

BEAM OF LIGHT FROM DIRIGIBLE CARRIES VOICES

Schenectady, N. Y.

The new transmitter of WGY recently was put into service on a signal from the U. S. N. dirigible Los Angeles, aloft about a mile away. A modulated light beam was used.

The ceremonies were heard by millions over a National Broadcasting System chain.

Voice communication from the ship to a fixed land receiver was maintained over the beam of light directed at a 30-inch concave mirror target. As long as the light beam hit the target, communication was maintained. Often there was a break due to failure to hit the target. Expert marksmanship was required to hold the target 2500 feet away for the fifteen minutes of the event, during which the ship circled at a rate of thirty miles per hour.

Developed by Taylor

The system of light transmission of sound was developed by John Bellamy Taylor of the General Electric Company. Mr. Taylor, aboard the dirigible, directed the broadcast. In this system the light source is a standard automobile headlight operated on a 6-volt battery. Between the light source and a converging lens is a delicately-suspended mirror 0.017 inch square. Sound waves directed to this mirror cause it to vibrate and to vary the amount of light in the beam. Some sluggishness of the mirror's movement was suggested by the attenuation of high audio frequencies.

At the concave mirror a super-sensitive photo-electric tube catches the variations in light and sets up an electrical current in correspondence to the variations. These electrical impulses were transmitted by line from the target to the transmitter and thus to the stations of the network and were later translated into sound at the loudspeakers.

The light itself was visible to observers but there was no visible evidence of a beam. In earlier tests at Lakehurst the mirror target picked up the light when the dirigible was two miles away, the greatest distance yet recorded by Mr. Taylor's system.

Works in Daylight, Too

Light transmission is equally efficient in daylight with the same equipment.

A gun sight beside the light beam enables the operator to train the beam to the mirror target. In the broadcast Lieut. Benjamin May, of the dirigible personnel, sighted the target.

Chester H. Lang, of the General Electric Company, aboard the dirigible, described the method by which communication was carried on and explained that he would literally blow one transmitter off the air and blow another one on. At the first blast of a whistle operators at WGY's old transmitter shut off the current. The second blast, however, was carried to a thyratron tube, one of the newer developments of General Electric and this tube, operating as a relay, tripped the new transmitter into service.

The response to the whistle was so fast that listeners tuned to WGY heard the final whistle notes as the transmitter came into service. John Young, announcer, acted aboard the Los Angeles and introduced Commander F. T. Berry, who spoke briefly and in praise of the light-beam system of communication.

WNYC Gets Stay; Would Keep 570 kc

Washington.

An order was obtained from the District of Columbia Court of Appeals by WNYC, the municipal station in New York City, staying the execution of decree issued by the Federal Radio Commission assigning WMCA and WPCH, both in New York City and both controlled by the same company, to 570 kc, the frequency WNYC formerly shared with WMCA. WNYC was given WPCH's former frequency, 810 kc, by the Commission.

The refusal of the Commission to move WBCM, Bay City, Mich., from 1410 to 940 kc, on the ground that interference would result, particularly to WHA, Madison, Wis., WFIW, Hopkinsville, Ky., WCSH, Portland, Me., and WWJ, Detroit, Mich., was upheld by the court.

CROOKS LISTEN, POLICE LAMENT

Washington.

The effectiveness of police radio is being hampered by criminals who listen in, and profit by what they hear, police of six large cities complained to the Federal Radio Commission. The criminals use the information to their own advantage, and thus the system is turned to a detriment to the police departments in their work of crime detection and catching offenders.

The Commission let it be known that more and more persons listen to police broadcasts, including principally honest citizens with short-wave sets, adapters or converters, but that the greatest growth of the listening audience is among criminals.

There is no law against listening, but it is a penal offense to tell what you hear—\$5,000 fine or five years in prison or both being the penalty.

New 50-Cycle Rule In Effect June 22d

On Wednesday, June 22nd, the new rule of the Federal Radio Commission compelling broadcasting stations to stick to their assigned frequencies to plus or minus 50 cycles, instead of the present 500 cycles, goes into effect. This would confine heterodyne interference to 100 cycles at most, a frequency not audible in most receivers.

The stations have had a year's advance notice and have been required to install approved frequency monitors. Four makes of monitors have been approved.

Winchell Back Soon; Police Cases to be Aired

A new Lucky Strike Dance Hour series featuring Bert Lahr, clowning Broadway comedian; Walter Winchell, purveyor of breezy gossip and up-to-the-second news; Walter O'Keefe, celebrated night club and musical comedy master of ceremonies; dramatizations of actual criminal cases from the files of the New York City Police Department; and the world's leading dance orchestras, will be inaugurated over a nationwide NBC-WEAF network about the middle of this month.

U.S. BROADCAST ON LONG WAVES BEING STUDIED

By HAROLD A. LAFOUNT
Federal Radio Commissioner

The European broadcasting interests, through their common agency, the International Broadcasting Union, propose to extend the broadcasting band from 160 to 285 kilocycles, from 370 to 460 kilocycles, and to add on 10 kilocycles to the lower end of the present broadcasting band, making it run from 540 to 1500 kilocycles.

Considering the matter from a practical standpoint, it would appear that of these proposals, the extension from 370 to 460 kilocycles had the least chance of success, involving as it does the moving and reallocation of large groups of commercial, mobile, and land stations. The maritime and aviation interests in Europe are as much against such a proposal as the same interests are in this country, and they feel that such proposals make it impossible to provide adequate space for the safeguarding of these highly important safety-of-life services which can be handled in no other way except by radio.

Called a Logical Extension

The proposal for the extension of the so-called long-wave European broadcasting band from 160 to 285 kilocycles in Europe, however, has a somewhat different aspect and it appears that if increased facilities are necessary in Europe, it would be a logical extension of their present long-wave band. In America we have an entirely different situation. Our broadcasting band has always been confined to within the limits of 550 to 1500 kilocycles, and it is significant that within this single band the United States has practically as many broadcasting stations operating on 10 kilocycles separation as all the rest of the world put together.

Specifically, the so-called long-wave band which is used in Europe for broadcasting is used in this country for point-to-point services by the Army, Navy, and the Department of Commerce, and, by the widespread radiobeacon service developed for the use of aviation by the Bureau of Standards and the Airways Division of the Department of Commerce. These stations provide a service to aircraft which the aviation transport companies have grown to accept as essential to their daily passenger, mail, and cargo flights. Through thick, rainy, foggy weather, these planes are able to fly because of the radiobeacon.

Study Being Made

Unfortunately, at the present time, little data have been available concerning the relative value of long and medium waves for broadcasting on the North American continent.

Such a study has just been instituted. At a meeting called by the Federal Radio Commission in Washington to consider the proposals of other nations concerning the allocation of frequencies, a committee headed by the Chief Engineer of the Federal Radio Commission was appointed to collect such data and, if possible, make a recommendation concerning the use of long waves for broadcasting on the North American continent. The results of the study to be made by this committee will be of importance to the broadcasting industry in this country and, as a matter of fact, may affect the whole future of radio in America.