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INTERNATIONAL

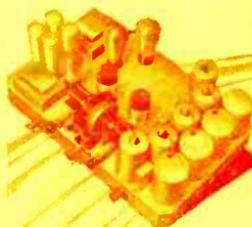
SHORT

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This magazine is published at Klondyke, Ohio, U. S. A., on the first day of each month by the International Short Wave Club. Subscription rates to all parts of the world \$1.00 per year. This includes one year's membership to the International Short Wave Club, a membership certificate and a question service. Single copies 10c each.

Post office or express money orders, cash, checks or United States postage stamps may be sent for memberships. The rate of exchange on \$1.00 may be found at all foreign post offices.

Readers are asked to be careful in not mistaking 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 P. O. Box 713, Klondyke, Ohio, U. S. A.

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ARTHUR J. GREEN, Editor

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A SUGGESTION MONTH



THE International Short Wave Club has, in the last few months, added a great many new members. These members, along with the older ones, come from every walk of life, from all parts of the world and do their short wave tuning under different circumstances. It occurs to the writer of these pages that we should take advantage of the experience of these members and have them suggest some ideas for improving both the magazine and the organization. It is impossible for a few men to vision the needs of thousands of listeners from all parts of the world. We have said many times that this is YOUR magazine and YOUR club and we want to give you what YOU want. But YOU must tell us what you want.

Following out these lines, we are going to have a "suggestion month" in February and see if we can not get some good ideas for helping the magazine and the club. If you know of something that has helped you in getting results or of something that has helped educate you on the line of short waves, just tell us about it. If it is possible, we will make use of the suggestion and give you credit for making it.

Several things must be kept in mind. The suggestions should be made to help the most members, not just yourself, or a few. The International Short Wave Club has members in Royal courts, in barren regions, in thickly populated cities, in the far north and in the tropics. Listeners, station owners, manufacturers, and dealers are represented. Explorers, Missionaries, Doctors, Lawyers, Engineers, Consuls, Business Men, Policemen, Aviators, Students, Teachers, and men of high political standing find in the tuning-in of short wave stations a pleasure not derived from any other source. So, send in your suggestions and we will be very thankful.

ARTHUR GREEN, Editor.



BROADCASTING STUDIO IN DENMARK

DENMARK was one of the first European countries to take up broadcasting, the first services starting in the spring of 1922. At that time a small station was built by a group of amateurs who raised money to carry on the work by voluntary contributions. This service immediately found favor and some months later a new and better station was built by a number of private firms. The programs were financed by money contributed by listeners' associations. In 1925, the government took over the administration of broadcasting, and in 1926 a group of new stations were erected, at Copenhagen, Kalundborg and several other cities. In 1928, the administration was well on its way to becoming a success and larger studios and transmitters were built.

In April, 1930, a new Broadcasting Act was passed by Parliament and its provisions called for a board of control much like the Federal Radio Commission in the United States, excepting that the members are not appointed in the same manner. This broadcasting council consists of fifteen members, two nominated by the Minister of Public Works, two by the press, four selected by the Parliament, one by the Minister of Education and six by the listeners' associations.

In 1929, a short wave station was built at Lyngby, and this station was used to relay the programs of the Copenhagen station on a wavelength of



THE FAMOUS CHIMES OF OXY

31.51. It was put on the air purposely to serve Danish subjects living away from their homeland. Just last year, 1931, the station was moved to its present location at Skamlebaek.

Through the courtesy of Mr. Aage Gronholdt, a Danish club-member, we are permitted to publish three photographs showing the antennas and studios of one station and the chimes which can be heard over the short wave station at 6:00 P. M., E.S.T., striking the hour of midnight in Denmark. This short wave station, OXY, is heard on the air between 2:00 P. M. and 6:30 P. M., E.S.T., every day.

VE9GW CLUB PROGRAMS

The International Short Wave Club programs broadcast by station VE9GW at Bowmanville, Ontario, Canada, have been moved forward to 5:00 till 6:00 P. M., E.S.T. each Saturday.

IN MEMORIUM

Clement Young Simpson, Lyonville, Fortabelle, Barbados, who passed away on January 7, at the age of 80. Our sympathy goes out to the bereaved relatives and friends.

DIALING FOR DX STATIONS

Although we have mentioned several times that every short wave listener must learn to mark down the dial settings of the stations he picks up on his set, we have found that there are many listeners who still think this is an unimportant thing. It is one of the most important things in the matter of getting results on a short wave set and every manufacturer should print this in his instruction papers that go with a set. To the average person, a short wave set is just a thing to make a lot of noise, but in the hands of a skilled operator, it is the most interesting, educational and thrilling form of entertainment. The difference lies in the ability of the operator.

The short wave manufacturer tells you that a certain coil will cover certain wavelengths on the dial. Short wave stations are either widely separated or bunched in little groups on the dials. They usually tune very sharp, also. It is absolutely necessary to go search out the stations. And, to know where to search, you must know about where a station will be found and when. Every short wave listener should, if he wishes to get the most out of his set, mark down the dial readings of each station he picks up. Then, when you know where a station is found on the dial, look up what other stations should be found near it, or in other words, see what stations are near the same wavelength. Also find out when it can be heard, that is, what time of day. Then get the other station. It is reasonably sure that once you get a station, you can go back to the same dial reading and get it again.

TUNING TIPS

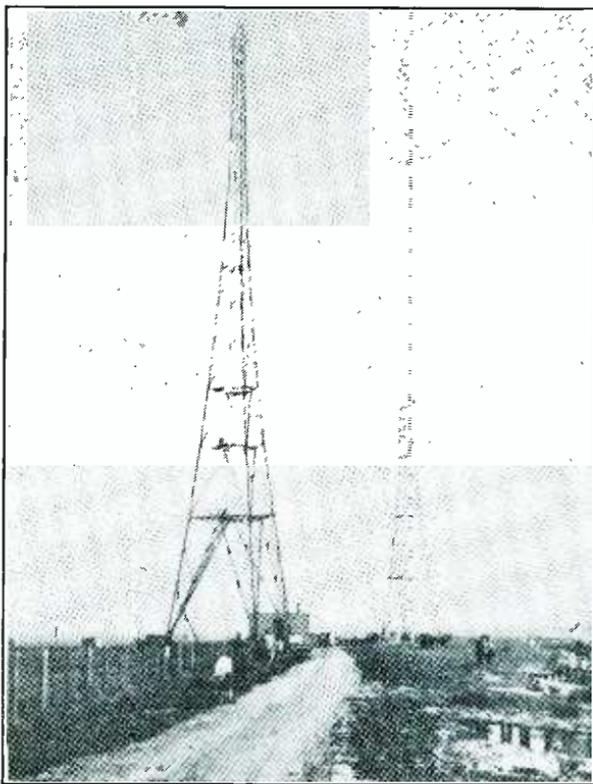
We have never seen a month when it has been so hard to write this particular section. The reason is that reception during the past month was very erratic and but few stations could be depended upon. At the same time, some stations that are not usually heard at this season of the year occasionally came in with excellent volume. Part of the month, stations to the east were best and part of the month stations to the south were best and stations to the west of the listener were fairly good all the month through.

The stations said to be the "best bets" in the Eastern U. S. A. were VK3ME, VK2ME, HKM, PRADO, XAM, VRT, VE9DR, CMCI, KKP, HKD, HKA, F3ICD, Rabat, FYA (three waves), EAQ, and J1AA while stations like CEC, HJY, ZLW, RV-15, LSN, LSR, and California stations were heard irregularly.

The stations reported as the "best bets" in the Western U. S. A. are: F3ICD, RV-15, J1AA, VK2ME, VK3ME, ZLW, PLV, KKP, KKH, KDK, PLW and stations like CEC, LSR, HKA, HKD and South Americans are heard irregularly.

New Zealand and Australian members report RV-15, KRO, HVJ, RW59 W9XF, W8XAL, W3XAL, F3ICD, W2XAF, FYA, and VK2ME as best bets.

Stations like HRB, TI4-NRH, HVJ, HC1DR, RW-59, VS1AB, VK3UZ, LSY, CT3AG, PLM, and ORG were not heard in the United States last month. We refer to distant stations as police, aircraft, ships and American broadcasting stations were heard at all times during the month.



ANTENNA TOWERS OF STATION OXY, DENMARK

CHAPTER NEWS

The New York Chapter of the I S. W. C., which now boasts a membership climbing near the 500 mark, will hold their next meetings on February 5th, 19th and March 4th in the Stuyvesant High School, on Fifteenth Street, between First and Second Avenues at 8:00 P. M. At the last meeting of the Chapter, the inventor of the new photo-electric, whose name has somehow slipped us, gave a practical demonstration of how this cell is used for burglar alarms, automatic numerators and such things.

The Chicago Chapter will hold their next meetings in Room 1741, Edison Building, 125 Clark Street, Chicago, on February 15th and 29th. After considerable effort, the Chicago Chapter got some space at the radio show and hope that they will be able to add many new members.

SPECIAL CLUB PROGRAMS

Members who would like to tune for something different should try to log as many special International Short Wave Club programs as possible in a month and see what their average amounts to. These programs are broadcast by the stations for two purposes. One is to help build up our organization and the other is to give the members something to tune for at regular periods. Following is the list of programs for February:

Station VE9GW, Bowmanville, Ontario, Canada, broadcasts a club program each Saturday from 5:00 till 6:00 P. M., E.S.T., on 25.34 meters.

Station HKD at Barranquilla, Colombia, broadcasts a club program Monday, Wednesday, and Friday from 10:00 to 10:30 P. M.

Station HKA at Barranquilla, Colombia, broadcasts a club program on 48.9 meters each Sunday from 9:00 to 10:00 P. M.

CHANGING METERS TO MEGACYCLES

We have been asked to publish a quick and easy way to convert meters to megacycles and megacycles to meters. Here it is. Take any given wavelength in meters and divide it into the figure 300,000. For examples, take 45.32 meters. This will go into 300,000 just 6.620 times. Take 20.70 meters. This will go into 300,000 just 14.490 times. These figures, 6.620 and 14.490, are known as kilocycles. Strike off the last figure and put a period where the comma appears and you have megacycles. 6.620 is 6.62 megacycles and 14.490 is 14.49 megacycles.

To convert megacycles to meters, simply reverse the order of things. Change 14.49 to 14,490 and divide into 300,000. The result is 20.70 meters. Change 6.62 megacycles to 6,620 kilocycles and then divide this into 300,000 and you have 45.32, the number of meters represented. By this simple rule, all the wavelengths heard mentioned on the air or in magazines may be changed to kilocycles, megacycles or meters. Sometime in the near future we hope to incorporate kilocycles in our magazine, in both the news and station list. Up to the present time there has been little use for kilocycles, but we are finding a growing interest in them at this time.

HEARD ALL CONTINENTS CLUB

The "Heard All Continents" club idea suggested by Mr. Stannard Smith and mentioned in our December issue seems to have found favor with a great many members. We expect to carry out the idea soon and will print all the details in an early issue.

SPANISH TRANSLATOR

Mr. Harry H. Dresser of 346 Broadway, South Portland, Maine, has offered his services to the members of this organization in translating letters written in Spanish to English. This is indeed very kind of Mr. Dresser and we sincerely hope that everyone who sends him letters for translation will not forget to include postage.

SHORT WAVE NEWS

"What is new on the air? What stations can I hear at this time of the year? What stations have changed their schedule or wavelength?" These are three questions of vital importance to the short wave listener who wants to get the most out of his reception.

The information contained in this department is gathered from the four corners of the earth. It is sent us by the members of the International Short Wave Club in the hope that their individual efforts will help others in getting better reception of stations. Without such information, the short wave listener is working in the dark, regardless of how many station lists and such things as he may have on hand. To the members of this organization whose names may appear in this section goes all the credit for a fine spirit of friendship and helpfulness. The officers of the International Short Wave Club could do little or nothing if they were not given the material to build up this news. And so we say "Many thanks."

The time given in this section is Eastern Standard Time, which is five hours later than G.M.T. or G.C.T.

El Prado to Broadcast Special Program

Station EL PRADO in Riobamba, Ecuador, will broadcast a special program for the members of this club on the night of February 28th (Sunday) beginning at 8:00 P. M. and lasting till 11.00 P. M. Eastern Standard Time. (Feb. 29th 0100 to 0400 G.M.T.) The announcements will be made in English. The wavelength is 39.4 meters and your reports should be addressed to Postoffice Box 98, Riobamba, Ecuador.

VE9DR, Montreal, Schedule

The Canadian Marconi Company informs us that station VE9DR is relaying the programs of station CFCF, Montreal, Canada, on 49.96 meters each night from 7:00 P. M. till Midnight. The station is located at Drummondville, not far from Montreal and is the most powerful short wave broadcast station in Canada. The address is P. O. Box 1690, Montreal.

VE9CS on 49.42

Walter H. Carter of Vancouver, British Columbia, writes us that station VE9CS is on 49.42 meters and not on 48.80. We do not know the present schedule of this station.

VE9BJ on 49.26

J. W. Brauner of Williamsville, N. Y., tells us that there is a new short wave station on the air in St. Johns, Newfoundland, relaying the programs of station CFBO. This station is on 49.26 meters and further information can be secured by writing Mr. Thorne, Engineer of CFBO, Capitol Theatre Building, St. Johns.

VE9HX and VE9CF

Stanley J. Frederickson of Brooklyn, N. Y., has a letter from Mr. William C. Barrett, station director of VE9CF, Halifax, Nova Scotia, saying

that this station will soon be on the air under the call letters VE9HX, while the letters VE9CF will be given a new station in Montreal. VE9HX will have 50 watts power and will be on 49.57 meters each day from 11 A. M. till noon and 5 till 6 P. M. On Wednesdays they will broadcast from 8:00 till 9:00 P. M. and Sundays 6:30 till 8:15 P. M.

VE9AM

Station VE9AM, the experimental station of the Canadian Marconi Company has been heard on several wavelengths during the past month. H. S. Bradley of Hamilton, N. Y., heard it calling VER on 52.7 meters. Earnest Madison of Scranton, Iowa, reports it on 54 meters at 9:30 P. M. and Frank Grey of Cicero, Illinois, heard it at 9 P. M. on 60 meters. The address of this station is 173 Williams St., Montreal, Canada.

VE9GW on 25.4

Station VE9GW of Bowmanville, Canada, requests reports on volume and modulation on their new 25.43 meter station. Mr. S. B. McDonald of Pulsinch, Ontario, states that the station operates each day from 1 P. M. until 10 P. M., E.S.T.

VE9JR on the Air

James Richardson and Sons, owners and operators of stations VE9CL and CJRX, has decided to try the old transmitter of CJRX again, but under a new set of call letters. This station, VE9JR, is relaying the programs of station CJRM and CJRW on 25.65 meters. It is located in Winnipeg, Manitoba, Canada, and certainly sends out a good signal. Mr. D. R. P. Coats, the station manager, informs us that he expects to put VE9CL back into service again soon on 48.5 meters and if there is sufficient interest shown in VE9JR, both stations will be used.

Important Changes in G5SW

"World-Radio," the official magazine of the British Broadcasting Company, states that station G5SW, the well known short waver at Chelmsford, is starting on a new schedule and will broadcast news items to British subjects in its colonies. G5SW will be on the air every week day, and will be closed down only on Sunday. At 12:30 P. M., 6.15 P. M., and 12:00 Midnight, Greenwich Mean Time, news items will be broadcast. (12.45 P. M. Saturdays) G5SW will be on the air every day except Sundays now, from 7:30 till 8:30 A. M., E.S.T. (12:30 to 13:30 G.M.T.) and 2:00 till 7:00 P. M., E.S.T. (19:00 to 24:00 G.M.T.)

French Station Changes Schedule

The now famous French station at Pontoise is broadcasting on a new schedule after all. We mentioned the possibility of this some time ago. It is now on 19.68 meters from 8:00 till 11:00 A.M. On 25.20 meters it is heard from 11:30 A. M. till 2:30 P. M. and on 25.68 meters it is heard from 4:00 till 7:00 P. M.

Rome Back on 25.4

The station in Rome, Italy, that went up to 80 meters for a time is now back on 25.4 meters. It may go back up to 80 meters at any time

however. This station is on the air daily from 11:00 A. M. till 12:30 and 3:00 till 5:30 P. M. Several members say they are coming on the air at 2:30 P. M. instead of 3:00 P. M.

EAQ Madrid

We correct an error in our last edition. Station EAQ at Madrid is on the air each night except Sunday from 8:15 till 8:45 P. M., E.S.T., and is oftimes heard on Saturdays broadcasting a musical program around 4:00 P. M., E.S.T. Robert Bandell of Brooklyn also reports hearing it one Monday at 2 P. M. broadcasting.

HVJ Schedule

Although HVJ is not heard very often in the United States, or any part of North or South America, the following schedule may be interesting. This station, which is located in the Vatican City is on 19.84 meters each week day from 5:00 till 5:15 A. M. and on 50.26 meters from 2:00 till 2:15 P. M. On Tuesdays, they broadcast a special English program. On Sundays they are on 50.26 meters from 5:00 till 5:30 A. M. and this is the program that American listeners have a possibility of hearing. Thanks for this information goes to Fred Easter, Cincinnati, Ohio; J. Warren Donahue, Los Angeles, California; and Erwin Wendler, Mt. Clemens, Michigan.

Egypt-England Phone

Two letters that seem to mean a new phone circuit is in the making, have come to us. Thomas G. Tupper of Lakewood, New Jersey, tells us he is hearing station GBP at Rugby, England, talking to Egypt on 27.86 meters at noon irregularly. Robert G. Bode of Maspeth, New York, states that station SUY at Cairo, Egypt, was heard testing on voice with England on 38.17 meters at 5:30 P. M. E.S.T. This station is owned by Marconi Radio Telegraph Company of Egypt, Cairo, Egypt.

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NEW YORK CITY

JB, South Africa

D. R. De Wet, of Austinpost, South Africa, sends us a letter which he received from the African Broadcasting Company, P. O. Box 4559, Johannesburg, South Africa, saying that in the near future they will have their short wave transmitter, JB, on 49.2 meters with 500 watts power. They are now using very low power and they do not say exactly when the new transmitter will go on the air. No schedule is given in the letter, but we understand it is 10:30 A.M. till 3:30 P. M. each day. This station is not heard in America.

RV15 Earlier

Louis A. Baer of Bakersfield, California, and F. W. Fox of Vancouver, Canada, both tell us that RV15, Russia, is on the air as early as 1:30 A. M. E.S.T. instead of going on at 3:00 A. M. as our schedule states.

The Russian Stations

R. H. Tomlinson of Port Chester, N. Y., sends us a list of Russian stations he garnered from some source. RV15 is on 70.2 meters, RV38 at Moscow is on 54.4 with low power, RV59 at Moscow is on 50 meters with good power, RV62 at Monsk is on 46.72 meters with low power and some other station at Moscow is on 45.38 meters.

Belgium-Belgian Congo

We have a report that states a new station in Brussels, Belgium, and another one in Leopoldville, Belgian Congo, are testing with each other. The Belgian station is said to be approximately 29.25 meters and the Congo station on 30 meters and the tests take place between 2:00 and 4:00 P. M., 9:00 and 11 A. M. and 3:00 and 6:00 P. M. E.S.T. During the afternoons, code is sometimes used. This report comes from W. W. Kester of Fairfield, Virginia. E. Sigman of Chicago reports a strange French or Belgian station near 29 meters during the afternoons.

Zeesen on Mondays

The short wave broadcasting station at Zeesen which generally broadcasts on 31.38 meters is now on 19.73 meters each Monday between 8:00 and 10:00 A. M. E.S.T. with a special program for American listeners. This news comes from W. Kuzmin of Agincourt, Canada. They broadcast regularly each day on 31.3 meters from 8:00 till 9:00 A.M., 10:30 A. M. till 1:30 P. M. and 2:00 till 6:30 P. M.

J1AA Sends Special Programs

A Japanese member tells us that J1AA has recently been relaying programs of station JOAK, Tokyo, on a wavelength of 30 meters between 4:00 and 8:00 A. M. E.S.T. for Japanese troops in Southern Manchuria where J1AA is being picked up and re-broadcast on the long wave Dairen station.

KAY on 20.03

Several members tell us that station KAY which was mentioned last month is on 20.03 meters. It is located at Manilla, P. I. and is owned by the R. C. A. Thanks for this information goes to Kirk L. Russell, Scars-

dale, N. Y.; Ralph G. Van Name, New Haven, Conn.; R. L. McNeal, Milford Michigan; and William Lando, Corona, N. Y.

The Hawaiian Stations

Quite a bit of confusion still exists in the Hawaiian station reports we are getting and we hope to be able to get this straightened out in this bit of news. It seems that the Radio Corporation of America have been building stations for the Mutual Telephone Company of Hawaii and have been testing them on several wavelengths. The call letters used for experimental tests were K6XO and this was heard on several wavelengths. At present, there is in operation stations KEQ on 43.54 meters, KKH-KDK on 39.89 meters, K1O on 25.68 meters and KKP on one of two wavelengths 18.76 or 1871 meters. (One is used if the other is troubled by interference.) Station KRO was tested on 51.33, but we believe this was changed to KEQ.

Thanks for different bits of this information goes to Carroll Foltz, North Baltimore, Ohio; John Colnar, Roseville, California; Willis Werner, San Deigo, California; Homer Butler, Ashland, Illinois; Harold Christmas, Philadelphia, Pa., and Joseph Neuberser, Cumberland, Maryland.

The Californians

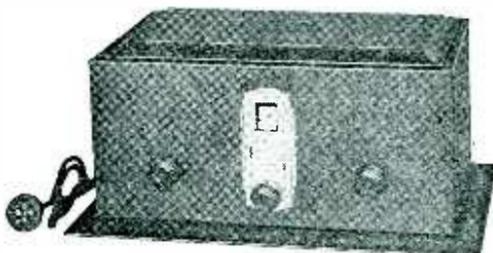
Like the Hawaiians, the R. C. A. have been building and testing stations in California for the Transpacific Communications Company, Inc., 140 New

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Montgomery Street, San Francisco. These stations included KEL on 43.73, KEN on 43.82, KEE on 38.89, KEJ on 33.3, KEZ on 28.84, KES on 28.81, KKQ on 25.10, KKZ on 21.91, KKW on 21.77, KWE on 19.44 and KQJ on 16.64 meters. Tests were made under the call letters W6XI. In addition to this group, the Transpacific Communications have at Dixon, California the following: KWO on 39.63, 39.42, 27.68, 19.53, 19.46, and 14.24 meters.

Some of these who mentioned these stations recently are Arthur Stapfer, St. Louis, Mo.; John Robbins, Wellsboro, Pa.; Forrest Ashworth, Greencastle, Indiana; Eugene Buser, Union City, N. J.; Kirk L. Russell, Scarsdale, N. Y.; R. L. McNeal, Milford, Michigan; Forrest Royder, Baytown, Texas; and Roy Sanders, Worcester, Mass.

All these stations with the exception of KWØ on 19.46 and KKP on 18.71, who work each other from 2:00 till 7:00 P. M. and KWO on 39.42 and KDK on 39.89, who work each other from 7:00 P. M. till 2:00 A. M., are irregular in operation.

ZLW Changes Waves

According to Harry Mathena of Long Beach, California, a letter from station ZLW tells us that they were on 33.7 meters for a time but are now on 24.4 meters. It is heard most every morning working with Australia and Java on phone.

Radio Goldberg

The station styling itself "Radio Goldberg" mentioned last month as broadcasting on 26.5 meters each Sunday, Tuesday and Thursday from 5:00 till 7:00 A. M. is owned by Messrs. J. H. Goldberg, Sourabaya, Java.

TI4-NRH Changes

We have been informed that station TI4-NRH at Heredia, Costa Rica, is now broadcasting each night with the exception of Sunday, on 31 meters from 9:00 till 10:00 P. M., E.S.T.

TIR on New Wavelength

Station TIR at Cartago, Costa Rica, has been heard lately on 20.7 meters near 10:00 or 11:00 A. M., E.S.T. They have been broadcasting quite a bit of music and also talking to amateurs. It is reported by John F. Stanbery, Newport, Tenn.; Eugene Buser, Union City, N. J.; Victor Seons, Iowa City, Iowa; Ernest Madison, Scranton, Iowa; H. J. Davison, Bayamon, Porto Rico; and James Robinson, Ocean Springs, Miss. Page Taylor, Detroit, Michigan, has a letter from this station saying they have 1000 watts power and can operate on 49.34, 39.10, and 31.28 meters. It is owned by Compania, Radiografica Internacional de Costa Rica, San Jose, Costa Rica.

Cuban on 63 Meters

Albert J. Leonhardt of Brooklyn, N. Y., tells us that the station we asked about last month that is heard broadcasting near 63 meters is located in Havana, Cuba. W. W. Kester of Fairfield, Virginia, states that it is on the air every night from 8:00 till 11:00 P. M. but gives the wavelength as 72.5 meters.

CM8UF Cuba

H. S. Bradley of Hamilton, New York, has a letter from station CM8UF the amateur mentioned in our last issue. This station is on 21 meters and is located at Guantanamo Bay, Cuba. It was the first Cuban station to claim membership in the "Worked All Continents Club." In February 1930, this station received the highest total of credits of all amateur stations in the world in the International Relay contest.

LSX Heard Again

LSX, that once famous short wave station in Buenos Aires, Argentina, was heard on the air again last month testing with some R. C. A. receiving stations in New York. It was heard between 10:00 and 11:00 P. M. playing musical selections on 28.98 meters. This information comes from W. F. Ryan, Pittsburgh, Pa.; Harold Christmas, Philadelphia, Pa.; and John Robbins, Wellsboro, Pa.

HKA on New Schedule

Station HKA at Barranquilla, Columbia, is now on the air every night from 8:00 till 10:00 P. M., E.S.T. on 48.8 meters.

HKD on New Schedule

Station HKD at Barranquilla writes several members that he is now on 50 meters each Monday, Wednesday, and Friday from 8:00 till 10:30

The Hammerlund "Comet"

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TRY-MO RADIO COMPANY

177-C GREENWICH STREET

NEW YORK CITY, U. S. A.



P. M. and Sundays from 7:45 till 8:30 P. M. He is heard nearer 50.5 than 50 meters. This news comes from Victor Seons, Iowa City, Iowa and J. W. Donahue, Los Angeles, California.

The Venezuela Stations

H. J. Davison of Bayamon, Porto Rico, tells us he heard station YV4BC Velencia, Venezuela, broadcasting on 25.6 meters near 3 P. M. and also near 9:00 P. M. He states that the station uses two call letters and has a habit of moving up and down on the dials. The second set of call letters is YV10BC.

Charles Hart, Radio operator on the S. S. "Trujillo" and L. Zamora of Maracaibo, Venezuela, each tell us about the new station at Maracaibo, Venezuela, which started broadcasting recently. The station, under the call letters YV11BMO, has a power of 250 watts and broadcasts on approximately 48.9 meters. It is known as "La Voz de Lago" and is on the air between 8:00 and 10:00 P. M. and oftimes between 3:00 and 5:00 P. M. Mr. Zamora tells us that the station is found on a slightly different wavelength now, which we judge from dial settings to be about 50.4 meters. At the opening of this station, the President of Venezuela and many others of high political life took part.

New Mexican

Stannard Smith of Los Angeles, California, tells us to be on the look-out for a new Mexican station which will be built at Piedra Negras, Mex.

XDA on 15.9

Louis A. Baer of Bakersfield, California, reports hearing station XDA, Mexico, talking to Nauen, Germany, at 7:00 A. M., E.S.T one morning.

WOX-NRLG

Some interesting information comes from Stanley J. Fredrickson of Brooklyn, New York. Station WOX, owned by the New York Telephone Company is operating on 118.57 meters and testing with a number of boats that ply the New York harbor. At the present time they are testing with the station on the coast guard boat "Cahoone." The New York Telephone Company expects to install small transmitters and receivers on board most of the boats that ply the New York harbor, similiar to those used on airplanes, and these boats will then be connected with the mainland at all times and connection can then be made with any telephone in the United States.

W9XAA

Station W9XAA, the short wave "Voice of Labor" at Chicago, is now on a regular schedule. It is on the air from 11:00 A. M. till 9:00 P. M. Sundays, 8:30 A. M. till 11:00 P. M. on Mondays and Wednesdays, 8:30 A. M. till 9:00 P. M. Tuesdays, Thursdays and Saturdays, 8:30 A. M. till 8:00 P. M. on Fridays.

Some Stations to Search for

Several members would like to know what station is heard on week-days on 24.86 meters between 8:00 and 10:00 A. M., sometimes with music

but usually phoning some other station. Also, two telephone stations speaking in the Dutch language between 39 and 41 meters heard near 8:00 A. M. each day.

VE9BY Changes

The manager of station VE9BY at London, Ontario, Canada, wrote us that this station had changed its schedule, but failed to tell us what the new schedule was.

HRB Closes Down

For some unknown reason, station HRB at Telgucigalpa went off the air some time in late November. We have a telegram which they sent to Mr. Egon Lenz of Managua, Nicaragua, which states that they are really off the air, but gives no reason for their closing down.

The New Bermuda Phone

The new Bermuda telephone station, VRT, went on the air last month. This station is used for phone service with station WNB, New Jersey, and the ship "Monarch of Bermuda" and is heard on two wavelengths. The transmitter is owned and operated by International Communications, Ltd., Hamilton, Bermuda. The actual transmitter is located at St. George, Bermuda, and the receiver is just outside the city of Hamilton. The station works on 29.8 meters most of the time, but has been reported on 59.41 meters also.

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TC-2

What Club Members say about the Scott All-Wave Receiver

Below are some letters from members of the International Short Wave Club telling what they think of the
SCOTT ALL-WAVE RECEIVER

Floyd G. Wilkins, 34 Madison St., Saratoga Springs, N. Y., writes, "The 'Scott All-Wave' is one radio receiver that makes 'Home, Sweet Home' sweeter. Beautiful tone, sensitivity that is uncanny, with power enough to fill an auditorium but so easily controlled that it can be tuned to a whisper. No 'barrel' effects, no undertones, but pure undisturbed natural tones; all in all, a perfect receiver, about five years ahead of the present day radio.

"During the past week on my Scott All-Wave, using the short wave, I have tuned in over 79,000 miles, written it down and mailed it to stations for verification."

John Ritchie, 400 St. Paul St., West, Montreal, Canada. "In construction and appearance the receiver is a marvellous piece of precision workmanship. On the short wave band a high quality of reception is possible. The immense range of the receiver, and with it, fine reproduction and regularity of reception, is amazing. Australia, Argentina, Colombia, England, France, Italy and Germany are regular visitors via the loudspeaker. For an all-around satisfactory performer, try a Scott All-Wave. Another thing, Scott service does not end at the point of sale. Regular contact is kept with the purchaser through "Scott News," "Friendly Chats," etc. And the set is guaranteed for five years. A most satisfactory organization with which to do business."

Andrew L. Shafer, 33 Linden Ave., Newark, Ohio. "I have one of Mr. Scott's radios which I purchased last summer. It was my first introduction to short waves and the results I have had have thoroughly satisfied me. It has done everything Mr. Scott said it would and in a way that constantly amazes me. In my opinion Mr. Scott has made the best radio ever available—an achievement of which he can well be proud. You can take my opinion for what it is worth, based on experience that dates back to 1914 and includes amateur operating, experimental work, commercial operating for five years, selling and now enjoying radio as a hobby."

Wm. Jordon, of Norden, Jordan & Lasko, 525 Seventh Ave., New York City, writes: "Regarding my Scott All-Wave, wish to state that I have tried many other short wave radios but have found none to compare with the Scott. Foreign stations come in like locals. For tone quality, selectivity and distance, it can't be beat."

B. W. Fink, Brushy, Missouri, writes: "I would like to add my commendatory statements to your thousands relative to the real value of the Scott All-Wave Receiver. As illustrative of my idea, will say: I bought the first of these last summer. Since, I have bought two more, I now have one in my home at Bloomfield, one in my office at Brushy and one in my office at Salem. The writer has eight sets—all in working order. The Scott outperforms any of them.

Thomas Neeff, Delaware City, Del. "Last summer I purchased a Scott All-Wave Receiver and it was certainly a step in the right direction, a set that will bring in England, France, Germany, Italy, South America, Central America and Australia on the loud speaker, I feel is something worth having. In regards to sensitivity, selectivity, tone, etc., I will say it is second to none.

L. D. Memler, care N. W. Bell Telephone Co., Iowa City, Iowa: "As I am the owner and operator of a Scott All-Wave Receiver, I would like to add a word; that the Scott All-Wave sure steps up and brings in the stations on all wavebands and is the most sensitive set that I have ever worked with."

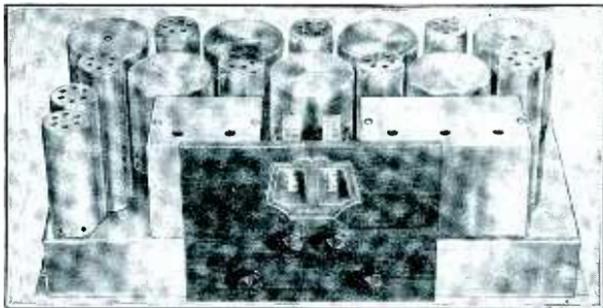
Charles C. Bourget, 2026 Tilgham Street, Allentown, Pa. "To be frank with you, I don't believe there is a receiver on the market today that can come up to the Scott."

F. L. Stitzinger, Forest Park, Erie, Pa.: "I have had my Scott All-Wave since August, 1931, and to say I have enjoyed this receiver is putting it mildly. The thrill of bringing in stations thousands of miles away and listening to their programs with all the volume you can use for good reception is what I call a real thrill. If there is any more person can say about the Scott All-Wave Receiver, well I just don't know how to say it."

Daniel Santora, 33 Wales Avenue, Jersey City, N. J.: "After many years of experience, I discovered the Scott All-Wave Super-Het. Much credit has been given to the short wave distance and selectivity of a Scott, but not enough credit can be given for the fine tone quality."

Floyd Pennell, 1421 South Saginaw St. Flint, Mich. "I may as well tell you I live in one of the worst possible places for reception, with street car lines in front of the house, car barns two blocks away, high tension wires on two sides, signs with flashers near, and a theatre with sound equipment half a block away. On the 85 meter band I can bring in many Californians with excellent volume, on the loud speaker of course. On the shorter waves I have tuned in such stations as XEW Mexico City, VE9CL Winnipeg, G5SW Chelmsford, I2RO Rome, FYA Paris, HRB Honduras, HKD Barranquilla, LSN Buenos Aires, VK2ME Sidney, VK3ME Melbourne, phone stations, and others."

Lewis R. Greenman, 379 Liberty St., Conneaut, Ohio. "It has been interesting to check my small set with the Scott. Signals that can just be heard on the loud speaker on the small set can be heard all over the house on the Scott, just like a local broadcast station. When G5SW, I2RO or any foreign station is coming in, you can't tell it from a local on the broadcast band."



SCOTT "ALL-WAVE" CHASSIS

William Mayer, 257 Murray Ave., Larchmont, N. Y. "I am more than satisfied with the Scott performance. Short wave reception is more than I expected."

W. Linstroth, 90 C. N. S. R. R. Co., Highwood, Ill. "The receiver I now own is a Scott All-Wave, which is the finest radio receiver money can buy. I have listened to VK2ME at Sydney, Australia, for the last twenty Sundays. I also have listened to Rome, Germany, France, South America, The Philippines and others."

Webster I. Carpenter, 201 Medical Arts Bldg., Norfolk, Va. "I operate a Scott All-Wave 1931

T. W. Bradshaw, Revelstone, Canada. "I find that practically any time they are on and I want to tune for them, I can tune in VK2ME and VK3ME and have frequently heard RV15, and F3ICD and others."

S. O. Kennedy, Box 217, Tuskegee, Alabama. "It is simply incredulous (assuming you are not familiar with the Scott Receiver) to believe that one is listening to, say, London, Paris, Rome, Sidney, Melbourne, Bogota, etc., etc."

model, and What a Set! When I first began to operate the set I thought that foreign stations must necessarily be very weak. Consequently, I, habitually, would pass by any station that came 'roaring in,' thinking they were only locals in the United States. But just as I was passing over a station one day I heard the announcer state, 'You are listening to station G5SW at Chelmsford, England, etc.' I was astonished at such volume and clarity. I had been passing over this station for two weeks. Of course, since I have tuned in Holland, Italy, France and numerous others."

Send for Full Details

Full particulars of the Scott All-Wave will be of immense interest to you. Get them now. Read all about the Receiver that challenges the whole realm of radio to any kind of competitive test.

The coupon opposite will bring you full details. Clip it—fill it in—mail it today.

CLIP-----*

E. H. SCOTT RADIO LABORATORIES,
Inc.

(Formerly Scott Transformer Co.)

4450 Ravenswood Ave., Dept. 152, Chicago, Ill.

I am a member of the I. S. W. C. Send me full particulars of the Scott All-Wave Receiver.

Name.....

Street.....

* Town..... State.....

Aircraft Stations

H. J. Eschrich of St. Louis, Missouri, sends us a list of aircraft stations which appears to be the most accurate and up-to-date we have ever seen. These stations are used to communicate with airplanes while in flight and also with each other. The Transcontinental Air Transport and Western Air Express stations operate on 54 meters in daytime and 96.77 at night. The stations are WAEF, Newark, N. J.; WAEE, Camden, N. J.; WAED, Harrisburg, Pa.; WAEC, Pittsburgh, Pa.; WAEB, Columbus, Ohio; WAEA, Indianapolis, Ind.; KGTR, St. Louis, Mo.; KSY, Tulsa, Okla.; KSW, Amarillo, Texas; KSX, Albuquerque, New Mexico; KGPL, Kingman, Ariz.; KGTJ, Las Vegas, Nevada; KSI, Los Angeles, Calif.; KGTD, Wichita, Kansas, and KST, Kansas City, Missouri.

The Southern Air Transport stations operated on 53.25 meters in daytime and 86 meters at night. They are WQDP, Atlanta, Ga.; WSDE, Tuscaloosa, Alabama; WSDB, Jackson, Miss.; KGUK, Shreveport, La.; KGUF, Dallas, Texas, KGUC, Ft. Worth, Texas; KGUL, Abilene, Texas; KGUJ, Big Springs, Texas; and KGUA, El Paso, Texas.

The Boeing Air Transport System stations operate on 53.53 meters in daytime and 94.52 meters at night. They are WQDU, Aurora, Ill.; KQQ, Iowa City, Iowa; KQM, Des Moines, Iowa; KMP, Omaha, Nebraska; KRF, Lincoln, Nebraska; KMR, North Platte, Nebraska; KQE, Cheyenne, Wyo.; KQC, Rock Springs, Wyo.; KQD, Salt Lake City, Utah; KKO, Elko, Nevada; KJE, Reno, Nevada; KFO, Oakland, Calif.; KRA, Boise, Idaho, and KDD, Pasco, Washington.

PCJ Closes Down.

Miss Mary Reinisch of the National Broadcasting Company informs us that station PCJ of the N. V. Philips Company at Eindhoven, Holland, has closed down for six months. No reason has been given, but the station has certainly closed down.

Saigon is on 25.4 meters.

The world famous short wave station "Radio Saigon" has been testing quite often on 25.4 meters during the past month. It has been reported as having good volume in California and Australia by members. This station broadcasts regularly on 49.1 meters from 6:30 till 10:30 A. M., E.S.T. The tests on 25.4 took place mostly near 10 A. M. Thanks to Harry Methena, Long Beach, California; Mr. Wetton of Strathfield, Australia; and Henry L. Harris, Jr. of Pacific Grove, California.

We have been informed that these tests take place regularly on Fridays at 10:30 A. M., E.S.T.

The Santiago-Buenos Aires-Bogota Stations

Some very interesting and useful information comes to us on the stations owned by All-American Cables, Inc., from John Craig, of Ridge-wood, New Jersey. A great many listeners have been hearing stations in Buenos Aires, Santiago, and Bogota testing with each other during the past three months, generally near noon, E.S.T. or near 4 P. M. According to reports, these stations were the first which were to be built in the capitol cities of South America. Now we have the following information—HJY, Bogota, Colombia, is on 16.25 and 30.21 meters. CEC, at Santi-

ago, Chile, is on 15.24 and 28.12 meters. Buenos Aires has LSR on 15.82, LSM on 29.13 and LST on 32.93 meters. A new station which will probably be heard soon is OCI at Lima, Peru, which will be on 16.06 and 27.35 meters. Stations HJY on 16.25, CEC on 15.24 and LSR on 15.82 have all been heard quite regularly lately.

ORG Belgium

Robert G. Bode of Maspeth, N. Y., has a letter from the chief engineer of the Belradio station, Radio-Electrisck Centruin, Ruysseledeed Beernem, Belgium, saying that station ORG tests on voice each day from 11 A. M. till 11:30 A. M., E.S.T. on 15.62 meters, but is used generally for telegraph work with New York.

The Ships

There is quite a bit of news coming in about the ship stations. Station GTSD is on board the S. S. "Monarch of Bermuda" and they work on 71.8 and 33.9 meters. They operate with stations WOO at Ocean Gate, New Jersey, and VRT, the new station at Hamilton, Bermuda. They are on the air between 9 A. M. and 12 noon; 2 and 5 P. M.; 7 P. M. and midnight, E.S.T. This ship is owned by the Furness Bermuda Lines and reports may be addressed to Pier 95, West 55th Street, New York City.

"BEST" Short Wave Coil ASSEMBLY AND SWITCH

COMPLETE WITH COILS FOR 16 TO 200 METERS

No more plugging-in coils, a turn of the knob changes the
wave length—a great convenience for the **\$5.95**
short wave fan. SPECIAL PRICE.....

SWITCH only, 3-way, **\$2.95** Step-Down Transformer, **\$2.95**
4-point, each..... brings 220 v. to 110 v..
(To use with your own coils.)

R. F. CHOKES, 85 M. H., for.....15c

LOTFIN WHITE AMPLIFIERS

Model 245, using 1 224, **\$10.75** Model 250, using 1 224, **\$14.75**
1 245, 1 280..... 1 250, 1 181.....

Also the New Jensen Permanent Magnetic Speaker, **\$8.95**
can be used for A.C., D.C. or Battery, Our Price.....

ALAN RADIO CORPORATION

80 CORTLANDT STREET

NEW YORK CITY, U. S. A.

Thanks to Stanley J. Fredrickson of Brooklyn, N. Y., and R. H. Tomlinson of Port Chester, N. Y.

GKFY, a new station, is on the S. S. "Minnetonka" of the Atlantic Transport Lines and has been heard working with stations WOO and GBC near 7 P. M. on 71.8 meters. It may perhaps be heard on the other ship wavelengths also. Thanks to George Lampert of Riverside, Connecticut, and William Lando of Corona, N. Y.

The S. S. "Empress of Britain" is off on a world tour, and it is expected that they will broadcast some test programs on 22.69 meters at times. At least, the operator was overheard telling someone that they expected to be re-broadcast in Canada. The other ships, including the Majestic, the Olympic, the Belgenland, the Homeric and the Leviathan do not seem to be active at this time.

Robert Bandell of Brooklyn, reports reception of a station on the S. S. "New York" testing with WOO at 3 P. M. on 130 meters. The call letters sounded like GBED or GDED.

EAN Madrid

Two members report reception of a new station in Madrid, Spain, on 28.5 meters using the call letters EAN. This station was heard near 4 P. M. and the announcer said that it was owned by Transradio Espanola at Madrid, who also operate station EAQ. These reports came from R. H. Tomlinson, Port Chester, N. Y., and John J. Gubelmann, Jersey City, N. J.

YVQ Working on New Wave

Station YVQ at Maracaibo, Venezuela, is reported working on approximately 16.35 meters with a station in Germany who may be found just a few points higher on the dials. This station usually works on 25.67 meters with Germany, near 6 P. M., but lately they have been on the new low wave working near 10 A. M. E.S.T. They are heard quite well on both wavelengths. Thanks to Carl H. Stenzler, Philadelphia, Pa., and A. J. Leonhardt, Brooklyn, N. Y.

HKM Schedule

William H. Leeds, of Long Island City, New York, sends us a letter he received from the chief engineer of station HKM, Bogota, Colombia. This station is on 45.25 meters each night, from 8:30 till 10:00 P. M., E.S.T., according to this letter. The address is Apartado 188, Bogota, Colombia. They are heard quite well in the U. S. A. at this time.

New Java-Sumatra Stations

C. M. Scott of Woodhouse Grove, Australia, tells us that a new station in Batavia, Java, is broadcasting on either 48.80 or 49.40 meters each Monday from 1200 to 1300 GMT (7 A. M. till 8 A. M. E.S.T.) and Tuesdays on 31.40 meters at the same hour. Another station located in Betong, Sumatra, is on 28.84 meters working with the Javanese telephone stations from about 930 to 1230 GMT (4:30 A. M. till 7 A. M. E.S.T.) There is a possibility that both of these stations may be heard in America with little trouble.

The Siamese Stations

Harold Seaton, of Seville, Tennessee, sends us a letter he received from the Siamese Post and Telegraph, of Bangkok, Siam, in reply to a request for information on their stations. The only short wave voice station now operated in Siam is Station HSP2, known as "Radio Bangkok at Phaya Thai" and it is on the air each Monday from 9:00 A. M. till 11:00 A. M., E.S.T. The interval signal is a six note chime between selections. The station manager states that no attention should be paid to any other stations that may be found listed in radio magazines.

DFB on 17 Meters

R. Ives, of Turffontain, Transvaal, South Africa, tells us that he is hearing station DFB on 17 meters working with some station in America. Probably YVQ. This station is heard very irregularly.

W10XAA—W10XAC

At last we have some definite information on the stations which are heard using the call letters W10XAA and W10XAC which are oftimes heard testing and broadcasting on different wavelengths between 25 and 150 meters. W10XAA is the short wave portable broadcasting station of the National Broadcasting Company, and W10XAC is used by the Columbia Broadcasting System. These stations are used for relaying programs of unusual nature, such as broadcasts from dirigibles, airplanes, ships, following golf matches and other such things where a stationary transmitter will not fill the job. Thanks to Robert Bandell of Brooklyn for this dope.

VAS Nova Scotia

R. H. Tomlinson, of Port Chester, N. Y., sends us a report on station VAS, "The Voice of Nova Scotia," broadcasting musical selections on a wavelength near 62.5 meters at 6:00 P. M.

VK3UZ Off the Air

We have a report which states that station VK3UZ of Melbourne, Australia, which was on 34 meters, has been discontinued.

FTM Testing With U. S. A.

Two members report hearing station FTM at St. Assise, France, testing with the United States, on 24.45 meters, between 2:00 P. M. and 4:00 P. M. several afternoons. These members were Arthur Lunn, of Maplewood, N. J., and Albert J. Leonhardt, of Brooklyn, N. Y.

Police Stations

Those members who do nothing but dial for distant stations are missing a few interesting hours by not tuning in on the police stations and getting the news of the latest crimes as they are flashed over the air to the police cars in various cities.

Airplanes and Airports

There are a few interesting moments awaiting those listeners who tune for the aircraft stations also. Both these and the police stations flash on the air in a second and then right back off the air as soon as their mes-

age is sent. Just tune in one of these stations and keep your dials set close by for the next one to go on the air.

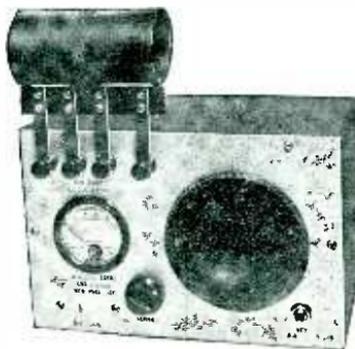
Amateurs

It is almost impossible for us to keep track of the number of amateurs heard both in America and other countries on 21 meters at this time. Some of the most interesting ones heard recently were TI3LA Costa Rica, G5BY England, CM8UF, Cuba, HC1FG and HC1AP in Ecuador, and there are any number of others in America.

Change in Javanese Station

Mr. Wm. Davidson, of Alloa, Scotland, has letters from the chief engineer of the Javanese short wave stations saying that stations PLM, PLG have closed down, and PLV is the call letters of the station on 31.8 meters. From Mr. Wetton, of Strathfield, Australia, comes the information that station PLW has changed from 36.9 to 31.63 meters and works the new Sumatra station and Sydney, Australia, three or four mornings each week between 4:00 A. M. and 8:00 A. M., E.S.T. This station is being heard in America and it interferes with station VK3ME at Melbourne. It is reported by A. J. Leonhardt, of Brooklyn, N. Y.; Joseph B. Sessions, of Bristol, Conn., and J. B. Hinds of Yonkers, N. Y. Harry Mathena, of Long Beach, California, reports good reception of PLV on 31.8 meters, broadcasting each Tuesday from 8:40 till 10:40 A. M., E.S.T. Station PMY at Bandoeng, Java, is reported broadcasting on 58 meters daily, at 7:00 A. M., E.S.T., in a number of radio magazines in Australia and New Zealand.

Do You Need an Oscillator *to get your?* Stations?



When your set is not sensitive enough to get the carrier whistle of the station you are looking for, get

A WIRELESS EGERT ENGINEERING MODEL No. 301 OSCILLATOR

to check where that station should be on the dial.

Supplied with three Calibrated Coils to cover the short wave broadcast band between 15 to 55 meters. PRICE, COMPLETE,

\$32.00

WIRELESS EGERT ENGINEERING, Inc.

179 VARICK STREET

NEW YORK CITY

ANNIVERSARY AWARD WINNERS

Results from the anniversary broadcasts held last November were not all that they could be. This was due to two reasons. First, two of the stations scheduled to take part went off the air just before the contest and have not been heard since; Second, a great many members failed to send in their reports in a way in which they could be judged. Several hundred persons wrote that they had heard one or more of the programs but failed to mention what they had heard. Naturally, there was no way in which to decide their standing in regards to the awards. We sincerely hope that when we have another celebration everyone will try to take part.

The winners are as follows:

A Sessions Chime Clock, donated by Joseph B. Sessions, Bristol, Conn., goes to J. Warren Donahue, 1326 Oak Street, Los Angeles, California.

An RCA 103 Speaker donated by Gilbert Peters, Jr., Oak Street, Ramsey, New Jersey, goes to John L. Mathews, 216 Walnut St., Nutley, N. J.

A pair of Baldwin headphones donated by Gilbert Peters goes to Standard Smith, 1823 Crewshaw Boulevard, Los Angeles, California.

An 18 carat White-Gold Wedding Guard Ring, offered by Meyer Koulish Jewelry Company, 64 Fulton Street, New York City, goes to B. L. Porter, Route 1, Box 133, Shreveport, Louisiana.

A Radio Tube, offered by Harrison Radio Company, 189 Franklin St., New York City, was won by Lillian Cooper Manahan, 4005 Troost Avenue, Kansas City, Missouri.

A combination Electric Lighter and Ash Tray was won by Mr. F. A. Ellert, 393 North Sixth Street, San Jose, California.

Other reports were so poor that the judges decided not to award prizes on them. Which only brings forth the thought that if several hundred members who listened in on these programs had taken the time to write down some of the selections heard, they would have had some valuable returns for their efforts. We congratulate the winners and wish them even greater success in future celebrations.

Divide your tuning time as follows: From 14 to 20 meters from day-break until about 2:00 P. M. when stations from all directions fade out, and nothing can be heard after darkness falls. From 20 to 33 meters, stations in Europe can be heard from noon until 10:00 P. M. It is midnight in central Europe at 6:00 P. M., EST., but some stations give late programs. Stations from 20 to 33 meters to the west are heard best from 10:00 P. M. to shortly after daybreak. From 33 to 75 meters, darkness is needed to give the signal carrying power and tuning should be done after darkness falls. This applies to distant stations only, and many locals as well as the amateur phones on 87 meters can be heard at all hours.

FOR SALE—Pilot A.C. Super-Wasp with Screen-Grid Detector, complete with coils, 14 to 550 meters. RCA tubes, and Pilot power-pack. Also 3-tube D.C. Pilot Wasp with 201-a tubes and coils from 17 to 550 meters. Also Kelford power-pack. Write Oscar Neth, 2901 Poplar St., Erie, Pa.

(*M.N.—Midnight).

NEW WORLD

Sweden, Italy Germany Switzerland	Petrograd Constantinople Capetown	Bagdad, Persia	India	Borneo, Java, Dutch E. Indies	Philippine Is. China West. Australia	Tokio Cent. Australia	Sidney Melbourne East. Australia	Auckland New Zealand
1.00	2.00	3.00	5.00	6.00	8.00	9.00	10.00	11.30
2.00	3.00	4.00	6.00	7.00	9.00	10.00	11.00	12.30
3.00	4.00	5.00	7.00	8.00	10.00	11.00	Noon	1.30
4.00	5.00	6.00	8.00	9.00	11.00	Noon	1.00	2.30
5.00	6.00	7.00	9.00	10.00	Noon	1.00	2.00	3.30
6.00	7.00	8.00	10.00	11.00	1.00	2.00	3.00	4.30
7.00	8.00	9.00	11.00	Noon	2.00	3.00	4.00	5.30
8.00	9.00	10.00	Noon	1.00	3.00	4.00	5.00	6.30
9.00	10.00	11.00	1.00	2.00	4.00	5.00	6.00	7.30
10.00	11.00	Noon	2.00	3.00	5.00	6.00	7.00	8.30
11.00	Noon	1.00	3.00	4.00	6.00	7.00	8.00	9.30
Noon	1.00	2.00	4.00	5.00	7.00	8.00	9.00	10.30
1.00	2.00	3.00	5.00	6.00	8.00	9.00	10.00	11.30
2.00	3.00	4.00	6.00	7.00	9.00	10.00	11.00	12.30
3.00	4.00	5.00	7.00	8.00	10.00	11.00	*M.N.	1.30
4.00	5.00	6.00	8.00	9.00	11.00	*M.N.	1.00	2.30
5.00	6.00	7.00	9.00	10.00	*M.N.	1.00	2.00	3.30
6.00	7.00	8.00	10.00	11.00	1.00	2.00	3.00	4.30
7.00	8.00	9.00	11.00	*N.M.	2.00	3.00	4.00	5.30
8.00	9.00	10.00	*M.N.	1.00	3.00	4.00	5.00	6.30
9.00	10.00	11.00	1.00	2.00	4.00	5.00	6.00	7.30
10.00	11.00	*M.N.	2.00	3.00	5.00	6.00	7.00	8.30
11.00	*M.N.	1.00	3.00	4.00	6.00	7.00	8.00	9.30
*M.N.	1.00	2.00	4.00	5.00	7.00	8.00	9.00	10.30

INSTRUCTION FOR USING THE WORLD TIME CHART

This World Time Chart is a valuable adjunct to any short wave list. Because of the world wide range of short wave receivers and the difference in time in different cities of the world, it is difficult to compare transmitting times without the aid of such a chart. The time given in our magazine is Eastern Standard Time, which is the fifth row from the right hand.

TIME CHART

	Samoa	Hawaiian Islands	Pacific	Mountain	Central	**** Eastern Standard	Halifax Buenos Aires N. Y. Daylight Sav	Rio de Janeiro Brazil	London, Paris Madrid	G. M. T. or G. C. T.
Noon	1.30	4.00	5.00	6.00	7.00	8.00	9.00	*M.N.	0000	
1.00	2.30	5.00	6.00	7.00	8.00	9.00	10.00	1.00	0100	
2.00	3.30	6.00	7.00	8.00	9.00	10.00	11.00	2.00	0200	
3.00	4.30	7.00	8.00	9.00	10.00	11.00	*M.N.	3.00	0300	
4.00	5.30	8.00	9.00	10.00	11.00	*M.N.	1.00	4.00	0400	
5.00	6.30	9.00	10.00	11.00	*M.N.	1.00	2.00	5.00	0500	
6.00	7.30	10.00	11.00	*M.N.	1.00	2.00	3.00	6.00	0600	
7.00	8.30	11.00	*M.N.	1.00	2.00	3.00	4.00	7.00	0700	
8.00	9.30	*M.N.	1.00	2.00	3.00	4.00	5.00	8.00	0800	
9.00	10.30	1.00	2.00	3.00	4.00	5.00	6.00	9.00	0900	
10.00	11.30	2.00	3.00	4.00	5.00	6.00	7.00	10.00	1000	
11.00	12.30	3.00	4.00	5.00	6.00	7.00	8.00	11.00	1100	
*M.N.	1.30	4.00	5.00	6.00	7.00	8.00	9.00	Noon	1200	
1.00	2.30	5.00	6.00	7.00	8.00	9.00	10.00	1.00	1300	
2.00	3.30	6.00	7.00	8.00	9.00	10.00	11.00	2.00	1400	
3.00	4.30	7.00	8.00	9.00	10.00	11.00	Noon	3.00	1500	
4.00	5.30	8.00	9.00	10.00	11.00	Noon	1.00	4.00	1600	
5.00	6.30	9.00	10.00	11.00	Noon	1.00	2.00	5.00	1700	
6.00	7.30	10.00	11.00	Noon	1.00	2.00	3.00	6.00	1800	
7.00	8.30	11.00	Noon	1.00	2.00	3.00	4.00	7.00	1900	
8.00	9.30	Noon	1.00	2.00	3.00	4.00	5.00	8.00	2000	
9.00	10.30	1.00	2.00	3.00	4.00	5.00	6.00	9.00	2100	
10.00	11.30	2.00	3.00	4.00	5.00	6.00	7.00	10.00	2200	
11.00	12.30	3.00	4.00	5.00	6.00	7.00	8.00	11.00	2300	

This is the column marked ****. Listeners in any part of the world need only compare these times with their own to show when a station is operating in their particular time. NOTE—Crossing from dark to light area at midnight indicates the following day. Crossing from light to dark area indicates preceding day. For example, crossing from eleven P. M., E.S.T., on Monday, you cross to light from dark, which means you are in the following day or Tuesday.

APPRECIATION SECTION

Each and every day the International Short Wave Club is finding new friends. And interest in the welfare of the organization is increasing from day to day. We take this small section of the magazine to thank these members and others who are helping us in our work of bringing short wave news to the short wave listener. We especially thank Mr. E. H. Scott, of Chicago, for many new members and also Jacob Kleimans and the Reaney Brothers, of Brooklyn.

We also wish to thank Blan, the Radio Man; Colin B. Kennedy Co.; Wholesale Radio Service Co.; Amperite; Federated Purchasers; The National Co.; Alan Radio Co.; Try-Mo Radio Co.; Harrison Radio Company; Stewart-Warner Radio Corp.; and Cameradio Company for their help.

New members were brought in this month by Carl Stenzler, Luiz Perez (Porto Rico), F. L. Lawrence, Fred Easter, Clement Van Velsor, Rev. Wm. Deutch, Rev. Charles R. Kelley, Roy Saunders, W. W. Bush, Earle Barclay, Robert L. Stuart, C. S. Wells, R. Neider, Richard Zorn, John Ritchie, Julius Andresen, E. A. Menche, Ed. Janda, H. B. Ritchie, August Fust, Nicholas Chivily, L. J. Bonham, Leon O'Connor, Electron Radio, Charles Spierman, B. A. Bemis, Robert Reed, J. Kelby Cummings, Victor Seons, J. F. Bachtel, Capt. H. Hall, Joseph R. H. Cade, Ernest Connors, Harry Campbell, George W. Robinson, John Hallock, Owen F. Reel.

FOR SALE—National Velvetone Amplifier, 80, 27, two 45s push-pull. Variable Det. Screen, RF, B voltages and AC filaments for tuner. For National tuners or any other job. Humless operation, factory condition, \$25.00. Dr. A. S. Hunter, Durham, N. C.

MEMBERS' SUPPLIES

MAPS, 25c EACH

Beautiful wall maps, measuring 20 by 30 inches, printed in eighteen colors, with all important cities of the world plainly marked. If you do not already have a map, here is an opportunity to get one at a very reasonable price.

CLUB STATIONERY

Write your reports to radio stations on Club note paper. Full 8½ by 11 inch paper, with the club emblem and the words "The Sign of a Live Short Wave Fan" at the top of each sheet. Fifty cents per hundred sheets, postpaid.

LAPEL BUTTONS

The official Club emblem, made up on a lapel button, finished in blue and gold. Has patent screw-back fastener, to prevent coming loose and being lost. Make yourself known to other members and your friends by wearing one of these artistic buttons. Price 25c each.

Send your order for any of these articles to club headquarters.

"ON-THE-AIR"

Once again we call special attention to the following list of stations. This list contains only stations which are really on the air at this time and not stations which have closed down or have only licenses and are not operating. To some, after reading other publications, it may seem small, but from years of experience we have found this to be the best method of presenting a station list. One of the great drawbacks in short waves has been confusing lists of stations with errors in wavelengths, and operating schedules and containing stations which never really operated.

All times are given in Eastern Standard which is five hours later than GMT. Telephone stations are followed by the call letters of the station they work with. Readers will find it convenient to write down the dial settings of each station they hear on the left-hand margin as this will guide them to distant stations on their dials.

- 14.01—WLO, Lawrenceville, N. J. Phones LSN 8 A.M. to 4 P.M.
- 14.19—LSM, Buenos Aires, Arg. Phones Europe, mornings.
- 14.27—LSN, Buenos Aires, Arg. Phones WLO, 8 A.M.-4 P.M.
- 14.47—LSY, Buenos Aires, Arg. Phones 10 A.M. to 2 P.M., irregular.
- 14.55—PMB, Bandoeng, Java. 3:10 A.M.-4:40 A.M. and 8-9:20 A.M., PCK.
- 14.70—GBA, Rugby, England. Phones to ships and LSN, irregular.
- 14.97—DHO, Nauen, Germany, Phone to LSG., 7 A.M.-11 A.M., Irreg.
- 15.07—LSG, Buenos Aires, Arg., phone to FTM 10:30 A.M.-3:30 P.M.
- 15.14—WMI, Lawrenceville, N. J. Phones GBU, 6 A.M.-6 P.M.
- 15.23—EAQ, Madrid, Spain. Phones to LSY, 7-11 A.M., Irreg.
- 15.24—CEC, Santiago, Chile, Phones LSR, HJY near 11 A.M. and 4 P. M.
- 15.50—FTM, St. Assise, France, 10 A. M.-2 P. M. LSG.
- 15.57—PPU, Rio de Janiero, Brazil. Phone to FTM, 10:30 A.M.-3 P.M.
- 15.58—DFA, Nauen, Germany. Phone to XDA, Irreg., 10 A.M.-2 P.M.
- 15.61—WNC, Lawrenceville, N. J. Phones GBW, 6 A.M.-6 P.M.
- 15.62—ORG, Brussels, Belgium. Testing phone, 11 A. M.-11:30 A. M.
- 15.82—LSR, Buenos Aires, Arg. Phones HJY, CEC, 11 A.M. and 4 P.M.
- 15.93—PLE, Bandoeng, Java, Tues., Fri., 5:40-10:40 A. M. PCK.
- 16.11—GBU, Rugby, England, 6 A. M.-2 P. M. WMI.
- 16.25—HJY, Bogoto, Col. Phones CEC, LSR, 11 A.M. and 4 P.M.
- 16.33—PMC, Bandoeng, Java. 3:10 A.M.-4:40 A.M. and 8-9:30 A.M., PCV.
- 16.36—WND, Lawrenceville. N. J. Phones GBS, 6 A.M.-6 P.M.
- 16.38—GBW, Rugby, England, 6 A. M.-2 P. M. WND.
- 16.39—YVQ, Maracay, Venezuela. Testing. near 10 A.M., irregular.
- 16.44—FTE, St. Assise, France, Phones to FZR, 5 to 9 A. M.
- 16.50—PMC, Bandoeng, Java. Phones PCV, 3:10-9:20 A.M.
- 16.54—GBW, Rugby, England, 6 A. M.-2 P. M. WNC.
- 16.57—GBK, Bodmin, England, 6 A. M.-2 P. M. CGA.
- 16.67—KQJ, Bolinas, California. Testing.
- 16.82—PCV, Kootwijk, Holland, 6 A. M.-9 A. M. Java.
- 17.05—Ships Majestic (GFVW), Olympic (GLSQ), Belgenland (GMJQ),
Homeri (GDLJ), Leviathan (WNB), Monarch of Bermuda
(GTSD), Minnetonka (GKFF).

- 17.52—WOO, Ocean Gate, N. J., Phone to Ships irregularly.
 18.44—WLO, Lawrenceville, N.J. Phones LSN, 8 A.M.-4 P.M.
 18:56—GBX, Rugby, England, 4 P. M.-11 P. M. VK2ME.
 18.71—KKP, Kaunuku, Hawaii. Phones KWO, 2 P.M.-7 P.M.
 18.90—FTK, St. Assise, France, Phones to FZS, 9 to 10 A. M.
 19.03—J1AA, Kemikawa-Cho, Japan. Experimental. Heard early morn'gs.
 19.44—KWO, Dixon, Calif. Phones KKP, 2 P.M.-7 P.M.
 19.54—KWO, Dixon, Calif. Phones KKP, 2 P.M.-7 P.M.
 19.56—W2XAD, Schenectady, N. Y. Relays WGY, 4 to 7 P.M., Sun. 2-7 P.M.
 19.68—Pontoise, France. Broadcasts, 8 A. M. to 11 A. M. daily.
 19.70—Zeesen, Germany. Broadcasts, Mondays 8 A. M. to 10 A. M.
 19.70—W8XK, Pittsburgh, Pa. Relays KDKA, Wed. and Sat. 2 to 5 P.M.
 19.84—HVJ, Vatican City. Broadcasts daily 5 A. M. to 5:15 A. M.
 20.50—WMI, Lawrenceville, N. J. Phones GBU afternoons.
 20.70—LSN, Buenos Aires, Argentina. Phones WLO, afternoons.
 20.72—WNC, Lawrenceville, N. J. Phones GBW, afternoons.
 20.75—GBW, Rugby, England. Phones WNC 6 A. M.-6 P.M.
 20.95—G2NM, Sonning-on-Thames, Eng. Sat 2 A.M. and Sun. 2 P.M.
 20.97-21.26—Amateur phones heard in daylight.
 21.77—KKW, Dixon, California. Phones, irregularly.
 21.90—KKZ, Bolinas, Cal., testing irregularly.
 22.40—WND, Lawrenceville, N. J. Phones GBS, afternoons.
 22.68—Ships Majestic (GFVW), Olympic (GLSQ), Belgenland (GMJQ).
 Homeric (GDLJ), Leviathan (WNBN), Monarch of Bermuda
 (GTSD), Minnetonka (GKFY).
 22.93—J1AA, Kemikawa-Cho, Japan. Experimental tests, irregularly.
 23.36—WOO, Ocean Gate, N. J., phones to ships irregularly.
 23.38—Rabat, Morocco. Broadcasts Sunday, 7:30 to 9 A.M.
 24.00—CT3AG, Funchel, Maderia. Sundays. 9 A.M.-11 A.M., 3:30-5:45 P.M.
 24.40—PLM, Bandoeng, Java. Phones VK2ME near 6:30 A.M.
 24.40—ZLW, Wellington, New Zealand. Phone VK2ME, 3 to 8 A. M.
 24.41—GBU, Rugby, England, 2 P. M.-7 P. M. WMI
 24.60—GBX, Rugby, England, 4 A. M.-9 A. M. VK2ME-VLK.
 24.6—GRS, Rugby, England, 2 P. M.-7 P. M. WND.
 25.05—KKQ, Bolinas, California. Testing irregularly.
 25.20—Pontoise, France. Broadcasts daily, 11:30 AM to 2:30 P. M.
 25.25—W8XK, Pittsburgh, Pa. Relays KDKA daily, 2 to 10 P.M.
 25.34—W9XAA, Chicago, Ill. Relays WCFL, irregularly.
 25.40—I2RO, Rome, Italy. Broadcasts 11 A.M. to 12:30 and 3 to 5:30 P.M.
 25.42—W1XAL, Boston, Mass. Testing, irregularly.
 25.43—VE9GW, Bowmanville, Canada. Broadcasting irregularly.
 25.50—XDA, Mexico City. Broadcasts daily, 3 to 4 P. M.
 25.53—G5SW—Chelmsford, England. Relays London daily except Sundays
 7:30 to 8:30 A. M. and 2:00 to 7:10 P. M.
 25.60—VE9JR, Winnipeg, Canada. Broadcasts week days, 5:30-7:30 P.M.
 25.63—Pontoise, France. Broadcasts daily, 4 P. M. to 7 P. M.
 25.65—KIO, Kauhuku, Hawaii, Phones to KES, 2 to 8 P. M. Irregular.
 25.67—YVQ, Maracay, Venezuela. Testing with Germany, 5-7 P. M.
 25.75—PPQ, Rio de Janeiro, Brazil. Testing near 6 P.M. irregularly.
 26.00—XAM, Merida, Yucatan. Phones XDA 10 A.M. to 10 P.M., irreg.

- 26.50—Radio Goldberg, Java. Sun., Tues., Thurs., 5 to 7 A. M. Broadcasts.
28.09—WNB, Lawrence, N. J. Phones Bermuda, daytime.
28.12—CEC, Santiago, Chile. Testing with HJY, evenings, irreg.
28.44—WLO, Lawrenceville, N. J. Phones LSN, evenings irregular.
28.5 —VK2ME, Sydney, Australia, 1 A. M.-7 A. M. GBX.
28.80—KEZ, Bolinas, California. Testing.
28.80—Sumatra. Phones Java and Australia, 3 A.M.-8 A.M.
28.80—EAN, Madrid, Spain. Testing irregularly, afternoons.
29.80—VRT, Hamilton, Bermuda. Phones WNB, daytime.
28.98—LSX, Buenos Aires, Arg. Testing with U. S. A., 8 to 11 P. M., Irreg.
30.15—GBU, Rugby, England, 5 P. M.-11 P. M. WMI.
30.3 —LSN, Buenos Aires, Argentina. 6 P.M.-6 A.M. WLO.
30.30—KAZ, Manila, P. I. Testing with Bolinas, irregularly.
30.40—WMI, Lawrenceville, N. J. Phones GBU, 6 P.M.-6 A.M.
30.47—EAQ, Madrid, Spain. Tests, 8:15-8:45 P. M. daily, 4 P.M. Sat.
30.6 —GBW, Rugby, England, 5 P. M.-10 P. M. WNC.
31.00—TI4-NRH, Heredia, Costa Rica. Broadcasts, 9 to 10 P. M.
31.28—VK2ME, Sydney, Australia. Broadcasts Sundays 1 A.M. to 3 A.M., 5 A.M. to 9 A.M. and 9:30 A.M. to 11:30 A.M.
31.36—W1XAZ, Springfield, Mass. Relays WBZ, 7:30 A.M. to 11 P.M.
31.38—Zeesen, Germany. Broadcasts, 8:30 A. M. to 6:30 P. M., irregular.
31.48—W2XAF, Schenectady, N. Y. Relays WGY daily, 6 P.M. to 12 P.M.
31.51—OXY, Skamleback, Denmark. Broadcasts 2 to 6:30 P. M.
31.55—VK3ME, Melbourne, Australia, Wed. and Sat. 5:00 to 6:30 A.M.
31.63—PLW, Bandoeng, Java. Phones Australia, 3 A.M.-8 A.M., irregular.
31.86—PLV, Bandoeng, Java. Broadcasts Tuesdays 8:40-10:40 A.M.
32.1 —CGA, Drummondville, Can., 6 P. M.-6 A. M. GBK.
32.21—GBC, Rugby, England, Phones to ships irregularly.
32.26—Rabat, Morocco, broadcasts, Sundays, 3 to 5 P. M.
32.4 —GBK, Bodmin, England, 6 P. M.-6 A. M. CGA.
32.70—WND, Lawrenceville, N. J. Phones GBS, 6 P.M.-6 A.M.
33.25—GBS, Rugby, England, 6 P. M.-6 A. M. WND.
33.27—KEJ, Bolinas, California. Testing irregularly.
33.95—Ships, Majestic (GFVW), Olympic (GLSQ), Belgenland (GMJQ).
Homerie (GDLJ), Leviathan (WNBW), Monarch of Bermuda (GTSD), Minnetonka (GKFY).
34.68—VE9BY, London, Canada. Mondays 3 to 4 P.M. and irregular times.
35.02—WOO, Ocean City, N. J. Phones ships, irregularly.
37.76—VK2ME, Sydney, Australia, tests, 3:00-7:00 A. M. GBX.
38.07—J1AA, Kemikawa-Cho, Japaan testing with KEL irregularly.
38.86—KEE, Bolinas, California. Testing, irregularly.
39.24—KWO, Dixon, Calif. Phones KDK-KKH, 9 P.M. to 2 A.M.
39.40—HKF, Bogota, Colombia, broadcasts 9-11 P. M.
39.80—PRADO, Riobamba, Ecuador. Broadcasts Thursdays 9-11 P. M.
39.89—KDK-KKH, Kauhuku, Hawaii. Phones KWO 9 P.M.-2 A.M.
41.10—HSP2, Bangkok, Siam. Broadcasts Mondays. 9-11 A. M.
42.90—CT1AA, Lisbon, Portugal, broadcasts, Friday, 5 to 7 P. M.
42.9 —GBS, Rugby, England, 6 P. M.-6 A. M. WND.
43.54—KEQ, Kauhuku, Hawaii. Phones California, nights.
43.7 —KEL, Bolinas, Cal., testing, irregular. J1AA.

PEN-PALS

The following members would like to correspond with other members of this organization:

Raymond A. Aikin, Slayton Settlement Road, R. F. D. No. 7, Lockport, N. Y. (A crippled shut-in, just 19 years of age.)

Otis Brush, Jasonville, Indiana.

Seigfried Guthman, 1161-A Virginia Avenue, N. E., Atlanta, Ga.

Patrick J. Caulfield, 3762 Benton St., N. W., Washington, D. C. (Wants help on Norden Hauck set.)

D. R. de Wet, Austinpost, Dist. of Edenburg, South Africa

J. Warren Donahue, 1326 Oak Street, Los Angeles, California.

F. W. Fox, 5511 Dundee Street, Vancouver, B. C., Canada.

Silas A. Moline, 3138 Myrtle Blvd., Sioux City, Iowa.

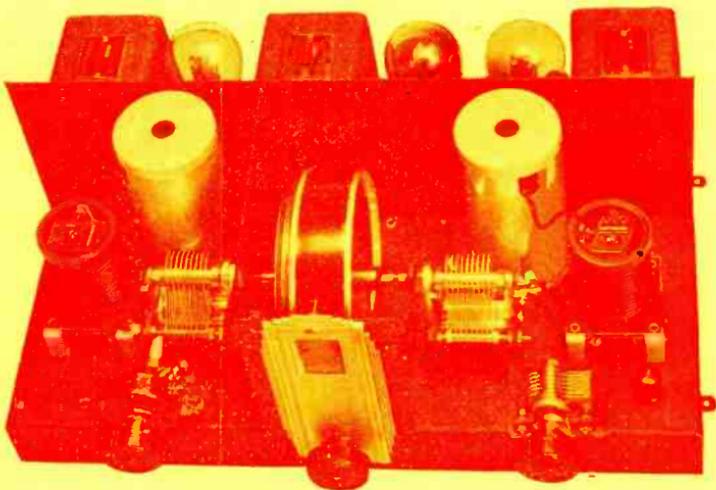
Eugene Buser, 427 Summitt Avenue, Union City, New Jersey.

A. Y. Le Bleu, 6 Spring Street, Charleston, W. Va.

STATION ADDRESSES

English Phones: Radio Section, G. P. O., London, E. C. 1. G2NM: Sonning-on-Thames, Berks, England. German stations: Reichspostzentramt, 11-15 Schoneberger Str., Berlin Tempelhof. Dutch phones: Parkstaat 29, S'Gravenhage, Holland. PCJ: N. V. Philips Labs., Eindhoven, Holland. French phones: 79 Boulevard Haussman, Paris VIII, France. I2RO: via Maria Cristina 5, Rome, Italy. The Majestic and Olympic: International Marine Radio, Aldwych, London, England. Leviathan: 463 West St., New York City. HRB: Tropical Radio Telegraph, Tegucigalpa, Honduras. VK3ME, G. P. O. Box 1272L, Melbourne, Australia. VRY: McInroy Bldg., Georgetown, British Guiana. LSX-LSG: Transradio International, San Martin 329, Buenos Aires, Arg. VE9CL: Royal Alexandra Hotel, Winnipeg, Canada. XDA: 43 Colon St., Mexico City. Indo-China phones: Postale Boite 238, Saigon, Indochina. Siamese stations: Royal Post and Tel., Bangkok, Siam. Javanese phones: Government Post and Telegraph, Bandoeng, Java. PK3AN: Sourabaya Radio Society, Balistrat 20, Sourabaya, Java. F3ICD: Radiophone 106 Boulevard Charner, Saigon, Indo-China. KAI XR: Manila Hotel, Manila, Philippine Islands. VK2ME-VLK: 47 York St., Sydney, Australia. Rabat: Directeur General des Postes, des telegraphies et des telephonies, Rabat, Maroc. X26A: P. O. Box 31, Nuevo Laredo, Mexico. El Prado: Apartado Postale 98, Riobamba, Ecuador. HKD: Apartado Postale 715, Barranquilla, Columbia. HKF: Apartado Postale 317, Bogota, Colombia. J1AA: Kemikawa-Cho, Chiba-Ken, Japan. LSN: Compania Internacional Radio, 143 Defensa, Buenos Aires, Argentina. HVJ: Pontificia Accademia Delle Scienze, Roma-Castina Pio IV-Vatican. OXY: Statsradiofonien, Driftselderer Axteltor 1, Kobenhaven V, Denmark. FYA: Minister des Postes, 103 Rue de Grenelle, Paris, France. XGO: Chinese Radio Administration, Sassoon House, Shanghai China. Motorship Columbia: Dutch M. V. Columbia, Amsterdam, Holland. EAQ: Apartado Postale de Correos 951, Madrid, Spain. HC1DR: Sr. Arturo Maneses, Box 262, Quito, Ecuador. VE9GW: Rural Route 4, Bowmanville, Ontario, Canada. Moscow: Trades Union Radio Station, Palace of Labor, Solianka 12, Moscow, U. S. S. R. VK3UZ: Nilsens Broadcasting Service, 45 Bourke St., Melbourne, Australia.

**National
SW-45
Thrill-
Box**



“They don't make SW Receivers better than the NATIONAL SW-45” So Writes Another Admirer of the SW-45.

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F. Transformers covering range of 15 to 115 meters wound on forms of genuine NATIONAL R-39. Uses the new UX-235 Variable-MU tubes, giving improved sensitivity and less critical operation. Humless A. C. Power Supply with special filter section. R. F. Filter on Rectifier Tube and Electrostatic shield. R.C.A. licensed. Made also in low drain battery model.

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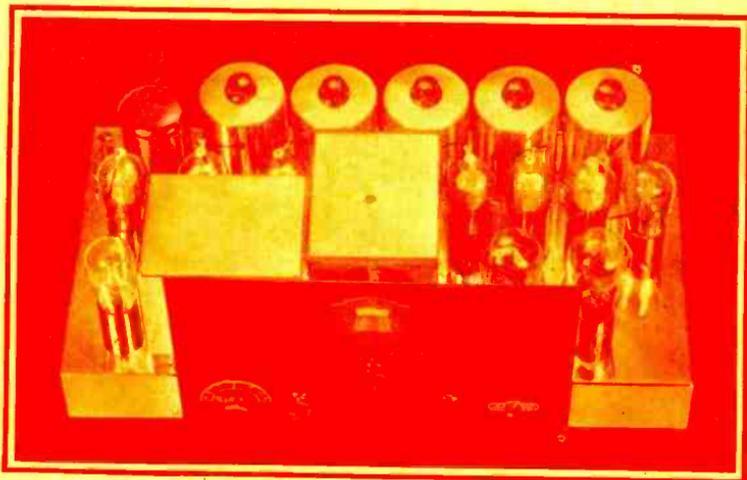
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61 Sherman St., Malden, Mass.

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Enclosed please find 50c (stamps or coin) for 64-page HAND BOOK OF SHORT-WAVE RADIO.

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TREMENDOUS AMPLIFICATION of six high gain screen-grid tubes.

SELECTIVITY under 10 K. C. with full power.

RANGE from 15 to 550 meters

NO PLUG-IN COILS. All inductances selected by indicator on front panel.

The Receiver which built its reputation on **PERFORMANCE!**

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Send for the full report of marvelous performance of Lincoln Receiver in the Arctic with the MacMillan Expedition and full description of the World's Most Powerful Receiver.

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