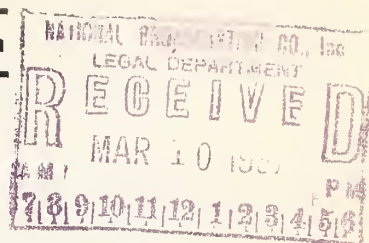


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No. 1010

March 9, 1937.

U. S. ENGINEERS BATTLE AGAINST OVER-CROWDED WAVES

American broadcasting engineers, led by representatives of the Federal Communications Commission, are prepared to wage a fight at the approaching C.C.I.R. conference in Bucharest for sufficient separation between two radio stations to permit listeners to hear both with a reasonably modern set but not at the same time.

The report of the American committee on the question of kilocycle separation, together with an analysis of the recommendations of European countries on the subject, was released this week by the Federal Communications Commission.

Overriding the arguments of several European countries for a reduction in the 10-kilocycle standard of separation, the U. S. engineers insist that this standard be retained as a minimum for stations operating on adjacent channels below 12,000 kc. and that 12 to 15 kc. be the standard separation above 12,000 kc.

"A reduction of this separation will impair the reception as is quite evident from the reception of many stations throughout the world operating at less than the 10 kc. separation", the report states.

This over-crowding of foreign stations has become more noticeable to American listeners with the growth in popularity of the all-wave receiver. Listeners find that certain channels are so loaded with stations at times that satisfactory reception is impossible.

Another cause of this over-lapping, which will be attacked at the Bucharest and Cairo conferences by European countries, is the unauthorized use of short-wave channels by small countries, most of them Latin American.

The U. S. report on the frequency separation problem states, in part:

"The frequency separation required between two broadcast stations to prevent interference is dependent upon three main factors, namely:

- "(1) The width of the frequency band necessary to transmit programs of the required fidelity;

- "(2) The selectivity and audio frequency reproduction characteristics of the receiver, and
- "(3) The field intensity of the stations at all points of reception.

"When it is desired to place stations on adjacent channels with the same primary service area, to accomplish the transmission and reception of audio frequencies up to 7500 cycles, it is necessary that stations be separated by at least 20 kc.

"By maintaining stations with adequate geographical separation, transmission and reception of audio frequencies up to 7500 cycles may be accomplished in the primary service area of each station with a frequency separation of less than 20 kc.

"Ten kilocycles is a reasonable frequency separation for transmission and reception of audio frequencies up to 7500 cycles in the primary service area and reception of audio frequencies up to 5000 cycles in the secondary service area, provided sufficient geographical separation is maintained, depending on the ground conductivity, operating frequency and power, that the ground-wave field intensity of the undesired station does not exceed approximately one-half the field intensity of the desired station at the outer edge of the primary service area;

"Ten kilocycles should be fixed as the minimum separation between high frequency broadcast stations."

The report points out that the French administration suggests the separation between stations should be theoretically 15 kilocycles but as a practical matter this separation cannot be obtained. High frequency broadcast stations should be given as far as possible a separation greater than 9 kilocycles, it stated.

The British administration agrees with the French view and further states that owing to the particular conditions existing in Europe an undesirable compromise of 9 or even 8 kilocycles separation has had to be accepted. For the high frequency stations 10 kilocycle separations should be fixed as the minimum, it added.

The Ministry of Posts and Telegraphs of the Republic of Czechoslovakia propose that each country be assigned a "privileged station" of high power and 20 kilocycles separated from stations on adjacent channels. These stations would be equipped to transmit high quality programs and meet other technical requirements. It is further proposed that other stations be required to limit the modulation frequencies by a filter to a value of 3000 to 3500 cycles per second to facilitate distant reception. All receivers to accommodate these stations and the privileged stations would necessarily require variable selectivity controls.

The U.S.S.R. administration points out that the band-pass of the receiver must be wider than the actual audio frequencies to be reproduced to take account of the transitory phenomena which occur in the receiver.

The International Broadcasting Union present views substantially in agreement with the French and British administrations.

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N. Y. LIQUOR AUTHORITY TO USE RADIO IN TEMPERANCE DRIVE

Although the advertising of liquor on the air has been discontinued generally, the New York State Liquor Authority is preparing to go on the air in a campaign for temperance, according to its annual report.

A series of transcriptions for broadcasting is being prepared and will be distributed to radio stations throughout the State.

This effort to encourage sensible restraint in drinking is said by the Authority to be in accordance with the provision of the law that says, "It is necessary to regulate and control the manufacture, sale and distribution of alcoholic beverages for the purpose of fostering and promoting temperance."

This phase of the Authority's activity is under the supervision of Mrs. John S. Sheppard, one of the members.

Mrs. Sheppard said that each record would contain a five-minute talk on the promotion of temperance. The first series of six records will be ready for distribution by the end of the month.

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CBS FEBRUARY BILLINGS UP 18.6% OVER 1936

Time sales on the Columbia network for February, 1937, totalled \$2,264,317, an increase of 18.6% over the same month in 1936, previously the highest February in CBS history.

Cumulative billings for the first two months of 1937 totalled \$4,642,937, 21.9% over the corresponding period last year.

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3/9/37

OLD SOL PROMISES MORE TROUBLE ON SHORT-WAVES

Old Sol, who is probably the most disturbing influence in short-wave radio communication, is planning some tricks which will be worse than those he has tried in recent months, according to astronomers at the Carnegie Institution's Mount Wilson Observatory, Pasadena, California.

These astronomers predict, according to the Associated Press, that the sun is experiencing or about to experience its most violent eruptions since the turn of the century.

Sun spots are increasing steadily, both in number and size. In recent weeks there was one into which forty planets the size of the earth could have been tossed - that is, it would have taken that many to cover the spot's surface.

Within the past eighteen months more than forty short-wave radio fadeouts have been observed to coincide with "chromospheric eruptions in the neighborhood of sun-spots and magnetic disturbances" on earth.

"The effect consists of a sudden and complete disappearance for 15 to 30 minutes of all high-frequency radio transmission over the half of the earth lighted by the sun", said R. E. Richardson, astronomer at the Mount Wilson Observatory.

Dr. Seth B. Nicholson stated:

"Sun spot activity during 1936 was greater than at the last maximum reached in 1929. The mean number of spots observed daily in December was 11.2 exceeded in only one month of the last cycle, December, 1929, in which the daily average was 11.4."

The spots now are running slightly above the December, 1929, average.

"The next maximum is not expected to occur before the end of 1937 and the present cycle", Dr. Nicholson continued.

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NBC'S FEBRUARY REVENUE 21% UP OVER YEAR AGO

The network revenue of the National Broadcasting Company for February, 1937, climbed 21.4% over the corresponding month last year - the total of \$3,295,782, making the month the largest February in the history of the company.

The January-February total for 1937 - \$6,837,781 - puts it 26.7% ahead of the first two months of 1936. Individual NBC network figures for February, 1937, give the Blue Network \$1,021,809, and the Red Network \$2,273,973.

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3/9/37

DALY REINTRODUCES BILL TO PROTECT RADIO MUSICIANS

All erstwhile controversial bills on copyright appeared to be before Congress again last week when Representative Galy (D.), of Pennsylvania, reintroduced his bill to protect the compositions of musical conductors from unauthorized use on the radio or in motion pictures.

The bill includes again the \$250 damage fee clause that was attacked by broadcasters last year at copyright hearings. The clause is not in the Duffy bill, also before Congress. No hearings have been scheduled this year on the copyright bills.

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STANDARDS BUREAU DEVELOPS NEW RADIO METEOROGRAPH

A radio-meteorograph system has been developed in the Bureau's Radio Section for use in the meteorological service of the U. S. Navy Department. It is expected that this system will eventually replace airplanes in gathering information on upper-air conditions required for weather forecasting.

The complete radio-meteorograph system comprises transmitting equipment for sending down from small unmanned balloons meteorological observations on upper-air pressure, temperature, and humidity; receiving and recording equipment on the ground for automatically plotting these data in the graphical form desired by meteorologists; and direction finders (also at the ground station) for tracking the flight of the balloon so as to determine upper-air wind conditions.

The instrument, sent aloft on a 5-foot balloon consists of a miniature radio transmitting set, batteries, and a meteorograph. The latter contains the devices for measuring pressure, temperature, humidity, and other elements desired. The complete equipment is housed in a balsa-wood box 6 by 6 by 4½ inches and weighs less than 2 pounds.

The meteorograph utilizes the decrease in atmospheric pressure as the balloon rises, for moving a small switch-arm over a set of electrical contacts separated by insulating strips. The contacts are so spaced that for a decrease in air-pressure equivalent to a few hundred feet rise of the balloon, the arm will move from one contact to the next. The arm on reaching selected contacts causes the radio transmitter to send down signals having pre-determined audio notes which provide index marks for the pressure scale.

The contacts intermediate to the pressure-index contacts are wired to a resistor which is controlled by a bundle of human hair and hence varies as the hairs contract or expand with varying humidity conditions. The switch-arm, in passing over these contacts, switches the transmitter circuit so as to send down signals having an audio note which is proportional to the value of the resistor and hence to the humidity encountered. When the switch-arm passes over the insulating strips lying between the contacts, the frequency of the audio note is determined by the electrical resistance of a small glass tube filled with sulphuric acid. The resistance of this small column of acid changes markedly with the temperature so that the note which is sent down to the ground may be interpreted to evaluate the air temperatures at the various balloon heights. In one form of the balloon instrument, light intensity may also be measured, giving data valuable in determining the heights and vertical structure of cloud formations.

Automatic receiving and recording equipment are employed to plot these data graphically on a chart which moves under a pen controlled by the received signals. The pen sets itself according to the pitch of the audio note. The final record gives a complete picture of the variation of temperature, humidity, and any other elements included, as a function of height above the earth's surface.

The radio meteorograph has several important advantages over other arrangements, because the air pressure does the switching. No rotating parts of external motive power are required. The instrument thus becomes simple to construct and low in cost. The latter is essential if the radio meteorograph is to replace the use of airplanes in this service.

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MOTOR CARS INTERFERE WITH TELEVISION, BBC FINDS

The hope that means will soon be found to ensure that all motor cars are fitted with suppressors in order to prevent interference with the reception of television programs was expressed recently by Sir Noel Ashbridge, Chief Engineer of the British Broadcasting Corporation. He said that electrical interference caused by spurious radiations from the ignition systems of motor cars had long been known to exist, but that the extent of the interference which might be caused had been difficult to estimate.

Since the introduction of television, the effect of such interference has been found to be somewhat serious when the reception of television signals was undertaken at distances of more than four or five miles from the transmitting station, becoming, of course, more so as the distance increased. The effect of a single motor car, however, was confined to a small area, so that even at distances of 20 or 25 miles from the transmitter, interference was only obtrusive when a car was actually opposite a house where a television program was being received. Reasonably simple means existed for the prevention of these parasitic radiations, Sir Noel said, and it was to be hoped that means would soon be found for ensuring that all motors were fitted with suitable suppressors.

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U. S. SHORT-WAVE SERVICE SOON WILL EQUAL EUROPEAN

"A friend of mine, back from London, was much surprised that our American short-wave stations - which he felt ranked in power and equipment with almost any in the world - should so often reach European shores with volume and quality that was not flattering to the American broadcasting technique", writes "G.M.L." in World-Radio.

"He has been a constant listener during the past two years to the remarkable short-wave signals of Daventry, also to those from Zeesen, Germany, and a number of the other Continental stations and he was aware of the fact that in the "KW" column of the official list they stood no mightier than W3XAL, W8XK, W2XAP, W2XAD and other Americans, which broadcast with as much as 40 KW in their aerials.

"Yet, after listening in London to the American stations, he soon concluded - and from my own correspondence and observations I feel much the same - that European listeners have not been favored with reception from the United States as good as that which American listeners experience from the other side. Here in Eastern America, Daventry, Zeesen, Rome, and a few more, are audible day after day with a signal quality that, except for occasional short-wave 'flutter' or 'shifting', often rivals home broadcasting stations. Listeners select the oversea programs from newspapers in advance, along with their selection of the local transmissions, and change from one to another with the ease and nonchalance that assures international radio of its established success.

"The Americas have become the world's Mecca for the short-wave listener; and it is all the result of the modern and tremendously effective idea with which the Europeans got off at the start, namely, directional broadcasting. Focused, as it were, upon the American home aerial, these 'beamed' programs of Europe must be given almost full credit for ensuring the popularity of the all-wave set on this side and the unprecedented sales of such receivers now taking place.

"European nations, for the purpose of continuing and enriching home ties abroad and for nationalistic reasons, had very strong incentives for so developing their short-wave broadcasting; and American listeners in general feel just as grateful for the wonderful service as do Empire listeners or those whose homeland and friends are overseas.

"The United States, on the other hand, had in the inauguration of short-wave broadcasting no such natural incentive. Consequently, in keeping with technical progress, they built short-wave transmitters - and powerful ones - but they did not adopt directional broadcasting aerials and have used for regular program relays, with very few exceptions, the omnidirectional type instead. This, I think, explains quite fully the inferiority of American short-wave reception in Europe (and elsewhere) compared to that of European reception in the Americas

"This is an inferiority which American broadcasters, indications now definitely show, are no longer willing to tolerate, and within a very short time listeners in England and Europe generally are going to be favored with exactly the same type of up-to-date directional broadcasts from America that Americans now get from Europe."

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: : :: TRADE NOTES :: : :

The Indian Government has recently placed a contract with Philips Radio for the supply of four 10-KW short-wave transmitting stations for the A-1-India Radio organization.

Alleging use of unfair methods of competition in the sale of a medicinal compound designated "Eucathol", a complaint has been issued by the Federal Trade Commission against The Eucathol Co., Inc., Shawnee, Okla. The respondent corporation advertises over the radio and in newspapers, magazines and other printed matter, and allegedly represents, expressly or by implication, that use of Eucathol will prevent and cure, or is beneficial in the treatment of insect bites, sunburn, asthma and hay fever, catarrh, colds, scalds and burns, skin disorders, influenza and pneumonia, and other ailments.

A favorable report on the application of the Central States Broadcasting Company, Council Bluffs, Ia., for a construction permit to build and operate a broadcasting station on 1500 kc., with 100 watts power, unlimited time, was filed with the Federal Communications Commission this week by Examiner Melvin H. Dalberg.

U. S. radio apparatus exports increased more than \$500,000 in one month compared to last year, according to the Commerce Department's Division of Foreign Trade Statistics. January exports of \$2,584,000 were reported as compared to \$2,040,000 for January, 1936.

The Columbia Broadcasting System has announced the 101st station to join its network, WCOC, Meridian, Miss., which is the last station and will join CBS on May 2nd or sooner. The station is owned by D. W. Gavin and operates under the name of the Mississippi Broadcasting Co. WCOC has a license for 1,000 watts daytime, 500 watts at night, and is located on the 880 kc. band.

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3/9/37

BEHN, BACK FROM SPAIN, SAYS LOSSES HEAVY

Col. Sosthenes Behn, President of the International Telephone and Telegraph Company, who was in Spain during the first five months of the civil war, returned to New York Monday from Paris. He said that the thirteen-story telephone building in Madrid gave sanctuary at times to as many as 600 women and children.

"The whole staff of the company lived in our building", he explained, "which was penetrated thirty times by shell-fire. It was well supplied with provisions and water."

"The Spanish Telephone Company, which is a subsidiary of the International", he said, "is still carrying on, operating its local services in Madrid, Valencia and Barcelona and keeping the international lines open."

The damage to property and loss in revenues, Colonel Behn said, were difficult to estimate, but he thought they "would run into the millions of dollars."

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CBS DECLARES DIVIDEND; GOING ON EXCHANGE

The Board of Directors of the Columbia Broadcasting System last week declared a quarterly cash dividend of \$.50 a share payable on March 26th to stockholders of record at the close of business on March 17th.

The Board decided to apply to the New York Stock Exchange for the listing of the company's stock, since the company now has nearly five thousand stockholders and the number is rapidly increasing. Recommendation was made that the stockholders at a meeting on March 24th authorize an increase in the number of shares of the corporation's stock so that the stock may be split two for one.

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MUTUAL FEBRUARY BILLINGS TOTAL \$202,088.36

A 32.8% increase in time billings is reported for the Mutual Broadcasting System for the month of February, 1937, in comparison with the same month's figures in 1936.

The total billings for February, 1937, were \$202,088.36. For the same month in 1936, they were \$152,063.68. The cumulative billings for 1937 to date total \$389,450.09.

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LAWRENCE SAYS NETS' POLICY FAVORABLE TO COURT

David Lawrence, newspaper commentator, this week charged in one of his syndicated columns that the broadcasting networks are following a policy which gives an advantage to advocates of the President's plan to alter the Supreme Court. He said, in part:

"The three principal broadcasting companies, which enjoy practically a monopoly of network broadcasting in America, have been following a policy which, in effect, gives President Roosevelt and his administration a decided edge in the presentation of controversial questions to the radio audience.

"Senator Wheeler, Democrat, Chairman of the Interstate Commerce Committee of the United States Senate, tried unsuccessfully a fortnight ago to secure an alteration of this policy, but failed. Within the last 24 hours he has renewed his efforts by requesting that the opponents in Congress of the President's plan to enlarge the Supreme Court be granted radio facilities of an identical character with those given by all three broadcasting companies, both to the President and to Attorney General Cummings.....

"Failure on the part of the broadcasting companies to arrange for a rebuttal and to announce in advance that there will be the same facilities granted, results in one side of the story being heard by a large part of the audience. For it is known that the same audiences do not listen every night."

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NBC JOINS EXPEDITION TO PACIFIC ISLE

Announcers, engineers and approximately four tons of broadcasting equipment will begin a 7,000 mile journey next month to the mid-Pacific for a fifteen-minute broadcast on Tuesday, June 8, of a total eclipse of the sun.

The exclusive NBC broadcast was arranged in connection with the National Geographic Society - U. S. Navy Eclipse Expedition of 1937 to Enderbury Island in the Pacific Ocean. This island is one of only two tiny bits of land in the entire path of the eclipse, extending for 5,000 miles across the Pacific, from which satisfactory observations of the spectacle can be made.

Participating with the National Broadcasting Company, the National Geographic Society and the Navy in the expedition will be the National Bureau of Standards and the astronomical observatories of several universities.

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MUTUAL NETWORK TO ADD 10 MORE STATIONS

Ten more stations will be added to the Mutual Broadcasting System's coast-to-coast chain within the next five weeks.

On April 1st the Oklahoma network, comprising eight stations, will be linked with Mutual through permanent lines. The stations include KTOK (KPPG), Oklahoma City; KCRC, Enid; KGFF, Shawnee; KBIX, Muskogee; KADA, Ada; KVSO, Ardmore; WBBZ, Ponca City, and KASA, Elk City, which will insure complete coverage of the entire State of Oklahoma. The Oklahoma network was represented in the negotiations by its president, P. U. Porter, of Shawnee, Harold V. Hough, President of KTOK, and Glenn Condon, General Manager of the network.

About April 15th, two Texas stations will be added for permanent service. The stations are KTAT, 1,000-watt Fort Worth station, operated by the Tarrant Broadcasting Company, whose President is Raymond E. Buck, and the municipally owned station of Dallas, Texas, 500-watt WRR. The Managing Director of WRR is John Thorwald.

The new additions will be known as the South West section of the Mutual Broadcasting System.

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RADIO PROVIDES 95,500,000 FAMILY-HOURS OF LISTENING DAILY

American broadcasters provide 95,500,000 family-hours of listening each day, according to statistics from Dr. Daniel Starch, determined by a series of nationwide audience studies sponsored by the Columbia Broadcasting System.

Dr. Starch and his staff of more than 300 field investigators have spent the last three and a half years in obtaining more than 165,000 personal interviews with typical American families in all income groups, all sections of the country and all types of communities in order to get an undistorted report on the entire radio audience.

The number of radio-owning families in the United States now totals 24,500,000. Dr. Starch's investigators found that 76.4 percent of these, or 18,718,000 families tune in at some time every day. It was further determined that the average family listens to its radio for 5.1 hours daily. Multiplying the number of families who listen each day by the average number of hours they listen resulted in the grand total of 95,461,800 family-hours of listening every day.

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