

# HEINL RADIO BUSINESS LETTER

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No. 818

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## HIGH FIDELITY STATIONS NOW NUMBER FOUR

There are now four of the experimental, or so-called high fidelity broadcast stations in operation. Engineers of the Federal Communications Commission are watching them closely and will welcome reports from listeners and the radio industry.

The high fidelity stations are assigned as follows:

<u>Call Letters</u>	<u>Frequency &amp; Power</u>	<u>Company</u>	<u>Location</u>	<u>Time of Operation</u>
W1XBS	1530 kc. 1 kw.	AMERICAN-REPUBLIC, INC.	Waterbury, Conn.	Unlimited
W9XBY	1530 kc. 1 kw.	FIRST NATIONAL TELE- VISION, INC.	Kansas City, Mo.	Unlimited
W2XR	1550 kc. 1 kw.	JOHN V. L. HOGAN d/b as THE SCIENTIFIC BROADCASTING SERVICE	Long Island City, N. Y.	Variable; such part of the full 24- hour day as is necessary for conduct of the planned research
W6XAI	1550 kc. 1 kw.	PIONEER MERCANTILE CO.	Bakersfield, California	Unlimited

Opinions of competent technical authorities have always varied as to the usefulness of frequencies in the band of 1500 to 1600 kc. Some contended that these frequencies were of very little use and others contended if they were correctly operated they were capable of giving satisfactory results. Following a recommendation of Dr. C. B. Jolliffe, Chief Engineer about a year ago of the Communications Commission, decided to determine the exact possibilities of the disputed band.

"There should be little difference in the transmission characteristics between the frequency bands 1500-1600 kc. and 1400-1500 kc.," Dr. Jolliffe observed at that time. "Some stations immediately below 1500 kc have paid particular attention to antenna design and obtained results comparable to the transmission characteristics of other frequencies. Other stations have paid no attention to antenna design and have obtained very poor service. All possibilities of antenna design have not been exhausted.

"It is extremely difficult for a commercial station which is operating solely for profit to make experiments on antenna structure or to vary power, transmitters, etc., or to alter materially the service area of a station. It is likewise unfair

to an established audience to be making such changes. It is our belief, however, that frequencies between 1500 and 1600 kc can be useful if the stations using them are properly engineered. Experiments to determine this cannot be carried on below 1500 kc.

"In order to determine the usefulness of these frequencies it is necessary to experiment with the antenna design to determine the maximum power which can be put into the great wave with the minimum signal in the sky wave, and to determine the proper power to be used either for serving many small primary areas or a single small primary area with a larger secondary area. To determine these it will also be necessary to make a study of the fading characteristics of these frequencies."

In authorizing the high fidelity experiments, it was specified that the frequencies should be separated by 20 kilocycles and licenses have only been granted to those who have agreed to meet the following conditions:

- (1) That the operation will be under the direct supervision of a qualified research engineer with an adequate staff of qualified engineers to carry on a program of research;
- (2) That the program of research includes study of antenna design, field intensity surveys, and plans for an analysis of response of listeners;
- (3) That the transmitter and all studios will be equipped so as to be capable of at least 10 kc audio frequency transmission.

The high fidelity stations are authorized to use variable power not to exceed 1 KW and to carry sponsored programs; however, the sponsorship must not interfere with the program of research, and the conduct of experiments must not depend only upon sponsors as a means of defraying the cost of the experiments.

The licensee is required to report to the Commission at least each six months as to the development of his program and the results obtained.

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#### SENATE FAVORABLY REPORTS COPYRIGHT CONVENTION

Senator Duffy (D), of Wisconsin, advised the Senate that the Committee on Foreign Relations had favorably reported the International Convention of the Copyright Union.

"I desire to announce at this time that this convention involves the copyright situation, and there has been proposed and is now pending before the Patents Committee legislation on the subject that we expect will have been considered before this matter shall be taken up", Senator Duffy said. "That is the



understanding and agreement of the various conflicting interests with reference to this particular convention."

No date has as yet been set by the Patents Committee for a hearing on the Copyright Bill. This is being held up pending the illness of Senator McAdoo (D.), of California, Chairman of the Patents Committee.

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## COMPOSERS' FIGHT CAUSED BROADCASTERS TO ORGANIZE

An interesting bit of unwritten radio history is how the National Association of Broadcasters came to be organized. It was back in the days when the Composers first exacted a fee from broadcasting stations for the use of copyrighted music. In the opinion of the broadcasters, the price demanded was entirely too much, so high in fact that they referred to the music people as the "American Society of Composers, Authors and Burglars." Forthwith the radio station owners decided to organize.

This resulted in the National Association of Broadcasters with Gene McDonald, of Chicago, who was then a broadcaster as well as a manufacturer, as the first president. Commander McDonald accepted the position only on the condition that a good live secretary would be secured. McDonald, very busy with his own affairs, felt that he could not give the proper amount of time to the work.

When seeking a secretary, someone told him about a man by the name of Paul B. Klugh, of New York, very prominent in the music industry, who had previously been engaged in a bitter warfare with the Composers. Commander McDonald located Mr. Klugh by long-distance telephone in a fishing camp in New Jersey. After the Chicagoan had stated his proposition, Mr. Klugh replied,

"My head tells me to contribute \$1,000 to your cause and to go back fishing. My heart says go to Chicago and fight. I'll be with you Monday morning."

Mr. Klugh subsequently became president of the National Association of Broadcasters and Commander McDonald's partner in the Zenith Radio Corporation.

Part of McDonald's strategy in the early days was for the Broadcasters to raise a large sum of money in the hope of securing the services of E. C. Mills, General Manager of the Composers, with the idea of getting this belligerent gentleman to do for the Broadcasters what he has done for the Composers. There was, however, a hitch in the raising of funds and the offer to Mills was never made.

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## NIRB CONSIDERING RADIO CABINET CLASSIFICATION

The National Industrial Recovery Board wishes to receive all pertinent information to enable it to decide whether manufactured radio cabinets should be placed under the jurisdiction of the code of fair competition for the furniture manufacturing industry.

The Board pointed out that while certain manufacturers of radio cabinets for sale as such desire the above classification, provided that exemption is granted from Article IV, section 5, of the code, authorizing time and one-half overtime for workers on the night shift, the Code Authority for the industry objects to granting this exemption, although sanctioning the classification.

The Board further stated that it contemplated classification of radio cabinets under the furniture code and the granting of limited exemptions from the above article for a period not to exceed four months in each year, dependent upon individual application for exemption and the furnishing of periodic reports to the Code Authority.

Radio cabinets for sale as such are not being manufactured under any one code of fair competition at present.

Data should be filed with Deputy Administrator C. R. Niklason, Room 411, 1518 K Street, N. W., Washington, D. C., before May 10th.

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## PRALL TO BE HONOR GUEST AT NAB CONVENTION

Anning S. Prall, Chairman of the Federal Communications Commission will be the honor guest at the National Association of Broadcasters' convention to be held in Colorado Springs next July. Invitations will go out in a short time to other distinguished guests.

A meeting was held in Baltimore to make preliminary arrangements for the Colorado gathering. It was attended by Truman Ward, President of the National Association of Broadcasters; Philip G. Loucks, Managing Director of the Broadcasters; Edwin M. Spence, Chairman of the Convention Committee, and Arthur B. Church of Station KMBC, Kansas City.

A tentative program is now being developed for the convention and another meeting will be held at an early date in Washington.

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## FOREIGN RADIO SITUATION PRESENTS UNUSUAL DEVELOPMENTS

According to a bill recently introduced in the Czechoslovak Ministerial Council, the Ministry of Posts and Telegraphs would be empowered to require that the owners of electrical apparatus would be obliged to equip such apparatus with radio interference protectors. Should such equipment cost more than 400 crowns (\$16.00) an agreement would have to be reached between the owner of the apparatus and the owner or owners of radio sets whose operation is interfered with by the particular apparatus regarding the proportion which each of them is to pay in defraying the cost of purchasing an eliminator.

The authorities would be authorized to enter premises in order to ascertain whether the provisions of the law have been complied with. Persons not complying with the provisions of the law might either be fined from 20 to 3000 crowns (\$.80 to \$120) or jailed for a period from 2 to 14 days.

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The effective date of advertising on Sundays in Canada being confined to goodwill programs will be established by the Canadian Radio Commission after a study of existing radio contracts has been made. When enforced it will apply to all stations in Canada, both those privately-owned and those operated by the Canadian Radio Commission. It is probable that it will curtail a number of Sunday programs of the American chains with which networks of some Canadian stations are connected, according to Avery F. Peterson, Asst. Trade Commissioner, of Ottawa. It is probable, Mr. Peterson states, that the mere sponsoring of a program will not restrict dissemination in Canada but excessive sales promotion will be eliminated.

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By an arrangement between the Italian broadcasting system and the proper Federation, hotels, restaurants, bars, etc., situated in localities having up to 100,000 inhabitants must pay certain taxes per annum to the Italian broadcasting system.

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This year television is expected to make great strides in the Soviet Union. At present about 300 amateurs are receiving pictures on amateur sets; but that is not regarded as sufficient and the laboratories of the Weak Current trust are working on perfecting television, both by the cathode and the optico-mechanical systems. The trust is starting production of television apparatus for clubs, and will make 2,000 sets this year.

Mass production is being organized of television sets of small size for individual use, on the model of a Soviet engineer; these will operate satisfactorily in connection with ordinary radio sets. The Svetlana plant is putting out its first receiving "tubes" for cathode television, using the "kinescope" method.

By the end of this year it is hoped to have in operation experimental 10 kw. ultra short wave transmitting apparatus, and by next year the first cathode transmitters will be made; these will divide images into 70,000 elements.

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Early in the year, the Government-owned radio system in Austria, RAVAG, announced that radio subscribers registered before a certain time would automatically participate in the distribution of premiums. As a result, a large number of set owners hastened to register, thus bringing in considerable revenue to the government. In order to further stimulate registration, RAVAG then decided to increase the number of prizes from 5,000 to 8,000, thus providing a premium for every 65 radio subscribers.

Among the prizes are 2 pianos, a motorcycle, numerous radio sets and other miscellaneous items including various objects of art, such as oil paintings, water-colors, sculptures and plaques. For these objects of art alone RAVAG expended about 40,000 schillings.

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The Paris-Nice International Criterium Touring Race this year includes an "auto-radio" competition specially reserved for competitors having a radio receiver installed in their car.

The competition will include the reception on two broadcastings of several groups of figures, and the accuracy of the replies will permit of the elimination of candidates whose receivers do not work well or who were not sufficiently attentive. The remainder will be classed according to the replies made to another wireless question, as for instance: "What is the best speed accomplished by a Paris-Nice racer on the Cote de Turbie in 1935?"

It is expected that numerous entries will be made for this radio competition, and substantial money prizes will be awarded.

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## NEW FRENCH LINER TO HAVE WIRELESS SECURITY STATION

The great new French steamship "Normandie", at present under construction, will be equipped with an ultra-modern radio-electric equipment. The installation planned includes a security station and a commercial station.

The security station, installed on the bridge, will be reserved for service calls and as described by Lestrade Brown, Asst. Trade Commissioner at Paris, will include:

500 watt transmitter with continuous alternating, modulated and non-modulated wavelengths - 3 wavelengths of 600-800 meters; 3 wavelengths of from 2,000 to 2,400 meters; and an emergency transmitter with batteries; a receiver for all wavelengths (200-8,000 meters); and a shielded loop aerial radiogrometer for all wavelengths (200-3,000 meters).

The commercial station installed in the rear of the ship will include:

800 watt transmitter, on 6 wavelengths, of from 2,000 to 2,400 meters, for telegraphing to the pilot circuits; a transmitter with 7 wavelengths of from 600 to 800 meters with approximately 300 watts, with the antenna on shipboard circuits, and which can be worked on emergency batteries; a short-wave transmitter for telegraphing, from 1,800 to 2,500 watts on 10 wavelengths, 15 to 120 meters.

Also, a short-wave transmitter for telephoning, 1000 to 1400 watts with a 8 wavelength antenna, 15 to 80 meters; a 200-8000 meter receiver; a telegraph receiver 13 to 250 meters; a telephone receiver 18 to 70 meters; a press receiver 8000 to 23,000 meters and a loop aerial radiogrometer.

It should be noted that each transmitter has its independent antenna. There will therefore be at least 5 wireless antennae on board the S.S. "Normandie".

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## HIGHER POWER AIRPORT TRANSMISSION AUTHORIZED

Regulations of the Federal Communications Commission have been amended whereby airport stations authorized to be used for the transmission of radio range signals may use power in excess of 15 watts for the transmission of these signals provided that the power is limited so as to not produce a field strength of more than 1500 microvolts per meter at one mile from the transmitter location, in the direction of the maximum field. An applicant desiring to base operating power on the

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field produced must submit with the application for license requesting authority to transmit radio range signals a record of field intensity measurements made in sufficient number to insure accuracy in conformity with this rule. All data on the antenna resistance, complete description of the antenna system with dimensions and method of making field intensity measurements, and of relating these measurements to the operating power requested shall be submitted to and approved by the Commission before any license will be granted to operate by this method of power determination. If any change is made in the antenna system, or any change made which may affect the antenna system, the power of the airport station shall be immediately reduced to 15 watts until data is taken and approved by the Commission.

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#### FCC COMMISSIONERS VISIT PRESIDENT

Anning S. Prall, Chairman of the Federal Communications Commission, and Commissioner Paul Walker, in charge of the Telephone Division, conferred at the White House with President Roosevelt late this (Friday) afternoon.

They were non-communicative as to the occasion of their visit except that Commissioner Walker said that it had to do with engaging an outstanding attorney in connection with the A. T. & T. investigation.

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#### BROADCASTERS TO MEET WITH ADVERTISING ASSOCIATION

Following a meeting in New York of the Broadcasters' Committee of Five, whose purpose is to create a cooperative bureau to compile data with regard to radio audience coverage, the Committee voted to extend an invitation to representatives of the 4 A's and the Association of National Advertisers to discuss cooperative action.

The three groups will meet in New York next month. The National Association of Broadcasters will be represented by Phil Loucks and Arthur B. Church, of Kansas City, who is the Chairman of the Committee of Five.

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## RCA "DOUBLE DOUBLET" ANTENNA WINS TEST

With regard to testing a new "Double Doublet" (RCA De Luxe Antenna) the Radio News of New York had this to say:

"This new De Luxe antenna system, utilizing a double-doublet, twisted-pair transmission line and two special impedance-matching transformers (at the antenna and at the receiver) was erected at the Westchester Listening Post during adverse weather conditions and gave excellent results. The full recommended height of 30 feet was found necessary; at lower levels reception on the 19- and 25- meter bands fell off noticeably.

"On all bands, the signal-noise ratio was better than with any of five other antennas against which this system was compared. These ranged from short, vertical wires to long horizontals. On the broadcast band the signal strength was better than with all the other aerials, except a 200-foot wire pointed west. On 49 meters the signal input to the receiver was equal to or better than that afforded by the other antennas. On 31 meters it was not quite as good. On 25 meters it was superior all around. On 19 meters signals were weaker than on the long, horizontal aerial and the short vertical, but the noise level was lower and more of the receiver's amplification could be used.

"On the 49-meter band signals from the best previous antenna suffered from a peculiar frequency distortion, due probably to irregular polarization phenomena. This effect was absent with the RCA antenna, probably because of the angular relationship of the wires of the double-doublet.

"The test antenna was erected with the doublet pointing at a power pole that had been causing trouble and in the general direction of the only street through which any appreciable vehicular traffic passes.

"The small coupling transformer attached to the junction point of the elevated doublet wires has its primary and secondary separated by a Faraday type electrostatic shield, which is grounded by an extra wire dropping from the transformer case. This acts to protect the antenna itself from noise energy picked up by the lead-in and reflected into the aerial wires through the otherwise appreciable capacity between the transformer windings. This shield has no effect on the regular functioning of the transformer as an electromagnetic device, so radio signals continue to feed through the line to the receiver.



"The coupling transformer at the set has no switch, and once installed requires no adjustment or manipulation.

"The longer doublet section of the antenna is 39 feet long, each side of the center crossover insulator; the shorter section 16½ feet on each side. The matched transmission line, which must not be cut, is 80 feet long. Additional sections can be used where necessary to remove the antenna farther from the local interference zone. The whole antenna system is sold in convenient kit form."

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#### HONOLULU HAD METROPOLITAN OPERA FOR BREAKFAST

In an article "Bringing the Diamond Horseshoe to Main Street", in April Broadcast Merchandising, published by the National Broadcasting Company, J. S. Norton, Vice-President in Charge of Sales, Lambert Pharmacal Company, which sponsored the Metropolitan Opera programs, writes:

"Our broadcasts were well received and appreciated outside the United States. Letters and radiograms were received from Hawaii where we used KGU, the NBC outlet in Honolulu. Users of Listerine products in Hawaii enjoyed opera with their Saturday breakfasts - at 8:15 A.M. - due to the difference in time. This difference in time, however, did not daunt the intensive efforts of retailers and wholesalers to make the opera broadcasts pay. What they did, and how they did it, served as a splendid example to outlets in 'the States'."

"All in all, we believe that we were able to carry through a well-planned merchandising job which cashed-in on the operas without in any way detracting from their prestige.

"Until commercial sponsoring on the Metropolitan's offerings was made possible, there was a general conception in the minds of the mass public that grand opera was available only for the "Diamond Horseshoe" box-holders, that opera was an aristocratic rather than a democratic enjoyment.

"Radio has taken the works of the masters and has carried them through space into the living rooms, the stores, the motor cars and wherever an aerial reaches skyward in the nation."

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## G. E. EARNS 19¢ A SHARE ON COMMON

The General Electric Company reported a net profit of \$5,390,930 for the first quarter of 1935 after all deductions. This was equal to 19 cents a share on 28,845,927 no-par common shares. It compared with \$4,565,728, which was equal after dividends on the special stock, to 14 cents a share on the common stock for the first quarter of 1934.

At the final dividend on the special stock, payable on last Monday, was provided for in 1934, there was no deduction from earnings for dividends on this stock in the first quarter of this year. All the special stock was retired on Monday.

Lewis Blair Williams, Chairman of the Board of the National City Bank of Cleveland, was elected an additional General Electric director.

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## APPLICATIONS GRANTED BY FCC BROADCAST DIVISION

KFPL, C. C. Baxter, Dublin, Tex., C.P. to make changes in equipment and increase in day power from 100 to 250 watts; WOC, The Palmer School of Chiropractic, Davenport, Ia., C.P. to make changes in equipment, increase day power from 100 to 250 watts; KWBG, W. B. Greenwald, Hutchinson, Kans., modification of C.P. authorizing changes in equipment and approving transmitter site; WMC, Memphis Commercial Appeal, Inc., Memphis, Tenn., authority to determine operating power by direct measurement of antenna; WKRC, WKRC, Inc., Cincinnati, Ohio, modification of C.P. extending commencement date to 4/29/35 and completion date to 7/29/35; KRLC, H. E. Studebaker, Lewiston, Idaho, license to cover CP, frequency 1420 kc., 100 watts, unlimited time.

WSVA, Marion K. Gilliam, Harrisonburg, Va., modification of C.P. approving transmitter site near Harrisonburg and studio location in Harrisonburg; also for changes in equipment; also modification of C.P. extending completion date to 6/4/35; WGCM, WGCM, Inc., Mississippi City, Miss., modification of license to change hours of operation from specified to unlimited; WTRC, Truth Radio Corp., Elkhart, Ind., consent to voluntary assignment of license to The Truth Publishing Co., Inc.; WIRA, Badger Broadcasting Co., Inc., Madison, Wis., modification of license to increase power from 500 watts night, 1 KW day, to 1 KW night and day (application for Special Exp. Auth. to use 500 watts additional power at night, heretofore designated for hearing, was retired to files).

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