, Winnipeg, Canada, on 11.72 mc. now broadcasts only Saturday nights 10:00 P.M. till 3:00 A.M. Sunday mornings (Direct.) W1XAL, Boston, Mass., on 11.73 mc. is scheduled to broadcast 9:15 to 11:00 P.M. on Mondays, Wednesdays and Fridays until October 10th (Direct). HVJ, Vatican City, on 11.74 mc. now broadcasts at 10:00 A.M. (Field, England.) Try for OLR4B, Prague, Czechoslovakia, on 11.76 mc. or OLR4A on 11.84 mc. from 6:55 to 10:00 P.M. now. They should be using these frequencies soon.

Letters from the station say OFE, Lahti, Finland, is on 11.78 mc. from 1:05 A.M. to 12:05 noon. (Stempel, Gallagher and Field.) W1XAL, Boston, Mass., on 11.79 mc. is scheduled to broadcast daily 5:00 to 6:30 P.M.; Mondays and Tuesdays 2:15 to 6:30 P.M. and Saturdays 1:45 to 6:30 P.M. JZJ, Tokyo, Japan, on 11.80 mc. is changing their schedule so often now that we are not sure of their times on the air. Look for them from 12:30 to 1:30 A.M., 7 to 7:30 A.M. 8 to 9:30 A.M. and 2:30 to 6:30 P.M. Heard in place of JZK 7:00 to 7:30 A.M. now. (Nichols, Pa.) HP5G, Panama City, on 11.895 mc. now, was heard broadcasting 6:00 P.M. to midnight during the past month, although not scheduled for this period of time entirely. (Wooten, Ala.; Flagg, Mass.; Stockbridge, Mass.; Schrieffer, La., and Casals, Dom. Rep.)

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DJD, Germany, on 11.77 mc. is scheduled 10:35 A.M. to 4:25 P.M. and 4:50 P.M. to 10:50 P.M. DJP on 11.885 mc. is scheduled 7:15 to 10:50 P.M. TPB7, Paris, France, on 11.88 mc. broadcasts 8:30 to 11:00 P.M. TPA3, on the same frequency, broadcasts 1:00 to 4:00 A.M. and 10:30 to 5:00 P.M. Radio Hanoi, Hanoi, Indo-China, on 11.90 mc. heard signing off at 9:30 A.M. (Honda, Calif.) Schedule is supposed to be midnight to 2:00 A.M. and 6:00 A.M. to 10:00 A.M. Moved from 7.44 mc. to 11.90 and heard 4:00 to 10:00 A.M. (Hardemann, Java.)

CD1190, Valdivia, Chile, on 11.91 mc. signs off at 10:00 P.M., not 11:00 P.M. as listed. (Atherton, Vt.) A verification from T12XD, on 11.92 mc. says slogan is "La Voz Radio Pilot," address P. O. Box 1729, San Jose, Costa Rica. No schedule is given. (Stockbridge, Mass.) Another says noon to 2:00 P.M. and 6:00 to 11:00 P.M. (Casals, Dom. Rep.) Station YV5RC, Caracas, Venezuela, on 5.97 mc. has a harmonic on 11.94 mc. (Atherton, Vt.) HJ3ABX, Bogota, Colombia, on 5.99 mc. has a harmonic on 11.98 mc. now. (Casals, Dom. Rep.)

Letters to the station on 11.99 or 12.00 mc. in Chile brings a verification from CB57, Radio Sociedad Nacional de Agricultura, Casilla 40-D, Santiago, Chile, and does not give their short wave call-sign. (Legge, N.Y., and Gallagher, Calif.) The call was CB-1178 when they were on 11.78 mc.—Editor. A letter from station "Radio Requete," station RR6, at Vitoria, Spain, says they have 500 watts power, are on 11.99 mc.

daily 4:00 to 5:00 A.M., 8:00 to 10:00, 1 to 2 P.M. and 4 to 7 P.M., E.S.T. Heard at noon. (Field, England.)

12.00 to 13.00 Mc. Band

RNE, Moscow, U.S.S.R., on 12.00 mc. broadcasts daily at 10:15 P.M. and also has English programs Sundays 6:00 A.M., 10:00 A.M. and 4:00 P.M. Wednesdays at 6:30 A.M. and Fridays at 4:00 P.M. Station OAX1A, Chiclayo, Peru, is reported testing on 12.01 mc. afternoons and evenings but we believe this is a harmonic of them on 6.00 mc. HCJB, Quito, Ecuador, sends a verification saying they are on 24.08 meters or 12.46 mc. with 1 kw. power. (Legge, N.Y.) Most every person agreed this was the first harmonic of their station on 6.23 mc. On 12.46 they are heard on their regular 6.23 mc. schedule. A station in Puerto Plata, Dominican Republic, is heard on 12.50 mc. at 9:00 P.M. (Herzog, N. Y.) Heard on 12.53 mc. (Schrieffer, La.)

A station VIS at Sydney, Australia, heard phoning the ship "Empress of Britain" at 2:18 A.M. (Shaffar, Iowa). Announced wavelength as 23.65 meters or 12.675 mc. and heard at 2:00 A.M. (Walcott, Calif.) W9XDH, Press Wireless, Elgin, Illinois, on 12.8625 mc. may be heard between 1:00 P.M. and 5:00 P. M. testing with music and speech. Press Wireless also has W2XGB, New York and W4XAD at Gainesville, Georgia, on the same frequency, testing at various times in the afternoons. Member Shaffar of Iowa, reports W4XAD at 3:20 P. M. asking for reports. W9XDH and W2XGB are reported by members Lenziozek and Herzog. The following stations have harmonics that may be mistaken for regular stations: COCO (6.00) on 12.00 mc.; TIPG (6.41) on 12.82 mc.; HIN (6.24) on 12.38 mc.; W1XAL (6.04) on 12.08 mc.; COCW (6.32) on 12.64.

13.00 to 14.00 Mc. Band

VVN, Fort St. George, Madras, India, verified giving address as Madras Fort Radio, Madras, India. Heard around 6:00 A.M. on 13.35 mc. (Legge, N. Y.) Previous veries all said they were on 13.26 mc.—Editor.

14.00 to 15.00 Mc. Band

PK6XX is at Hollandia, New Guinea, Dutch East Indies. The operator is Harold G. Ramm, of station W2BVB. It is on 14.009 mc. between 4:00 and 8:00 A.M. Reports should be sent to the ARRL, West Hartford, Conn. Mr. Ramm says they will use the commercial call PO6Z, or 11.355 mc. (Schrieffer, La.) Heard at midnight. (Gallagher, Calif.) On 14.02 mc. at 7:30 A.M. (Edwards, N. Y.) Heard, (Worcester, Herzog, Legge, Walters, Hutchinson). A letter from EA9AH, Tetuan, Spanish Morocco, says they are on the air on 14.03 mc. at 4:00 P.M., 4:45 P.M., 5:30 P.M., 7:00 P.M. W1OXDA, on the schooner "Morrisset," is on 14.26 mc. The ship left for Greenland in July, (Legge, N. Y.) Station FET5, Burgos, Spain, heard on 7.35 mc. is also on about 14.28 mc. Sundays around 11:00 A.M. (Janson, Germany).

VR6AY, Pitcairn Island, is on about 14.36 mc. between midnight and 6:00 A.M., with the best time around 4:00 to 5:00 A.M. Many have heard it now. HC1JB, Quito, Ecuador, on 14.42 mc. may be heard almost any

time calling amateurs or broadcasting musical programs. Radio Malaga, veri says they are on 14.44 mc. and 7.22 mc. with 700 watts power. The address is Gobierno Civil de Malaga, Dept. of Radio, Malaga, Spain, (Legge, Pa.) This station was heard relaying programs of Radio Nacional de Espana for awhile.

DZH, Zeesen, Germany, on 14.46 mc. heard broadcasting at 9:00 P.M. once. (Gallagher, Calif.) JVH, Tokyo, Japan, a phone station on 14.60 mc. replaced JZK on the Japanese program 12:30 to 1:30 A.M. and was heard sending baseball game programs till 1:30 A.M. often and broadcasts every Sunday. (Gallagher, Calif.)

LZA, Sophia, Bulgaria, is still on 14.92 mc. in spite of rumors. Heard recently at 2:00 A.M. sending program. (Gallagher, California.) Schedule is supposed to be 1:00 to 3:00 P.M. on Tuesdays and Saturdays, 5:00 to 7:00 A.M. and 10:00 A.M. to 5:00 P.M. other days. We say it is 1:00 to 3:00 A.M., 6:30 to 8:30 A.M. and 10:45 to 4:30 P.M., and reception reports bear us out. A station KQH, Hawaii, on 14.95 mc. has been heard every Sunday 6:00 to 6:30 P.M. sending "Hawaii Calls" programs but said that after October first the program will be heard at 9:00 P.M. instead. (Walter, Ohio.)

The tenth Gali Expedition to Belgian Congo, at Leopoldville, using the call OQ5ZZ will operate on 14 mc. band. (Field, England, and Schrieffer, La.) The Oxford University Expedition to Greenland will operate on 14 mc. band using the call OX7OU. Address is Andrew Croft, Leckhampton House, Cambridge, England. (Field, England.)

15.00 to 16.00 Mc. Band

RK1, Moscow, on 15.08 mc. is broadcasting a program in Spanish daily along with RAN on 9.60 mc. from 5:00 to 7:00 P.M. before their English program 7:00 to 9:15 P.M. (Schrieffer, La.) Heard 3:00 to 3:30 P.M. daily. (Herzog, Nichols and Stempel.) W1XAL, Boston, Mass., on 15.13 mc. broadcasts 9:30 A.M. to 2:00 P.M. on Mondays and Tuesdays and 10:00 A.M. to 1:00 P.M. on Sundays now (Direct). JZK, Tokyo, Japan, on 15.16 mc. was heard 7:00 to 7:30 A.M. and 8:00 to 9:30 A.M. for a long time, but we understand that it has been replaced by JZJ on 11.80 mc. from 7:00 to 7:30 A.M.

XEWW, Mexico City, on 15.16 mc. may be heard anytime between 6:00 A.M. and 9:00 P.M. and may not be heard at all. OZH, Denmark, on 15.16 mc. broadcasts Sundays and Holidays between 8:00 A.M. and 1:30 P.M. (Janson and Boothroyd.)

VUD3, Delhi, India, on 15.16 mc. has been broadcasting often between 8:30 and 10:30 P.M. Every listener in America should try now for this one. They broadcast chimes at 8:30 P.M. Some listeners say the call is VUE3, but our letters from the station say VUD3. Heard between 8:30 and 10:00 P.M. (Bigbee, Ga.; Rowell, Minn.; Williams, Ohio; Hyde, Conn.; Stark, Mo.; Gallagher, Calif.)

A station in Russia is being heard on 15.17 or 15.18 mc. Heard at 4:00 P.M. and 10:20 P.M. (Stempel, Conn.) Heard at 10:00 A.M. and noon. (Brewer, Ariz.) Heard 9:30 to 10:00 P.M. (Rowell, Minn.) Heard

at 10:00 in the morning. (Gallagher, Calif.) DJB, Berlin, Germany, on 15.20 mc. heard relaying YUA program 7:00 to 9:00 P.M. on the 14th and last days of the month, (Schrieffer, La.) Lahti, Finland, on 15.19 mc. was heard between midnight and 3:00 A.M. testing several times. (Gallagher, Calif.) Heard 7:00 to 8:00 A.M. and between 11:45 P.M. and 1:00 A.M. (Brewer, Arizona.)

OLR5A, Prague, Czechoslovakia, on 15.23 mc. heard till 9:00 A.M. now instead of just 6:00 to 7:30 A.M. (Russell, Md.) W1XAL, Boston, Mass., on 15.25 mc. broadcasts Wednesdays, Thursdays and Fridays 2:00 to 3:30 P.M. until October 10th (Direct). H13X, Trujillo, Dominican Republic, on 15.27 mc. is broadcasting now each Tuesday and Friday from 8:10 to 10:10 P.M. according to member Casals and was heard sending lottery drawings Sunday morning 7:00 to 9:00 A.M. (Casals and McDermott.)

LRU, Buenos Aires, Argentina, on 15.29 mc. signs off at 9:30 A.M., list shows them 7:00 A.M. to 6:00 P.M. (Honda, Calif.) Heard 5:00 to 7:00 A.M. (Brewer, Ariz.) YDB, Soerabaia, Java, on 15.30 mc. broadcasts from 10:30 P.M. to 2:00 A.M. daily. This is not to be confused with YDC, Bandoeng, on 15.15 mc. broadcasting at the same time and also from 4:30 to 10:30 A.M. and 6:00 to 10:00 P.M. Member Edwards of Penna. says GSP, Daventry, England, on 15.31 mc. replaced GSJ and was heard this month at 8:30 A.M.

16.00 to 21.00 Mc. Band

H13X, Trujillo, Dominican Republic, on 17.40 heard Sunday mornings 7:00 to 9:00 A.M. now. (Casals, Dom. Rep.) JZL, Tokyo, Japan, was broadcasting on 17.76 mc. from 6:00 to 6:30 P.M. but has not been heard lately. 2RO6, Rome, Italy, on 17.82 mc. was heard sending a program to South America at 11:20 P.M. once. (McDermott, N.Y.) A harmonic of Station COKG, Cuba, on 8.96 mc. is reported on 17.77 mc. by member but a harmonic of 8.96 mc. would fall on 17.92 mc., not 17.77. A new phone station KUN, at Bolinas, California, heard on 18.02 mc. calling KQH, Hawaii, at 9:20 P.M. KQH being on 14.95 mc. (Shaffar, Iowa.)

GENERAL NEWS

Pittsburgh. A letter from J. E. Baudino, plant manager of station KDKA and W8XK tells us that seeing comments on W8XK in our recent issues, he wishes to inform us that until November 15th, W8XK will operate on the schedule that we show in our magazine today.

Sweden. From Sweden comes word that each Wednesday and Saturday nights between 7:00 and 9:00 P.M., either SBO on 6.06 mc. or SBP on 11.71 mc. will be on the air with programs for America. SBO will also be on daily 4:15 to 5:00 P.M. SBP is used weekdays 1:20 to 2:00 A.M., 6:00 to 8:00 A.M. and 11:00 A.M. to 4:15 P.M. Sundays and Holidays 3:00 A.M. to 4:15 P.M. SM5SX on 15.155 mc. broadcasts week-days 11:00 A.M. to 5:00 P.M. and Sundays and Holidays 9:00 A.M. to 5:00 P.M. (Stockbridge, Mass.)

Spain. At last a real set-up of Spanish stations is received. It comes in printed form from the station "Radio Nacional" through E. W. J. Field,

Watford, England. FET1, Valladolid, is 7.006 mc. (42.82) at 7:30 A.M., 12:30 noon, 1:30 P.M. through to 5:30 P.M. Radio Espana at Bilbao, on 7.246 mc. (41.40) is on at 3:00 A.M., 8:00 A.M., 3:15 to 4:45 P.M. with English at 3:15, Tues., Thurs. and Sat. Radio Espana at San Sebastian, on 7.20 mc. (41.64) is on at 3:30 A.M., 8:00 to 9:00 A.M. (English at 8:20), 1:45, 2:30 and 4:30 P.M. Radio Nacional AZ, Frente de Madrid, on 7.05 mc. (42.55) is on at 5:00 A.M., 7:00 A.M., 10:30 A.M., 2:00 P.M. and 4:00 P.M. to 6:30 P.M.

Alcazarquivir (EA9BJ) is on 7.125 mc. (42.10) at 8:20 A.M. and 2:30 P.M. FET5, Burgos is on 7.35 mc. (40.81) at 8:45 A.M., 12:50 noon, 1:30 P.M., 2:15 P.M. (English), 2:30 P.M., 3:00 P.M. and 4:30 P.M. EA8AE, Las Palmas on 7.152 mc. (41.96) is on at 7:00 A.M. and 3:15 P.M. EA2BH, Jaca, is on 7.72 mc. (41.80) and 14.115 (21.25) at 9:30 A.M. (English), noon and 8:00 P.M. (English). EA9AH, Tetuan, on 13.99 mc. (21.75) is on at 5:00 P.M. (English) till 10:00 P.M. (English at 9:45). Radio Nacional de Espana itself is on 7.20 mc. (41.00) 4:00 and 4:30 A.M., 9:00, 9:30 and 10:00 A.M. 1:30 through 4:30 P.M. (English at 4:15 P.M.) 5:30 through till 10:00 P.M. with the part 9:00 to 10:00 P.M. for North America. Now we know when to search for these elusive stations.

Augusto Martinez Gil, of Manila, P. I., sends another list of stations he received from Spain. It shows Vitoria on 7.027 mc. (42.69), Zaragoza on 7.00 (42.84), Tenerife, Canary Islands on 10.37 (28.93), 6.676 mc. (44.93), and 7.474 mc. (40.14), Salamanca on 7.50 mc. (40.00), 7.07 mc. (42.43), 12.00 (25.00) and 6.676 (44.93), Radio Nacional AZ on 6.75 (44.40), Pontevedra on 7.21 (41.59), Oviedo on 7.24 (41.43), Malaga on 7.44 (42.85), Cordoba on 7.117 (42.14), Ceuta on 7.134 (42.05), Cadiz on 7.14 (42.00) and FET5, Burgos, on 7.10 mc., not 7.35 mc. From 8:30 to 9:00 A.M. and 4:30 to 5:45 P.M., Burgos, Bilbao, Cadiz, Ceuta, Cordoba, Jaca, Malaga, Oviedo, Pontevedra, San Sebastian, Salamanca, Tetuan, Valladolid, Vitoria and Zaragoza all relay radio Nacional.

Cuba. The frequencies allotted CMA5, of the Cuban Trans-Atlantic Radio Corp. are 5.78 mc., 6.79 mc., 8.63 mc., 11.56 mc., 15.50 mc. and 17.20 mc. This station has been heard on several of these frequencies.

WITH THE REPORTERS

Here are the reporters for this issue. To these people we owe a debt of gratitude, for without their help the news in this issue would have been impossible. E. W. Field, Watford, England; Ricardo F. F. Rubio, Havana, Cuba. Felix Quayle, France Field, Canal Zone. Tomas Casals Pastoriza, Santiago, Dominican Republic. Augusto Martinez Gil, Manila, Philippines; S. M. Rowell, Minneapolis, Minn.; W. D. Flagg, Holyoke, Mass.; James B. Wooten, Mobile, Ala.; Gordon Williams, Cleveland, Ohio; Chester Dement, Upper Rarby, Pa.

Herbert Hyde, Elmwood, Conn.; Leon A. Hutchinson, Milford, New Hampshire; Ford Edwards, Wilmerding, Pa.; Ora E. Stark, Pierce City, Mo.; Harry Honda, Los Angeles, Calif.; Dixon Russell, Baltimore, Maryland; A. W. Field, San Diego, Calif.; Frank W. Stockbridge, Westboro, Mass.; Roger Legge, Jr., Binghamton, New York; Paul Walter, Ports-

(Continued on Page 24)

SETTING THE PACE

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LATE NEWS PLASHES

HS8PJ, Bangkok, Siam, will broadcast each Monday hereafter on 15.23 mc. instead of 19.02 mc. from 8:00 to 10:00 A.M. Reception in New York is good (McDermott, N.Y.) According to previous records, HS8PJ should be on 15.53 mc., not 15.23.—Editor.

PO6ZA, in Dutch New Guinea, was heard on 6.425 mc. daily around 2.00 A.M. and then goes on 20 meters as PK6XX, an amateur. Radio Hanoi, Hanoi, Indo-China, heard on 11.90 mc. daily except Sunday at 6:00 A.M., address being 20 Rue de la Pepiniere, Hanoi. Rome, Italy, is heard on 15.18 mc. at 3:00 P.M. and comes in well between 4:00 and 4:15 P.M. before GSO comes on. A Russian station is on 15.18 mc. almost all day long, on 9.52 mc. around 3:00 P. M. and also on 7.31 mc. around 2:30 A.M. HP5G was heard on new frequency of 11.895 mc. SBP, Sweden, heard on 11.71 mc. at 8:00 P. M., and two stations in Chile heard on 11.85 mc. and 11.74 mc., both at 10:30 P. M. This news all came from member Kendall, of New Zealand.

Some Holland station heard on 21.40 mc. at 8.17 A.M. once. TGWA, Guatemala, on 17.80 mc. heard one Saturday at 4:00 P. M. This is a new frequency. JZK, Tokyo, heard on 15.16 mc. between 8:00 and 9:45 P. M. This all came from member Bossert of New York. We really wonder if the station heard on 15.16 mc. from 8:30 to 9:45 or 10:00 P. M. could be JZK or VUD3. The

music, the editor confesses, sounds very much like Japanese. Yet almost everyone says it is VUD3, and it could be, too.

A letter from the Director General des Postes et des Telegraphes at Berne, Switzerland, says that henceforth a station on 9.535 mc. or 31.46 mc. (please note) will broadcast 1:00 to 2:00 P. M., 6:45 P. M. to 7:40 P. M.

and 8:00 to 9:00 P. M. daily except Sundays and Mondays. They have 300 watts power. This is, as you know, a new station. A card from OZF, Denmark, on 9.52 mc. says 8:00 to 11:00 P.M. on it. A station on 9.41 was heard 5:10 to 5:30 P.M. when it signed off, and it is evidently a Russian station. This was sent in by member Stempel, of Connecticut.

HEARD-ALL-CONTINENTS CLUB

This organization, now one of the most copied organizations in radio, was started in 1932, four years before the idea was copied by other organizations. This is the real and original H-A-C, one in which practically every leading short wave listener has submitted verifications. The rules of this organization make it next to impossible to cheat, which is not true in many similar organizations. We see one VAC issued at 100 to a person who accepted and passed judgment on his own veries. Such a scheme is just a fraud. This H-A-C of our's is the world's greatest DX contest, having been going on for nearly six years.

Here we set down the rules: (1) Any person entering the H-A-C must have verifications from each of the continents, namely Asia, Australia, Africa, Europe, South America and North America. (2) These verifications must be sent to the I.S.W.C. at East Liverpool, Ohio. No photos, photostatic copies or anything except the verification itself will be accepted. (3) Verifications must bear a postmark unless there is reasonable proof that it is real, such as a verification on the station's own stationery. All amateur veries must bear a postmark, either on the card or the envelope it comes in. (4) All amateur veries must indicate the station was heard using voice by having the words like "Phone," "Voice" or "Broadcast" written on it by the operator. Anyone caught writing this themselves forfeits their entire H-A-C. (5) A station operating on two frequencies will be counted as two stations only if two veries are received. (6) Stations on islands are counted with the nearest mainland. (New Zealand and Fiji Islands are counted with Australia and Java with Asia. Central American stations are all counted with North America. West Indies stations are counted with the nearest mainland). (7) Postage to return the veries must be sent. If insufficient postage is sent, the veries will be held until it is sent. Do not send any veries without the postage to pay for their return. (8) If a certificate is desired fifteen cents must be sent to cover the costs of printing and mailing. In the case where the member has a certificate but is applying for a higher rating, he needs send only one cent for a new seal. Do not return the certificates. The certificates are 8½ by 11 inches, are printed in two colors and are suitable for framing. Two certificates will not be issued to any one person. (9) One verification from each continent entitles the member to class 1-A, two to AA and three to AAA, etc.

And here are the leaders: H. S. Bradley, Hamilton, N. Y. (82); John W. May, Wilkinsburg, Pa. (40); Roy Myers, Los Angeles, Calif. (34); Robert Rossi, Philadelphia, Pa. (33); T. W. Moss, Exeter, England (28); Sam Solito, Leetsdale, Pa. (26); Charles Miller, Covington, Ky. (24); Frank Grey, Cicero, Ill. (18); D. R. D. Wadia, Bombay, India (17); Ora E. Stark, Pierce City, Mo. (15); Walter E. Kurtz, Kansas City, Mo. (15);

Emmett Riggle, Massillon, Ohio (14); Ricard F. Rubio, Havana, Cuba (13); Ernest Orchard, Waymouth, England (13).

In the 10 verification class are members Williams, N. Y.; Miner, Mass.; Gang, N. Y.; Kash, Tenn.; Baines, Nova Scotia, and Herzog, N. Y. Following them is T. Grey, Ill. (6); Mair, Wisc. (8); Lippincott, Mass. (7); Chavez, Calif. (7); Hansen, Africa (6); Dean, Conn. (6); Bennett, N. Y. (6); Hutchinson, N. H. (6); Studholme, England (5); Amers, Calif. (5); Pugh, Texas (5); Field, England (5); Hurtado, Curacao (4); Walmsley, Calif. (4); D'Orsay, Canada (4); Atherton, Vt. (4); Keith, Wash. (4); DeMent, Texas (4); Clemens, Ohio (4).

In the 3-A are: Les Smith, Walter E. Butts, Mario Bruscio, Mills Van Bergen, K. G. Schram, Thomas Nichols, W. D. Flagg, S. W. Parr, L. D. Brewer, Roy Waite, F. Edward Fellows, Robert Stuart. In the 2-A are: John Edwards, J. L. Davidson, Leslie Snashell, Mrs. Irving Heglund, Frank W. Stockbridge, Eric Bristow, A. K. Wall, Douglass Worcester, J. Herbert Hydem, George W. King, James Lucke, L. L. Groves, Nathan Ives, T. E. Port, Thomas Tynan, David McIntosh, W. E. Doty, W. C. Motz, P. E. Thompson, Shokichi Yoshimura, Angus Taylor, S. J. A. Nichol, Homer Lindsay, J. H. A. Hardemann, Carlos Irizarry.

The following stations will not verify reports sent to them: YV2RA, HI3U, XEBQ, HJ5ABD, HJ3ABX, HI5N, HIT, YNGU, XEDQ, XEFT, OAX5C, CB1170, XEBM, HRN, HJ3ABD, YV1RB, HI8J, HI8, HI7P, XECU, YV6RB, PRA8, HJ7ABH.

These stations are joined up in a plan whereby verifications from them can be purchased through a small radio club that is attempting to force short wave fans to join their organization. The stations simply accept the reports, postage and money of innocent listeners and do not send them anything in return unless you buy it through this radio club. This practice is causing much alarm amongst honest DXers and should be abolished for the good of short wave radio. With millions of short wave fans and only a few DXers, it is our duty to encourage, not discourage, the hobby of collecting verifications. However, this other club sees things in a different light.

BOOSTERS

Members Dr. H. S. Banning of Youngstown, Ohio and Ricardo F. Rubio, of Havana, Cuba, secured new members for us this month.

FOR SALE—Custom Built Silver Masterpiece IV, nine to two thousand meter, bargain for someone appreciating real quality. Glenn Watt, Chanute, Kansas.

(Concluded from Page 21)

mouth, Ohio; G. C. Gallagher, San Francisco, Calif.; L. D. Brewer, Phoenix, Arizona.

Fred Atherton, Rutland, Va.; Charles M. Robinson, Waterloo, Iowa; Ashley Walcott, San Francisco, Calif.; Howard Schieffer, New Orleans, La.; Captain George McDermott, Staten Island, New York; Guy R. Bigbee, Fort Benning, Ga.; Fabian Husley, Biloxi, Mississippi.

TELEPHONE STATIONS

The time given is Eastern Standard. Add five hours for G. M. T.

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 telephone stations which are rented by some chain to relay a broadcast to some foreign country. You never can tell when you will hear them.

Meg.	Meters	STATIONS	TIME
E—4.00	to 3.96—75	to 75.8—Amateurs	on voice.
T—4.10—73.21	—WND,	Hialeah, Florida.	Phones irregularly with VPN.
T—4.42	to 4.10—67.87	to 73.17—Ships.	Heard irregularly.
T—4.51—66.50	—ZFS,	Nassau, Bahamas.	Works WND evenings.
T—4.75—63.13	—WOO,	Ocean Gate, N. J.	Phones ships irregularly.
T—4.84—61.98	—GDW,	Rugby, England.	Phones U. S. A. nights.
T—4.90—61.15	—CGA8,	Drummondville, Canada.	Phones ships irregularly.
T—4.92—60.98	—WVD,	Seattle, Wash.	Phones WXA, Alaska, 10:15 P.M.
T—4.98—60.26	—GBC,	Rugby, England.	Phones to ships, irregularly.
T—5.02—59.76	—ZFA,	Hamilton, Bermuda.	Phones U.S.A. and ships at night.
T—5.08—59.08	—WCN,	Lawrenceville, N. J.	Phones England, evenings.
T—5.08—59.06	—WRB,	Lawrenceville, New Jersey.	Phones evenings.
P—5.33—56.29	—WXA,	Juneau, Alaska.	Phones WVD nights.
E—5.40—55.56	—HJA7,	Cucuta, Colombia.	Mondays 4:30 to 7:30 P.M., irregularly.
T—5.48—54.74	—XTL,	Hankow, China.	Heard around 5:00 to 7:00 A.M., phoning.
T—5.48—54.74	—XTZ,	Hankow, China.	Phones Shanghai 4:00 A.M. to noon.
E—5.65—53.10	—HRH,	Rosaria, Honduras.	Heard evenings.
E—5.66—52.66	—CFU,	Rossland, Canada.	Works CFO and CFN near 1 P.M., irreg.
T—5.74—52.26	—XTD,	Shanghai, China.	Phones Hankow 4:00 A.M. to noon.
P—5.73—52.38	—JVJ,	Nazaki, Japan.	Works Manchukuo mornings.
P—5.79—51.81	—JVU,	Nazaki, Japan.	Works Manchukuo mornings.
T—5.80—51.50	—HJA2,	Bogota, Colombia.	Phones HJA3 afternoons and evenings.
T—5.83—51.46	—TDD,	Shinkio, Manchukuo.	Phones Japan 10:00 P.M. to 6:00 A.M.
T—5.85—51.26	—WOB,	Lawrenceville, N. J.	Phones Bermuda, nights.
T—5.89—50.93	—JIC,	Taiwan, Japan.	Phones Nazaki 5:00 to 10:00 A.M., winter.
T—5.91—50.76	—XTW,	Canton, China.	Phones around 5:00 to 10:00 A.M.
5.00	to 6.00 mc.—50.00	to 60.00 meters—	Aircraft stations.
E—6.31—47.54	—TG2,	Guatemala City.	Relays TGI around 5:00 to 9:00 P.M., irreg.
E—6.35—47.49	—JZG,	heard relaying JVT,	JOAK from 5:00 to 7:30 A.M., irregularly.
E—6.41—46.77	—HJA3,	Barranquilla, Colombia.	Phones HJA2, irregularly.
E—6.42—46.73	—W9XBS,	Chicago, Illinois.	Heard irregularly broadcasting.
T—6.55—45.80	—XEM1,	Mexico.	Tests around 9:30 to midnight.
T—6.65—45.11	—JFZC,	Ship "Chichibu Maru."	Phones irregularly.
T—6.65—45.10	—IAC,	Piza, Italy.	Phones ships evenings.
T—6.67—44.96	—YVQ,	Maracay, Venezuela.	Phones irreg.
T—6.72—44.64	—XEM2,	Guanacabi, Dur, Mexico.	Tests around 9:30 P.M., irreg.
T—6.75—44.44	—JVT,	Nazaki, Japan.	1:30 to 8:00 A.M. oftines with music.
T—6.75—44.41	—WOA,	Lawrenceville, N. J.	Phones England nights.
T—6.90—43.45	—GDS,	Rugby, England.	Phones New York nights.
T—6.98—42.98	—KZGG,	Cebu, P. I.	1:00 to 4:45 A.M. and 6:30 to noon.
T—7.37—40.71	—KEQ,	Kauhuku, Hawaii.	Phones Dixon, nights.
T—7.51—39.95	—RKI,	Moscow, U.S.S.R.	Heard 5:00 to 11:00 A.M. in winter.
T—7.52—39.89	—KKH,	Kauhuku, Hawaii.	Phones KWO evenings.
T—7.56—39.68	—FZE9,	Dijhouthi, French Somaliland.	Phones Paris.
T—7.56—39.68	—KWY,	Dixon, Calif.	Phones week-days 9:30 P.M. to midnight.
T—7.39—40.60	—ZLT2,	Wellington, New Zealand.	Phones Sydney 3:00 to 7:00 A.M., irr.
T—7.61—39.42	—KWX,	Dixon, California.	Phones Hawaii nights.
T—7.63—39.32	—RIM,	Tashkent, U.S.S.R.	Heard 5:00 to 1:00 A.M. in winter.
T—7.68—39.06	—YBZ,	Manado, Celebes, D. E. I.	Phones PNI 5:00-7:00 A.M.
E—7.78—38.50	—PSZ,	Rio de Janeiro, Brazil.	Heard between 6:00 and 11:00 P.M., irreg.
T—7.84—34.27	—YVO,	Maracaibo, Venezuela.	Phones YVA evenings.

Meg.	Meters	STATION	TIME
T-	7.86-38.06	SUX, Cairo, Egypt. Phones Rome and London afternoons.	
T-	8.12-36.95	KTP, Manila, P. I. Phones KWX 10:30 to 11:00 A.M.	
T-	8.19-36.65	PSK, Rio de Janeiro, Brazil. Sending music 6:00 to 7:30 P.M.	
T-	8.24-36.41	YVA, Caracas, Venezuela. Phones YVO evenings.	
T-	8.38-35.80	IAC, Piza, Italy. Works ships irregularly.	
T-	8.47-35.42	DAF, Norden, Germany. Phones ships irregularly.	
T-	8.57-35.02	WOO, Ocean Gate, N. J. Phones ships irregularly.	
T-	8.65-34.68	VOWQ, North West River, Laborador. Phones irreg.	
E-	8.65-34.68	WVD, Seattle, Wash. Testing irregularly.	
T-	8.68-34.56	GBC, Rugby, England. Phones ships irregularly.	
T-	8.71-34.44	KBB, Manila, P. I. Phones ships 5:00-9:00 A.M., irregularly.	
T-	8.77-34.19	PNI, Makasser, D. E. I. Phones Java near 4:00 to 5:00 A.M.	
E-	8.79-34.10	HKV, Bogota, Colombia. Testing, 5:30 to 11:00 P.M., irregular.	
T-	8.84 to 8.90	36.58 to 33.93-Ships. Heard irregularly.	
T-	8.84-33.94	ZMBJ, The ship "Awatea." Phones mornings. ZLT and VIS.	
E-	8.95-33.52	WEL-W2XBJ, Rocky Point, N. Y. Testing irregularly, evenings.	
T-	8.96-33.48	TPZ2, Alger, Algeria, Africa. Phones Paris, daytime.	
T-	8.98-33.41	VWY, Poona, India. Phones England 6:00-10:00 A.M., irreg.	
E-	9.01-33.29	KEJ, Bolinas, California. Tests irregularly.	
T-	9.02-33.26	GCS, Rugby, England. Phones New York evenings.	
T-	9.03-33.19	TYA2, Paris, France. Phones Algeria, 6 P.M. to midnight, irreg.	
T-	9.08-33.04	XTK, Hankow, China. Phones around 4:00 to 9:30 A.M.	
T-	9.12-32.89	YCP, Bilikpapan, Borneo. 5:00-7:00 A.M., phones East Indies.	
T-	9.14-32.84	YVR, Maracay, Venezuela. Phones Europe afternoons.	
T-	9.17-32.72	WNA, Lawrenceville, N. J. Phones England evenings.	
T-	9.18-32.68	ZSR, Klipkeual, So. Africa. Phones England 1:00-7:00 P.M., irreg.	
T-	9.28-32.33	GCB, Rugby, England. Phones CGA and SUV afternoons.	
T-	9.28-32.32	XTC, Shanghai, China. Phones 2:00 to 11:00 A.M., irreg.	
T-	9.33-32.15	CGA4, Drummondville, Canada. Phones ships and England, irregularly.	
T-	9.36-32.05	XTR, Swatow, China. Phones around 4:00 to 9:30 A.M.	
T-	9.37-32.02	PLC, Kootwijk, Holland. Phones 3:00 to 10:00 A.M., irregularly.	
T-	9.42-31.86	PLV, Bantoeing, Java. 9:00-11:00 A.M., 6:00-11:00 P.M., irreg.	
T-	9.46-31.71	Tripoli, Africa. Phones IAC, Italy, 6:00 A.M. to 1:00 P.M., irreg.	
T-	9.49-31.61	KEI, Bolinas, Calif. Used irregularly.	
T-	9.50-31.58	XTV, Canton, China. Phones 2:00 to 11:00 A.M., irreg.	
T-	9.63-31.15	CFA5, Drummondville, Canada. Phones England daytime.	
T-	9.65-31.08	DGU, Nauen, Germany. Phones Egypt in daytime.	
T-	9.71-30.90	GCA, Rugby, England. Phones around 6:00 P.M.	
E-	9.67-31.00	DZA, Zeesen, Germany. Broadcasts irregularly.	
T-	9.75-30.77	WOF, Lawrence, N. J. Phones England, evenings.	
P-	9.75-30.77	WDL, New York. Phones Paris daytime.	
T-	9.76-30.75	VK2ME-VLK, Sydney, Australia. Phones Java 4:00 to 8:00 A.M.	
E-	9.80-30.61	LSI, Buenos Aires, Argentina. Used irregularly, evenings.	
T-	9.80-30.60	GCW, Rugby, England. Phones America, evenings.	
T-	9.83-30.52	IRM, Rome, Italy. Phones Egypt afternoons.	
E-	9.87-30.40	JYS, Kemikawa-Cho, Japan. Relays JOAK, irregularly, mornings.	
T-	9.87-30.40	WON, Lawrenceville, N. J. Phones England evenings.	
T-	9.90-30.30	LSN, Buenos Aires, Argentina. 6:00 P.M. to 6:00 A.M. WLO.	
T-	9.92-30.23	JDY, Dairen, Manchucuo. Phones Japan 2-4 A.M., 8-10 P.M., irreg.	
T-	9.93-30.21	HKB, Bogota, Colombia. Phones PSK irregularly, evenings.	
T-	9.95-30.15	GCU, Rugby, England. Phones New York evenings.	
T-	9.97-30.09	KAZ, Manila, P. I. Phones PLV near 2:00 A.M.	
E-	10.04-29.88	DZB, Zeesen, Germany. Irregularly.	
T-	10.05-29.83	SUV, Cairo, Egypt. Phones England around 1:00 to 5:00 P.M.	
T-	10.05-29.85	ZFB, Hamilton, Bermuda. Phones U. S. A. and ships, daytime.	
T-	10.06-29.80	TDE, Shikio, Manchukuo. Phones Japan 1:00 to 9:00 A.M., irregularly.	
T-	10.07-29.79	EHY, Madrid, Spain. Phones YVR near 4:00 P.M., irregularly.	
T-	10.08-29.76	RIR, Tifis, U.S.S.R. Phones 10:00 P.M. to 10:00 A.M., irregularly.	
F-	10.08-29.76	CMA5, Havana, Cuba. Tests almost anytime.	
T-	10.14-29.58	OPM, Leopoldsville, Belgian Congo. 12-2 A.M., noon-3:00 P.M., irreg.	
T-	10.17-29.50	RIO, U.S.S.R. Phones 10:00 P.M. to 10:00 A.M., irregularly.	
T-	10.22-29.45	PSH, Rio de Janeiro, Brazil. Sending music, evenings.	
E-	10.23-29.33	CED, Antofagastan, Chile, heard 7:00 to 9:30 P.M., irregularly.	

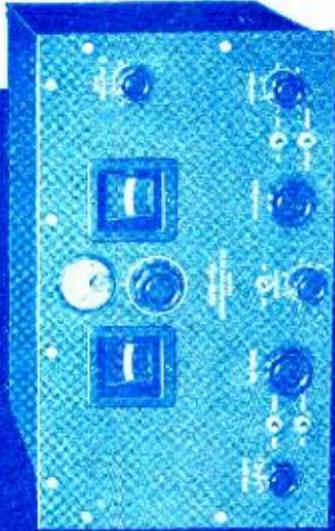
Meg.	Meters	STATION	TIME
E-10.25	-29.27	LSL, Buenos Aires, Argentina.	Testing 5:30 to 7:00 P.M.
T-13.00	-23.08	FYC, Paris, France.	Phones Ships, irregularly.
T-13.19	-22.74	RFL, Khabavorsk, U.S.S.R.	Around 4:00 to 10:00 A.M.
T-13.22	-22.70	IRI, Rome, Italy.	Phones Japan irregularly 5:00 to 8:00 A.M.
T-13.26	-22.62	VVN, Ft. St. George, Madras, India.	Phones VVS 10 P.M. to 7 A.M.
T-13.28	-22.58	CGA3, Lunenburgville, Canada.	Phones ships and England, daytime.
T-13.35	-22.48	YVJ, Maracay, Venezuela.	Phones Florida, daytime.
T-13.37	-22.44	JVU, Nazaki, Japan.	Around 6:00 to 10:00 A.M.
T-13.39	-22.40	WMA, Lawrenceville, N. J.	Phones England, daytime.
T-13.38	-22.40	IDU, Asmara, Eritrea.	Phones Italy 8:00 A.M. to 3:00 P.M., irregularly.
T-13.41	-22.37	YSJ, San Salvador.	Phones WNC, daytime.
T-13.58	-22.09	GBB, Rugby, England.	Phones Canada and Egypt, daytime.
T-13.59	-21.73	RVU, Vladvostok, U.S.S.R.	4:00 to 10:00 A.M., irregular.
T-13.64	-21.99	ZBG, Kuala Lumpur, Selang.	7:30 to 8:40 A.M.—Java.
T-13.65	-21.98	HJY, Bogota, Colombia.	Phones irregularly.
E-13.69	-21.91	KKZ, Bolinas, California.	Used irregularly.
E-13.72	-21.87	KKC, Bolinas, Calif.	Used irregularly to relay programs.
T-13.76	-21.77	TYE2, St. Assis, France.	Phones Africa, daytime.
Z-13.78	-21.78	KKW, Bolinas, Calif.	Used irregularly to relay programs.
T-13.83	-21.70	SUZ, Cairo, Egypt.	Phones GAA 7:00 A.M. to 3:30 P.M.
E-13.90	-21.58	WQP, Rocky Point, N. Y.	Testing with RNE irregularly, mornings.
E-13.98	-21.46	PZ1AA, Paramaribo, Dutch Guiana.	in the evenings.
E-14.11	to 14.30	-21.26 to 20.97	—Amateur phones, heard in daytime.
T-14.43	-20.79	CLA5, Havana, Cuba.	Tests irregularly.
E-14.46	-20.75	DZH, Zeesen, Germany.	Irregular.
T-14.46	-20.75	GBW, Rugby, England.	Phones WNC 6:00 A.M. to 6:00 P.M.
T-14.47	-20.73	WMF, Lawrenceville, N. J.	Phones England, daytime.
T-14.48	-20.72	IBS, Rome, Italy.	Phones Africa, mornings.
T-14.48	-20.71	TGF, Guatemala City.	Phones WNC, daytime.
T-14.48	-20.71	HRF, Tegucigalpa, Honduras.	Phones WNC, daytime.
T-14.48	-20.71	HPF, Panama.	Phones WNC, daytime.
P-14.48	-20.71	HHF, Port-Au-Prince, Haiti.	Phones WNC daytime.
T-14.48	-20.71	YNA, Managua, Nicaragua.	Phones WNC daytime.
T-14.48	-20.71	TIU, Cartago, Costa Rica.	Phones WNC daytime.
T-14.48	-20.71	HRL5, Nacaome, Honduras.	Testing with WNC, daytime.
T-14.48	-20.71	YSJ, San Salvador.	Phones MNC, afternoons.
T-14.53	-20.65	LSN, Buenos Aires, Argentina.	Phones New York, daytime.
T-14.54	-20.64	Geneva, Switzerland.	Used irregularly.
T-14.58	-20.58	RTV, Moscow, U.S.S.R.	Phones around 7:00 A.M.
T-14.59	-20.56	WMN, Lawrenceville, N. J.	Phones England, daytime.
T-14.60	-20.55	JVH, Nazaki, Japan.	Phones and also broadcasts at times.
T-14.67	-20.45	GBL, Rugby, England.	Phones JVH 1:00 to 7:00 A.M.
T-14.73	-20.37	IQA, Rome, Italy.	Phones 8:00 to 11:00 A.M., irregularly.
T-14.79	-20.29	ROU, Omsk, Siberia.	Phones Moscow 7:00 to 9:00 A.M. irregularly.
E-14.80	-20.27	WQV, Rocky Point, N. Y.	heard irregularly.
T-14.92	-20.11	KQH, Kauhuku, Hawaii.	Relays programs irregularly.
T-14.94	-20.08	HJA3, Barranquilla, Colombia.	Phones WNC, Florida.
T-14.94	-20.08	H11, Trujillo, Dominican Republic.	Phones WNC, daytime.
T-14.94	-20.08	HJB, Bogota, Colombia.	Phones WNC, daytime.
T-14.98	-20.03	KAY, Manila, P. I.	Phones DFS 5 to 7 A.M.; U.S.A., 7 to 8 P.M.
T-15.01	-19.99	RCH, Kerbi, Siberia.	Phones midnight to 9:00 A.M.
T-15.04	-19.95	RKI, Moscow, U.S.S.R.	Phones almost any time.
T-15.06	-19.92	WNC, Hialeah, Florida.	Phones many stations in daytime.
T-15.25	-19.68	RIM, Tashkent, U.S.S.R.	Phones RKI near 7:00 A.M.
T-15.35	-19.54	KWU, Dixon, California.	Phones Hawaii, 2:00 to 7:00 P.M.
E-15.36	-19.53	DJZ, Zeesen, Germany.	Broadcasts irregularly.
T-15.41	-19.47	KWO, Dixon, California.	Phones Hawaii in place of KWU.
T-15.45	-19.42	IUG, Adiiis Ababa, Ethiopia.	Phones Italy 7:00 to 10:00 A.M.
E-15.50	-19.35	CMAS, Havana, Cuba.	Relays programs irregularly.
E-15.50	-19.35	C09XX, Tuinucu, Cuba.	Testing irregularly 5:00 to 9:00 P.M.
T-15.53	-19.31	HSG2, Bangkok, Siam.	Tests Sunday 11 P.M., Fri. 4:00 A.M.
T-15.61	-19.20	JVF, Nazaki, Japan.	Phones U.S.A. near 5:00 A.M. and 8:00 P.M.
T-15.66	-19.15	JVE, Nazaki, Japan.	Phones almost any time.
T-15.81	-19.02	LSL, Buenos Aires, Arg.	Phones GAA 8 A.M. to 1 and FTM 1-2 P.M.

Meg.	Meters	STATION	TIME
E-10.29	29.15	DZC, Zeesen, Germany.	4:00 to 9:00 P.M., Irregularly.
T-10.30	29.13	PPM, Rio de Janeiro, Brazil.	Phones irregularly.
E-10.30	29.13	LSQ, Buenos Aires, Argentina.	Used for special tests.
E-10.33	29.04	ORK, Brussels, Belgium.	1:30 to 3:00 P.M., daily.
T-10.33	29.04	RVV, Vladivostok, U.S.S.R.	Phones around midnight.
T-10.37	28.93	JVO, Nazaki, Japan.	Phones 6:00 P.M. to 11:00 A.M., irregularly.
E-10.38	28.91	WCG, Rocky Point, N. Y.	Test, irregularly.
E-10.40	28.85	KEZ, Bolinas, California.	Used irregularly.
T-10.42	28.80	PDK, Kootwijk, Holland.	Phones Java, 7:30 to 9:40 A.M.
T-10.42	28.79	XGW, Shanghai, China.	Phones almost any time.
T-10.42	28.79	TYE3, St. Assise, France.	Phones U. S. A. 3:30 to 7:00 P.M.
T-10.43	28.76	YBG, Medan, Sumatra,	Phones Java 5:00 to 8:30 A.M.
T-10.52	28.51	VK2ME-VLK, Sydney, Australia.	1:00 to 8:00 A.M. GBP.
T-10.54	28.49	JIB, Taiwan, Japan.	Phones Japan 10:00 P.M. to 10:00 A.M.
T-10.55	28.44	WOK, Lawrenceville, N. J.	Phones Brazil and Argentine, irregularly.
E-10.61	28.28	WEA, Rocky Point, N. J.	Tests irregularly with Europe.
T-10.66	28.14	JVN, Nazaki, Japan.	Phones 6:00 P.M. to 11:00 A.M., irregularly.
T-10.68	28.09	WNB, Lawrenceville, N. J.	Phones Bermuda, daytime.
T-10.86	28.09	PLQ, Bandoeng, Java.	PNT 8:00 to 10:00 A.M.
T-10.74	27.93	JVM, Nazaki, Japan.	Phones 6:00 P.M. to 11:00 A.M., irregularly.
T-10.77	27.86	GBP, Rugby, England.	Phones VLK 11:00 P.M. to 8:00 A.M.
E-10.85	27.65	DFL, Nauen, Germany.	Irregular.
T-10.84	27.67	KWV, Dixon, California.	Phones Hawaii, daytime.
T-10.86	27.62	RQT, Irkutsk, U.S.S.R.	Phones around 3:00 to 5:00 A.M.
T-10.91	27.50	KTR, Manila, P. I.	Phones ships around 7:00 to 10:00 A.M.
T-10.96	27.37	ZLT2, Wellington, New Zealand,	11:00 P.M. to 7:00 A.M., Australia
T-10.97	27.35	OCI, Lima, Peru.	Phones HJY, evenings.
E-11.40	26.31	HBO, Geneva, Switzerland.	Used for special broadcasts.
T-11.41	26.29	XTB, Shanghai, China.	Phones around 3:00 to 9:30 A.M.
T-11.47	26.16	XTS, Swatow, China.	Phones around 2:45 to 9:00 A.M.
E-11.50	26.09	XAM, Merida, Yucatan.	Irregularly 1:00, 6:00 and 7:00 P.M.
E-11.59	25.87	VRRA, Stony Hill, Jamaica.	Testing with WNC in daytime.
T-11.66	25.73	PPQ, Rio de Janeiro, Brazil.	Phones often and broadcasts, irreg.
T-11.66	25.73	JVL, Nazaki, Japan.	Phones 6:00 P.M. to 11:00 A.M., irregularly.
E-11.71	25.63	KIO, Kauhuku, Hawaii.	Heard in the evenings testing.
T-11.82	25.38	RFM, Khabarovsk, U.S.S.R.	Phones around 7:00 to 11:00 A.M.
T-11.95	25.12	FTA, St. Assise, France.	Phones CNR 4 to 7 A.M., LSM 10 to 12 P.M.
E-11.97	25.11	KKQ, Bolinas, California.	Heard irregularly, evenings.
T-11.95	25.09	IUC, Addis Ababa, Ethiopia.	Phones Rome around noon and midnight.
T-11.99	25.02	FZS, Saigon, Indo-China.	Phones Paris, mornings.
T-12.00	24.99	KAE, Moscow, U.S.S.R.	Almost any time. Try 11 P.M. to 10 A.M.
T-12.02	24.96	JVK, Nazaki, Japan.	Phones 4:00 to 8:00 A.M., irregularly.
T-12.07	24.86	XTU, Canton, China.	Phones China 2:00 to 9:30 A.M.
T-12.12	24.75	TPZ, Alger, Algeria.	Phones Paris midnight to noon, broadcasts 3:30 to 4:30 P.M., irregularly
E-12.13	24.73	DZE, Zeesen, Germany.	5:00-9:00 A.M., 5:00-9:00 P.M., irregularly.
T-12.15	24.96	GSB, Rugby, England.	Phones New York.
T-12.18	24.63	RWJ, Alma-Ata, U.S.S.R.	Phones 1:00 to 8:00 A.M., irregularly.
T-12.22	24.56	TYA, Pontoise, France.	Phones the Normandie, irregularly.
T-12.24	24.52	TFJ, Reykjavik, Iceland.	Phones GCB and OXT 5:00 to 10:00 A.M.
T-12.25	24.49	TYB, Pontoise, France.	Teard late afternoons, irregularly.
T-12.29	24.41	GBU, Rugby, England.	Phones America evenings.
T-12.30	24.40	PLM, Bandoeng, Java.	Phones VK2ME near 6:30 A.M.
T-12.36	13.34-24.30	Ships.	Heard in daytime.
T-12.40	24.20	DAF, Norden, Germany.	Phones ships, irregularly, mornings.
T-12.67	23.65	VIS, Sydney, Australia.	Phones ships. Tests 1:00 to 8:00 A.M.
T-12.78	23.47	GBC, Rugby, England.	Phones ships, irregularly.
E-12.82	23.40	W9XDH, Elgin, Illinois.	Testing irregularly.
T-12.83	23.38	CNR, Rabat, Morocco.	5:00-7:00 A.M., 2:00-4:00 P.M., irregularly.
T-12.84	23.36	WOO, Ocean Gate, N. J.	Phones ships, irregularly.
T-12.86	23.33	IAC, Piza, Italy.	Phones Africa 8:00 A.M. to 1:00 P.M.
T-12.87	23.31	VVS, Mingaladon, India.	Phones 5:00-7:00 A.M., Irregularly.
T-12.88	23.29	RTZ, Irkutsk, U.S.S.R.	10:00 P.M. to 10:00 A.M., irregularly.
T-12.88	23.29	VVS, Mingaladon, Burma.	Phones VVN 10:00 P.M. to 7:00 A.M.

Meg.	Meters	STATION	TIME
T-15.86	-18.91	-CEC, Santiago, Chile.	Phones OCI 11 A.M., 1 and 4:40 P.M., irreg.
T-15.86	-18.91	-JVD, Nazaki, Japan.	Phones almost all day and night.
T-15.80	-18.90	-XQJ, Shanghai, China.	Phones Japan 5:00 P.M. to midnight.
T-15.88	-18.89	-FTK, St. Assise, France.	Phones Saigon 8:30 to 11:00 A.M.
T-15.95	-18.81	-RRR, Khabarovsk, U.S.S.R.	Phones 11:00 P.M. to 9:00 A.M., irreg.
T-16.04	-18.71	-KKP, Kauhuku, Hawaii.	Phones KWU 1:00 to 7:00 P.M.
E-16.11	-18.62	-IRY, Rome, Italy.	Used irregularly for special broadcasts.
T-16.14	-18.59	-GBA, Rugby, England.	Phones China-Japan, 3:00 to 10:00 A.M.
T-16.20	-18.51	-FZR, Saigon, Indo-China.	Phones Paris, mornings.
T-16.24	-18.47	-KTO, Manila, P. I.	Phones Japan 5:00 to 9:00 P.M., irregularly.
T-16.30	-18.44	-WLK, Lawrenceville, N. J.	Phones England.
T-16.35	-18.34	-RTW, Moscow, U.S.S.R.	Phones midnight to 9:00 A.M.
T-16.38	-18.31	-ITK, Mogadiscio, Italian Somaliland.	Phones Italy, daytime.
T-16.42	to 17.80	-18.27	to 16.85—Ships. Heard in daytime.
T-17.12	-17.52	-WOO, Ocean City, New Jersey.	Phones ships, irregularly.
T-17.28	-17.36	-FZES, Djibouti, Fr.	Somaliland. Phones Paris 5 A.M.-2 P.M., Irreg.
E-17.29	-17.35	-CMA5, Havana, Cuba.	Relays programs irregularly.
T-17.17	-17.16	-VWY2, Poona, India,	phones England 7:00 to 10:00 A.M.
T-17.52	-17.12	-DFB, Nauen, Germany.	Phones LSM and YVO near 9:00 A.M.
T-17.31	-17.33	-W2XGB, Hicksville, N. Y.	Tests Irreg., relaying WOR.
T-17.64	-17.00	-XGN, Shanghai, China.	Phones London 7 to 9 A.M., Mon., Wed., Sat.
T-17.70	-16.94	-IAC, Piza, Italy.	Phones Africa. 5:00 A.M. to noon.
T-17.74	-16.91	-HSP, Bangkok, Siam.	Phones Japan, Germany and England.
T-17.95	-16.71	-KHE, Kauhuku, Hawaii.	Relays programs irregularly.
T-18.04	-16.63	-GAB, Rugby, England.	Phones Canada 10:00 A.M. to noon.
T-18.05	-16.62	-PCV, Kootwijk, Holland.	6:00 to 9:00 A.M. Java.
T-18.09	-16.58	-TYE2, Pontoise, France.	Phones U. S. A. 8:00 A.M. to 3:00 P.M.
E-18.12	-16.55	-LSY, Buenos Aires, Argentina.	Irregular.
T-18.18	-16.50	-PMC, Bandoeng, Java.	Phones PCV, 3:10 to 9:20 A.M.
T-18.18	-16.50	-OCJ, Lima, Peru.	Phones mornings.
T-18.20	-16.48	-GAW, Rugby, England.	Phones New York, mornings.
T-18.25	-15.44	-FTT, St. Assise, France.	Phones LSM, PPU, mornings.
T-18.30	-16.39	-YVR, Maracay, Venezuela.	Phones Germany, 10:00 A.M.
T-18.31	-16.38	-GAS, Rugby, England.	Phones New York, mornings.
T-18.35	-16.35	-WLA, Lawrenceville, S. J.	Phones England 8:00 A.M. to 4:00 P.M.
T-18.40	-16.30	-PCK, Kootwik, Holland.	Phones Java near 7:00 A.M.
E-18.45	-16.26	-HBF, Geneva, Switzerland.	Used for special purposes.
E-18.48	-16.22	-HBH, Geneva, Switzerland.	Used for special programs.
T-18.62	-16.11	-CAU, Rugby, England.	Phones New York, mornings.
T-18.68	-16.06	-OCI, Lima, Peru.	Testing with HJY near 2:00 P.M.
T-18.69	-16.05	-XGS, Shanghai, China.	Heard 7:00 to 8:00 A.M., irregular.
T-18.83	-15.93	-PLE, Bandoeng, Java.	Phones Holland 6 to 11 A.M. KWX, irregular.
T-18.89	-15.88	-ZSS, Klipheuvall, S. Africa.	Phones 6 A.M. to 2:30 P.M., irregular.
T-19.13	-15.68	-LSM, Buenos Aires, Argentine.	Phones EAQ, DHO, GAA, mornings.
T-19.21	-15.62	-ORG, Brussels, Belgium.	Phones OPL, mornings.
T-19.25	-15.58	-DFA, Nauen, Germany.	Phones 10:00 A.M. to 2:00 P.M., irregularly.
T-19.27	-15.57	-PPU, Rio de Janeiro, Brazil.	Phones FTM, 10:30 A.M. to 3:00 P.M.
T-19.35	-15.50	-PMA, Bandoeng, Java.	Phones Holland, mornings.
T-19.35	-15.50	-FTM, Assise, France.	10:00 A.M. to 2:00 P.M. LSG.
T-19.61	-15.30	-GAP, Rugby, England.	Phones around 6:00 P.M.
T-19.50	-15.39	-LSQ, Buenos Aires, Argentina.	Heard testing near 2:00 P.M.
T-19.62	-15.28	-VQC, Nairobi, Kenya, Africa.	7:30 to 9:30 A.M., England.
T-19.69	-15.24	-CEG, Santiago, Chile.	Phones LSR, HJY near 11 A.M. and 4 P.M.
T-19.98	-14.01	-KAX, Manila, P. I.	Phones daytime.
T-19.78	-15.14	-WKN, Lawrenceville, N. J.	Phones GAU, daytime.
T-20.04	-14.97	-OPL, Leopoldville, Belgian Congo.	Phones ORG, mornings
T-20.38	-14.72	-GAA, Rugby, England.	Phones LSL and PPU near 8:00 A.M.
T-21.03	-14.27	-LSN, Buenos Aires, Arg.	8:00 A.M. to 4:00 P.M. WKK and WLK.
T-21.06	-14.24	-KWN, Dixon, Calif.	Phones irregularly.
T-21.08	-14.23	-PSA, Rio de Janeiro, Brazil.	Phones WKK, WLK, daytime.
T-21.16	-14.17	-LSL, Buenos Aires, Arg.	8:00 A.M. to 1:00 P.M. GAA and PSF.
T-21.41	-14.01	-WKK, Lawrenceville, N. J.	Phones LSN, 8:00 A.M. to 4:00 P.M.

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- INDIVIDUAL COILS For EACH BAND
- INERTIA TUNING MECHANISM
- BEAT FREQUENCY OSCILLATOR
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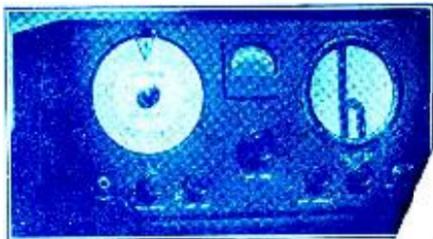
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FEATURES:

- 5 TUBES
- 8 BANDS
- COMPLETE COVERAGE 18.5 MC. TO 545 KC.
- BUILT-IN SPEAKER
- PHONE JACK
- SEPARATE BAND SPREAD DIAL
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