RADIO LORE FOR NOVICE AND EXPERIENCED FAN

RADIO PROGRAMS

WJAR starts its week of programs at 3 p. m. with the Young People's radio conference. At 4 p. m will be heard the Men's Conference The Weymouth Post American Legion band will be on the air at 6 p. m., the Capitol Theatre program at 7.30 p m., a talk entitled "Our Government" by David Lawrence at 9 p. m and the Robert W. Powers' orchestra at 9.15 p. m. Tomorrow at 5.55 p. m. will be broadcast a safety playlet to be given by junior members of the Providence Safety Council of the Oxford street grammar school, entitled "Beware—The Match Boys." A safety talk will be given at 8 p m. on Tuesday sponsored by the Providence Safety Council. Wednesday the customary program will be broadcast The "Victor Herbert Memorial Concert" will be broadcast direct from the Crystal room of the Ritz-Carlton Hotel, New York, at 9 p. m. on Thursday. Tommy Martin, the Sunshine Boy, will be on the air at 7:50 p. m. on Friday. Saturday at 9:15 p. m. will be broadcast the Third National Oratorical Contest in which Hon. Herbert Hoover, Secretary of the Department of Commerce, will speak.

WEAN begins broadcasting at 11 a. m. with the service from Mathewson Street Methodist Episcopal Church. At 2 p. m. will be heard the Dudley radio carollers who will also be on the air at 8:01 p m. The Columbia Chain programs will be broadcast at 3 p m., 4 p. m., 9 p. m., 9.30 p. m., 10 p. m. and 10:15 p. m An organ recital will be broadcast from the station at 6:30 p m. Tomorrow at 2 p. m. will be broadcast the "Conference on the Cause and Cure of War." The speaker will be President Faunce. Tuesday the Colonial band will be on the air at 9:15 p. m. Wednesday the usual program will be heard. Thursday at 8:30 p. m. will be broadcast the Shakespeare players of the Basement Studio group. Uncle Red will be on the air at 6:25 p m. on Friday. At 3 p. m. on Saturday will be broadcast the baseball game from Aldrich Field, Brown University vs. Providence College.

WLSI commences its week of broadcasts at 10.30 a. m. with the service from First Church of Christ Scientist. At 5:30 p. m. will be broadcast the International Bible students' program. The service from the Church of the Seventh Day Adventist will be heard at 8 p. m. Harold Eddy and his orchestra will be on the air tomorrow at 8 p. m. Tuesday at 7 p. m. will be broadcast Miller's dance orchestra. The Providence College orchestra will be heard on Wednesday at 5 p. m. Al Blakely, the novelty man, will be on the air at 9 p. m. on Thursday. Friday the usual program will be broadcast.

WFCI starts broadcasting at 10.45 a. m. with the service from the Central Falls Congregational Church. Tomorrow at 6:45 p m. will be heard a talk by Mrs. Robert Johnston, chairman of the Motion Picture Committee, Pawtucket Woman's Club. The Family hour will be heard at 6 p. m. on Tuesday. Ernie and his danceland orchestra will be on the air Wednesday at 6 p. m. A program by the Exide Battery Boys will be given at 7.05 p. m. on Thursday. The usual programs will be broadcast the remaining days of the week.

WCOT begins its weekly programs at 1:30 p. m. with the Waiiana Hawaiian troup. Jacob Conn will talk on current events at 2 p. m. Tomorrow the usual programs will be observed. Lorettas' Moonlight Maids will be on the air at 7 30 p. m. on Tuesday. Wednesday, Thursday, and Friday the usual programs will be broadcast. Francis Connell, harmonica artist, will be on the air at 2.30 p. m. on Saturday.

WJAR—THE OUTLET COMPANY—484.

Today.

3:00 p. m.—Young People's radio conference under the direction of the Greater New York Federation of Churches, "Washington Post March," Sousa, New York University band; welcome to radio audience by Dr. Theodore F. Savage, hymn; intermezzo from "Cavalleria Rusticana," Mascagni, New York University band, scripture reading by Dr. Theodore F. Savage, "O, Come to My Heart, Lord Jesus," Ambrose, anthem by quartet, address by Joe Mitchell Chapple, anthem, "Still as the Night," Bohm; "Palisades," Genns, New York University band; benediction

4:00 p. m.—Men's Conference direct from the Bedford Branch, Y. M. C. A.; Tubular chimes announcing the opening hour; doxology by two great audiences, word of greeting by H. Walter Riland; "The Hall of Fame March," Williams, Gloria trumpeters, hymn, "In Heavenly Love Abiding," scripture reading and prayer by Rev William Carter; "The Omnipotent," Schubert, Gloria trumpeters, hymn, "Jesus Shall Reign Where'er the Sun;" address by Rev Dr. S. Parkes Cadman; questions by Mr. Riland with Dr. Cadman replying, prayer by Dr Cadman, hymn "God Be with You Till We Meet Again;" benediction by Dr. Cadman.

6.00 p. m.—Weymouth Post, No. 79, American Legion band.

7:25 p. m.—Weather report.

7 30 p. m.—Capitol Theatre program.

9.00 p. m.—"Our Government," by David Lawrence.

9.15 p. m.—Robert W. Powers' orchestra.

Monday.

10.40 a. m.—Providence Journal and Evening Bulletin news flashes.

10.45 a m.—Musical program.

11 15 a. m.—Radio household institute.

1 05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program.

1 30 p. m.—Continuation of studio program

6.30 p m.—Providence Journal and Evening Bulletin news flashes.

6.35 p m.—Safety playlet to be given by junior members of the Providence Safety Council of the Oxford street grammar school, entitled "Beware—The Hatch Boys"

6.45 p. m.—Earl Shean and his orchestra, assisted by William I. Carrigan, tenor

7 00 p m.—James G. McDonald, topic, "Red Russia"

7.15 p. m.—Earl Shean and his orchestra.

7 30 p. m.—Baseball scores

7 35 p m.—Catholic Charity Fund appeal.

7.40 p m.—Musical program under the direction of Harold Strong, tenor, accompanied by Violette Marks

7.50 p. m.—The Rhode Island historian.

8 00 p. m.—O'Cedar shining hour.

8 30 p. m.—A. and P. Gypsies.

9.30 p m.—General Motors family party.

10:30 p. m.—Fisk Time to Retire boys.

11:00 p. m.—Correct time.

11.00 p m.—Providence Journal and Evening Bulletin news flashes.

11.05 p. m.—Baseball scores.

Tuesday.

10.40 a m.—Providence Journal and Evening Bulletin news flashes.

10 45 a. m.—Musical program

11 15 a. m.—Radio Household Institute.

1 05 p m.—Providence Journal and Evening Bulletin news flashes.

1 10 p m.—Studio program.

1.30 p. m.—Weather report.

1 35 p m.—Continuation of studio program.

6.45 p m.—Providence Journal and Evening Bulletin news flashes.

6 50 p m.—Weather report.

6 55 p m.—Baseball scores.

7.00 p m.—Voters' service program

7 30 p m.—Socony land sketches.

8 00 p m.—Safety talk, sponsored by the Providence Safety Council

8 05 p m.—Musical program by Norman C Martin, tenor, accompanied by G Albert Scothon and Howard Bell, pianist.

8.30 p m.—Selberling singers.

9 00 p. m.—Eveready hour

10 00 p. m.—Clicquot Club Eskimos.

10 30 p. m.—Correct time

10 30 p m.—Providence Journal and Evening Bulletin news flashes.

10 35 p m.—Baseball scores.

Wednesday

10 00 a m.—Providence Journal and Evening Bulletin news flashes

10 05 a. m.—Housewives' Radio Exchange, a department conducted by Mrs. Wood on matters of household interest Questions submitted will be answered by radio.

11 00 a. m.—Musical program.

11 15 a. m.—Radio Household Institute

1 05 p. m.—Providence Journal and Evening Bulletin news flashes.

1 10 p. m.—Studio program.

1:30 p. m.—Weather report.

1:35 p m.—Continuation of studio program.

6 45 p m.—Rhode Islanders.

7 20 p. m.—Providence Journal and Evening Bulletin news flashes.

7 25 p. m.—Catholic Charity Fund appeal.

7 30 p m.—Weather report.

7 35 p. m.—Father and son series sponsored by the Providence Better Business Bureau

7 45 p m.—Baseball scores

7 50 p. m.—Rhode Island Medical Society talk.

8 00 p m.—American Magazine and Woman's Home Companion hour.

9 00 p. m.—Ipana Troubadors.

9 30 p. m.—Goodrich Silvertown Quartet and Orchestra

10 30 p m.—Correct time.

10 30 p m.—Providence Journal and Evening Bulletin news flashes.

10 35 p m.—Baseball scores.

Thursday

10 00 a m.—Providence Journal and Evening Bulletin news flashes.

10 05 a m.—Housewives Radio Exchange, a department conducted by Mrs. Wood on matters of household interest Questions submitted will be answered by radio

11 00 a. m.—Musical program

11 15 a m.—Radio Household Institute.

1 05 p m.—Providence Journal and Evening Bulletin news flashes

1 10 p m.—Studio program

1 30 p m.—Weather report

1 35 p m.—Continuation of studio program

6 50 p m.—Providence Journal and Evening Bulletin news flashes.

6 55 p m.—Baseball scores.

7 30 p m.—Kaytonik Trio.

7 30 p m.—Coward Comfort Hour

8 00 p m.—Dodge Brothers' presentation.

8 30 p m.—Weather report.

8 35 p m.—William J McKenna, baritone, accompanied by Violette Marks.

9 00 p m.—"Victor Herbert Memorial Concert," direct from the Crystal Room of the Ritz-Carlton Hotel, New York city

10 00 p m.—Halsey-Stuart program

10 30 p m.—Correct time

10 30 p m.—Providence Journal and Evening Bulletin news flashes.

10 33 p m.—Baseball scores.

Weekly Radio Test

1. Why are tests for audio transformers almost invariably concerned with the primary winding?
2. If audio transformers are of two different ratios, which one comes first in the circuit, assuming they are not marked?
3. Is a single metal plate effective in shielding stages of modern sets?
4. What is meant by "capacity ratio" of a condenser?
5. Does it indicate the degree of condenser efficiency?

(Answers to these questions will be found elsewhere in the Radio Section.)

(Copyright, 1928.)

Friday.

10.00 a. m.—Providence Journal and Evening Bulletin news flashes.

10.05 a. m.—Housewives Radio Exchange, a department conducted by Mrs Wood on matters of household interest. Questions submitted will be answered by radio.

10 40 a. m.—A and P. Bureau of Home Economics.

11 00 a. m.—Musical program

11 15 a. m.—Radio household institute.

11 30 a m.—Black Jacksons.

1.05 p. m.—Providence Journal and Evening Bulletin news flashes.

1.10 p m.—Studio program

1 30 p m.—Weather report.

1 35 p m.—Pollyanna.

5 55 p m.—Providence Journal and Evening Bulletin news flashes.

6.00 p. m.—Mutual Savings Bank hour.

7 00 p. m.—Baseball scores

7 05 p m.—Criterion Quartet

7 40 p m.—Tommy Martin, 'The Sunshine Boy."

7 50 p. m.—Irving Crocker, in a program of popular songs

8 00 p m.—Kohala Hawaiians.

8 30 p m.—Maj. Alonzo R Williams, general manager of the United Electric Railways, in a five-minute chat with the people of Rhode Island

8.35 p. m.—Roy Partington, tenor, accompanied by Violet Marks

9 00 p. m.—Whittall Anglo-Persians.

9 30 p m.—Rhode Island Automobile Club.

9.35 p. m.—Hawaiian Island quintet.

10 00 p. m.—Palmolive hour

11.00 p. m.—Correct time

11 00 p. m.—Providence Journal and Evening Bulletin news flashes.

Saturday.

10 40 a. m.—Providence Journal and Evening Bulletin news flashes.

10.45 a. m.—Musical program.

11 00 a. m.—Congressional Club talk.

11 15 a m.—Radio household institute.

1 05 p m.—Providence Journal and Evening Bulletin news flashes

1 10 p. m.—Al Williams and his orchestra.

1 30 p m.—Weather report.

1 35 p m.—Al Williams and his orchestra.

6 25 p m.—Providence Journal and Evening Bulletin news flashes.

6 30 p. m.—Baseball scores.

8 35 p. m.—Weather report.

8.40 p. m.—Rhode Island Humane Education Society

8.45 p. m.—Waikikiers Hawaiians.

9 00 p. m.—Correct time

9 00 p. m.—Waikikiers Hawaiians.

9 15 p. m.—Third National Oratorical contest.

11 00 p. m.—Providence Journal and Evening Bulletin news flashes.

11 05 p. m.—Baseball scores.

WEAN—THE SHEPARD STORES—275

Today.

11.00 a m.—Service from Mathewson Street Methodist Episcopal Church.

2 00 p m.—Dudley radio carollers'

3.00 p m.—Symphonic hour, Columbia Chain program—Overture to "A Life for the Czar," Glinka, United symphony orchestra, suite, "Impressions d'Melancolique," Tschaikovsky, Victor Bay and United symphony orchestra, Festival at Bagdad from Symphonic Suite, "Scheherazade," Rimsky-Korsakoff, United symphony orchestra, Suite: "Scenes Pitteresques" (Picturesque Scenes), Massenet, Marche, Air de Ballet, Angelus, Fete Boheme (Bohemian Festival), United symphony orchestra.

4.00 p. m.—Cathedral hour, Columbia Chain program—"Chimes" and Processional "Lift Up Your Heads," Knapp, full ensemble, "The Voice of the Chimes," Wright, orchestra, Kyrie from "Mass of the Sacred Heart," Gounod, quartet and ensemble; Interlude, "The Last Dream of the Virgin," Massenet, orchestra, "Credo," Gounod, quartet and ensemble, "Aurora coelum purpurat," Pietro A Yon, tenor solo, "Benedictus," Gounod, quartet and ensemble; "Pater Noster," Niedermeyer, baritone solo; "Adagio Pathetique," Godard, orchestra, "Agnus Dei," Gounod, quartet and ensemble, "Unfold, Ye Portals," from "The Redemption," Gounod, chorus, postlude, "Ascension Morn," Johnston, orchestra.

6 30 p m.—Organ recital

7 00 p. m.—Asia Concert Orchestra.

8 00 p m.—Correct time

8 01 p m.—Dudley radio carollers

9 00 p m.—9 00 p m.—Don Voorhees, Columbia Chain program—"Land of the Loon," Eastwood, 'Dreamers's Tales," Norman Peterkin, "Jurame," Maria Grevia "Eastern Romance," Rimsky-Kersakoff "Westward," Cecil Burleigh "Reverie," Debussy, concert orchestra

9 30 p m.—La Palina hour, Columbia Chain program

10 00 p m.—American Singers, Columbia Chain program

10 15 p m.—United Military Band, Columbia Chain program—Overture, 'Comedy' Keler-Bela march, 'Washington Post,' Sousa, 'On the Air' Goldman, 'The Mill in the Forest,' Eilenberg, waltz, 'Vienna Folk Songs,' Komzak, march 'Hock Hapsburg,' Kral, Love Song from Suite "A Day in Venice," Nevin, "A Day at the Fair," M L. Lake march, "Through Combat to Victory," Von Blon, "Stephanie," Czibulka "Entry of the Gladiators," Fucik, United Military Band.

Monday.

9 45 a. m.—WEAN Women's Institute program conducted by June Abbott.

10 00 a m.—The Providence Journal and Evening Bulletin news flashes.

10 05 a. m.—Women's Institute Orchestra.

10 30 a m.—"Good Groceries" by Sally Sawyer.

11 00 a m.—The Shepard Stores Concert Ensemble.

11 30 a. m.—Musical program.

11:55 a. m.—Time signals.

12 00 m.—Asia Serenaders.

12 30 p. m.—Weather report.

12 35 p m.—Continuation of Asia Serenaders.

1 00 p m.—The Providence Journal and Evening Bulletin news flashes

1.05 p m.—Official market report for Providence Market Bureau of Markets of Rhode Island State Department of Agriculture.

1 10 p. m.—Daily fire hazard report.

1.15 p. m.—Good gardening talk.

2 00 p m.—"Conference on the Cause and Cure of War" Luncheon under the auspices of the R. I. Federation of Women's Clubs, R. I. League of Women Voters, W. C. T. U., Council of Jewish Women, American Associations of University Women, Women's Church Clubs Speaker President Faunce broadcast direct from Narragansett Hotel.

4 00 p. m.—Musical program.

4 30 p. m.—Weather report.

6 00 p. m.—The Providence Journal and Evening Bulletin news flashes

6 05 p m.—Port Arthur Orchestra

7 00 p m.—Code instructions by radio through the courtesy of the American Radio Relay League, Inc.

7 30 p. m.—Information service.

7 50 p m.—Sportograms.

7 55 p. m.—Daily golf lesson.

8 00 p. m.—Honolulu quintet.

8 30 p. m.—Gibson's program.

9 00 p. m.—Columbia broadcasting system program.

9 30 p. m.—Columbia broadcasting system program.

10 00 p. m.—Columbia broadcasting system program

10.30 p. m.—Columbia broadcasting system program.

11.00 p. m.—The Providence Journal and Evening Bulletin news flashes.

Tuesday.

9 30 a m.—Women's Institute program conducted by June Abbott

9 45 a. m.—"Swiss Maid."

10 00 a m.—Providence Journal and Evening Bulletin news flashes.

Brown University Radio Club

With short wave receiver with which they recently entertained Providence radio fans. The club was organized early this year. Those in the picture are: Front row, left to right—Abbott Hutchinson, Walter Barnes, treasurer; C. Newton Kraus, president; Frederic Dyer, vice-president; and Curtis Cushman, secretary. Back row, left to right—Robert G. Mawney, Israel Stepak, Alfonso Fascitelli, Leslie Eaton, Jr., Eugene Gerry and Ernest Hawkinson.

10 05 a m.—Home Service radio chat.

11 00 a. m.—Shepard Stores concert ensemble.

11 55 a m.—Time signals

12 00 m.—Musical program.

12 30 m.—Weather report

1 00 p m.—Providence Journal and Evening Bulletin news flashes

1 05 p m.—Official market report.

1 10 p m.—Good gardening

1 15 p. m.—Daily hazard report.

4 00 p m.—Organ recital

4 30 p m.—Weather report

6 00 p m.—Providence Journal and Evening Bulletin news flashes

6 03 p m.—Army recruiting realities revealed

6 15 p m.—Feature

6 30 p m.—Joe McNamara and his Night Club Band

7 30 p. m.—Information service.

7 50 p m.—Sportograms

7 55 p m.—Daily golf lesson.

8 00 p m.—Musical program

8 30 p m.—Op'ry House Tonight.—WNAC Players present "All Tangled Up."

9 15 p m.—Colonial Band, under the direction of Anthony Di Palma

10 15 p m.—Biltmore Hotel Orchestra

11 00 p m.—Providence Journal and Evening Bulletin news flashes.

Wednesday.

9 45 a. m.—Women's Institute program, conducted by June Abbott

10.00 a. m.—The Providence Journal and Evening Bulletin news flashes

10 30 a m.—Women's Institute Orchestra.

11 00 a m.—Shepard Stores concert ensemble

11 30 a. m.—Musical program.

11 55 a m.—Time signals

12 00 m.—Gibson's program

1 00 p m.—Providence Journal and Evening Bulletin news flashes.

1 05 p m.—Official market report for Providence Market Bureau of Markets of Rhode Island State Department of Agriculture

1 10 p m.—Good gardening

1 15 p m.—Daily fire hazard report.

4 00 p. m.—Musical program

4 30 p m.—Weather report

6 00 p m.—Providence Journal and Evening Bulletin news flashes

6 05 p m.—WEAN dinner dance Asia Serenaders

7 05 p m.—Narragansett Hotel concert ensemble

7 30 p. m.—Information service.

7 50 p m.—Sportograms

7 55 p m.—Daily golf lesson.

8 01 p m.—Nicholson-Thackray Home Sweet Home

8 30 p m.—Columbia Broadcasting System program.

9 00 p m.—Columbia Broadcasting System program

10 00 p m.—Columbia Broadcasting System program

11 00 p m.—Providence Journal and Evening Bulletin news flashes.

Thursday.

9 45 p m.—Women's Institute program conducted by June Abbott

10 00 a m.—Providence Journal and Evening Bulletin news flashes

10 05 a m.—Home Service radio chat.

10 35 a m.—Household Hinters

11 00 a m.—The Shepard Stores concert ensemble.

11 30 a. m.—Musical program.

11 55 a m.—Time signals

12 00 m.—Musical program.

12 35 p m.—Organ recital

1 00 p m.—Providence Journal and Evening Bulletin news flashes

1 05 p m.—Official market report for Providence Market Bureau of Markets of Rhode Island State Department of Agriculture

1 10 p m.—Good gardening talk.

4 00 p m.—Musical program.

1 15 p m.—Daily fire hazard report.

4 30 p. m.—Weather report

6 00 p m.—Providence Journal and Evening Bulletin news flashes

6 05 p m.—Port Arthur Orchestra.

6 30 p m.—Code instructions by radio through the courtesy of the American Radio Relay League, Inc.

7 00 p m.—Foot Peppers Orchestra

7 30 p m.—Information service.

7 50 p m.—Sportograms

7 55 p m.—Daily golf lesson.

8 00 p m.—Program to be announced.

8 30 p m.—Shakespeare Players of the Basement Studio group

9 30 p m.—Charles Weygand's old time orchestra.

11 00 p m.—Providence Journal and Evening Bulletin news flashes

Friday.

8 30 a m.—Morning sing by The Shepard Stores chorus.

9 30 a m.—Women's Institute program conducted by June Abbott

9 45 a m.—"Swiss Maid."

10 00 a m.—Providence Journal and Evening Bulletin news flashes

10 05 a m.—American Homemakers" by Mrs Ida S Harrington

10 35 a m.—"Good Groceries" by Sally Sawyer

11 00 a m.—The Shepard Stores concert ensemble

11 30 a m.—"Microphone gets suggestions from Dorothy Dow."

11 55 a m.—Time signals

12 00 m.—Gibson's program

1 00 p m.—Providence Journal and Evening Bulletin news flashes

1 05 p m.—Official market report for Providence Market Bureau of Markets of Rhode Island State Department of Agriculture

1 10 p m.—Good gardening talk

1 15 p m.—Daily fire hazard report

4 00 p m.—Musical program

4 30 p m.—Weather report

Continued on Page Eight.

Radio Questions and Answers

Radio Editor, Sunday Journal:

Do you think it would pay to install a crystal detector in place of a tube to obtain better tone quality? I have a six-tube receiver, with a 171 power tube and a cone speaker. The reception is good, but I have heard that even better results can be obtained with a crystal detector.

J. B. T.

Providence.

(The quality would probably be slightly better However, because the crystal is much less sensitive than the tube, you would have to turn up the volume control and thereby introduce extra distortion from another source. Therefore, the improved tone quality is problematical.—Ed.)

Radio Editor, Sunday Journal.

Is it best to insert a whole new set of tubes in the radio outfit at once, rather than to add a new tube now and then as it seems necessary? I note some manufacturers advise a new set of tubes every year. D. M. S.

Pawtucket.

(Well, you know spark plug makers advocate a new set of spark plugs for you car every year. Of course, if you have a bad plug in your car or a bad tube in the radio, putting in a new set will be sure to remedy the trouble. And if you have a little spare cash and don't want to keep track of which tubes are new and which are old, it is certainly a good idea to put in a new set of tubes once a year. You'll surely keep your tubes right if you do. However, if you feel you would rather save a little expense, then just keep on hand one new tube of each type used in your set Every month or two, try it in exchange for each of the others of the same type in turn, noting any great improvement. It is well to date each tube by attaching a sticker, showing when it went into use. You can use a tube tester, too, which is an even more accurate method of comparing tubes for sensitivity - Ed)

Radio Editor, Sunday Journal:

Would you please advise whether I will get better results by winding my coils on special insulating forms rather than on ordinary cardboard forms?

P. J. H.

East Greenwich.

(Probably not, at first, although there might be a very slight advantage in favor of the special insulating forms when it comes to stations so faint that they are just barely audible. However, cardboard, unless thoroughly dry and thoroughly moisture-proofed, will absorb moisture, and then there will be a marked difference. The cardboard should be dipped in a pan of melted paraffin. This will boil out moisture and make it moisture proof.—Ed)

Too Much Competition.

A Missouri woman sent this testimonial to a radio station in her vicinity.

"Since your station started broadcasting, our cat sleeps in the barn."—Life.

Stations in Britain, Holland, France Heard Here Regularly

Short Wave Transmissions Providing Local Fans With Genuine DX Thrills.—5SW, Chelmsford, England, One of Best Foreigns, Says Radio Club Head

"What can I hear if I install a short wave set?"

"What are the schedules of the domestic and foreign short wave stations?"

These and many other questions are on the lips of scores of listeners of Providence and Rhode Island who are considering venturing into the lower regions of the radio spectrum.

Local radio experts answer by saying that there are enough short wave stations in the world today, broadcasting on fairly regular schedules, to make the building of a special receiver or an attachment for the regular receiver decidedly worth while.

According to C. Newton Kraus, President of Brown University Radio Club, there are at least 10 stations, domestic and foreign, that can be received here regularly and consistently with a good short wave set. He bases this statement on the results of his own observations and experiments of the last few months.

Station 5SW, Chelmsford, England, he says, is perhaps the most regularly received of the foreign short wave broadcast stations, as far as Rhode Island listeners are concerned. Working on a wave length of 24 metres and broadcasting the regular programs of the British Broadcasting Company, 5SW is heard here daily, with the exception of Saturdays and Sundays.

5SW is on the air at 7:30 a. m., local time, and from 3 p. m. to 7 p. m. five days of the week. The afternoon and evening programs wind up with the broadcasting of the famous Big Ben chimes in London. From 6 p. m. to 7 p. m., as a rule, dance music is broadcast.

Station 2NM, Caterham, England, broadcasting on a wave length of 32.5 metres, is heard quite regularly by Mr. Kraus and other short wave listeners. On Wednesdays, at 7:30 p. m., local time, 2NM transmits radio pictures and voice and on Fridays at the same hour, musical programs.

Another foreign short wave broadcast station, heard consistently in Providence, is PCLL, Kootwijk, Holland, the wave length of which is 18 metres. PCLL's programs are heard regularly around 10 a. m., local time, each Wednesday and at 11 a. m. each Thursday, when church services and chimes are broadcast.

Broadcasting on an irregular schedule, 2FC of Sydney, Australia, has been heard frequently in Providence, between the hours of 6 and 8 a. m. These broadcasts are in the form of musical programs and come in on a wave length of 28.5 metres.

Another Australian station, 3LO of Melbourne, working on a wave length of approximately 30 metres, is occasionally heard between the hours of 6 and 9 a. m., local time. The signals, however, are not of loud speaker volume.

FL, French Government station in the Eiffel Tower, Paris, broadcasts on 32 metres from 6 to 7 p. m., local time, daily. The broadcasts are in French only.

Listeners who understand the code find considerable interest in the transmissions of station WNP, located aboard the ship Bowdoin of the MacMillan Arctic expedition. WNP transmits on a wave length of 18 4 metres from 8:30 to 11 a. m. and 3 to 5 p. m., local time, each day.

Among the American short wave stations heard regularly in Providence are 2XAF-WGY, Schenectady, N. Y., on a wave length of 31.5 metres; 2XE-WABC, Richmond Hill, N Y, on a wave length of a fraction more than 58 metres, and KDKA, East Pittsburgh, 63-66 metres.

Station 2XAF broadcasts the regular WGY program, beginning at 5 p. m., local time, and also is on the air upon special occasions. The program schedule is sent in code in the evening for the benefit of foreign stations. Late at night, the signals of 2XAF become weak, as far as local reception is concerned.

The schedule of Station 2XE is identical with that of WABC, as the two broadcast simultaneously. KDKA's short wave schedule coincides with its regular broadcasts, and its short wave signals are heard here with tremendous volume.

Providence fans with short wave sets also pick up the harmonics of a large number of American broadcasting stations, these harmonics ranging from 50 to 200 metres or thereabouts. Although they often come in with greater volume than the regular signals, the quality of the harmonics is not so good.

SEEKING QUARTERS

Radio Commission Must Leave Commerce Building.

Having housed the Federal Radio Commission in the Commerce building at Washington for a year or so, it seems an intimation has come from Secretary Hoover that he needs the space. As a result the commission is looking for quarters and is expected to move to some other building in Washington on or before July 1.

Inasmuch as the radio division of the Department of Commerce is so closely identified with the work of the commission, Mr. Hoover has consented to allow Chief Radio Supervisor Terrell to move his offices along with those of the commission.

In the beginning the Radio Commission was so utterly without funds that they had no money to pay salaries, buy chairs—much less to make expenditures for office rental. So Mr. Hoover took the commission under his wing and in addition to advancing them money for current expenses from the none too husky appropriations of the radio division of the Department of Commerce, cleared part of the fifth floor of his already overcrowded main building for their occupancy.

There they have been ever since. In the meantime "the child has grown" until the commission now requires 30 rooms at least to meet its needs, and having appropriations available for the purpose are now enabled to move into quarters of their own.

Misery Loves Company

A Chicago dentist turns on a radio when a patient gets into his chair to have a tooth pulled. Misery loves company.—Atlanta Constitution.

BROWN RADIO CLUB

Three-Stage Amplifiers to be Discussed at Meeting.

Three-stage audio frequency amplifiers for use with short wave receivers will be discussed at the next meeting of the Brown University Radio Club, which is to be held in the Engineering Building of the university Tuesday night at 7:45 o'clock. The meeting will be open to the public, according to C. Newton Kraus, President.

A correctly-built three-stage amplifier will be in operation at the meeting, working in conjunction with a short wave receiver.

If time permits, there will also be a discussion of the construction and design of an "all-wave" receiver, capable of covering wave lengths from 15 to 550 metres and using the new shield grid type tube.

RADIO GROWS APACE

Air Entertainment Priceless Part of Daily Life.

Radio may have its ups and downs in interest, paralleling the frequency and infrequency of nation-wide radio events, but all the while certain constant features are building good will and are carrying the art forward to higher levels of usefulness. The sensationally attractive events on the air tend to make radio appear like a feast or a famine, but as a matter of fact radio is a constant feast for those who are tuning in for the regular things that make up the daily bill of fare.

Take the radio set out of the home, or let it get out of order, and these constant features are missed by the average person. While listening in, they may not appreciate the value of such programs to them, but the value is there, nevertheless. Radio has been getting closer and closer to the average person day by day, and it is this sort of thing that is going a long way toward making the art of etherial entertainment an important adjunct to modern life.

That radio can keep up the regular features proves beyond a shadow of a doubt that it is succeeding in making etherial entertainment a definite and priceless part of daily life. The big events of the air that are widely heralded and much discussed tend to blind, or should we say, deafen, the listener to the real facts. When the big event is over he feels that radio has fallen back into a rut, but a week of splendid features soon offers reassurance that radio is a steady provider of enlightenment and pleasure.

With each national event, many new converts are made to the radio craze. The old guard continues in its usual way, with never an evening passing without at least a few minutes at the dials. And so the thing grows and grows.

Or Start a Fire

Another reason why the radio will never take the place of the newspaper is that you can't swat a fly with the former—Louisville Times.

It will probably take several months to hear all the versions of the story of the Scotchman who said the music came over his radio O. K., but the lights didn't give enough illumination to read by.

RADIO PROGRAMS

Continued from Page Seven.

6:00 p. m.—Providence Journal and Evening Bulletin news flashes.
6:05 p. m.—"Uncle Red," auspices Providence Safety Council.
6:25 p. m.Radio talk by courtesy of Rhode Island Society of Optometry.
6:30 p. m.—Jimmy Walsh and his orchestra.
7:30 p. m.—Information service.
7:50 p. m.—Sportograms.
7:55 p. m.—Daily golf lesson.
8.00 p. m.—Horace Partridge, sportsman.
8:30 p. m.—Sandy MacFarlene and his Chimney Swallows.
9:00 p m.—Columbia Broadcasting system program.
10:00 p. m.—Columbia Broadcasting system program.
10:30 p. m.—Columbia Broadcasting system program.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.

Saturday.

9:45 a. m.—WEAN Women's Institute program, conducted by June Abbott.
10:00 a. m.—Providence Journal and Evening Bulletin news flashes.
10:05 a. m.—Children's hour.
10:45 a. m.—"New and Attractive Merchandise," by Evelyn Alden.
11:00 a. m.—Shepard Stores concert ensemble.
11:30 a. m.—Musical program.
11:55 a. m.—Time signals.
12:00 m.—Port Arthur orchestra.
12:30 p. m.—Weather report.
1:00 p. m.—Providence Journal and Evening Bulletin news flashes.
1:05 p. m.—Official market report for Providence Market Bureau of Markets of Rhode Island State Department of Agriculture.
1:10 p. m.—Good gardening talk.
1:15 p. m.—Daily fire hazard report.
3:00 p. m.—Baseball game broadcast from Aldrich Field—Brown University vs. Providence College.
6:00 p. m.—Providence Journal and Evening Bulletin news flashes.
6:05 p. m.—Code instructions by radio through the courtesy of the American Radio Relay League, Inc.
6:30 p. m.—Hotel Biltmore orchestra.
7:30 p. m.—Information service.
7:50 p. m.—Sportograms.
7:55 p. m.—Daily golf lesson.
8:00 p. m.—Shepard radio minstrels.
9:00 p. m.—Rhodes orchestra
10:00 p. m.—Biltmore Hotel orchestra.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.
11:05 p. m.—Jimmy Walsh and his orchestra.

WLSI—LINCOLN STUDIOS—248

Today

10:30 a. m.—Service from First Church of Christ Scientist.
5:30 p. m.—International Bible Students' program.
8:00 p. m.—Service from the Church of the Seventh Day Adventist.

Monday

8:00 p. m.—Harold Eddy and his orchestra.
8:30 p. m.—Catholic Charity fund speaker.

Tuesday

7:00 p. m.—Miller's dance orchestra.
8:00 p. m.—New Victor releases.
8:30 p. m.—Catholic Charity fund speaker.

Wednesday

5:00 p. m.—Providence College orchestra.
7:15 p. m.—Organ recital.
8:00 p. m.—Rhode Island welder's program.
9:00 p. m.—Talk by Prof. Franklin N. Strickland.

Thursday

7:30 p. m.—Franklin Smith and his trio, assisted by Hazel White, soprano.
8:00 p. m.—Mrs. Marian Tetreau, astrologist.
8:15 p. m.—Movie Club with the Twilight Hawaiian quintet, assisted by the Movie Club tenor.
9:00 p. m.—Al Blakely, the novelty man.

Friday

7:00 p. m.—International Bible Students' program.
8:00 p. m.—Steinert Duo-Art program.

Saturday

Silent.

WFCI—FRANK CROOK, INC.—242

Today.

10:45 a. m.—Service of the Central Falls Congregational Church.

Monday.

2:00 p. m.—Musical program.
6:00 p. m.—Family hour.
6:45 p. m.—Talk by Mrs. Robert Johnston, chairman motion picture committee, Pawtucket Woman's Club.
7:00 p. m.—Baseball scores.
7:05 p. m.—To be announced.

Tuesday.

2:00 p. m.—Studio program.
6:00 p. m.—Family hour.
7:00 p. m.—Baseball scores.

Wednesday.

2:00 p. m.—Musical program.
6:00 p. m—Ernie and his danceland orchestra.
7:00 p. m.—Baseball scores.
7:05 p. m.—Musical program.
7:30 p. m.—Honolulu quintet.

Thursday.

2:00 p. m.—Studio program.
6:00 p. m.—Highland four.
7:00 p. m.—Baseball scores.
7:05 p. m.—Exide Battery boys.

Friday.

2.00 p. m.—Musical program.
6:00 p. m.—Family hour.
7:00 p. m.—Reo Wolverines.
8:00 p. m.—Pawtucket Boys' Club harmonica band.

Saturday.

2:00 p. m.—Virginian troubadours
6:00 p. m.—Family hour.
7:00 p. m.—Baseball scores.

WCOT—CONN'S OLYMPIA—225

Today.

1:30 p. m.—Wailana Hawaiian troupe.
2:00 p. m.—Jacob Conn on current events.

Monday.

2.30 p. m.—Studio program.
7:30 p. m.—Blanchard's better be protected hour.

Tuesday.

2.30 p. m.—Studio program.
7.30 p. m.—Loretta's Moonlight Maids.

Wednesday.

2.30 p. m.—Studio program.
7:30 p. m.—Arthur Guilmet, tenor.

Thursday.

2.30 p. m.—Studio program.
7.30 p. m.—Olympia radio studio ensemble.

Friday.

2:30 p. m.—Ideal Battery entertainers.
7:30 p. m.—Organ recital.
8 00 p. m.—Program by Wesleyan Church of the Nazarene.

Saturday.

2 30 p. m.—Francis Connell, harmonica artist.
7.30 p. m.—Rooney's Pioneer entertainers.

OUT OF TOWN STATIONS

To-Day

KDKA—PITTSBURGH—316.

10.45 a. m.—Correct time.
11:00 a. m.—Church service.
2 00 p. m.—Roxy and his gang.
4:00 p. m.—Correct time.
4 00 p. m.—Organ recital.
4.45 p m.—Service from Shadyside Presbyterian Church.
6.08 p. m.—Baseball scores
6:15 p. m.—Symphony orchestra.
6:30 p. m.—Cook's travelogue
7:00 p m.—Service from Calvary Episcopal Church.
8:15 p. m.—Collier's radio hour.
9 15 p. m.—Utica jubilee singers.
9.45 p. m.—High spots of melody.
10.00 p. m.—Correct time.
10:15 p. m.—Don Amaizo, the wizard.
10 45 p. m.—Baseball scores.

WAAM—NEWARK—349.

11:00 a. m.—First Presbyterian Church speaker
3:50 p. m.—Golembiewski Trio.
4:00 p. m.—Kane, Gildey and Scott.
4 30 p. m.—Lyric quartet.
5:10 p. m.—Edward Farley, pianist.
5 30 p m.—Jubilee quartet.

WBAL—BALTIMORE—286.

5:30 p. m.—National religious service.
7:00 p m.—Concert orchestra.

WBSO—BABSON PARK—286.

12.00 m—Midnight ministry.

WBZ—SPRINGFIELD—333.

10:45 a. m.—Service from South Congregational Church.
2 00 p. m.—Roxy and his gang.
3 00 p. m.—Joe Mitchell Chapple
4.00 p. m.—American Legion hour.
5 30 p. m.—National religious services.
6.30 p m.—Michael Ahern, baritone, and Anne Cullinane, pianist.
7:00 p. m.—Correct time and baseball scores.
7.06 p. m.—Blue and gold hour.
7:40 p. m.—News.
7 45 p. m.—Public opinion.
8.15 p. m.—Collier's radio hour.
9 15 p. m.—Tango orchestra.
9 45 p m.—Phantom and shadow.

Today's Programs in Brief

For the convenience of radio fans the following hourly schedule of broadcasting today is given in brief form. Figures following station denotes wave length.

The hours are based on Eastern Daylight Saving Time.

LOCAL STATIONS

10.30—Church, WLSI, 248.
10.45—Church, WFCI, 242.
11:00—Church, WEAN, 275.
1:30—Concert, WCOT, 225.
2:00—Music, WEAN, 275. Talk, WCOT, 225.
3:00—Music, WEAN, 275. Conference, WJAR, 484.
4.00—Music, WEAN, 275. Conference, WJAR, 484
5:30—Lecture, WLSI, 248.
6:00—Band, WJAR, 484
6:30—Organ, WEAN, 275
7.25—Weather, WJAR, 484.
7.30—Concert, WJAR, 484
8 00—Correct time, WEAN, 275 Church, WLSI, 248.
8:01—Music, WEAN, 275
9.00—Music, WEAN, 275. Talk, WJAR, 484.
9 15—Orchestra, WJAR, 484.
9:30—Music, WEAN, 275
10.00—Music, WEAN, 275.
10.15—Music, WEAN, 275.

EASTERN STATIONS

9.00—Children's hour, WJZ, 454; WPAP, 353. Feature, WCSH, 362.
9:30—Church, WKBW, 217.
10:44—Chimes, WEEI, 448.
10.45—Church, WGR, 303. WKBW, 217. WBZ, 333; WOO, 349. WEEI, 448
11:00—Church, KDKA, 316. WDRC, 283. WQAO, 395. WAAM, 349. WCSH, 362; WHAM, 280; WGY, 380.
12:00—Church, WRC, 469
12:30—Organ, WHN, 396.
1:00—Feature, WJZ 454; WHN, 396 Music, WEAF, 492. WRC, 469. Organ, WKBW, 217.
1:30—Church, WCSH, 362
2.00—Church, WEAF, 492 Orchestra, WHN, 396. Feature, WICC, 265. Music, WHAM, 280. Roxy and his gang, KDKA, 316, WBZ, 333; WJZ, 454; WRC, 469
2.30—Sunday school, WOO, 349. Church, WCSH 362. Music, WICC, 265
3:00—Feature, WQAO, 395 Music, WBZ, 333; WRNY, 326; WOR, 422 Talk, WGY, 380. Ensemble, WJZ, 454. Conference, WEAF, 492. WCSH, 362; WTIC 535; WICC, 265. Church, WRC, 469.
3:10—Music, WRNY, 326.
3.15—Organ, WPG, 273.
3:20—Music, WRNY, 326.
3:25—Music, WHAM, 280.
3 30—Talk, WEEI, 448. Music, WAAM, 349. WJZ, 454. WKBW, 217; WRNY, 326.
3:50—Music, WRNY, 326.
3:55—Vespers, WJZ, 454
4:00—Organ, KDKA, 316; WHAM, 230. Conference, WEAF, 492; WGY, 280; WTIC, 535; WTAG, 517; WCSH, 362; WGR, 303, WEEI, 448 Music, WOR, 422; WAAM, 349; WICC, 265. WRNY, 326. Band, WBZ, 333.
4:15—Music, WPG, 273; WRNY, 326
4.30—Feature, WHN, 396; WAAM, 349. Church, WFI, 405; WHAM, 280
4 45—Vespers, KDKA, 316. Music, WRNY, 326
5:00—Music, WICC, 265. WRNY, 326. Church, WRC, 469. Orchestra, WHN, 396.
5 10—Music, WAAM, 349
5 15—Talk, WOR, 422. Church, WPG, 273. Music, WRNY, 326.
5.30—Church, WBAL, 286; WJZ, 454; WBZ, 333; WHAM, 280. Music, WEAF, 492. WGY, 380. WEEI, 448. WAAM, 349
5:45—Music, WRNY, 326
6.00—Band, WEAF, 492; WOR, 303; WCSH, 362. WTAG, 517. WFI, 405. WTIC, 535; WEEI, 448. Lecture, WRNY, 326; WAAM, 349. Music, WGY, 380. WRC, 469. Organ, WOO, 349.
6 08—Baseball scores, KDKA, 316.
6:15—Orchestra, KDKA, 316
6:30—Travelogue, WJZ, 454; KDKA, 316, WBZ, 333 Forum, WHAM, 280.
7.00—Music, WGY, 380; WBAL, 286; WTIC, 535; WHAM, 280; WHN, 396. Baseball scores, WEAF, 492. WTAG, 517. WGR, 303; WBZ, 333. Church, KDKA, 316. WKBW, 217. Organ, WJZ, 454.
7:05—Music, WJZ, 454; WEAF, 492; WFI, 405; WTAG, 517.
7 06—Music, WBZ, 333
7 15—Church, WIP, 349
7:19—Chimes, WEEI, 448.
7.20—Music, WTIC, 535
7:25—Music, WHAM, 280.
7.30—Music, WEEI, 448 Church, WGR, 303. WFI, 405; WQAO, 395 Capitol Theatre program. WEAF, 492. WRC, 469. WTAG, 517. WTIC, 535
7 40—News, WBZ, 333
7 45—Feature, WBZ, 333. WOR, 422.
8.00—Music, WEEI, 448. WJZ, 454; WHAP, 236 Church, WLWL, 270
8:15—Music, KDKA, 316. WBZ, 333. WJZ, 454
8.30—Reading, WHAP, 236 Music, WTFF, 203
8.45—Music, WOR, 422. WHAM, 280
9:00—Talk, WGY, 380 WGR, 303. WCSH, 362. WRC, 469. WEAF, 492 WTAG, 517. WTIC, 535 Feature, WOR, 422. WTFF, 203. Music, WHAM, 280. News, WPG, 273. WEEI, 448
9:10—Music, WPG, 273. WEEI, 448
9.15—Organ, WCSH, 362 WFI, 405. Church, WTFF, 203. Atwater Kent hour, WEAF, 492. WGY, 380; WRC, 469. WGR, 303. WEEI, 448. Baseball scores, WTIC, 535 Music, WGBS, 349. WBZ, 333. KDKA, 316, WJZ, 454. WTAG, 517.
9 30—Reader, WHAP, 236. WGBS, 349. Music, WOR, 422. WTFF, 203.
9 45—Music, KDKA, 316; WJZ, 454. WGBS, 349. WEEI, 448. WBZ, 333 Drama, WEAF, 492. WFI, 405. WGY, 380 Talk, WTFF, 203.
10:00—Music, WOR, 422. KDKA, 316. WHN, 396; WPG, 273. WHAM, 280; WJZ, 454. WTFF, 304. Talk, WGBS, 349.
10:01—Music, WBZ, 333
10 15—Band, WOR, 422. Music, WJZ, 454. KDKA, 316 WGBS, 349. WTFF, 203; WKBW, 217 Drama, WRC, 469.
10 20—Baseball, WBZ, 333.
10 25—Music, WBZ, 333.
10 30—Travelogue WTFF, 203.
11 00—Organ, WHN, 296. Music, WTFF, 203.
11:15—Music, WTFF, 203
11 30—Orchestra, WHN, 296.
12 00—Church, WBSO, 384 Orchestra, WHN, 296.

DISTANT STATIONS

12:45—Feature, WGHP, 277.
1:00—Music, WTMJ, 294.
2 00—Roxy and his gang, KYW, 526; WOC, 294. WRC, 353. WTMJ, 294. Music, WMAQ 418
2.30—Organ, WLW, 428
3 00—Conference, WOC, 353 Music, WGHP, 294. WMAQ, 448; WTMJ, 294, KGO, 384
3 30—Band, WLW, 428
3.45—Baseball, WMAQ, 448
4 00—Conference, WSB, 476. WSM, 341; KOA, 326 WSAI, 361 Music, KFI, 469
5 00—Music, KNX, 336. WTMJ, 294
5 30—Music, WSAI, 428, WMAQ, 448, WLW, 428
6.00—Organ, WSAI, 428, WTAM, 400. Music, KFI, 469. WWJ, 353.
6 15—Music, WMAQ, 448
6:30—Music, KGO, 384; WJR, 441
7.00—Music, WSAI, 428; KMTR, 526; WMAQ, 448, KYW, 526, WTAM, 400.
7 15—Organ, WTMJ, 294 Orchestra, WLW, 428
7.30—Capitol Theatre program, WSB, 476; WWJ, 375; KOA, 326, WSM, 337. Orchestra, WSAI, 428; WTAM, 400 Music, KFI, 469
7 45—Music, WLW, 428, WJR, 441
7:50—Orchestra, WMAQ, 448
8.00—Music, KFI, 469; KMTR, 526, WTMJ 294 WTAM, 400. Talk, WMAQ, 448
8 03—Music, WSAI, 361.
8.15—Collier's radio hour, KOA, 326; KYW, 526; WJR, 441, WLW, 428
8.30—Ensemble WTAM, 400.
9 00—Talk WSAI, 361; WSB, 476; WTMJ, 294, KNX, 326, WOC, 353 Music—WWJ, 375; WTAM, 400.
9 15—Talk, WTMJ, 294; KFI, 469 Music, WJR, 441, WLW, 428, KOA, 326 Atwater Kent hour, WSAI, 361, KGO, 384, WSM, 341, WSB, 476; WWJ, 375; WOC, 375; WCCO, 400
9 17—Talk, KYW, 526
9 30—Music, KFI, 469.
9:37—Music, KYW, 526
9 43—Music, WOC, 375, WCCO, 405
10 15—Music, WMAQ, 448, WSAI, 361, WLW, 448. Drama, WSAI, 361; WTAM, 400 Feature, WTMJ, 294, KYW, 526, WCCO, 405.
10 30—Music, KFI, 469
10 45—Music, WTMJ, 294, WSAI, 428, WTAM, 400 Organ, WOC, 375.
11 00—Music, KFI, 469 KNX, 336; WMAQ, 448, WGHP, 277.
11:45—Music, WTMJ, 294, WTAM, 400.
12:00—Music, KFI, 469; KNX, 336.
12:15—Orchestra, WTMJ, 294
1 00—Orchestra, KFI, 469

10:00 p. m.—Correct time.
10 01 p. m.—Continuation of program.
10:15 p. m.—News.
10:20 p. m.—Baseball.
10.25 p. m.—Musical program.
11:00 p. m.—Correct time and weather reports.

WDRC—NEW HAVEN—283.

11:00 a. m.—Service from the Church of the Redeemer
12.00 m.—Correct time.

WCSH—PORTLAND—362.

9:00 a. m.—13 class.
11:00 a. m.—State Street Church service.
1:30 p. m.—Radio Parish Church.
2.30 p. m.—International Bible Students' program.
3:00 p. m.—Same as WEAF.
4:00 p. m.—Same as WEAF.
6.00 p. m.—Same as WEAF.
9:00 p. m.—Same as WEAF.
9.15 p. m.—Strand Theatre organ.

WEAF—NEW YORK—492.

1:00 p. m.—Hour of chamber music with Katherine Palmer, soprano.
2:00 p. m.—Interdenominational Church service under the direction of the Greater New York Federation of Churches.
3:00 p. m.—Young People's radio conference under the direction of the Greater New York Federation of Churches.
4.00 p. m.—Men's Conference, Bedford Branch, Y. M. C. A.
5.30 p. m.—String ensemble with Ivor Thomas, tenor.
6 00 p. m.—Weymouth Post, American Legion band.
7:00 p. m.—Hans Barth, concert pianist.
7:30 p. m.—Capitol Theatre program
9.00 p. m.—"Our Government," by David Lawrence.
9:15 p. m.—Atwater Kent hour.
9:45 p. m.—Correct time.
10:45 p. m.—Biblical drama.

WEEI—BOSTON—448

10.44 a. m.—Westminster chimes.
10.45 a m.—Service from First Church of Christ Scientist.
3:30 p. m.—Sam Curtis radio chat
4.00 p. m.—Dr. S Parker Cadman, Bedford Branch, Y. M. C A.
5 30 p. m.—Musical program.
6 00 p. m.—Weymouth Post No. 79, American Legion band
7:19 p. m.—Westminster chimes
7 20 p. m.—News dispatches
7 30 p. m.—John Orth, pianist
8.00 p. m.—Sager hour of hospitality.
9.00 p. m.—Newspaper sidelights.
9 10 p. m.—Masterpiece, pianist.
9:15 p. m.—Atwater Kent hour
9.45 p. m.—Biblical drama.
10.15 p. m.—Correct time.
10 16 p. m.—News despatches.

WFI—PHILADELPHIA—405

4 30 p m.—Chapel service under the auspices of the Church Federation of Philadelphia.
6:00 p. m.—Weymouth Post American Legion Band
7:00 p. m.—Baseball scores
7 05 p. m.—Hans Barth, concert pianist.
7:30 p. m.—Service from Arch Street Presbyterian Church
9:15 p m.—Organ recital
9:45 p. m.—Biblical drama

WGBS—NEW YORK—349.

9 15 p. m.—Konevsky Trio
9:30 p. m.—"Achievement Day Period," tributes to modern heroes and heroines, by David Rosenthal
9.45 p. m.—Konevsky Trio
10 00 p. m.—Lieut Hugh Duncan Grant.
10.15 p. m.—"Voodoo," the first negro grand opera

WGR—BUFFALO—303

10 45 a. m.—Service from Westminster Presbyterian Church
12 00 m.—Weather and correct time reports
4 00 p. m.—Same as WEAF.
6 00 p. m.—Same as WEAF
7:30 p. m.—Service from Central Presbyterian Church
9 00 p. m.—Same as WEAF
9 15 p. m.—Same as WEAF

WHAM—ROCHESTER—280.

11:00 a. m—Morning church service.
2 00 p. m.—"Down Melody Lane"
3 25 p. m.—Popular concert
4:00 p. m.—Musical milestones
4 30 p. m.—National religious service.
5 30 p. m—Studio program
6 30 p m.—Dinner concert
7 00 p m.—Correct time
7 00 p m.—Studio program
7 25 p. m.—Theatre party
8 45 p. m.—Studio program
9 00 p. m.—Organ recital
10.00 p m—Weather forecast

WHAP—NEW YORK—236.

8 00 p. m.—Sacred choral music
8 30 p. m.—Augusta E Stetson, C S. D, Christian Science reading from the writings of Mary Baker Eddy, and remarks
9 30 p. m.—Sibyl Marvin Huse, religious reading.

WHN—NEW YORK—396.

12 30 p. m—Organ recital
1.00 p. m.—"Three Little Sachs."
2 00 p. m—Orchestra.
4.30 p m.—Alexander Light, eminent Shakespearean actor and scholar
5 00 p. m.—Dance orchestra
7.00 p. m—Orchestra.
10.00 p. m.—American celebrity hour.
11 00 p. m.—Organ recital.
11 30 p. m.—Orchestra.
12.00 p. m—Orchestra.

WICC—BRIDGEPORT—265.

2 00 p. m.—Orchestra
2 30 p. m—Melrose Four
3:00 p. m.—Studio program.
4 00 p. m.—American Legion hour
5.00 p. m.—Taps.

WIP—PHILADELPHIA—349.

7:15 p. m.—Service from Holy Trinity Church.

WJZ—NEW YORK—454.

9:00 a. m.—Children's hour
1:00 p. m—Concert orchestra.
2 00 p. m.—Roxy and his gang
3.00 p. m.—Ensemble.
3.30 p. m.—Music of the masters
3:55 p. m—St. George's Church vesper service.
5.30 p. m.—National religious service.
6:30 p. m.—Cook's travelogue.
7 00 p. m.—Correct time
7:00 p. m.—Baseball scores and summary of programs.
7 05 p. m—Organ music, assisted by mixed quartet.
8.00 p. m—Classical trio.
8.15 p. m.—Collier's radio hour.
9 15 p. m.—Utica Jubilee Singers
9 45 p. m.—High spots of melody.
10.00 p. m.—Correct time
10 00 p m—High spots of melody
10 15 p. m.—Don Amaizo, the wizard.

WLWL—NEW YORK—370

8 00 p. m.—Service from Paulist Church.

WOO—PHILADELPHIA—349

10 45 a. m.—Service from Bethany Presbyterian Church.
2 30 p m.—Sunday school.
6 00 p. m.—Organ recital.

WOR—NEWARK—422

3 00 p m.—Symphonic hour.
4.00 p. m.—Cathedral hour.
7 45 p. m.—Vesper organ.
8 45 p. m—Randall Hargreaves, song discourse.
9 00 p. m.—Same as WEAN.
9 30 p m—Same as WEAN
10 00 p. m—Same as WEAN.
10.15 p. m—Same as WEAN

WPAP—PALISADES—395

9 00 p. m.—Childrens' hour.

WPG—ATLANTIC CITY—273

3 15 p. m—Organ recital
4 15 p m—Community vocal and instrumental recital.
5 15 p m.—Religious service
9 00 p. m—News flashes and baseball scores.
9 10 p. m.—Concert orchestra.
10 00 p. m.—Sunday evening musical.

WQAO—NEW YORK—395

11 00 a. m—Calvary morning services.
3 00 p. m.—Inspiration hour.
7 30 p m—Calvary evening services.

WRC—WASHINGTON—469

12 00 m—Church service.
1 00 p m.—Chamber music.
2 00 p. m.—Roxy and his gang.
3 00 p. m.—Interdenominational church service
5 00 p m—Service from Washington Cathedral.
7 30 p m—Same as WEAF
9 00 p. m.—Same as WEAF.
9 15 p. m—Correct time.
9 15 p. m.—Same as WEAF.
10 15 p. m—Biblical drama.
10:45 p. m—Weather forecast.

WRNY—NEW YORK—326

3 00 p. m.—Elbert Haskins, tenor.
3 10 p. m—Charles Dawson, baritone
3 20 p m—Edith Brownell, pianist.
3 30 p. m—Concert trio
3 50 p. m.—Rose Ridnor, soprano.
4 00 p. m.—"Y" hymn sing.
4 15 p. m.—Pauline Watson, violinist.
4 45 p. m—Princess Georges Matchabelli.
5 00 p. m.—Vera Jahless, pianist
5 15 p m—Mme. V. Colombati, and assisting artists.
5 45 p m.—Mary Ledgerwood, contralto.
6.00 p. m—Little Journeys Into Great American Industries

WTAG—WORCESTER—517

4 00 p m—Men's Conference from Bedford Branch.
6 00 p m—Weymouth Post American Legion Band
7 00 p. m—Baseball scores.
7 05 p. m.—Organ recital
7 30 p. m—Same as WEAF
9:00 p m—Same as WEAF.
9 15 p m—Correct time.
9 15 p. m.—Concert
10.00 p. m—News bulletin

WTFF—WASHINGTON—203

8.30 p m—Sacred song quartet
9.00 p. m.—Vesper service by William Moore
9 15 p m—Little Village Church service
9 30 p. m—Trombone and voice duet.
9.49 p m—Bible talk by Dr John Olin Knott
10 00 p m—H H Godfrey, tenor
10 15 p m—Old time hymns.
10:30 p m—Travelogue by Dr John Olin Knott.
11 00 p. m.—Staff pianist
11 15 p m—Choir service
12.00 p. m—WTFF goodnight

WTIC—HARTFORD—535

3 00 p m.—National Youth Conference
4 00 p m—Men's Conference
6 00 p. m.—Weymouth Post, American Legion Band
7.00 p m.—Old World Cathedrals.
7:20 p m—Arthur Arbour, pianist.
7:30 p m—Same as WEAF.
9 00 p m—Same as WEAF.
9 15 p. m—Baseball scores and correct time.

The Battle of Theories.

Radio is filled with minor warfares regarding theories, circuits and the various other features of set construction. It is well to know that some of these trade battles exist, for through them the radioist comes to know more about his own set.

One of the current topics of contention is the question as to which is preferable: major amplification in the radio frequency stages or in the audio frequency stages. Some of the designers feel that the proper place for the major amplification of the incoming signals is in the radio frequency stages before the detector stage is reached. Not so much is advanced in favor of amplification at radio frequency, but rather this plan is favored by its advocates because it avoids certain difficulties in audio amplification, such as distortion and some of the peculiarities which come with power amplification. But there is another side to the question.

Let us consider the views of the advocates of audio frequency amplification as the major factor in bringing the weak radio signals back into light. Here one finds similar reasoning, although of course from the other angle. Advocates of this system do not claim perfection of audio amplification but rather emphasize the defects in radio amplification. They maintain that if there is too high an amplification in the r. f stages, there will be a tendency to amplify a considerable amount of noise and distortion before it reaches the detector stage.

Just which side will come out ahead is difficult to tell. Important work is being done by both, and each group is represented by radio manufacturers of sincerity and reputation.

OLD SOL BLAMED

Sun's Bombardments Cause of Fading Radio Signals.

Old Sol is getting a shady reputation with the radio experts.

The old boy, it seems, occasionally goes on a tantrum and bombards the earth with electrified particles which disturb the radio atmosphere. This, scientists believe, is often responsible for poor reception or fading.

Dr. L. W Austin of the Bureau of Standards, who is making a special study of phenomena, says there is a relationship between solar activity and radio waves, but scientists have discovered no good means of measuring these effects.

"While the observation work thus far must be considered to be in the preliminary stage, it seems probable that the relations of solar activity and radio phenomena will be found to be as worthy of study as those of solar activity and terrestrial magnetism," said Dr. Austin

"The most severe magnetic storm of the year was recorded at the magnetic observatory of the United States Coast and Geodetic Survey at Cheltenham, Md., Oct 12. It was reported as generally a bad night for radio reception. Signals were very weak and faded out, amateurs being able to hear only a few short wave stations. The signals of the moderate-wave European stations, however, came in with great strength.

Battery Contacts Vital

Be sure your storage battery charger is really charging. Only too often the storage battery terminals are so corroded that it is impossible to make a good electrical contact with them, so that no current is actually flowing into the battery. Again, the storage battery recharger may not be working properly, this being especially true of the vibrator type which must be accurately adjusted, as indicated by its ammeter, to insure actual charging.

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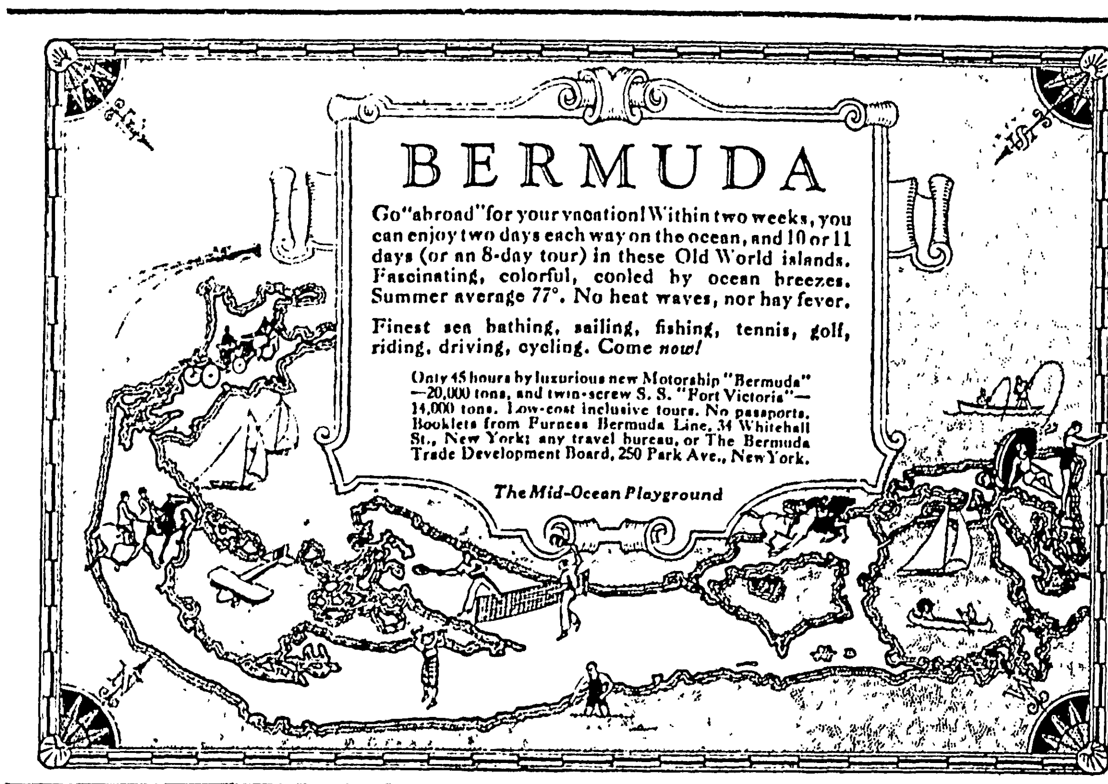

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ANNOUNCES PLANS OF RADIO DIVISION

Chief Contemplates Purchase of New Measuring Devices.

Field Intensity Equipment, Used on Test Cars, Will Determine Whether a Station Is Serving Area Reliably.—Foreign QRM Will Be Located.

The Radio Division of the Department of Commerce expects to be of much greater assistance to the broadcast listeners and station owners, as well as to the owners and operators of other types of transmitting apparatus, including the very long and short waves, according to W. D. Terrell, chief of the Radio Division.

Mr. Terrell made this announcement during a discussion of the preparations he is making for the opening of the radio season again in the autumn.

He expects to accomplish this through the purchase of more precise frequency measuring apparatus, for one thing, and through the use of the new field intensity measuring equipment just recently developed for the division. This measuring apparatus, which the division contemplates procuring, will be much more accurate than any apparatus of this kind used heretofore.

"The field strength measuring equipment will be used on test cars operated by the division from the various supervisors of radio headquarters," said Mr. Terrell. "The purpose of the field intensity measuring apparatus is to determine whether a broadcast station reliably serves the area in which it is located. With this equipment it will also be possible to ascertain from a distance whether a station is operating on the power authorized by the Federal Radio Commission."

The division has four test cars, Mr Terrell explained, at the present time in the field and expects to have two more during the coming year. In addition to the field strength measuring apparatus with which all of these cars are to be equipped, there will be what is known as secondary standards of frequency, and with this frequency measuring apparatus it will be possible to very accurately determine the frequency on which any radio transmitter operates throughout the entire radio frequency spectrum. It is expected that eventually every supervisor's office, as well as each sub-office, will be equipped with secondary frequency standards and radio test cars.

"In addition to the test cars, field intensity measuring apparatus and the secondary standards already mentioned," said Mr. Terrell, "the division further contemplates the acquiring of primary standards of frequency capable of an exceptionally high degree of accuracy over the entire usuable radio frequency spectrum. The location of these frequency standards will be determined by the number that can be secured. If but one is obtained, this will undoubtedly be placed in the central part of the United States; if two are procured, they will undoubtedly be placed on the East and West coasts, and, if three, they will be placed on the East and West coasts and one in the central part of the country.

"With this apparatus and the receivers used in conjunction therewith, it will be possible, and it is contemplated to monitor the high frequency as well as the low frequency stations of the world. As an example of what may be accomplished with this equipment, it will be easily possible to determine what transmitting station of the world is causing interference with the reception of any station in the United States, regardless of the location of the interfering station, whether it be in Hawaii, the Philippine Islands or at any other point in the world."

Mr. Terrell stated that the apparatus will be equipped with automatic recorders for the interception of call letters and communication from transmitting stations using high-speed transmitters of the automatic type.

It may be found necessary, he said, to maintain a 24-hour watch at the primary standards of frequency stations, and at the points where only secondary standards of frequency are maintained, a watch will probably be kept only during the afternoon and night. At the present time this night work is being done by the regular inspectional force after their day's work is finished and without any additional compensation.

NEW RADIO PHASE

"Interruption Insurance" Considered by Broadcasters.

So gigantic has chain broadcasting become that sponsors of the national programs are scanning the horizon for an opportunity to protect themselves, or rather their investment, when on the air.

To put on an expensive program with no assurance that an ether disturbance or a breakdown of the land wires will not cause an interruption, indeed is a gamble. Broadcasting for promotional purposes has become a business, and like other branches of comemrcial activity, protection is the watchword. The manufacturer has his use and occupancy insurance, the outdoor entertainment promoter his rain coverage and the merchant his various forms of protection to guard him against loss of his investment. But what has the radio sponsor?

He pays for his time. He engages his talent. The show goes on the air, and, while he is paying a large sum, almost anything may happen. A whole section of the country may be cut off. Hundreds of thousands of listeners may be left without the program if one of the stations of the chain runs into difficulty. Static may mar the program for a million listeners or more.

But the broadcaster pays, and the money expended may represent a definite loss. The program sponsor does not seek indemnity for loss of profits should the etherial affair prove to be a failure, but he does feel that he is entitled to some form of protection against loss of the money he invests in his national hour.

One of the leading air users recently risked an expenditure of a thousand dollars a minute with no assurance that everything would go through as planned. Lloyds of England was consulted in this connection and were willing to gamble, but the premium for "interruption insurance" proved to be too high.

IT DOESN'T take pull to get a good job. It takes just enough push to lead one through the classified ads regularly.

Vagrant Waves of Interest to Fans

A Coast Guard seaplane, operating off the coast of Florida, was heard by the Block Island radio station, 1200 miles away.

The building of Grundtvigkirchen, Copenhagen's newest church, in the shape of a great pipe organ suggests that the next broadcasting station be built to resemble a huge microphone.

It has been said that the World War probably did more than anything else to advance wireless.

A Coast Guard Gulf Division radio station has been opened at Mobile, Ala., with the call letters NCK.

Showing the Australians are not far behind, Station 3LO in Melbourne has an electric sign in the shape of a huge microphone over its entrance. This is brilliantly lighted at night.

The Institute of Radio Engineers now has more than 4000 members.

A new direct channel between New York and Lisbon is the latest development.

A persistent singing sound in a cone loud-speaker is sometimes due to the vibration of the driving rod. This may be cured by slipping a piece of gum rubber over the driving rod so as to stiffen it and weight it down to prevent vibration on its own account. This also results in a lowered pitch, with a marked gain in bass notes.

The weather bulletins previously transmitted by Eiffel Tower station in Paris on 75 metres are now broadcast on 78.5 metres.

The call letters of the Arpoador station in Rio de Janeiro are SPY.

Always put the newer tubes in the audio amplifier sockets.

To avoid trouble in making external connections between receiver, amplifier and batteries or radio power units, always make a knot at the end of the wire representing positive or plus polarity. This is a ready means of identifying connections and saves much time and trouble.

If you are using an A eliminator of the chemical rectifier or chemical condenser type, by all means give it enough air. Don't close it up in the compartment of the radio cabinet.

Amateur radio clubs are becoming popular in South Africa.

BUILDING PERMITS

Two Public Garages Prominent Among New Building Projects.

Two public garages, one to accommodate 30 cars and the other 20, were among the building projects for which permits were granted at the City Hall during last week. The larger was listed for Fiore Lepore, at 461 Douglas avenue, and is to be used for both garage and repair purposes. The other, to be built for Maria Mambra, will be located at 305-309 Knight street. On the list also were six dwellings of two tenements each, 16-42 Matson avenue, in the name of Harry K. Nahigian, and four dwellings of three tenements each, 27-53 Pleasant street, in the name of Benjamin Rakatansky. The dwellings will all be of wood construction. Of the permits granted 21 were for dwellings and 15 for garages.

Last week's permits:

DWELLINGS

Emelio DiFusco, 288 Academy avenue one-tenement; wood.

Eugenia R. Letourneau, 30 Freese street; on-tenement; wood.

Harry Rakoff, 123 Woodbine street; one-tenement wood.

Patrick Connor, 18 Elmcrest avenue; one-tenement; wood.

Patrick J. Brennon, 47 Nelson street; one-tenement; wood.

Alfred Gall, 25 Metropolitan road; one-tenement; wood.

Benjamin Rakatansky, 27-53 Pleasant street; four dwellings; three tenements each; wood.

Harry B. Mead, 760 Elmgrove avenue; one-tenement; wood.

Edward A. McLaughlin, 24 Claremont avenue; one-tenement; wood.

R. G. Cogswell, 147 Dover street; one-tenement; wood.

Silvio Bertoncioni, 799 Manton avenue; one-tenement; stone.

Samuel Bornstein, 146 Washington avenue; one-tenement; wood.

Joseph Ricci, 433-435 Charles street; two tenements; wood.

Edwin and Grace H. Johnson, 6 Stamford avenue; one-tenement; wood.

Leo Venagro, 39 Clematis street; one-tenement; wood.

Harry K. Nahigian, 16-42 Matson avenue; six dwellings; two tenements each; wood.

Melissa S. Moore, 170 Evergreen street; one-tenement; wood.

James Rozzi, 88 Academy avenue; two-story building, one-tenement and stores.

Domenic Annotti, 254 Pleasant Valley parkway; one-tenement; wood.

Lillie H. Stone, 32 Jewell street; one-tenement; wood.

Harry C. Messenger, 214 Angell street; one-tenement; wood.

GARAGES

Oswald J. A. Boiven, 606 Public street; two-car; steel.

Hugh and Mary McPhillips, 140 Point street; one-car; steel.

Kapriel Tomasian, 11 Waverly street; two-car; cement.

Boss & Seiffert Company, Inc.; 25 Calhoun avenue; four-car; cement.

John McLaren, 22 Candace street; four-car; cement.

Fiore Lepore, 461 Douglas avenue; 30-car garage and repair shop.

Marie Callaurie, 243 Carpenter street; four-car; cement.

Frank H. and Francis Mallory, 260 Rankin avenue; one-car; wood.

Maria Mambra, 305-309 Knight street; 20-car garage and workshop; concrete.

Lamarre Realty Company; three one-car garages on Dexterdale road; wood.

Arthur Ferrara, 27 Ringgold street; two-car; cement.

William R. Selvyn, 121 Camden street; one-car; steel.

Herbert and Jane Less, 71 Erastus street; one-car; cement.

Philip Barry, 14 Frederick street; one-car; steel.

Max Jarck, 33 Gallup street; three-car; iron.

COMMERCIAL

Tydol Chain Company, Inc., corner of Gladstone and Broad streets; accessory and battery room; steel.

Fred Dietz, 153 Oxford street; one-story store, florist; brick and tile.