

HEINL RADIO BUSINESS LETTER

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No. 990

FCC ASKS INDUSTRY FOR ADVICE ON MODERN SELECTIVITY

Because of the admitted advance in the selectivity of up-to-date radio receivers and their ability to tune out undesired signals, the Federal Communications Commission this week asked the radio industry for more advice before changing its engineering standards with regard to station separation and relative power.

An informal engineering conference was scheduled for January 18 to obtain further data on the proposals made by broadcasters at the October hearing.

In calling the conference, the FCC pointed out that in the October hearing "recommendations were made by various participants as to the permissible ratio of desired to undesired signals between broadcast stations operating 10 kilocycles removed in frequency.

"These recommendations varied rather widely and in general would allow a much higher undesired signal than is now permissible under the present empirical standard of the Engineering Department", the FCC continued. "These empirical standards were adopted in 1932 and were based on the characteristics of receiving sets manufactured from 1929 to 1932. Since that time there has been a marked change in receiver characteristics and practically all receivers now manufactured for broadcast reception have superheterodyne circuits, whereas at that time the majority of receivers employed were of the tuned radio frequency type.

"The present empirical standard requires that the desired signal be twice the undesired signal. This does not let the primary service areas of stations on adjacent channels overlap and requires a mileage separation between stations, depending on the power.

"After carefully studying the recommendations made by the various engineers, the Engineering Department is not satisfied that this subject has been sufficiently investigated to accept any of the various recommendations made. The recommendations by certain engineers were based on receiver characteristics with regards to selectivity and apparently little consideration was given to the fidelity characteristics of the receivers.

"There is no question but that a receiver can be designed and manufactured at a nominal cost that will separate a desired signal from an undesired signal 10 kilocycles removed in frequency when the intensity of the undesired signal is 50 to 100 times the

desired signal. (In fact many receivers now on the market will do this.) But, in obtaining this selectivity the high frequency audio response of the receiver is materially reduced. The amount of the reduction varies widely with individual receivers. Therefore, before a new ratio of desired to undesired signal can be adopted as a standard for broadcast allocation, it will be necessary for the industry to assist the Commission in determining the maximum audio frequencies that are to be transmitted and received.

"Under the present plan of allocation, stations separated by 10 kilocycles are also required to maintain a mileage separation; thus, two 1-kilowatt stations, 10 kilocycles removed in frequency, must be separated by 200 miles at night and two 50-kilowatt stations by 800 miles at night. This allocation provides for the transmission of all audio frequencies to 7.5 kilocycles and for the reception in the primary service area of frequencies to this value and in the secondary service area of frequencies to 5 kilocycles. If the ratio of desired to undesired signals of 1 to 10 or 50 be adopted, it is evident that this plan could no longer be retained and it would be necessary to require all broadcast stations to cut off all audio frequencies above, say, 5 kilocycles. Also, with the above stated ratio, broadcast stations of the same power, 10 kilocycles removed in frequency, could be placed in the same service area, and, thereafter it would not be possible ever to accomplish high fidelity transmission and reception on such stations.

"The Engineering Department hesitates to recommend an allocation based on receiving sets of the selectivity and high frequency response as given without the assurance from the industry that it is unnecessary to reproduce faithfully frequencies above 3000 or 4000 cycles and that at 5000 cycles it is satisfactory to have the response down some 11 to 24 decibels below that at 400 cycles.

"Unfortunately the characteristics of a receiver having an acceptance band of 10 kilocycles (audio frequency response to 5 kilocycles) are not available nor are characteristics of receiving sets having an acceptance band of 15 kilocycles (audio frequency response to 7.5 kilocycles) available. If the selectivity characteristics were known of receivers which had acceptance bands of these widths and if the audio response characteristics faithfully covered the same frequencies, then an allocation could be made based on the ratio of desired to undesired signal for such receivers. In other words, should we not base the allocation on receivers with the desired output characteristics, rather than on receivers of very poor output characteristics which do not approach the ideal and thus seriously limit development in the future?

"Although broadcast stations are separated by only 10 kilocycles, by requiring an adequate geographical separation between stations on adjacent channels, it has been possible to permit transmission and reception of emissions with a frequency range greater than 5 kilocycles. Or, in other words, by main-

taining certain geographical separation, it has been possible to accomplish an equivalent of a substantially greater frequency separation than 10 kilocycles in the primary service areas.

"The Engineering Department wishes to ask the radio industry the following questions with respect to changing the policy of allocating broadcast stations 10 kilocycles removed in frequency:

- "1. The allocation of broadcast stations should provide for what maximum audio frequencies to be transmitted?
- "2. The allocation should provide for what maximum audio frequency reception in the primary service area? In the secondary service area? (Consider usual and variable selectivity receivers).
- "3. What selectivity characteristics can be obtained from a receiver that will reproduce audio frequencies flat within 4 decibels, to 7.5 kilocycles? To 5 kilocycles?
- "4. Should the characteristics of the average receiver sold today, which is substantially limited in response above 3 to 4 kilocycles, be taken as a basis for a change in the present standard of desired to undesired signal?
- "5. Is not an allocation which provides for transmission of frequencies to 7.5 kilocycles, for reception of frequencies to 7.5 kilocycles in the primary service area, and for reception in the secondary service area to 4 or 5 kilocycles (or less as controlled by the selectivity control or the tone control of the receiver) a fair allocation?
- "6. Would not a substantial increase in the permissible undesired signal materially impair this allocation?
- "7. Is there any need to reduce materially the mileage separation between stations on adjacent channels so that the above conditions of transmission and reception can no longer be maintained?
- "8. If the industry decides that the characteristics of the various selective receivers now being manufactured should be taken as a basis of allocation for 10-kilocycles frequency separation, then does the industry accept the responsibility for all broadcast stations so allocated to be limited in transmission and reception to an audio response not exceeding 5 kilocycles?"

12/18/36

PHILCO XMAS BONUS OF \$400,000 DISTRIBUTED

A Philco Christmas bonus of approximately \$400,000 is being distributed to more than 11,000 employees of the Philadelphia Storage Battery Company, makers of Philco radios, George E. Deming, Vice-President, announced this week. This far exceeds the bonus paid last year to Philco factory workers, more dollars going to a greater number of workers than in 1935.

Wage earners on the payroll November 30th, and paid on the hourly basis are receiving the bonus based on terms of service, those with 10 years continuous work with the company receiving the equivalent of 100 hours of base rate; those five years getting 72 hours of base rate; those one year 40 hours of base rate, and then scaled down from that point to the newcomers. Of the group who are weekly-rated the bonus is based partly on length of service and partly on performance.

"Already paying the highest wage in the radio industry, and meeting the largest industrial payroll in Philadelphia, we are able to pay this Christmas bonus because Philco factory workers have earned it by their splendid cooperation and their fine production, which has made possible the turning out during 1936 of about 1,800,000 radios", said Mr. Deming in announcing the bonus payments.

During the past year, Mr. Deming pointed out, Philadelphia Storage Battery Company has maintained employment for from 9,000 to 12,000 workers in Philadelphia.

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CBS NOVEMBER BILLINGS 44.2% AHEAD OF 1935

Columbia Broadcasting System's billings for November, 1936, totalled \$2,483,657, an increase of 44.2% over the November, 1935, total of \$1,722,390.

The estimated total income from time sales for the twelve months of 1936 is \$23,289,000, which would mean an increase of 32% over 1935.

	<u>November</u>	<u>12 Months</u>
1936	\$2,483,657	\$23,289,000 (Estimated)
1935	\$1,722,390	\$17,637,804

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PAYNE ATTACKS "RADIO LOBBY", URGES BETTER PROGRAMS

George Henry Payne, the Federal Communications Commissioner who just a year ago aroused the broadcasting industry and his colleagues by a series of university addresses, on December 18th hurled another blast at "the radio lobby" and the tendency of broadcasters to put commercial interests first.

Speaking on "Is Radio Living Up to Its Promise?", Commissioner Payne said:

"If you take 'radio' as the scientific world regards it as the transmission through the ether of messages - it has more than met its promises. If you mean by 'radio', broadcasting, you are on debatable ground.

"It is not an easy problem, however, that you have posed for me - 'Is Radio Broadcasting Living Up to Its Promise?' Frankly, my own opinion is that it is not, but I feel I would be unfair if I did not qualify that statement by saying that elements, mainly political and some economic, have been as much to blame as the broadcasting industry itself. Nor would it be fair to say that broadcasting has not come up to expectations when some fine programs have been the delight of American audiences.

"But - and this is the question - when we have allowed private corporations to develop a national resource that elsewhere in the world is government owned and controlled, should not those who are making large fortunes from this resource give us better programs?

"To anyone who studies the situation from the inside there is quite evident a contempt for educational and cultural influences that is most unusual in any field of scientific development.

"What would have happened in the field of medicine, philosophy, law, science, literature, politics or journalism if the first impulse had been money-making?

"Fortunately in the radio field, while the great actuating impulse of those who are in control of the industry is money, the engineers and scientists on whom they depend for the development of their fortunes are, in the main, men who are unselfish. Some of them, and I am speaking of those who are associated with the Federal Communications Commission, have a devotion to high ideals that will challenge comparison with any other time.

"A more disagreeable aspect, and a more sinister one, deterring radio from living up to its promise, is the fact that the radio lobby in Washington has filled the radio 'industry' with the novel idea that they control the government.

"For two and a half years I have watched the operations of this lobby which has endeavored to dictate the actions of the Federal Communications Commission.

"When I speak of its contemptuous attitude toward educational and cultural matters I am not hazarding any guess. I am speaking from facts. An important broadcaster, a man who has acted as an official of an organization, sat in my office one day arguing about the perfectability of the radio program. We were naturally at different ends of the question - he declaring that the programs as given today were perfect. Finally I drew out some letters and extracts from letters of many college presidents throughout the country and showed him that they were far from satisfied with the present set-up.

"His answer was, 'What the hell do them college presidents know!'

"One argument, effective though unreal, that has kept public opinion from forcing the production of better programs has been that the pioneers of the radio art are entitled to a just share of credit and profits for their pioneering. But have the real pioneers had any sizable share in the profits?

"Of the forty-three scientists who, since 1912, have contributed most to radio's scientific development and progress, only two have received compensation in any way commensurate with their achievements.

"We have here a complex and serious economic phenomenon. Great discoveries are made and the discoverers profit little. The public which owns the ether is amused, delighted and astonished, but spiritually profits little. A third party steps in and, discovering nothing, inventing nothing and owning nothing, nevertheless makes great fortunes.

"For two years I have argued and pleaded and reasoned with this most difficult division of our activities to take a fairer attitude toward the public. I finally came to the conclusion that I could get better results if I appealed to them from a public forum, and so I accepted invitations from Harvard, Columbia and other universities to enunciate under dignified auspices what I thought were proper reforms.

"You can imagine my surprise when instead of getting the cooperation of those whom this Commission is supposed to regulate, I was told publicly in their trade journal that I 'should mind my own business.'

"Attacking every endeavor of the cultural and educational interests to improve the quality of radio programs is a most vicious lobby. It is not a particularly intelligent lobby for, if it knew its business, it would see that the educational and cultural interests ask so little that they could be easily conciliated by small concessions. But, arrogant in its belief that it controls the Commission, it is not inclined to concede anything.

"Developments and inventions that are now going on and being made in the radio field will affect the mental life and education and possibly the material interests of every person in the country. Behind this development, fraught with so much importance to our people, a fierce struggle is going on for the control of the great resource of the air.

"Private interests favoring private monopoly are naturally anxious that there be just as little governmental 'interference' (regulation) as possible in what they call their 'business'. Those who believe that we must not repeat the mistakes of the past and allow the wasteful private exploitation of our resources are just as keenly aroused in behalf of the government taking a strong stand to protect the public interest.

"The indifference of the public to the importance of this struggle is lamentable. Fascinated by the wonders of radio and the astonishing developments in the entire field of communications, the people have given little attention to the economic control of these new developments. Unless the public is aroused, its interests are apt to be neglected and lax administration is apt to creep in. In this way private monopoly, without warrant of law, establishes itself and, too late, the public bestirs itself to recover ground that never should have been lost."

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LAWYERS BARRED FROM RADIO COURT; PROGRAM TO CONTINUE

The Appellate Division of the New York Supreme Court in both the First and Second Judicial Departments announced December 16th a new rule for lawyers intended to prohibit them from taking part in "good-will courts" broadcast over the air. The ruling followed protests by bar associations against the practice.

The ruling covers the twelve counties embraced in the two departments, including the five counties of New York City, and the counties of Nassau, Suffolk, Westchester, Putnam, Dutchess, Orange and Rockland.

The rule did not specifically mention the radio "courts", but forbade attorneys to give legal advice "in connection with a publicity medium of any kind". Violation of the rule will subject the offending attorney to suspension or disbarment for "professional misconduct."

A. L. Alexander, conductor of the Good Will Court broadcast at 8 P.M. Sundays over WEAf's network and on 10 P.M. Wednesdays from WMCA, said that the rule would be complied with but that the program would be continued. His statement did not say how this would be done, but it was understood that the conductor would have to obtain legal talent from outside the jurisdiction of the Appellate Division. The program was given last night (Dec. 16) with two judges from New Jersey. The programs are sponsored by a food company, advertising its coffee.

The use of legal talent from New Jersey to give legal advice to New York residents on New York law, and vice versa, was one of the features objected to in a memorandum with the Appellate Division of the First Department by the Association of the Bar of the City of New York, the New York County Lawyers' Association, and the Bronx County Bar Association. The committee on professional ethics of the American Bar Association also took action against the broadcasts.

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INVOLVED WLWL DECISION EXPLAINED BY FCC

The highly involved decision of the Federal Communications Commission denying the application of WLWL, operated by the Paulist Fathers in New York City, for full time, and a shift from 1100 to 810 kcs., was explained this week in a lengthy statement of facts.

Nine other stations and J. David Stern, New York and Philadelphia publishers, were involved in the case. The FCC's decision terminated a two-year effort of WLWL to obtain a full-time station with 5,000 watts. The Commission, in denying WLWL's request, granted renewals of license to all other stations involved without change in assignments.

"Upon consideration of the entire record made in this proceeding, we are of the opinion that the ultimate public advantages which would be achieved (a) from carrying out the WLWL proposals, and (b) the operation of that station upon the assignments requested, are outweighed by the public disadvantages involved therein", the FCC stated. "While it appears that the type of service proposed to be rendered by said station upon the new assignment requested is meritorious, it is not satisfactorily shown that there exists a public need sufficient to warrant a grant of increased facilities to Station WLWL, when the necessary incidental effects of such grant upon the service of other broadcast stations are considered. Moreover, there is nothing in the record before us indicating that public interest would be better served through the frequency reallocations proposed in the WLWL petition.

"The weight of the evidence clearly establishes that under the proposed frequency reallocation plan of the Missionary Society of St. Paul the Apostle (WLWL), the present service areas of Stations WNYC, WFAA and WBAP would be reduced; that Station WHAS (Louisville, Ky) would be prevented from continuing a meritorious service to southern Kentucky and Tennessee, because of interference from Station WWL in New Orleans, La.; that the service of Stations WOV and WNYC would be severely restricted during nighttime hours by interference produced through the operation of other stations upon the same frequency;

that interference would be present within the good service area of Station WLWL, during nighttime hours, due to the operation of Station WWL in New Orleans; and that there is involved in said proposed plan of frequency reallocation (1) a violation of Rule 116 prohibiting duplicate regular operation at night on frequencies designated as clear channels, and (2) a curtailment in the service now rendered to rural areas on three of the clear channel frequencies specified in the petition, because of regular duplicate operation thereon at night."

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MOSCOW TELEVISION BROADCAST RECEPTION IN ENGLAND CLAIMED

The television department of the All Union Radio Committee, Moscow, has receiving a letter from a radio-fan living in Birmingham, England, confirming reception of Moscow television broadcasts conducted through radio station RZA, according to a statement from Radio Centre, Moscow.

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G.E. KEEPS BRITISH POSTED ABOUT KING'S ABDICATION

During the week of the crisis in connection with the abdication of King Edward VIII, the General Electric Company at Schenectady had both their short-wave stations on the air at 5 A.M. and ran all day, and almost all night, to furnish service to New Zealand and Australia, for the latest news from England.

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NBC ISSUES SUMMARY ON CANADIAN RADIO MARKET

Claiming that more than a million of the radio families of Canada may be reached through NBC associated stations in Montreal and Toronto and through other NBC stations in the United States, NBC this week issued a card summary of radio set ownership throughout Canada.

The tabulation shows that in nine Canadian provinces the 1936 estimates of radio families was 1,471,800.

E.P.H. James, NBC Promotion Manager, explained that the study was made because it was felt that a better knowledge of Canadian radio ownership would be of value to NBC clients and that "reliable trade sources consider the government figures low."

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60% OF STATIONS NOW EQUIPPED WITH WBS DEVICES

Sixty percent of all commercial radio stations in the United States and 91 percent of all those with 1,000 watts power or more are equipped to broadcast the wide-range vertical produced by the World Broadcasting System, according to results of a transcription reproduction survey just completed by WBS.

"Of the 567 stations included in the WBS survey, 344 now boast vertical reproducing equipment", a WBS statement said. "This is an increase of 20%, of 116 stations, over June, 1935, when the last study was made. Projecting the findings into the higher-powered groups, the vertical showing is even more impressive. There are 336 stations having a power greater than 100 watts, and of these, 249 (74%) are vertically equipped, representing an increase of 52 stations over the 1935 figure. Among the 74 stations broadcasting with more than 1,000 watts, exactly 91% have vertical equipment.

"There are only three cities, out of 93 having a population of 100,000 or more, not served by at least one vertically equipped radio station. For these, as well as for small stations not as yet vertical-minded, World provides the finest lateral cut transcriptions. The survey findings, however, offer overwhelming endorsement of vertical recording, developed by Bell Telephone Laboratories and Western Electric Company, and pioneered in radio by World Broadcasting System.

"The past two years have seen many changes in broadcasting. Perhaps none is more significant than the increased number of radio stations with vertical reproducers, the 'matched quality' equipment necessary to broadcast World's Wide Range vertical transcriptions.

"Today Wide Range recording enables even the smallest station to broadcast programs comparable in every respect to the finest studio presentation. The advertiser recognizes in World Broadcasting System an unbroken chain of carefully constructed links, carrying his sales message from artist to listener with unimpaired quality. World enables him to put his entertainment, and his advertising, into the exact markets of his choice, quickly, effectively, without waste or worry."

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KSTP COMMEMORATES NEW TRANSMITTER

One of the first souvenirs of the holiday season comes with the compliments of Stanley Hubbard, President of Station KSTP, at St. Paul. It is handsomely gotten up as a paper-weight in the form of brightly polished brass medallion. One side bears the following inscription:

"Northwest's leading radio station dedicates its new \$300,000 transmitter to the vast Northwest listening audience - KSTP, Minneapolis-St. Paul."

On the other side of the medallion is a replica of the modern KSTP broadcasting station.

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NOTES

Charges of industrial coercion of voters in the recent election campaign were dismissed in wholesale fashion by the Senate campaign investigating committee recently.

Among the cases dismissed was that of the Hygrade-Sylvania Corporation of Emporium, Pa.

The Mutual Broadcasting System announces a dedicatory program for December 29, when it becomes a coast-to-coast network and is linked with the Don Lee Broadcasting System. From 10 P.M. to 2:30 A.M., EST, the first part of the dedicatory program will be heard from New York, Chicago, Cincinnati, Detroit, Toronto, Philadelphia and Pittsburgh.

The following night, December 30, from 10 P.M. to 12:30 A.M., EST, the Don Lee Broadcasting System and the Iowa and Central networks will salute the Mutual network with broadcasts from Los Angeles, San Francisco, Honolulu, Des Moines and Omaha.

A new home for WGY, Schenectady, of modernistic type, with the latest of radio and broadcasting equipment, will be built by the General Electric Company early next Spring on a plot adjoining the present studios in the International G. E. office building in Schenectady. This new structure will be two stories in height and of limestone finish with glass blocks on the front and two ends.

Station WRVA, owned by Larus & Bros. Co., Inc., Richmond, Va., have made application to the Federal Communications Commission for a construction permit to install a new transmitter and directional antenna for day and night use, increase power from 5 kilowatts to 50 kilowatts, move transmitter from Mechanicsville (4½ miles from city limits) Virginia, to 15 miles S.E. of Richmond, Virginia.

Completing the last lap of an 18,000-mile airplane trip through South and Central America to arrange for a regular exchange of radio programs between the National Broadcasting Company and Latin American countries, John F. Royal, NBC Vice-President in Charge of Programs, expects to be back in New York on Sunday, December 20.

Dr. Herman S. Hettinger, has tendered his resignation as Economic Consultant for the National Association of Broadcasters. Dr. Hettinger has expressed the desire to devote more time to the writing of a book on the principles of radio advertising.

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