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XIth PLENARY ASSEMBLY OF THE CCIR IN OSLO

Mr. Jack W. Herbstreit elected as new Director

The XIth Plenary Assembly of the International Radio Consultative Committee (CCIR) of the International Telecommunication Union was held at Oslo from 22 June to 22 July 1966.

In its fifteen specialized Study Groups, the Assembly reviewed the progress achieved in the entire field of radio and approved the relevant documents. It considered the advances in space communications which made possible the introduction of a regular radio service by means of United States and USSR satellites.

Technical questions under study

As a result of the Assembly's efforts in the field of colour television, a report was prepared describing the various systems now operating or under study, namely, *NTSC*, *SECAM III*, *PAL* and *SECAM IV*. Unfortunately, it was not possible to issue a Recommendation advocating the use of one particular system throughout the world or in Europe.

In the field of radio propagation, the meeting approved an atlas of world ionospheric characteristics prepared by means of electronic computers.

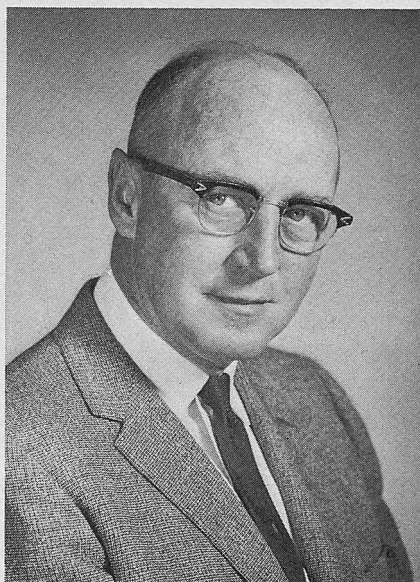
In preparation for the African LF/MF Broadcasting Conference to be held in September 1966, the Assembly approved texts showing the bases for calculating LF/MF propagation in the African Region. Recommendations on protection ratios for LF/MF broadcasting will also be used at this Conference.

The question of band sharing between space communication systems and earth radio-relay systems was thoroughly considered.

With regard to broadcasting, the conference approved a Recommendation on VHF stereophonic broadcasting standards.

To meet the requirements of new or developing countries, the meeting decided that a number of manuals should be prepared to assist technicians in those countries. One of the manuals will deal with tropical broadcasting.

In preparation for the World Administrative Radio Conference to deal with Matters relating to the Maritime Mobile Service in 1967, the Assembly adopted decisions for the intensification of studies concerning the use of single-sideband technique for the purposes of the maritime services. A decision on the selective call system to be used for maritime communications was deferred to permit the development of new systems.



Mr. Herbstreit

In accordance with the International Telecommunication Convention (Montreux, 1965), the Assembly elected Mr. Jack W. Herbstreit (United States of America) Director of the CCIR for a period of six years. He succeeds Mr. Leslie W. Hayes, present Director ad interim, who is retiring after seventeen years' service in the CCIR Secretariat.

Born in Cincinnati, Ohio, in 1917, Mr. Herbstreit attended public schools

there. He entered the University of Cincinnati in 1934 and graduated with a Professional Electrical Engineering Degree in 1939.

Mr. Herbstreit's career

In 1940 he joined the Federal Communications Commission's (FCC) National Defense Operation in Marietta, Georgia, and later acted as radio inspector at the FCC Atlanta, Georgia, office. In 1941 he transferred to the FCC Engineering Department in Washington, DC, as radio engineer in the Safety and Special Services Division. The following year he joined the Operational Research Staff in the Office of the Chief Signal Officer, Department of the Army. While with this group, he made numerous operational radio systems studies, including measurements of atmospheric noise levels and the attenuation of radio signals by jungles in Panama and the southwest Pacific, measurements and analyses of experimental low-frequency LORAN in the Western Hemisphere, and a determination of the frequency requirements for low-power radio communications and navigation equipment.

In 1946, Mr. Herbstreit joined the Central Radio Propagation Laboratory (CRPL) of the National Bureau of Standards (NBS) as a radio engineer, conducting research on cosmic radio noise and VHF and UHF propagation. He then became Chief of the Tropospheric Propagation Research Section and remained in charge of that group until he was named Assistant Chief for Research and Development of the Radio Propagation Engineering Division. In 1963 he was appointed Assistant Chief of CRPL and with the transfer of that unit from the National Bureau of Standards to the Environmental Science Services Administration (ESSA), CRPL became ITSA (Institute for Telecommunication Sciences and Aeronomy) and Mr. Herbstreit became Deputy Director.

Mr. Herbstreit has become a familiar figure at international meetings in the field of radio communications during the past seventeen years as a delegate or the chairman of the United States delegations. At the International High Frequency Broadcasting Conference in Mexico, 1948, he was responsible for the preparation of the radio propagation charts which were forerunners of the

present propagation information used by the International Frequency Registration Board (IFRB) to determine the interference potential of new and prospective uses of the HF radio spectrum. He continued and expanded this work for the International High Frequency Broadcasting Conference in Italy in 1950. He has been particularly active over the years in meetings of the CCIR and the International Scientific Radio Union (URSI).

Mr. Herbstreit's work for the advancement of international telecommunications has not been limited to participation in the various scientific meetings. He is presently Secretary for the International URSI Commission II, was responsible for the preparation of Chapter 3 of the Joint Technical Advisory Committee

book on *Radio spectrum utilization*, is working on the utilization of the radio frequency spectrum by satellites and has prepared a paper for URSI on the *Effects of irregular terrain on radio propagation*. He has authored or coauthored fifty-three technical papers in the field of electromagnetic telecommunications.

In 1959 he was given the Harry Diamond Award for "original research and leadership in radio wave propagation". This is the highest honour that can be granted a government scientist in the field of electromagnetic telecommunications in the United States. He was admitted to the rank of Fellow in the Institute of Radio Engineers (IRE) in 1958 and holds a similar rank in the American Association for the Advancement of Science.

Study Groups XII and XVI also proposed to recommend a lower limit, to avoid the risk of overloading equipment.

Reference calls and noise

Study Group XVI defined reference calls which would make it possible to study permissible limits for the noise produced by national networks in an international call.

Integration of telecommunication satellites into the world telephone network

This question has become particularly urgent since high altitude satellites have been put into operation or are planned; these introduce a high propagation time (approximately 270 ms for a stationary satellite) and require the use of special echo suppressors.

Study Group XII examined the results of tests carried out in several countries on transatlantic telephone calls *via* the *Early Bird* satellite. Following a lively discussion, no change was proposed in CCITT Recommendation P.14¹, with the result that except in quite exceptional circumstances, no call may be allowed to take up two high-altitude satellite circuits in tandem.

Study Group XVI examined the application to satellite circuits of the routing plan recommended by the CCITT in Recommendation E.15², taking account of the work done by Study Group XII. The following conclusions were reached:

"The consequences of the above limitations are not completely evident at this time. However it seems clear that high-altitude satellite circuits should not be used for CT3 to its parent CT2 or CT1 or for CT2-CT1, within the same CT1 region. It also seems clear that high-altitude satellite circuits may be used in CT1-CT1 links only when some means is found to comply with the requirements of Recommendation P14-A for the over-all connection. Transversal routes of the type CT2-CT2 and CT3-

MEETINGS OF CCITT STUDY GROUPS XII AND XVI

CCITT Study Groups XII and XVI met recently in Geneva:

— from 3 to 9 May 1966, Study Group XII (Telephone transmission performance and local networks), Chairman Prof. F. Kroutl (Czechoslovakia), Vice-Chairman Mr. F. T. Andrews (United States of America);

— from 6 to 10 June, Study Group XVI (Telephone circuits), Chairman Mr. R. H. Franklin (United Kingdom), Vice-Chairman, Mr. H. J. Claeys (Belgium).

During these meetings, several problems were dealt with in succession by both groups, but from different viewpoints. The main questions studied are shown below.

Measurements and tests of transmission performance

One of the main tasks of Study Group XII is to prepare CCITT Recommendations on methods to be used by Administrations for assessing transmission performance in the international telephone service; it also issues instructions to the CCITT Laboratory to carry out subjective tests and objective measurements, the results of which may be useful for this purpose.

Approving the proposals of a working party which met in October 1965, Study Group XII decided to devote its labours to defining an objective method of measuring transmission performance, which would be more rapid and more economical than existing methods, based on subjective tests. To develop this new

method, it was decided to exchange subscribers' telephone sets which will be measured by various existing methods, in different national laboratories and the CCITT Laboratory.

The method at present employed in the CCITT Laboratory for on-the-spot assessment of reference equivalents, has been simplified; this will make it possible to meet fairly quickly the various requests presented by Administrations or private operating agencies wishing to know the reference equivalents of subscribers' sets used in their networks. The experience acquired shows that this simplified method will be sufficiently accurate.

Reference equivalents of national systems

CCITT Recommendation P.11¹ recommends upper limits for the reference equivalents, both sending and receiving, of the national system, which must be observed for at least 95% of international calls. Study Group XII considered that a higher percentage might be recommended; 97% was provisionally accepted.

¹ This Recommendation is contained in volume *Vbis* of the *Red Book*, Geneva 1964.

² This Recommendation is contained in volume *II* of the CCITT *Blue Book* (Geneva 1964). The gist of it is to be found in Annex II (pages 140 and 141) of the *General Plan for the Development of the International Network* (Joint CCITT and CCIR Plan Committee, Rome 1963).