Early and Late Radio Annoys Sleepy Folk

Washington

The Summer or "open window" season brought into the Federal Radio Commission scores of complaints from individuals who condemn early morning "calisthenics" and late night musical broadcasting as interfering with their rest, because of the undesirability of shutting windows during warm weather, and the consequent 'annoyance".

At the same time it was stated orally at the Commission that the Commission, as a Federal body, has no authority to curtail such broadcasts. Commissioner O. H. Caldwell, of the First Zone has stated in reply to letters he has received that appeals should be made to local authorities for protection against such nuisance.

"The Commission has no control over a matter of this kind," he writes.

One of the letters reecived, from M. Fields, of Brooklyn, N. Y., asked for the Commission's action if within its jurisdiction, to prevent musical programs after 11 p. m., with the possible exception of Saturday nights. "I ask you this out of consideration of those who would like peace after that time so that they may enjoy a restful sleep," he wrote. "This matter may seem humorous in a way, but it is detrimental to the general health if radio stations are permitted to broadcast jazz music until 12 or 1 a.m., as some of them do. It is comparable to a jazz band standing outside one's door and playing to that hour every night.

"Multiply this over hundreds of thousands of loudspeakers, each speaker within annoying distance of hundreds of people, and you get a better conception of this menace."

Britain Starts Eight Stations, of 50 kw each

The British Broadcasting Company has just approved the installation of eight stations of 50,000 watts each, said Louis G. Pacent, president of Pacent Electric Company of New York, on his recent return from a trip to England. The transmitters are to supplement the twenty-one stations now operated by the B.B.C. throughout the British Isles. The new plan also involves generous use of short-wave transmitters operating simultaneously to carry the British programs regularly to the colonies and to foreign countries, he said.

"The new development is part of a growing plan to improve the general tone and quality of English radio offerings," he added. "About 75 percent of the programs now consists of talks or speeches and most of the presentations are poor in quality. The radio manufacturers recognize the conditions and are doing everything possible to get the broadcasters to change things for the better."

One reason, according to Mr. Pacent, for the poor quality of received programs is that the listeners are taxed according to the number of tubes in the sets. Hence everybody strives to get the greatest "gain per tube' used. Therefore sets made in England are superior to American sets economically but inferior in respect to quality. The tubes are seriously overloaded.

With eight new high-power stations in addition to those already in service a much better geographical distribution of entertainment can be effected so that the great majority of British listeners will be within good reception range of a station. This will enable the listeners to receive satisfactorily with small sets without overworking the tubes.

Synchronization Ends Stations' Heterodyne

Washington.

Experiments in wave synchronization, by which two radio stations assigned to the same wave-length would be enabled to operate simultaneously without interference, conducted by WAIU Columbus, Ohio, and KMOX, St. Louis, have proved successful to a marked degree, according to a report received by the Federal Radio Commission from H. V. Akerberg, chief engineer of WAIU.

Mr. Akerbery requested permission to extend the experimental privileges accorded the stations "so that we may continue development of the various theories not yet placed in practical operation."

Commissioner O. H. Caldwell stated orally that he would recommend that the stations be allowed to continue the tests. He explained that synchronization could only be effected now during periods when the same programs were broadcast by the stations parties to the experiments.

Text of Report

The full text of the report, addressed to Commissioner Caldwell, follows:

"We have your kind telegram of July 14, authorizing the writer to continue the experimental synchronization at WAIU, Columbus, and KMOX, St. Louis. We have accomplished the following results:

"On July 3, between 8 and 10 p. m., we conducted the first of these series of experiments, and since have repeated the tests on each succeeding Tuesday.

"As far as we can determine, from carefully placed observation points covering the territory between Columbus and St. Louis, the experiments have been successful to a marked degree.

"The method we have been using is as follows: WAIU transmitter during these experiments is not crystal controlled, the usual crystal oscillator being replaced by a manually controlled master oscillator completely shielded, and accurate in maintenance of frequency to within 15 cycles over a period of five hours.

Beat Tests Made

"KMOX employs a standard Western Electric 4-A transmitter which has been found to be accurate within 25 cycles over a like period of time. We determine their variation of frequency by the usual method of beating their carrier with a constant frequency oscillator located in Columbus.

"During the actual synchronization we use a calibrated local oscillator at the transmitter. This oscillator is absolutely accurate at 1,000 kilocycles. We beat our carrier against this local 1,000 kilocycle oscillator instead of against KMOX at St. Louis.

"Our observers listening in give us the correction before the program starts. This correction, usually in the neighborhood from 100 to 500 cycles, is easily made at the transmitter—the local constant frequency oscillator corrected accordingly and the program continued. At intervals during the program the observers give us additional corrections. These corrections are made at once at the transmitter.

Heterodyning Absent

"We find that there is an entire absence of heterodyning and the only problem that we have not yet quite overcome is that of cross-talking during announcements. We have worked out a plan whereby we are dividing the announcing time—each station utilizing half of the 15-second intervals allotted by the chain for our local announcements.

"We are very carefully studying the distortion factor. As yet we have experienced no serious distortion of audio frequencies due to time lag, or due to either one of the two transmitters being slightly out of phase.

"We would very much like to carry on these experimental tests employing thermostatically controlled crystals. For your information, we have been successful in beating two thermostatically controlled crystal oscillators for a period of seven days with the result of no more than a 5-cycle deviation over this period of time.

Suspended Cages Used

"It is my opinion that this method could be very successfully applied to the synchronization of two stations—another noteworthy factor in the ability to hold our transmitter to a given frequency continually is an unusual type of antenna design. We are using at the present time, and have found it by far the least susceptible to frequency changes due to variation of capacity, atmospheric changes, etc., a system comprising two 40 ft. 8 inch diameter, 6 wire horizontal cages.

"These cages are suspended between towers 200 feet high. They are tightly stretched between the towers. This tension being maintained by an automatic compensator, the down lead after much experimentation is composed of a 50 ft. 4 inch 6 wire cage at the upper end.

"At the bottom of this vertical cage the 6 wires are bunched, continuing 130 feet straight down to the coupling house. This so-called rat tail lead is composed of 6 No. 10 enameled copper wires woven together. This lead is also under tension.

"The fundamental of the antenna system is in the neighborhood of 326 meters. The series condenser is used to work it at 1,000 kilocycles and 1,000 kilocycles.

"We have found this type antenna indispensable in maintaining an exact frequency. The counterpoise system is used due to very high ground resistance.

"I am working with KMOX at the present time to have them install a temperature controlled crystal so that we may further develop that idea.

Surprising Deviations

"I would appreciate very much if the Radio Commission would extend our experimental privileges during the Summer months so that we may continue development of the various theories not yet placed in practical operation. If you wish, I will forward within the next few weeks the detail reports of each transmission as soon as we have compiled them. They are very interesting and very instructive and will show surprising deviation of frequency of some of our major broadcasters in the country. These observations have been made after a long period of time and have proven very valuable.

"Will you kindly take up the matter of extension of our privileges so that it may cover the Summer months? If you require additional information will very gladly forward it to you at once."

"Synchronization of two or more stations transmitting the same program at the present time seems to be the only possible solution of the problem of ether congestion," said one expert. "If it proves practical most of the stations now operating could continue without time-sharing. But to be successful it would seem that the synchronization would have to be automatic as well as exact"