

# History and Organization of the School of Eng'r. Radio Club

The "School of Engineering" had for some time felt the need of a well organized radio club for the students, therefore, on October 4, 1926 was born what is now known to be "The School of Engineering Radio Club". This club owes its conception to the following men:

Mr. F. Vebber.

Mr. W. P. Gainer—8AEE, 9CXY, Commercial operator.

Mr. N. J. Richard—ex8BZT, Commercial operator.

Mr. R. J. Tayek—9DKD, 9ERI.

Mr. H. Holmberg—8DQQ.

Mr. B. J. Chromy.

These men were students of S. O. E. and vitally interested in amateur radio activities, being amateur radio operators themselves. Their aim was to promote amateur radio among the students of the school. Considerable credit is due to Mr. F. A. Vaughn, Vice-president of the school, for his sincere cooperation, by advising and helping in the formation of this new organization.

The objectives for and upon which this club was founded are, namely:

To encourage experiments in amateur high frequency transmission and reception by arousing a lively interest therein.

To spread the knowledge of the means and processes by which such transmission and reception is made possible.

To afford a center where all who are interested in the "science of radio" may meet and exchange their knowledge and experience.

Again we repeat that October 4, 1926 marks the date of birth of "The School of Engineering Radio Club". Mr. B. J. Chromy (now assistant radio patent examiner at Washington, D. C.) was the first president. He proved his ability to organize and manage the club by paving the way and laying the foundation for the present organization. Mr. Chromy's term of office was short, however, because of his graduation from the school and having to assume his duties at Washington.

Mr. W. P. Gainer was the second president and during his term of office the club became affiliated with the "American Radio Relay League" and the club's amateur radio station W9SO was remodeled and extended until today it stands in the foremost ranks of amateur radio stations in the United States.

The third and present president of the club is Mr. N. J. Richard and among the achievements of the past year were namely:

The gaining of a much larger membership. The arranging of a series of lectures on the "Theory and Operation" of transmitters and receivers, to be delivered at the regular weekly meetings by such men as Mr. T. J. Bailey, Radio Interference Investigator of the T. M. E. R. & L.

Co. of Milwaukee; Mr. M. Jameson of the Allen Bradley Co. of Milwaukee, the radio instructors of the school, Mr. M. Ert, president of the W. R. T. A., and many other men of note in the radio engineering profession. These lectures, in many instances, were followed by practical demonstrations of fundamental principles of radio. Code classes were arranged in which the members had the opportunity of becoming familiar with the International Morse Code. A Question-Box was also established by which the Technical Committee arranged to answer all questions and problems of the members, as concerning Short-wave Transmission and Reception.

The Club owes its success to the cooperation and interest shown by all the members and we take pride in saying "that from its embryonic stage to its present status, The S. O. E. Radio Club has shown remarkable success and is rapidly achieving prominence in the field of national amateur radio activities.

Following is a brief description of some of the outside activities of The S. O. E. Radio Club and amateur station W9SO.

The School of Engineering amateur station was the first in the world to receive the reports of the recent Porto Rico hurricane.

W. P. Gainer and C. H. Scholten, students of the school and members of the Radio Club, were the operators who picked up the signals of NAU, a United States naval station at San Juan. The antenna of NAU had been torn away by the terrific gale, but government operators were able to rig up a 40-meter set with which they radioed the news. Gainer picked up the distress signals at 1:15 a. m. Communication between the station and the outside world had been cut off for almost 24 hours. After several attempts Gainer managed to cut in and advised the sending station that he would take the message. The Naval station replied that it had an urgent message for Washington. Gainer took the first message of 142 words in Continental code. This message was then sent to Washington. A few minutes later a second message was received and dispatched to Washington by telegraph.

The following day the Porto Rican station NAU confirmed in a dispatch to Washington, the report that W9SO had been the first to pick up messages from the temporary set. Gainer said that the Porto Rican signals came in strong and that he had no difficulty in taking the message. The West Indian station reported that W9SO's signals were steady and clear.

Mr. Gainer and Mr. Scholten were honored by the United States Navy. Admiral T. T. Craven, Great Lakes, Ill., expressed the navy's appreciation in the following dispatch to the school:

"The chief of naval operations desires to express his appreciation of the excellent work done by two of your amateur operators in copying and



forwarding a radiogram from Porto Rico," the dispatch says. "Not only does this show very good operating ability, but the forwarding of the dispatch to the navy department indicates excellent initiative."

Another outstanding event in the activities of the club was the assistance rendered to the Wisconsin News in conducting the Radio Silent Mystery Dance held in Juneau Hall of the Milwaukee Public Auditorium during the last Radio Show.

The Transmitting and Receiving equipment which made that novel feature possible was under the technical supervision of F. A. Vaughn, vice-president of the school. This was the first appearance of "silent dancing" in this country.

Mr. Vaughn was assisted by six members of the Radio Club, all of whom were licensed amateur or commercial operators. Of this group, W. P. Gainer and L. C. Sigmon were in charge of the

transmission. R. J. Tayek and H. L. Holmberg handled details relating to the power supply and N. J. Richard and C. H. Scholten were in charge of the receiving apparatus used by the dancers.

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### SPECIAL TRANSMITTER USED

The transmitter used was one of a series of transmitters forming the equipment of the School of Engineering amateur station W9SO. It was formerly under the call letters of 9EMT and owned by Mr. L. C. Sigmon. It was necessary, however, to completely redesign and rebuild the transmitter to meet the special requirements of silent dancing. The transmitter went on the air at the Radio Show under the call letters of KGIE, these letters being designated in a license issued by the Federal Radio Commission. Station KGIE was rated at  $7\frac{1}{2}$  watts and

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operated on a wavelength of approximately 200 meters at a frequency of 1500 kilocycles. The transmitter was located near Juneau hall where the dancing took place. The space devoted to the dancing represented an area of approximately 1250 square feet and was roofed with leafy decorations which effectively concealed the sending antenna. A system of counterpoise wires was laid beneath the floor so that the dancers would move in a field resulting from the radiations of the antenna and counterpoise.

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### DANCERS USE EARPHONES

Each dancer wore a pair of head phones in the band of which was installed a carborundum crystal detector for the purpose of picking up the broadcasting station's program. No battery or receiving antenna was used. These phones were prepared by members of the Radio Club.

The experimenters tirelessly trying to open up new fields in radio had been making tests on wavelengths using 40 meters and in the late spring of 1925 cross continental communication in the day time, this was considered remarkable, as before this time daytime communication had been very nearly out of the question.

The increased use of short waves brought about the necessity for having a tube with low value of interelectrode capacity. This difficulty was overcome when Dr. Lee Deforest invented his popular amateur tube known as the "H" tube. As a result, experiments were carried on on extremely short wavelengths, such as one to five meters, and in July, 1927, Kruse demonstrated a  $\frac{3}{4}$ -meter transmitter. Although these very short waves are of no real practical value as yet, it is hoped that they will be developed to that stage in the near future, as the recent radio regulations which restricted the amateurs to bands not exceeding 300 kilocycles are not sufficient in width to accommodate all of the transmitting amateurs without a tremendous amount of interference.