

# HEINL RADIO BUSINESS LETTER

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July 14, 1936.

## RE SEES BETTER RADIO SERVICE FOR FARMERS

The extension of rural power lines will give the farmer better radio service at a low initial cost and low operating expense, the Rural Electrification Administration states in an article in its departmental organ.

"The city dweller looks upon radio solely as a means of entertainment; the farmer relies upon it for the betterment of his economic status as well", it adds. "From the many broadcasts which are addressed to the rural population, the farmer keeps a close check on market quotations, and gets technical information which results in better crops per man-hour of work. He is also well informed regularly of weather conditions. The importance of radio in rural life may be estimated from an economic angle as well as on the cultural and entertainment basis.

"Of the 6,800,000 farms in the United States, about two and a half million have radio receivers. The other four million plus must rely upon the neighbor's set or the country store. It is not surprising, therefore, that radios are among the first electric installations which a farmer demands.

"One of the reasons for the lag of the farm radio market is that the radio manufacturers, whose experience has been primarily in the design and construction of utility company line receivers, reluctantly build battery and 32-volt radios. The price and cost of operation are high for the farmer's modest budget. However, of late, the approaching saturation of the urban radio market has forced the radio manufacturer to seek ways and means to sell to the farmer. The battery-operated receiver, with its average monthly operation cost of about 1 dollar, is not a simple apparatus to build in quantities. The market for 32-volt sets depends on the number of 32-volt power installations. Thus, the manufacturers have given a great deal of attention to storage-battery operated sets (somewhat similar technically to the automobile set) where the battery is kept charged by means of a wind-driven generator.

"There is no dearth of strictly rural programs. As of January 1935, there were 60 radio stations broadcasting the National Farm and Home Hour; 623 transmitters presented weather forecasts, and 146 stations cooperated with the Department of Agriculture in broadcasting market news. In 37 States, 221 stations supply radio time for the State Extension Service and the Department of Agriculture; the remaining 11 States have commercial stations on which the Department of Agriculture broadcasts frequently. Agricultural colleges operate 19 transmitters and 13 of them use commercial facilities.



"Actually the farmer can keep in close touch with his city neighbors many miles away as the modern radio receiver has a long service range. Reception is usually better in the country than in the city.

"The educational possibilities of radio in rural school houses are very great. The city school child is in wide contact with modern affairs, but the farm's child leads a rather circumscribed life. A radio installation in the Little Red School House will enable children to listen to programs which will enlarge their vision of what is happening outside of their village. Power lines along the highway should pause at these little school houses to deliver the few watts which stand between the child and the great world in which some day he may be a very important part."

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#### KNOX URGES FREE RADIO AT WROK CEREMONY

Colonel Frank Knox, Republican Vice-Presidential nominee, dedicated the expanded facilities of Station WROK, Rockford, Ill., July 12th with a plea for continued freedom of speech, press and radio and a warning against using radio "to spread wrong ideas and encourage wrong policies."

"Freedom of the radio and the press must be preserved", he said. "They must not be prostituted to the uses of indecency or treason or false propaganda or class hatred or government coercion. Except for these limitations they must be free."

His address was at the dedication ceremony which marked the inauguration of the enlarged studios and new transmitting equipment of WROK. The Rockford Consolidated Newspapers (Morning Star and Register-Republic), published by Mrs. Ruth Hanna Simms, acquired the principal interest in the station's ownership.

Praising the radio as "a device for breaking down barriers of time and distance", Colonel Knox said that he looked "to the day when there will be no sectional feeling in this country, when city and town will cooperate in the solution of the problems of economic life."

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The Polski Radjo (Polish Radio Company) has ordered an experimental television station from the State Telephone Works for installation near Warsaw. The power will be 5 KW and the definition about the same as that of the Berlin television station, i.e., 25 screens per second. It is expected that the studio will be installed in the top floors of the Prudential building on Plac Napoleona, which is the only building in Warsaw high enough for the purpose. Transmission should be started by Christmas time.

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## PAYNE TALKS ON ERASMUS ANNIVERSARY PROGRAM

George Henry Payne, member of the Federal Communications Commission, spoke July 12th over an international hookup of the Columbia Broadcasting System, in commemoration of the 400th anniversary of the death of Erasmus.

"In concluding this brief but memorable observance of the death of Erasmus, it is well to remember that although he has been dead four hundred years, the world has not even yet caught up to many of the ideas he had, the visions of betterment he conceived or the spiritual and political morality that he preached", he said.

"To many he was simply the great book-worm, the kind that is despised by politicians. To others, more understanding, he was simply the great scholar, the most learned man of his times, the master of irony and style. But to those who read more deeply, in a period when the world was emerging from the old order of the Medieval Ages to the new order, Erasmus was the pioneer and pathfinder. He was the turning point, intellectually, of a time when humanity began to come into its own."

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## BRITISH EXPERTS LAUNCH WAR ON INTERFERENCE

An important move to cut those crackles, hisses and bangs which ruin listening-in has been made by the General Post office in Great Britain.

Its Engineering Department has been carrying out numerous experiments, with special apparatus for silencing electric vacuum sweepers, motors, lifts, medical appliances and other electrical instruments capable of causing interference with radio reception.

The Post Office engineers are now asking permission from manufacturers of certain electrical appliances in this country to carry out experiments and tests at factories. This will enable them to suggest the most suitable type of apparatus to silence interference in each case.

Legislation enforcing the addition of suppressing apparatus on certain electrical appliances is the only solution to the problem of eliminating electrical interference with broadcast reception.



The problem will become far more acute when television transmissions from the Alexandra Palace begin. A great deal of research work in this direction has been carried out by a special Interference Committee, set up by the Institute of Electrical Engineers, and this has resulted in the best type of suppressing apparatus being found for various interference-producing apparatus.

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## FORMER FCC COUNSEL RAPS PRESS OPERATION OF RADIO

Newspapers operating broadcasting stations have not measured up to what might be expected of them and often have used radio facilities for purely selfish purposes, Paul D. Spearman, former General Counsel of the Federal Communications Commission, states in an article in the July 11 edition of Editor & Publisher.

After discussing briefly the recent FCC ultra high frequency hearing, Mr. Spearman said:

"Probably the most important question in connection with the licensing of facsimile broadcast stations is: Who are to be the licensees of such stations? It is only natural to expect that many newspapers will apply for authority to operate such stations when the Commission authorizes them on a commercial basis. How many newspaper applicants will be permitted to secure such licenses cannot be foretold.

"There is a distinct feeling in many quarters that some newspaper-owned broadcast stations have not measured up to what might be reasonably expected of them. Some of the finest, most efficient and best broadcast stations in the country are operated by newspapers. There is a feeling, however, that some newspapers have operated their broadcast stations as a mere appendage or sideline to their newspaper publishing business.

"There is also a belief that some newspapers have acquired and others are desirous of securing radio stations largely for the purpose of protecting their advertising business, program service to the public being a secondary consideration or after-thought. These impressions may have their influence on the future licensing of facsimile broadcast stations. In fairness it should be said that the operation of broadcast stations in a haphazard way by some newspapers has been and is responsible for the impressions referred to existing.

"Another objection which has been raised to newspapers controlling radio broadcast stations, and particularly to their control of the only station in a given community, is that this tends to concentrate the control over dissemination of information and to prevent the airing of all sides of public questions. Newspapers have been vigilant in protecting their rights to express themselves freely and it may be a difficult thing to argue that all these methods of reaching and influencing the public should be concentrated in a few hands."

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## TRADE COMMISSION BARS PIRACY OF RADIO NAMES

Unauthorized use of several well-known trade names, such as Edison, Marconi, Majestic and others, in the sale of radio sets, tubes and appliances, is prohibited under an order to cease and desist issued by the Federal Trade Commission against six manufacturing and sales companies operating in New York, Boston and other cities.

The respondents are: Marconi Radio Corporation, Edison Radio Stores, Inc., both of 23 East 21st Street, New York City; Stuart Radio Corporation, 58 Stuart Street, Boston; Joseph E., S. A. and A. M. Frank and G. Blumenthal, trading under the names Perfection Radio Stores, Harvard Radio Stores and Post Radio Company, formerly operating in various communities of Massachusetts, New York, Pennsylvania, Maryland, and in Washington, D. C.

These respondents are ordered to cease representing through advertisements, trade promotion literature and through the use of corporation, company or trade names, that the radio sets, tubes and appliances manufactured or assembled for, or by, and sold by them, are radio sets, tubes and appliances made, sold, sponsored or licensed by Thomas A. Edison, Thomas A. Edison, Inc., American Telephone & Telegraph Company, Western Electric Company, Marconi Wireless Telegraph Company of America, Radio Corporation of America, Victor Talking Machine Company, Brunswick-Balke-Collender Company, Warner Brothers Pictures, Inc., and its subsidiary, Brunswick Radio Corporation, Grigsby-Grunow Company, and General Electric Company.

The order also bars representation through use of the names "Edison", "Edison-Bell", "Edison Radio Stores, Inc.", "Edison International", "Bell", "Marconi", "Marconi Radio Corporation", "Victor", "Brunswick", "Bronswick", "Majestic", "Radio Corporation of America", "General Electric Company", or the letters "R.C.A.", "R.S.A.", "R.C.I.", "G.E." or "E.B.", or through picturization of a bell, alone or in connection with other words or symbols, that the radio sets, tubes, and appliances made or assembled for or by and sold by the respondents are made, assembled, approved or licensed by the Edison Company, American Telephone & Telegraph Company, and the other large, well-known companies above designated.

A third provision of the order prohibits the use on radio sets, tubes and appliances sold by the respondent companies, or escutcheon plates, brands, or other marks bearing the names "Edison", "Edison Radio Stores, Inc.", "Edison International", "Edison-Bell", "Bell", or the representation of a bell, and various other names and initials of large and well-known companies so as to imply that these products are made, assembled, sold or licensed by these prominent manufacturers.



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Findings are that Joseph E. Frank controls the business of the several respondent corporations and companies, and extended his business activities throughout the United States and into foreign countries, attempting to register with the Spanish Government the names "Edison" and "Marconi" as trade marks or trade names for radio and television sets and related products. This registration was denied by the Spanish Government upon objection of Thomas A. Edison, Inc., and the Marconi Wireless Telegraph Company of America, according to findings.

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#### FCC URGED TO ASSUME JURISDICTION IN ROCHESTER CASE

Establishing what may prove to be a significant precedent, Chief Examiner Davis G. Arnold has submitted a recommendation to the Federal Communications Commission that it assume jurisdiction over the Rochester Telephone Corporation, of Rochester, N. Y.

The significance of the recommendation lies in the fact that the Rochester company contends that it is not engaged in inter-state commerce and that it therefore is not subject to FCC control and should not be compelled to comply with certain orders issued by the Commission in 1935.

Arnold brought out that the Rochester company is under "the indirect control" of the Bell Company "and is a carrier engaged in interstate communications through physical connection with the carrier controlling". He also pointed out that facilities for broadcast purposes are furnished by the respondent.

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#### ENGLISH WOMAN SEES ULTIMATE BAN ON RADIO ADS

Miss Edith Parnell, editorial manager of Charles F. Higham, Ltd., London, and the only woman delegate to the recent Boston advertising convention predicted before sailing for home that the United States will follow the example of Great Britain with respect to radio advertising.

"As is well known, we do not have 'commercial' advertising on the radio in Great Britain and I am of the opinion that not so far in the distant future the programs in the United States will eliminate advertising, since the real place for advertising for home reading is the daily newspaper", Miss Parnell said.

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## COMMUNITY COMPANY LEADS IN TOLEDO RADIO BATTLE

Of three applicants for a permit to operate a second broadcasting station in Toledo, O., the Community Broadcasting Co. appears to be in the lead.

Examiner Ralph L. Walker this week recommended to the Federal Communications Commission that this applicant be granted the permit for operation on 1200 kc. with 100 watts power, day-time, providing the applications of WALR to move from Zanesville to Toledo and of the Continental Radio Co. to construct a new station be denied.

At the same time he recommended that WALR'S application, which has been hanging fire since 1934 and which was one time granted by the FCC only to be withdrawn because of protests, be denied. An earlier report recommended that the Continental Radio Co., a subsidiary of the Scripps-Howard newspaper syndicate, be denied the station privilege.

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## HOFFMAN ASKS \$100,000 IN CARTER SUIT

Following an earlier announcement, Governor Harold G. Hoffman filed suit in New Jersey Supreme Court last week for \$100,000 damages from Boake Carter, radio commentator; three broadcasting corporations and four sponsors, charging Carter with defaming him in malicious broadcasts in the days preceding the execution of Bruno Richard Hauptmann on April 3 for the murder of Charles A. Lindbergh, Jr.

Governor Hoffman charged that the broadcasts were composed by Carter as agent and employee of the defendant sponsors, and that "the said words were false and malicious and were read, spoken and published for the purpose of injuring the said plaintiff in his reputation, good name, integrity and credit and brought into public scandal; shame and discredit."

The other defendants, in addition to Carter, are the Columbia Broadcasting System, WCAU Broadcasting Company, which is the Philadelphia outlet, and Atlantic Broadcasting Corporation, operator of station WABC in New York City, and the sponsors Philco Radio and Television Corporation, Philco Radio and Television Corporation of New York, Philco Radio and Television Corporation of Pennsylvania and Philadelphia Battery Company.

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## GERMAN TELEVISION TO FOLLOW FOUR COURSES

Future development in Germany will be mainly in four directions, according to World-Radio, British Broadcasting Corporation organ. They are:

(1) Erection of more transmitters in order gradually to cover the country;

(2) Improvement of studio and outdoor, direct and film television equipment. This development will go hand-in-hand with an increase in definition and the introduction of suitable means to avoid "flicker";

(3) Production and sale to the general public of television receivers;

(4) Continued extension of the two-way television-telephone which automatically provides a cable-link between television transmitters.

"Already the Post Office has announced the intention to erect ultra-short-wave television transmitting stations outside Berlin: one on the Brocken, in the Harz mountains, to serve Hanover, Cassel, Brunswick, Halle, and Erfurt; and a second one on the Grosse Feldberg, in the Taunus, for Frankfurt, Coblenz, and the Rhine Valley up to Mannheim, the periodical states.

"These stations are to be ready in 1937. By that time, no doubt, the Berlin television transmitter will have been adapted for higher definition. By next year the German television industry will have a very much larger potential market than it has at present. Of course, nobody can say at the moment whether, in practice, the system of placing transmitters on high mountains will eventually prove to be the best one for providing the country with a television service, but it seems certain that ultra-short-waves will be employed in all cases.

"The extension of direct television facilities in the Berlin studio is progressing very gradually. The program-builders are still hampered by the fact that even the very latest addition to their equipment in the Rognitzstrasse studio will not permit the transmission of more than three-quarter-length pictures of up to three or four people. Ultra-sensitive photo-electric cells of the "secondary emission type" have been fitted. They permit scanning by the light of an arc lamp projected through a disc fitted with a multitude of tiny lenses. Theoretically, the system is very much the same as that employed by Baird for his 30-line transmissions, except that in Germany 180 lines are used, and the cells are different.

"Those responsible for the programs are eagerly awaiting the introduction of the iconoscope, which will give them more facilities and greater range. It is hoped that this instrument will become available towards the end of the year.

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"At the time of writing preparations are in full swing for the televising of sporting events from the main stadium during the Olympic Games. I understand that iconoscopes will be used, as well as the intermediate film system. Definition will not be altered from the usual 180 lines and 25 frames-per-second.

"For the German Radio Exhibition, which opens on August 28, it is anticipated that a large number of spectacular demonstrations of higher definition television will be staged. No doubt the 375-line pictures, with interlace scanning will be shown for the first time in public. After a further test period, it is generally expected that this type of picture will be adopted as the new German standard. It will be remembered that the present standard of 180 lines and 25 frames-per-second was decided upon several years ago - in the Autumn of 1933. Since then those concerned with the development of the new technique have found that the 180 lines will not be sufficient after all, and that the 'flicker', due to the comparatively small number of frames-per-second, tires the eyes and certainly diminishes the entertainment value of the picture."

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#### CHURCH LEAVES CBS AND WJSV

T. Wells ("Ted") Church, Program Manager for Station WJSV, Washington, has ended his connection with that station and the Columbia Broadcasting System.

Mr. Church, who joined CBS in 1931 as Publicity Director in Washington, had been with the Mount Vernon Hills (Va.) station since October, 1932, when it was taken over by Columbia. He is given a large part of the credit of building WJSV. Mr. Church's future plans were not disclosed.

Before entering the radio field, Mr. Church was a correspondent for the United Press and the New York Herald Tribune.

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During May, 384,542 radio receiving licenses were issued by the British Post Office, a new increase of 29,102 after allowing for renewals and expired licenses. The total licenses in force at the end of May, 1936, was 7,671,760 compared with 7,092,596 a year ago.

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## ENGINEER EXPLAINS FCC NEW MODULATIONS REQUIREMENTS

some few weeks ago  
 The Federal Communications Commission/by amending Rule 139 of its regulations required that broadcasting transmitters be capable of operating at a modulation level of at least 85 percent. Arthur E. Thiessen, writing in the "General Radio Experimenter" approved the regulation and discussed its significance.

"The purpose and usefulness of the monitor are immediately apparent", he writes. "By its use station operators can maintain the highest possible modulation consistent with good broadcast practice, and, when modulation exceeds the capability of the transmitter, the alarm flashes a warning. A reasonable balance between inefficient under-modulation and distorted over-modulation is thus made possible.

"The Federal Communications Commission has specified in detail the electrical requirements of a suitable monitor.

"The specifications are the result of a long study of the problem. In order to obtain the various viewpoints, the Commission held several conferences which were attended by engineering representatives of many operating companies and manufacturers. As a result of this study of the monitoring requirements of the broadcasting station, the final specifications were drawn, taking into consideration that the monitor as an instrument had to be simple in operation, accurate, and not expensive.

"The important features which the monitor must provide are:

- "(1) A d-c meter for setting the average rectified carrier.
- "(2) A peak indicating light which flashes on all peaks exceeding a predetermined value set at will by operator.
- "(3) A meter indicating continuously the percentage modulation.

"The d-c meter has two functions: first, it provides a means for indicating the reference carrier level at which the monitor is to operate and, second, it shows carrier shift during modulation, which is a warning of inequalities in positive and negative peaks, with the resulting probability of distortion.

"The flashing light operates when the modulation exceeds any percentage that has been pre-set by the operator. The setting of the level of modulation above which the lamp flashes is determined by the modulation capability of the transmitter and by the type of program. It is set to flash with moderate frequency while things are functioning normally. This is usually at a level of about 85% or higher. After a little experience, the normal rate of flash to be expected from any particular class of program material becomes familiar to the operators.

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"When used at first in conjunction with a monitoring loudspeaker, a surprising facility of modulation level maintenance is developed by the use of the light alone. If, without a change in program, the rhythm of the flashes is markedly changed, the operator is immediately warned that something is wrong. If the flash rate slows down or stops, the modulation level has dropped too low, and if the light flashes continuously or not in synchronism with the loudspeaker monitor, trouble has developed in the transmitter. Since the light is visible at some distance, close attention to the monitor is not required. An electrical counter may be attached to provide a record of the number of over-modulation flashes occurring in a given period.

"The third requirement is a meter which reads the actual percentage of modulation at all times. It can be switched to read either the positive or the negative modulation percentage. The meter has the new high-speed movement and is about critically damped. It reaches full-scale deflection in about 100 milliseconds with almost no overswing, and returns to zero in about the same time. If used directly on voice or music programs this high-speed movement would follow the rapidly changing levels faithfully, but its speed is so great that accurate monitoring would be difficult, and it would be rather tiring to watch it for any length of time, especially for those who are used to the lazy movement of the older volume indicator meters.

"To avoid this, it has been specified that the circuits of the monitor must be arranged so that, when a pulse of modulation between 40 and 90 milliseconds in duration occurs, it is stored electrically until the meter can reach 90% of its steady-state deflection. It is not desirable that shorter pulses show so prominently on the meter as these short bursts do not contain enough energy to be bothersome in case of over-modulation. The electrical circuit stores the pulse and then discharges rather slowly, the time for the meter to return from full scale to 10% of full scale being specified as between 500 and 800 milliseconds (it is 700 milliseconds in the Type 731-A Modulation Monitor). The result is a meter action which goes up extremely rapidly with modulation peaks and returns relatively slowly.

"An additional requirement specifies that the monitor must have an extremely good audio-frequency characteristic ( $\pm 0.5$  db from 30 to 10,000 cycles). This permits accurate measurements to be made of the over-all frequency response of a transmitter."

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